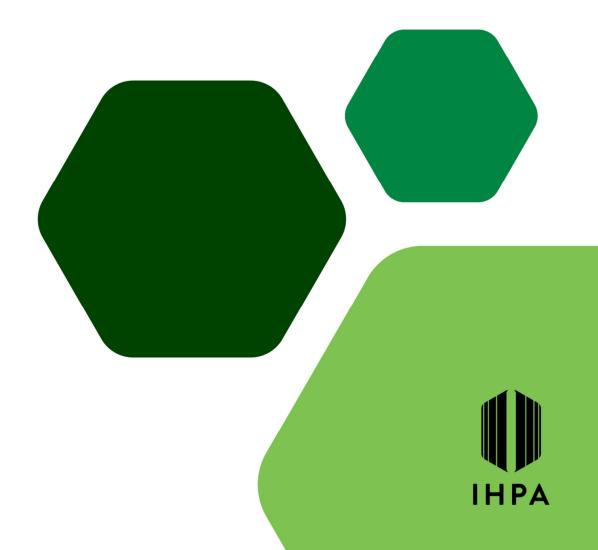Independent Hospital Pricing Authority

National Pricing Model Stability Policy

Version 3.2 August 2019

IHPA

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Acronyms and abbreviations

ABF   Activity Based Funding

ALOS   Average Length of Stay

AR-DRG   Australian Refined Diagnosis Related Group

DRG   Diagnosis Related Group

ICU   Intensive Care Unit

IHPA   Independent Hospital Pricing Authority

LHN   Local Hospital Network

NEC   National Efficient Cost

NEP   National Efficient Price

NHRA   National Health Reform Agreement

Definitions

Activity based funding	Refers to an activity comprising in-scope public hospital services which will be funded by the Australian Government in the manner described at clause A32(c) of the National Health Reform Agreement (NHRA). An Activity Based Funding (ABF) activity may take the form of a separation, presentation or service event.
Public hospital services	From 1 July 2013, the scope of public hospital services eligible for Commonwealth funding will be[1,2]. • All admitted programs, including hospital in the home programs; • All emergency department services; and • Non-admitted services that meet the criteria for inclusion in the IHPA General List.
Pricing Authority	The governing body of IHPA established under the *National Health Reform Act 2011*.

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[1] In August 2011, Governments agreed to be jointly responsible for funding growth in 'public hospital services'. But, as there is no standard definition or listing of public hospital services, Governments gave IHPA the task of deciding which services will be ruled 'in scope' as public hospital services, and so eligible for Commonwealth funding under the NHRA.

[2] With regards to IHPA's role in defining the scope of public hospital services, refer to the NHRA Clauses A9-A26.

1. Executive summary

1.1 Background

The Independent Hospital Pricing Authority (IHPA) undertakes work to stabilise variation in the year-on-year National Efficient Price (NEP) and National Efficient Cost (NEC) price weights and adjustments, prior to determination of the NEP and NEC. Variation exists due to various reasons, including changes in the costing and activity data each year; changes in coding practices; technology changes; and modifications to the classification systems used by IHPA.

As outlined in the *Pricing Framework for Public Hospital Services*, IHPA will follow the Pricing Guidelines to guide its decision-making where it is required to exercise policy judgement in undertaking its legislated functions. This Policy supports the 'Stability' Pricing Guideline, i.e. 'the payment relativities for ABF are consistent over time'.

1.2 Purpose

The purpose of the *National Pricing Model Stability Policy* (the Policy) is to outline the processes for adjusting for instability in the year-on-year price weights and adjustments.

1.3 Review

The Pricing Authority (IHPA Board) and Chief Executive Officer of IHPA will review the Policy, including associated documentation annually or as required.

The Policy was last reviewed in August 2019.

2. Context

The Australian health care system is undergoing significant changes and there is inherent variability in the data sets that IHPA uses for the purposes of determining the NEP and NEC. Ensuring year-on-year stability in the price weights and adjustments is necessary to ensure funding stability and predictability for Local Hospital Networks (LHNs) and hospital managers.

In determining the NEP and NEC each year, IHPA will adopt methods to stabilise the data from the previous year/s so that the impact of statistical variation or 'noise' on the pricing model can be minimised, whilst ensuring that the model reflects bona fide changes in practice in public hospitals.

2.1 Policy statement

IHPA will promote funding stability and predictability for LHNs and hospital managers through satisfying two key principles within the pricing model:

1. **Being sensitive to changes in activity, cost or data lags**

    The stabilisation process is important to ensure that only observed changes related to activity and/or cost variations in Australian public hospitals are reflected in the pricing model.

2. **Minimising statistical variation**

    The pricing model is empirically based. This can create unexplained statistical variation. In analysing data variance to calculate the NEP and NEC, IHPA will use a 95 percent confidence interval to determine statistical significance.

3. Stabilisation process

The key stages in the NEP and NEC stabilisation process are outlined in Figure 1. IHPA's Jurisdictional Advisory Committee and the Clinical Advisory Committee will be provided with the opportunity to review the stability interventions presented to IHPA's Technical Advisory Committee before these interventions are implemented.

Figure 1: Overview of the NEP and NEC stabilisation process

4. Base data preparation

4.1 NEP data preparation

The steps IHPA adopts to prepare the data for the NEP are detailed in the *National Pricing Model Technical Specifications*, released in conjunction with the NEP each year.

4.1.1 Identification and classification of outlier data

In preparing the data, IHPA identifies and removes extreme cost outliers. This process is detailed in the *National Pricing Model Technical Specifications*.

4.1.2 Low volume Australian Refined Diagnosis Related Groups (AR-DRGs)

Some AR-DRGs have very low volumes of patients treated each year and as such are particularly vulnerable to volatility, as each patient cost record has a greater influence on the average cost and length of stay.

In AR-DRGs with less than 100 separations in any given year, IHPA will combine data from the current year and preceding year in order to increase the volume in the sample and provide improved stability to the cost and length of stay parameters for that AR-DRG. The preceding years' data will be indexed to ensure comparability between the two years' data.

4.1.3 Establishing inlier bounds

The inlier bounds are used to define the pool of separations within an AR-DRG that are considered to be homogenous. Those separations with a length of stay that falls outside the bounds are classified as outliers, where costs are not representative of the average cost of treating patients within the AR-DRG.

Moving the inlier bounds leads to a recalculation of price weights and changes in the relativities between the price weights of different AR-DRGs.

The impact of changing the bounds for any AR-DRG is compounded if the National Hospital Cost Data Collection also reports changes in the average cost for that AR-DRG relative to other AR-DRGs.

In developing a robust, stable system of price weights, it is important that the relative values of price weights do not fluctuate with random variations in activity and/or cost data from year-to-year.

Therefore, changes to the inlier bounds should only be made when there is either a clinical or methodological reason, or a sustained trend in behaviour that is observed over time.

The inlier bounds for each AR-DRG are determined by IHPA based on the average length of stay (ALOS) profile.

The steps IHPA adopted to calculate the inlier bounds are detailed in the National Pricing Model Technical Specifications (i.e. for NEP18 refer to the 2018-19 Technical Specification document).

4.2 NEC data preparation

The steps IHPA adopts to prepare the data for the NEC are detailed in the National Pricing Model Technical Specifications, released in conjunction with the NEC each year.

5. Stabilisation

5.1 NEP stabilisation

5.1.1 Movements in inlier bounds

The inlier boundaries are subject to fluctuation from year-to-year as the ALOS moves.

It is legitimate for the lower and upper bounds to change if the AR-DRG has had a change in its status on:

- the same-day pricing list; or
- the bundled list for Intensive Care Unit (ICU) payments; or
- the list to move from L3H3[3] to L1.5H1.5[4] because of the distribution of long stay, high cost outliers.

Otherwise, inlier bounds will only be changed when there is:

- a statistically significant change in the bounds (at the 95 percent confidence level); or
- if a change in a bound affects more than 1 per cent or more than 10 of the AR-DRG's episodes.

These two tests are applied in the first instance to the upper bounds and only when there is movement to the upper bound will the lower bounds be subjected to the same tests to see if there should be any movement in them as well.

5.1.2 Movements in cost parameters (which become price weights)

Price weight movements may vary from year-to-year for many reasons including changes in cost data, or inlier boundary movements. The net impact of large fluctuations can be an undesired instability in the model.

In the admitted care cost models (acute and subacute) IHPA will restrict the year-to-year movement in price weights to +/- 20% where:

- there are less than 1,000 inlier episodes; and
- there is no change to inlier bounds; and
- there is no change to the status on the same-day pricing list and bundled ICU list; and
- the change in the inlier cost parameter is outside +/- 20%.

For non-admitted and emergency department cost models, IHPA will restrict the year-to-year movement to +/- 20%for all price weights.

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[3] The L3H3 form refers to the common trimming method used in Australia in which the low trim point is a third of the average length of stay, and the high trim point is three times the average length of stay.

[4] The L1.5H1.5 form is applied for Major Diagnostic Categories 19 and 20, or if the AR-DRG has an unusual distribution of long stay, high cost outliers.

For services with high patient volumes and high aggregate expenditure (for example chemotherapy and dialysis) IHPA may consider lower thresholds than the +/- 20% movement, for applying stabilisation techniques.

Where price weights meet the above criteria, they may be exempt from stabilisation based on advice from IHPA's Technical Advisory Committee and Clinical Advisory Committee.

In some years where there are significant changes in price weights due to changes in the cost model arising from changes in IHPA's *Pricing Framework for Australian Public Hospital Services* these rules will not be applied (e.g. treatment of Commonwealth Pharmaceutical Program payments or subacute activity).

5.1.3 Movements in paediatric AR-DRG adjustments

Some movements in the paediatric AR-DRG adjustments[5] may be extreme. The instability in these adjustments is likely to be exacerbated by the significantly smaller pool of hospitals used in the calculation of these adjustments.

For AR-DRGs with less than 500 episodes, movement between years will be stabilised by setting the adjustment to the average value across the two NEP models (e.g. NEP15 and NEP16).

The adjustment will be set to 1.00 if:

- there are less than 30 paediatric episodes or less than 30 non-paediatric episodes; and
- the adjustment is between 0.96 and 1.04; or
- the adjustment moves from positive to negative (or vice versa) between years.

5.1.4 Stability of Adjustments

For adjustments to the NEP, IHPA stabilises adjustments across years to minimise volatility in year-to-year changes.

Adjustments are determined on a rolling average where up to three years' historical data was available in order to maximise stability of these adjustments.

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[5] Paediatric Adjustments for a person who is aged up to and including 17 years and is admitted to a specialist paediatric hospital for admitted acute patients or treated in any facility for admitted subacute patients.