

# Systemwide integration of value-based healthcare

The Australian experience

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## Outline

- Introduction to activity based funding in Australia
- What is value-based healthcare?
- Introduction of pricing for safety and quality

*Break 1445 to 1515*

- Price calculation and risk modelling
- Impacts





# The Independent Health and Aged Care Pricing Authority (IHACPA)

Who we are, what we do and the national pricing model



Overview of the Australian health care system

3



## Who we are

- Established in December 2011 as part of the implementation of the National Health Reform Agreement
- Tasked with designing a nationally consistent activity based funding system for public hospitals
- Independent Board and CEO
- Independent of all governments
- Work with the states and territories and the Commonwealth
- Strong transparency and consultation agenda



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# What we do

- Set the national efficient price
  - canvassed inclusion of safety and quality measures from inception
- Classification systems
- Costing standards
- Data standards
- Aged care pricing advice.



# Introduction to activity based funding in Australia

# Australian health care at a glance

Who is responsible for what, and who pays?

## Who is responsible for what, and who pays?



### Primary care

- Predominantly funded by the Federal government
- Fee-for-service



### Public hospitals

- Service delivery is the responsibility of state and territory governments
- Funding shared by federal and state governments



### Pharmaceuticals

- High cost drugs predominantly funded by the Federal government



### Aged care

- Predominantly funded by the Federal government
- Funding mechanism currently being revised



### Disability

- National Disability Insurance Scheme



### Community health

- Predominantly funded by the states and territories

# Who is responsible for what, and who pays?



## Public hospitals

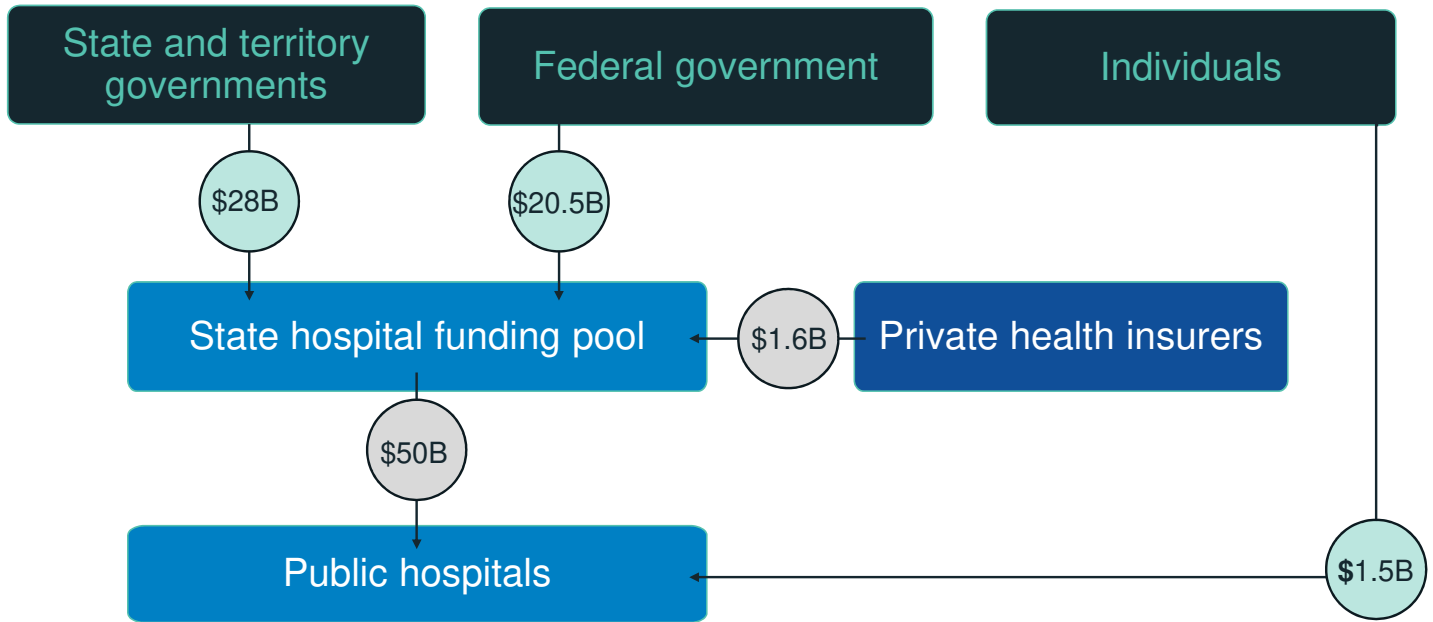
- Service delivery is the responsibility of state and territory governments
- Funding shared by federal and state governments

# The Australian hospital system

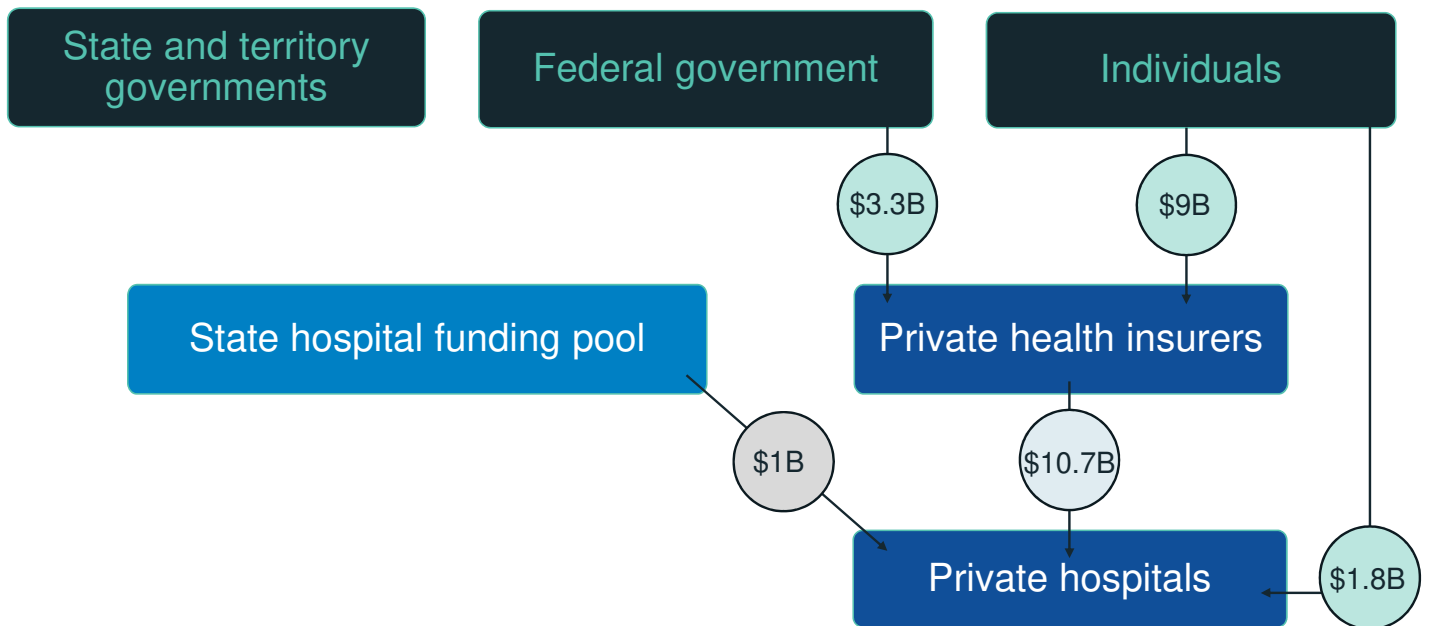
Funding flows, the role of the Federal government and the introduction of activity-based funding



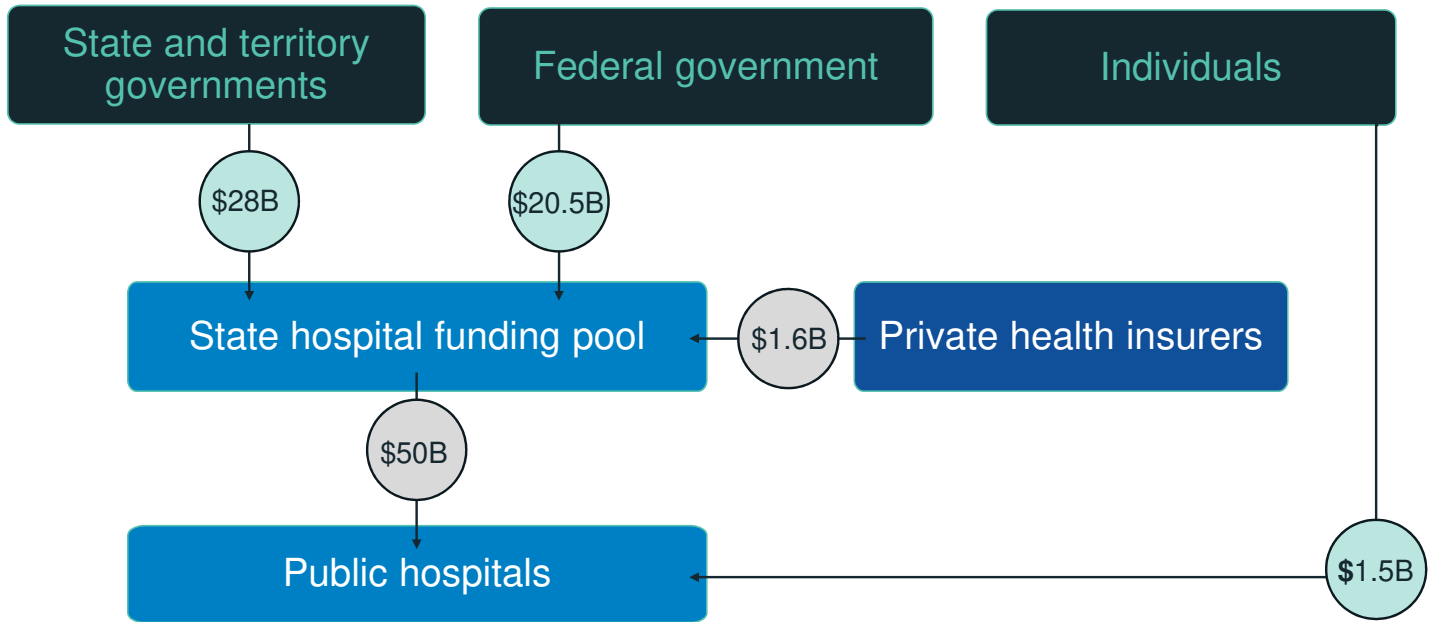
# Hospital funding flows



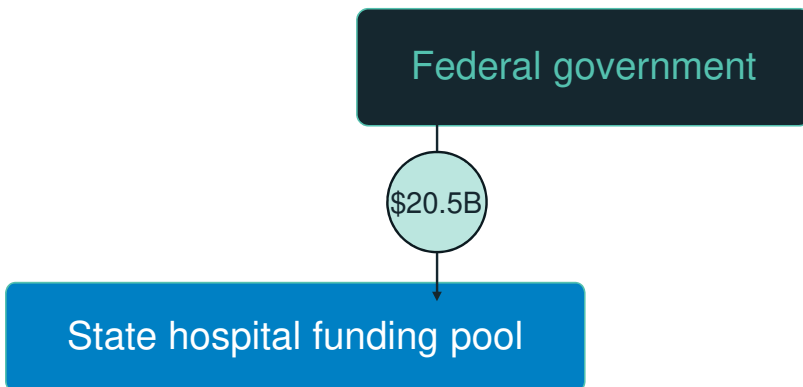
# Hospital funding flows



# Hospital funding flows



# Hospital funding flows



“ Commonwealth funding will be provided on the basis of activity through Activity Based Funding, except where it is neither practicable nor appropriate.

*National Health Reform Agreement, 2011*

*Addendum to the National Health Reform Agreement, 2020-25*

## What is activity based funding?

### Volume

- Number of patients/consumers treated or cared for, for example:
  - Episodes (admitted hospital care)
  - Presentations (emergency department)
  - Service events (outpatient hospital care)
  - Phases (mental health care)

### Type of Care

- Sometimes called 'casemix', for example:
  - Complexity
  - Care needs
  - Objective of care

**Funding based on number of weighted services provided**



# Primer on healthcare payment

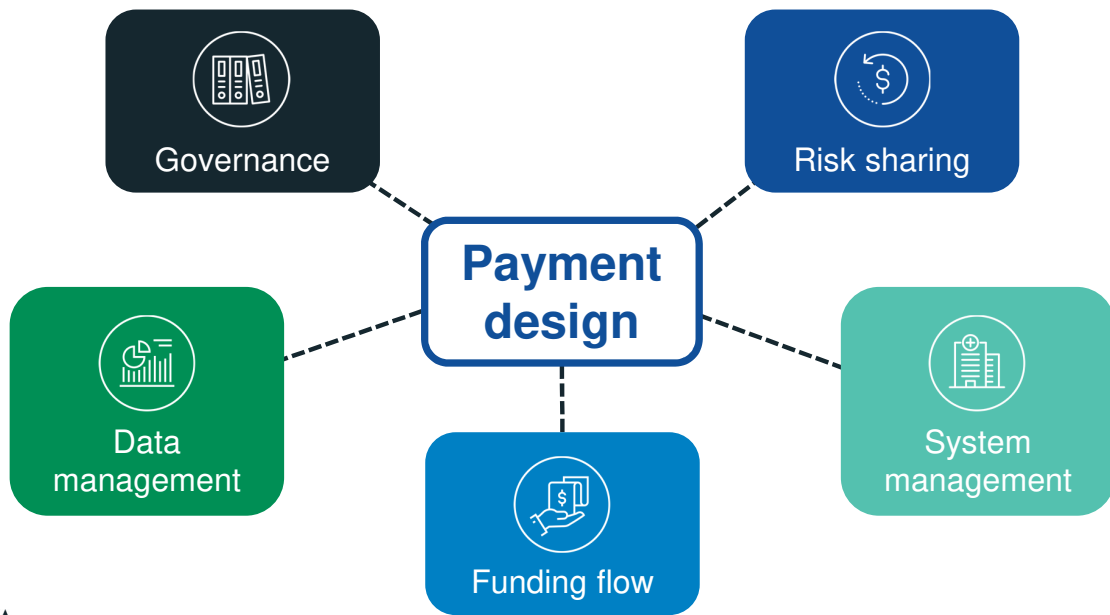
Fee-for-service	Activity based funding – Diagnosis Related Groups	Bundled payments	Capitation
<ul style="list-style-type: none"> <li>• Pay for fragmented pieces of care</li> <li>• Majority of risk lies with the payer</li> </ul>	<ul style="list-style-type: none"> <li>• Pay for the inpatient part of care</li> <li>• Risk shared between payer and provider</li> </ul>	<ul style="list-style-type: none"> <li>• Pay for an entire care pathway for a specific condition</li> <li>• Risk shared between payer and provider(s)</li> </ul>	<ul style="list-style-type: none"> <li>• Paying for all healthcare needs of a person over a given timeframe</li> <li>• Majority of risk lies with the provider</li> </ul>



# Funding objectives

	Increase activity	Expenditure control	Improve quality	Enhance technical efficiency	Enhance allocative efficiency
Fee-for-service	Strong	Weak	Strong <small>Except for potential overservicing/low value care</small>	Weak	Weak
Capitation	Weak	Strong	Moderate	Weak	Moderate
Activity based funding (casemix)	Moderate	Moderate	Moderate	Strong	Moderate

# What are the building blocks of ABF?



# Public hospital funding in Australia

# Independent Health and Aged Care Pricing Authority



## National Health Reform Act 2011

Act No. 9 of 2011 as amended

This compilation was prepared on 4 November 2011 taking into account amendments up to Act No. 109 of 2011

The text of any of those amendments not in force on that date is appended in the Notes section

The operation of amendments that have been incorporated may be affected by application provisions that are set out in the Notes section

Prepared by the Office of Legislative Drafting and Publishing, Attorney-General's Department, Canberra

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National Health Reform Agreement

## NATIONAL HEALTH REFORM AGREEMENT

Council of Australian Governments

An agreement between

- the Commonwealth of Australia and
- the States and Territories, being:
  - the State of New South Wales;
  - the State of Victoria;
  - the State of Queensland;
  - the State of Western Australia;
  - the State of South Australia;
  - the State of Tasmania;
  - the Australian Capital Territory; and
  - the Northern Territory of Australia.

The objective of this Agreement is to improve health outcomes for all Australians and the sustainability of the Australian health system. This Agreement sets out the architecture of National Health Reform, which will deliver major structural reforms to establish the foundations of Australia's future health system. In particular, this Agreement provides for more sustainable funding arrangements for Australia's health system.



# ABF for Australian public hospitals



2011

National Health Reform Agreement signed by all Australian governments; this agreement outlines the establishment of IHACPA.

2012

First NEP was established at \$4,808.

2013

First NEC was established at \$4.738 million.

2025

Fourteenth NEP was established at \$7,258.

Thirteenth NEC was established at \$2.637 million fixed cost and \$7,617 variable cost.

### National efficient price (NEP)

**\$7,258** per national weighted activity unit

Average cost of an admitted episode of care in a public hospital.



**461** Australian Public Hospitals

receive funding based on their activity levels.

### National efficient cost (NEC)

The fixed cost is **\$2.637m**      The variable cost is **\$7,617**

Average cost of a small rural hospital.

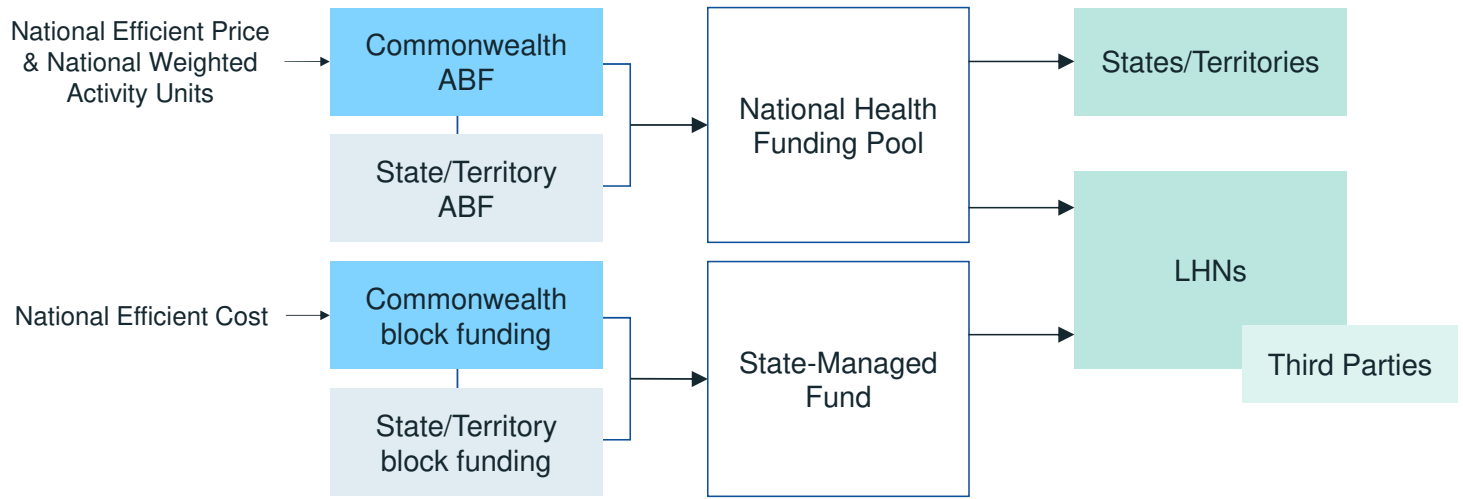


**361** small rural hospitals

receive a fixed and variable amount of funding based on location, size and type of services they provide.

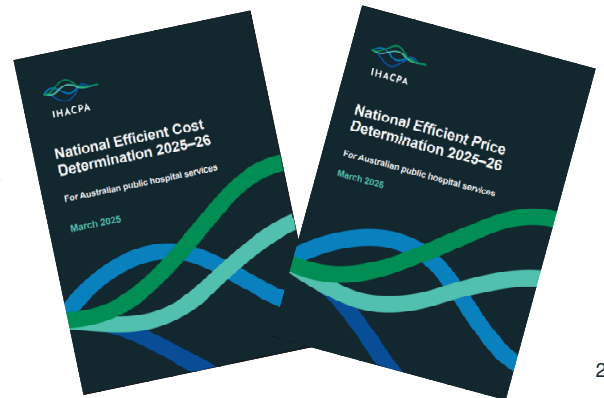
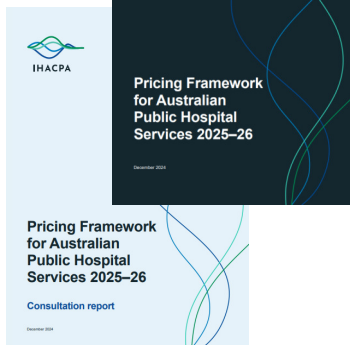
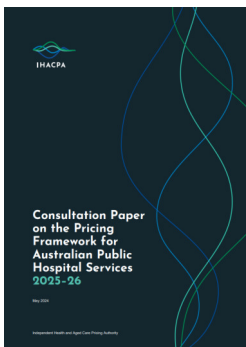


# Public hospital funding in Australia



Consultation on policies underpinning the determinations

Consultation on the funding and pricing models



# Objectives of ABF



-  Funding transparency and accountability
-  Support timely access to high quality services
-  Account for patient/resident complexity and care needs
-  Support improved patient experience and outcomes
-  Enable benchmarking
-  Promote delivery of high quality, efficient care
-  Improve funding sustainability, efficiency and value
-  Same price for the same service across providers
-  Support service and facility planning
-  Support epidemiology and public health research



# What is value based healthcare?



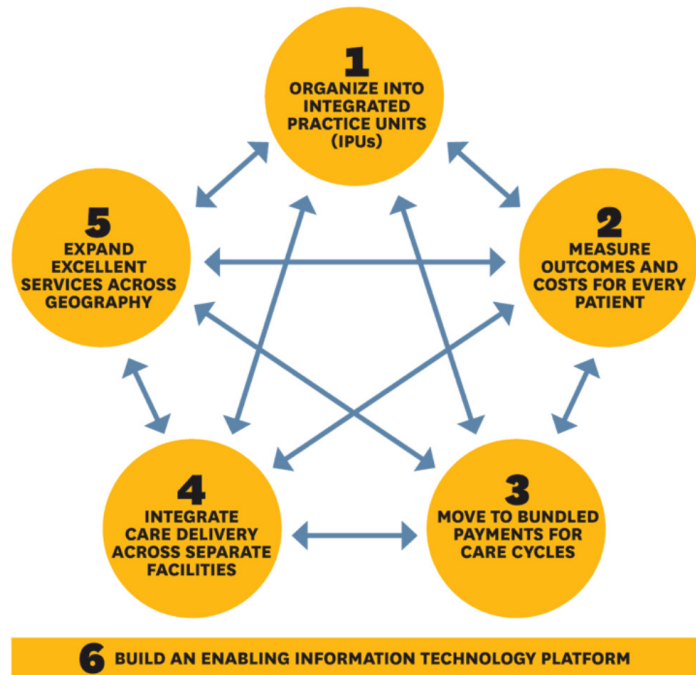
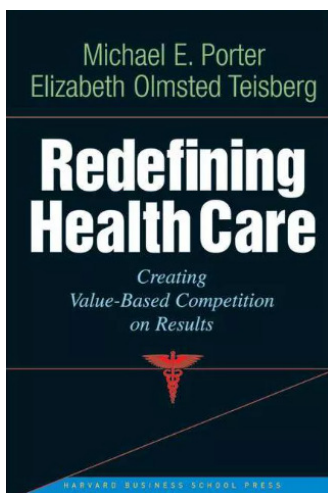
# What is value in health care?

$$value = \frac{outcomes}{cost}$$

- Value based payment models are those that incorporate both outcomes and cost in determining the price of services



# Harvard model





# Types of value based payment models

- Pay for performance – HAC funding adjustment (IHACPA)
- Bundled payments – Bundled Payments for Care Improvement (US Centres for Medicare and Medicaid)
- Capitation payments – Healthlinks (Victorian Department of Health and Human Services)



# How IHACPA is incorporating value-based payment into public hospital prices



# Pricing for safety and quality

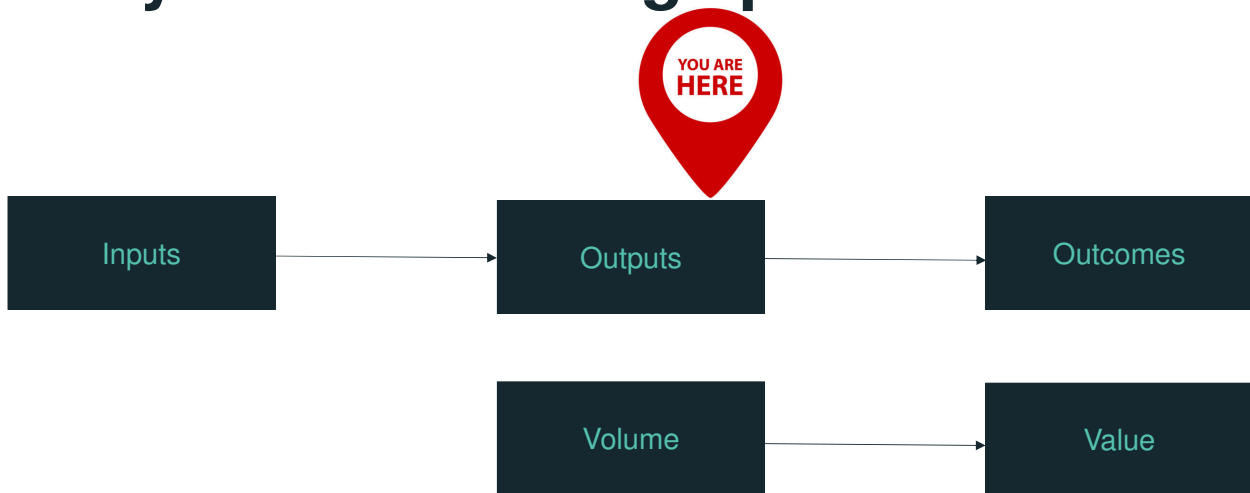
- In 2016, all Australian governments signed an agreement that committed to the development and implementation of funding and pricing approaches for safety and quality in the following areas:
  - Sentinel events
  - Hospital acquired complications (HACs)
  - Avoidable hospital readmissions (AHRs)



# Pricing for safety and quality

Funding adjustment	Parameters	Implementation status
Zero funding for sentinel events	<ul style="list-style-type: none"><li>• Nil</li></ul>	1 July 2017
Reduced funding for episodes with a HAC	<ul style="list-style-type: none"><li>• Each HAC has a different adjustment rate</li><li>• Risk adjusted</li></ul>	1 July 2018
Reduced funding for an AHR	<ul style="list-style-type: none"><li>• Reduction applied to the hospital with the index admission</li><li>• Applies to readmission to any hospital (not just readmission to the same hospital)</li><li>• Adjustment based on price of readmission episode</li><li>• Risk adjusted</li></ul>	1 July 2021

# Activity based funding “plus”



## Introduction of pricing for safety and quality



# Introduction

Australian and international studies estimate that **adverse events** explain between **12.0%** and **16.5%** of **total cost of care** in a hospital setting.



# Background

Pricing and funding approaches should balance the likelihood that **some patients will be at higher risk of experiencing an adverse event** while recognising that all hospitals have scope to improve safety and quality.



# Background

- Council of Australian Governments 1 April 2016.
- All jurisdictions agreed to take action to improve the quality of care in hospitals and reduce the number of avoidable admissions, by:
  - improving hospital **pricing mechanisms** to reflect the safety and quality of hospital services by **reducing funding** for unnecessary or unsafe care – **reducing hospital-acquired complications** will improve patient safety
  - reducing the number of **avoidable hospital readmissions**.



# Background

Component	Scope	Status for Commonwealth funding
<b>Zero funding</b> for sentinel events	All public hospitals all service streams	From 1 July 2017
<b>Reduced funding</b> for episodes with hospital acquired complications	ABF hospitals admitted acute care	From 1 July 2018
<b>Reduced funding</b> for avoidable hospital readmissions	ABF hospitals admitted acute care	From 1 July 2021



# Background

- ICD-10-AM/ACHI data is a rich source of safety and quality data, currently under-utilised.
- Literature review
  - Good evidence that the provision of timely clinical information to clinician and managers leads to improvements in patient outcomes.
- Pricing signals
  - Provide clear sign that government values safety and quality.
  - Promote discussion of safety and quality systems amongst clinicians and managers.



# Hospital acquired complications





# Hospital acquired complications

- HACs are complications which occur during a hospital stay.
- Clinical risk mitigation strategies may reduce the risk of that complication occurring.
  - Not necessarily eliminate risk.



# Hospital acquired complications



preventability

patient impact

List of HACs

service impact

clinical priority





# Hospital acquired complications

1. Pressure injury
2. Falls resulting in fracture or other intracranial injury
3. Healthcare associated infection
4. Surgical complications requiring unplanned return to theatre
5. Unplanned intensive care unit admission
6. Respiratory complications
7. Venous thromboembolism
8. Renal failure
9. Gastrointestinal bleeding
10. Medication complications
11. Delirium
12. Persistent incontinence
13. Malnutrition
14. Cardiac complications
15. Third and fourth degree perineal laceration during delivery
16. Neonatal birth trauma



# Hospital acquired complications

- The Commission is responsible for the ongoing curation of the HAC list.
- The HAC list is reviewed regularly by the Commission's HAC Curation Clinical Advisory Group.



# Avoidable hospital readmissions



## Avoidable hospital readmissions

- The Commission developed the list of conditions considered to be avoidable hospital readmissions in consultation with clinical and consumer experts.
  - Is clinically related to the index admission
  - Has the potential to be avoided through improved clinical management and/or appropriate discharge planning in the index admission.



# Avoidable hospital readmissions

- Each readmission category includes several subcategories.
- Each subcategory includes a time window for readmission.
- Price adjustment aligned with HACs.

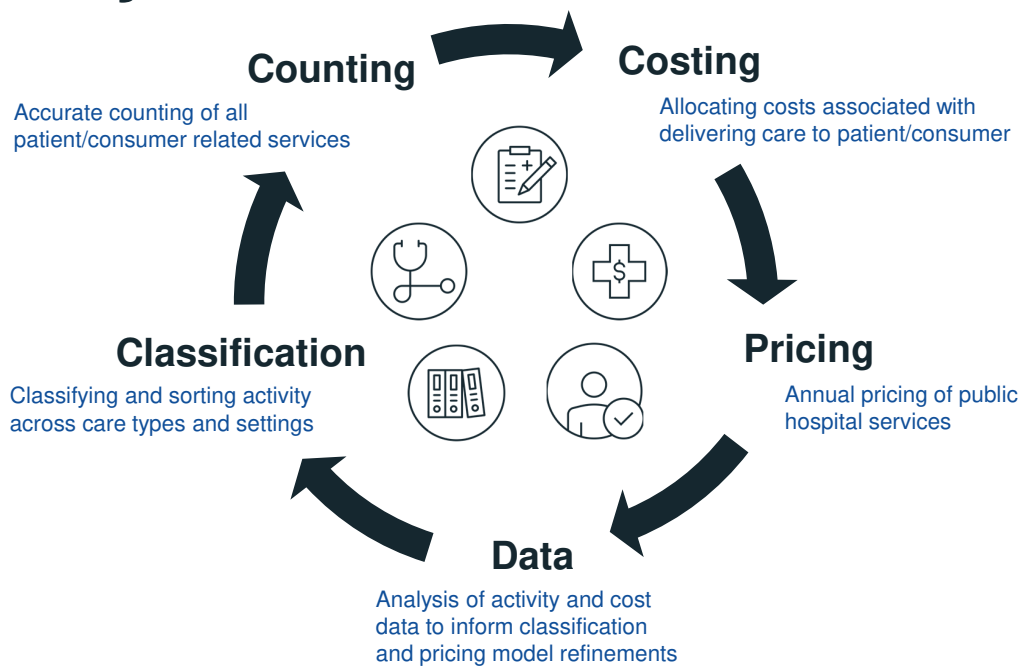
Readmission category
1. Pressure injury
2. Infections
3. Surgical complications
4. Respiratory complications
5. Venous thromboembolism
6. Renal failure
7. Gastrointestinal bleeding
8. Medication complications
9. Delirium
10. Cardiac complications
11. Constipation
12. Nausea and vomiting



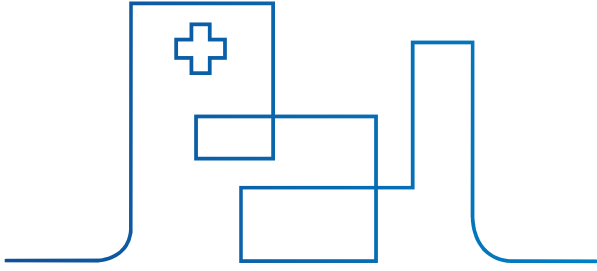
# Price calculation and risk modelling

# Pricing and funding of hospital services

## The ABF cycle



# Public hospital services



**Acute**



**Subacute**



**Emergency**

Emergency Department

Emergency Services



**Non-Admitted**



**Mental Health**

Admitted Mental Health

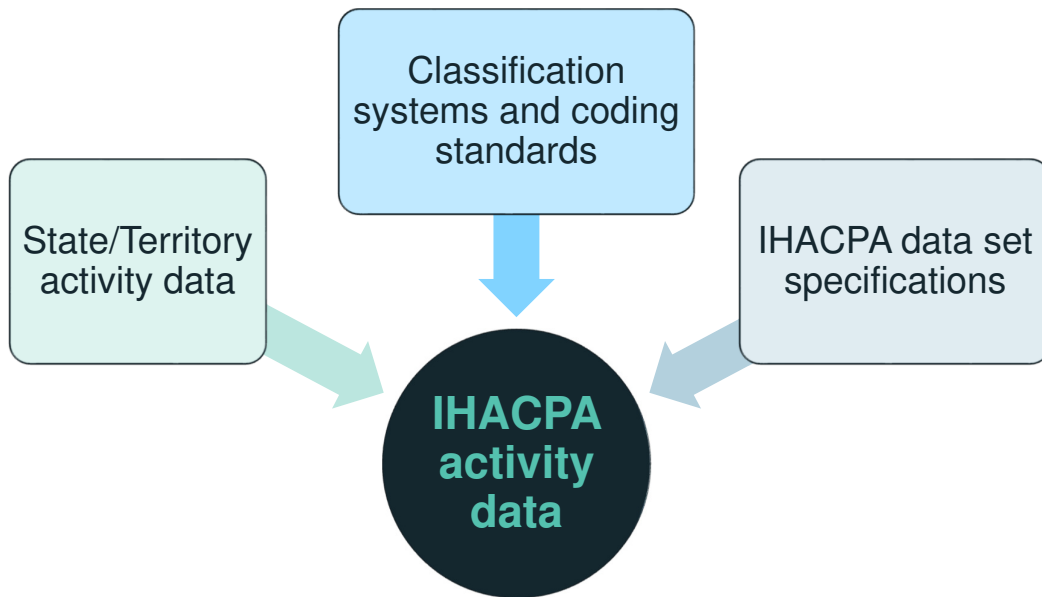
Community Mental Health

# Hospital classification systems



Service category	Classifications
<b>Admitted care / admitted acute care</b>	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM), Australian Classification of Health Interventions (ACHI), Australian Coding Standards (ACS) Australian Refined Diagnosis Related Groups classification (AR-DRG)
<b>Admitted subacute and non-acute care</b>	Australian National Subacute and Non-Acute Patient classification (AN-SNAP)
<b>Emergency care</b>	Emergency Care ICD-10-AM Principal Diagnosis Short List (EPD Short List) Australian Emergency Care Classification (AECC) Urgency Disposition Groups (UDG)
<b>Mental health care</b>	Australian Mental Health Care Classification (AMHCC)
<b>Non-admitted care</b>	Tier 2 Non-Admitted Services Classification (Tier 2)
<b>Teaching, training and research (block funding)</b>	Australian Teaching and Training Classification (ATTC)

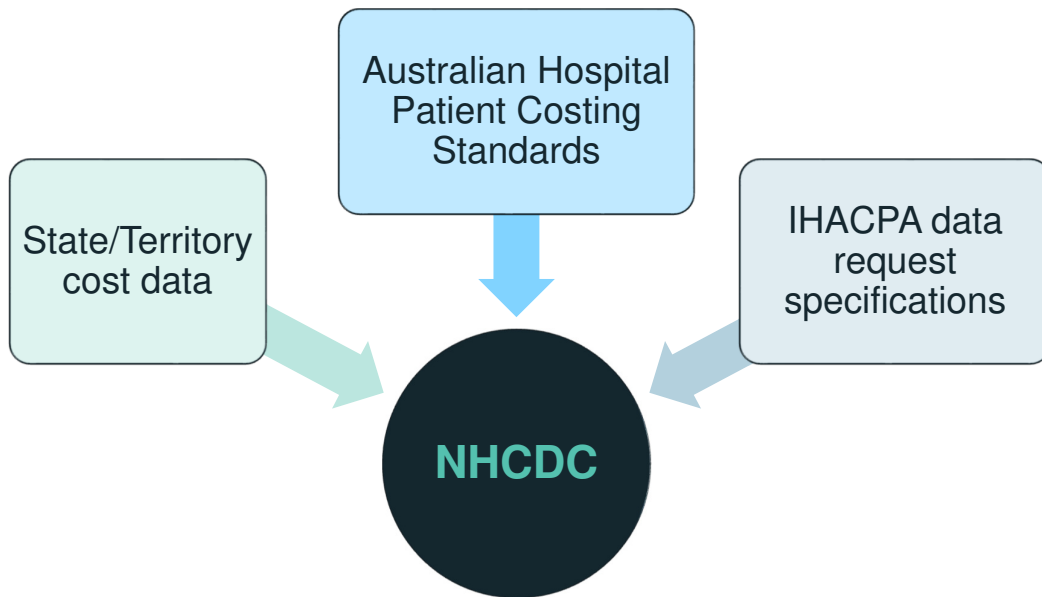
# Counting



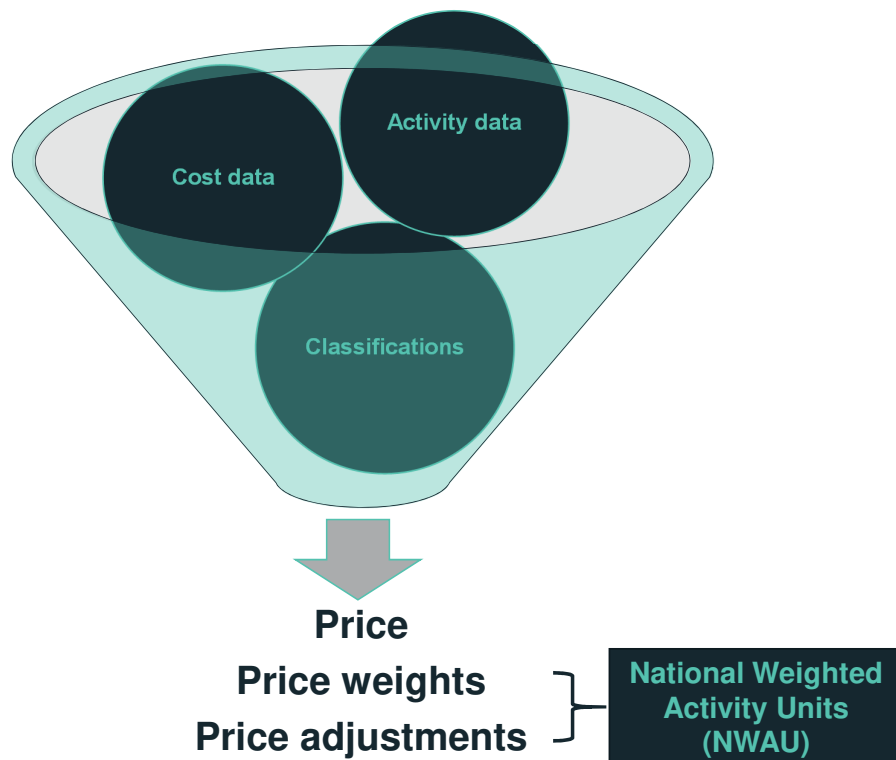
# Costing

- Patient-level costing is the process of allocating facility level costs to each patient according to the care they received
- Public hospitals:
  - National Hospital Cost Data Collection (NHCDC)
  - Australian Hospital Patient Costing Standards (AHPCS)
- Costing is an essential input to pricing

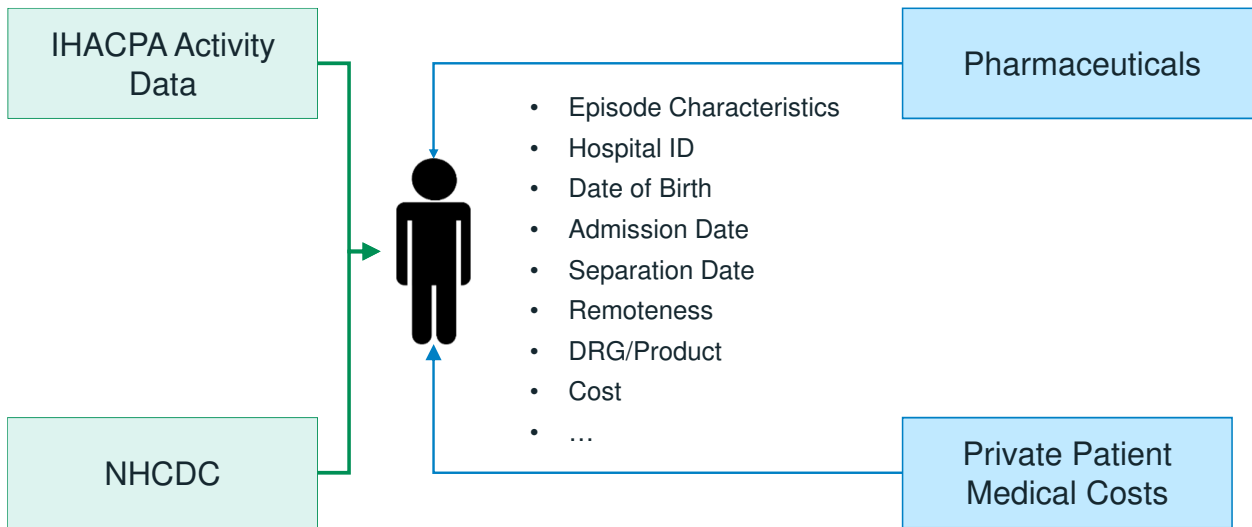
# National Pricing Model inputs



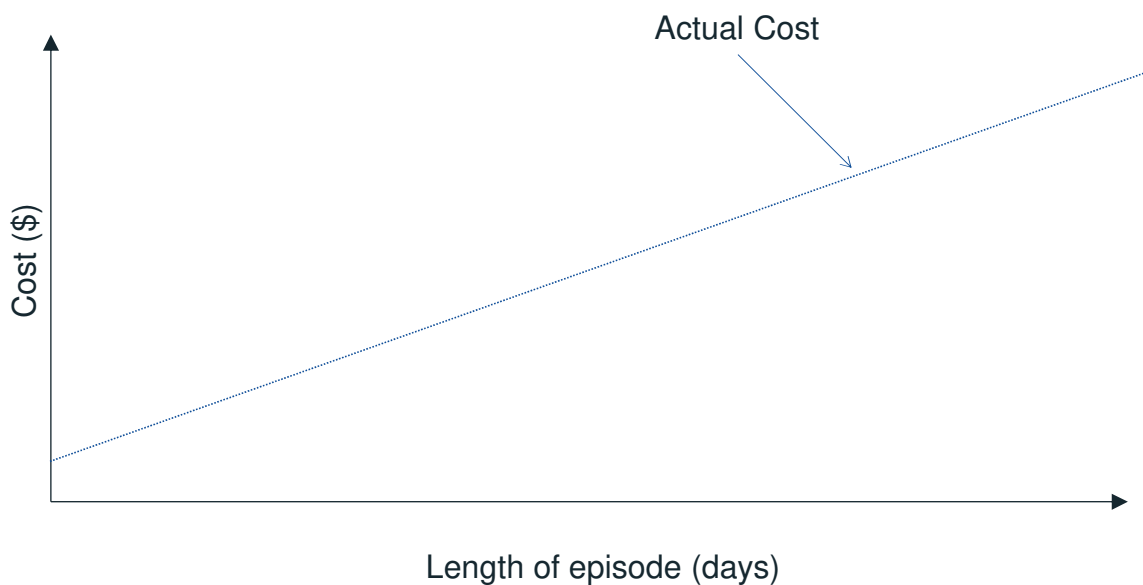
# Pricing



# National Pricing Model inputs

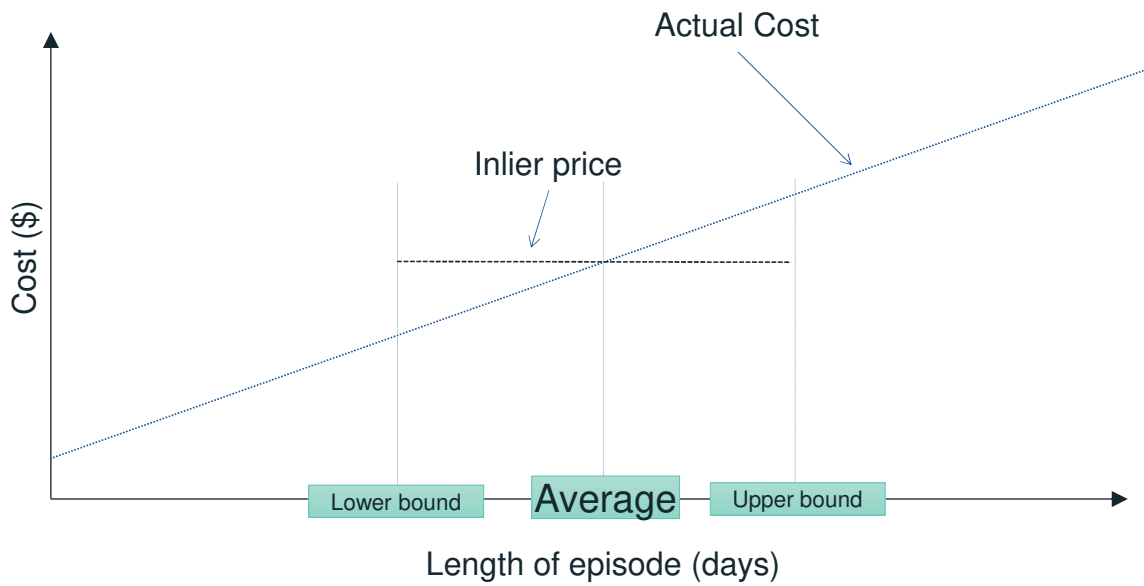


# Admitted acute episode pricing (AR-DRG)

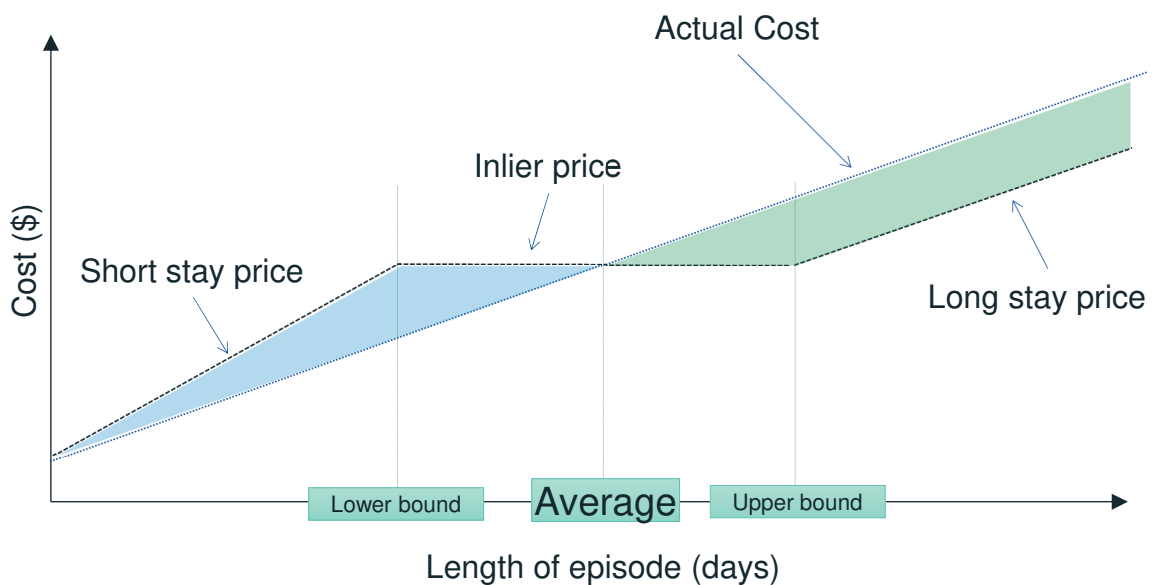




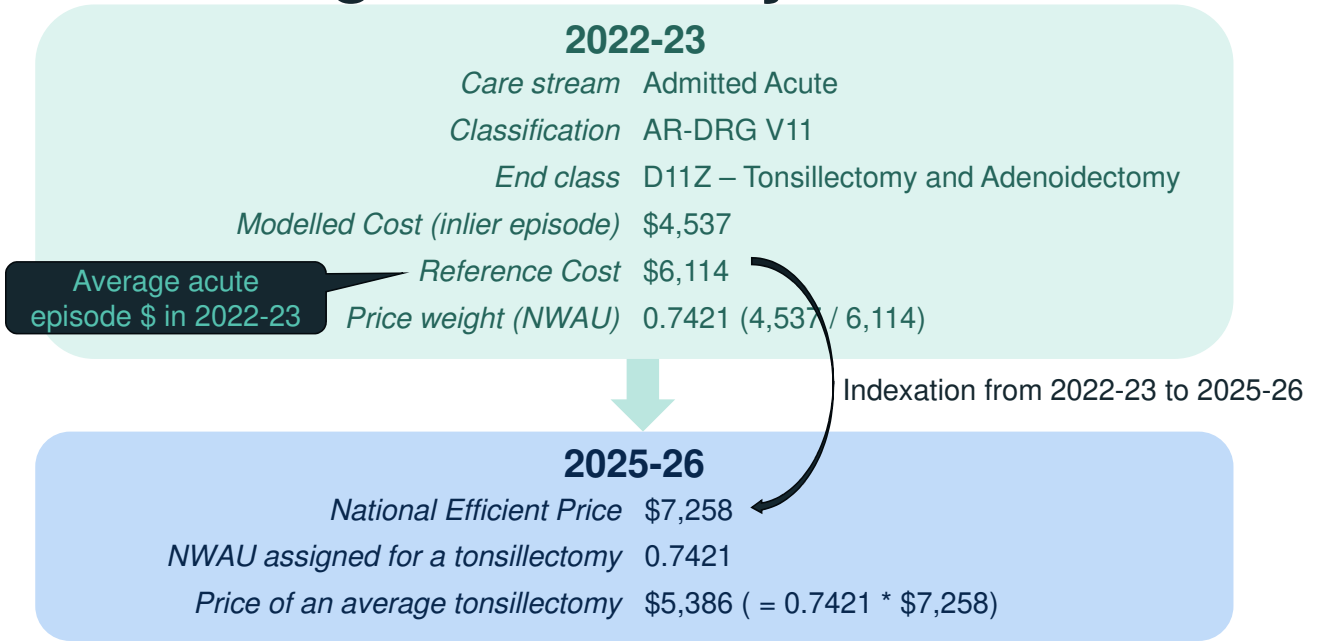
# Admitted acute episode pricing (AR-DRG)



# Admitted acute episode pricing (AR-DRG)



# National Weighted Activity Units



Classification – Counting – Costing – Pricing

# Public hospital price adjustments

- Classifications don't account for all cost variation
- Develop price adjustments for legitimate and unavoidable cost variations across patient cohorts or provider groups, e.g.
  - Indigenous people
  - Remoteness (hospital and/or patient)
- Safety and quality adjustments (pay-for-performance)
  - Hospital acquired complications
  - Avoidable hospital readmissions
  - Sentinel events



Classification – Counting – Costing – Pricing



# Pricing streams

Services	Classifications	Adjustments
Admitted acute	AR-DRG V11	Paediatric
Admitted subacute and non-acute	AN-SNAP V5	Residential remoteness
Emergency department/service	AECC V1.1 UDG V1.3	Indigenous
Non-admitted	Tier2 V9.1	Radiotherapy
Mental Health	AMHCC V1.1	Dialysis
		Treatment remoteness
		COVID-19 treatment
		ICU
		Multi-provider
		Private patient
		Hospital Acquired Complications
		Avoidable Hospital Readmissions



# Price for a public hospital service

- Multiply the NWAU by the NEP:
  - Tonsillectomy:  $0.7421 \times \$7,258 = \$5,386$
  - Coronary bypass (minor complexity):  $5.8610 \times \$7,258 = \$42,539$
  - Hip replacement (minor complexity):  $3.3985 \times \$7,258 = \$24,666$
- If patient lives in a remote area, 20% price adjustment:
  - Tonsillectomy:  $(0.7421 \times (1 + 0.20)) \times \$7,258 = \$6,463$



# Application – benchmarking

- Cost per NWAU measures actual cost adjusted for case-mix
- Hospitals providing different services can be compared fairly
- Influenced by
  - mix of services delivered
  - length of stay
  - cost profile of a hospital.



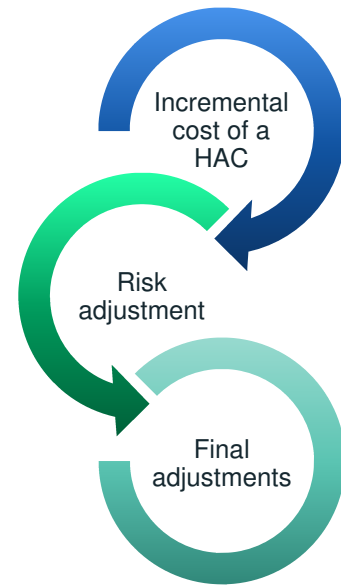
# Hospital acquired complications

Model development



# Hospital acquired complications

- The incremental cost of each HAC is determined by comparing the cost of episodes containing HACs to those without.
- Dampening factors are calculated based on the complexity, or risk, of a patient having a HAC.
- The two are combined to create the final funding adjustments.



# Hospital acquired complications

Complication	Incremental cost	Incremental cost adjustment
All HACs	9.8%	8.9%
1 Pressure injury	16.7%	14.3%
2 Falls resulting in fracture or intracranial injury	3.7%	3.6%
3 Healthcare-associated infection	9.6%	8.8%
4 Surgical complications requiring unplanned return to theatre	13.5%	11.9%
5 Unplanned intensive care unit admission	n/a	n/a
6 Respiratory complications	16.4%	14.1%
7 Venous thromboembolism	13.8%	12.1%
8 Renal failure	25.6%	20.4%
9 Gastrointestinal bleeding	11.0%	9.9%
10 Medication complications	12.1%	10.8%
11 Delirium	12.1%	10.8%
12 Incontinence	7.9%	7.3%
13 Endocrine complications	9.7%	8.9%
14 Cardiac complications	14.3%	12.5%
15.01 Third degree perineal laceration during delivery	n/a	n/a
15.02 Fourth degree perineal laceration during delivery	48.9%	32.8%
16 Neonatal birth trauma	n/a	n/a

For example,  
HAC09 – Gastrointestinal bleeding

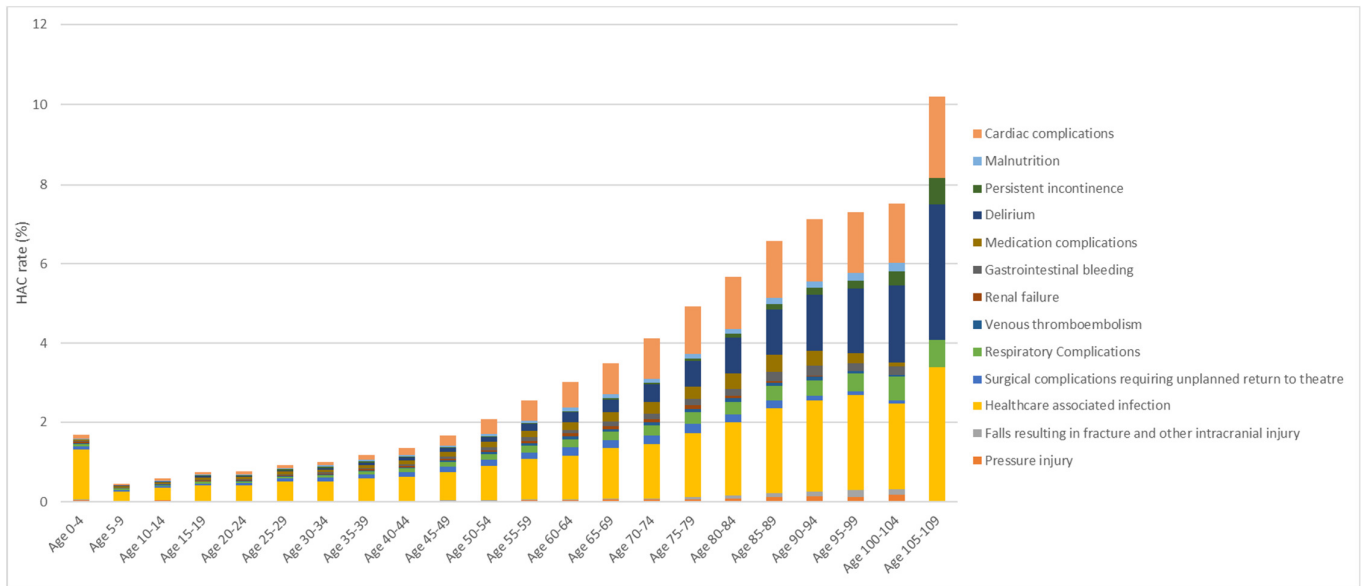
HAC is 11% more than non-HAC  
“Incremental cost”  
\$100 plus 11% = \$111

**becomes**

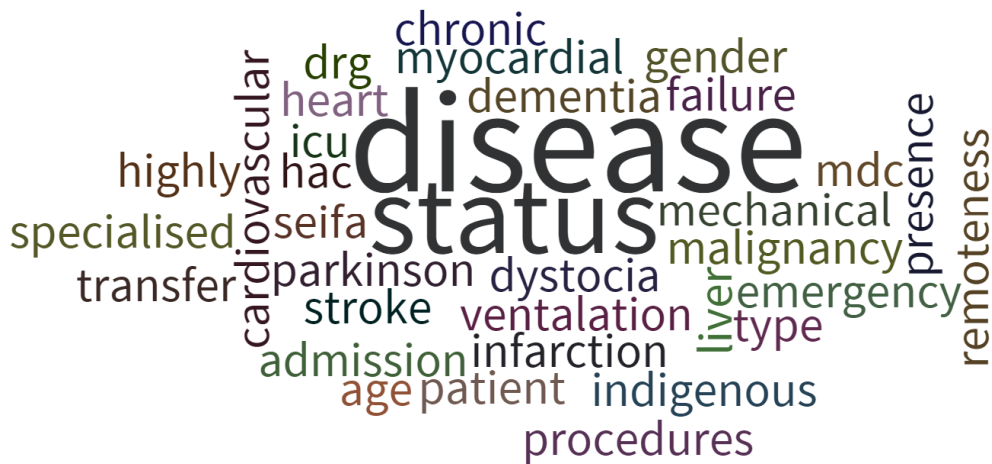
Non-HAC is 9.9% less than HAC  
“Adopted/max adjustment”  
\$111 less 9.9% = \$100



# Hospital acquired complications



# Hospital acquired complications





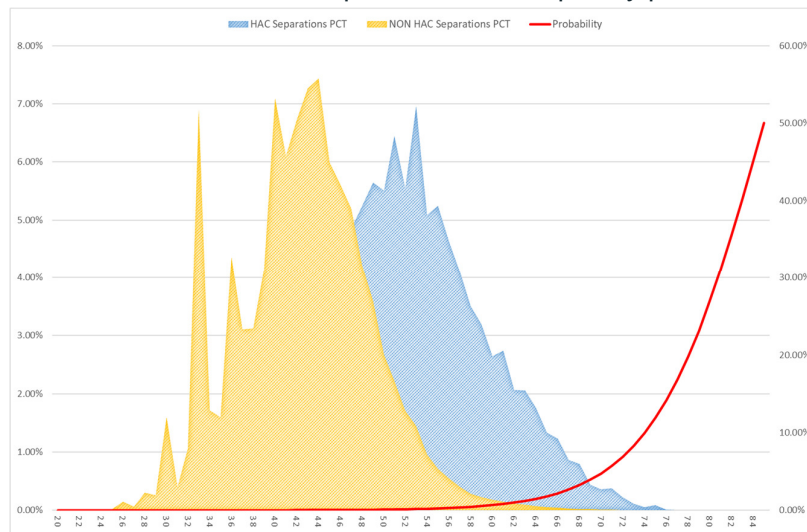
# Hospital acquired complications

Risk factors		1. Pressure injury	2. Falls resulting in fracture or intracranial injury	3. Healthcare-associated infection	4. Surgical complications requiring unplanned return to theatre	6. Respiratory complications	7. Venous thromboembolism	8. Renal failure	9. Gastrointestinal bleeding	10. Medication complications	11. Delirium	12. Incontinence	13. Endocrine complications	14. Cardiac complications	15.02 Fourth degree perineal laceration during delivery
Emergency admission status		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Patient age		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AR-DRG11 type, Major diagnosis category 11, Intensive care unit status, Acute myocardial function, Congestive heart failure, Peripheral vascular disease, Cerebral vascular accident, Dementia, Pulmonary disease, Connective tissue disorder, Peptic ulcer,	Liver disease, Diabetes, Diabetes complications, Paraplegia, Renal disease, Cancer, Metastatic cancer, Severe liver disease, Human Immunodeficiency Virus (HIV)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Sex			✓	✓		✓	✓	✓	✓	✓	✓	✓			
Admission transfer status		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	
Fetal distress															✓
Instrument use															✓
Persistent posterior occiput presentation															✓
Young and mature aged primigravida															✓



# HAC Risk modelling

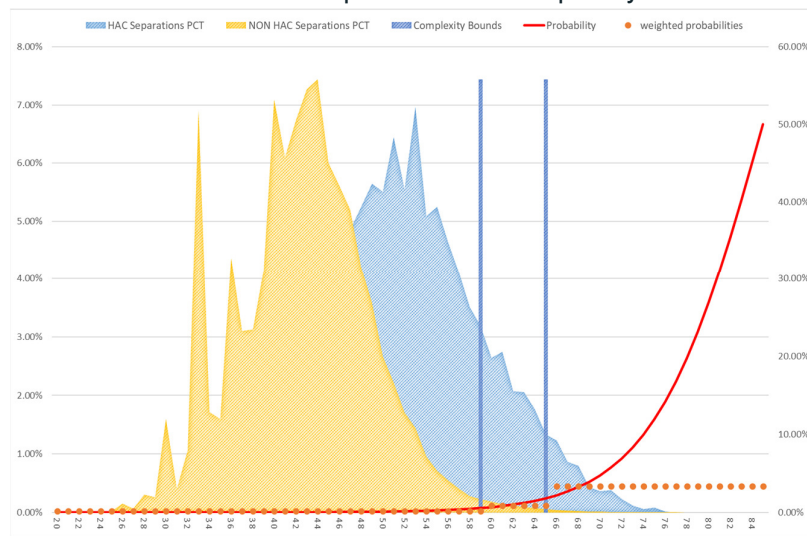
HAC10 – Medication complications – Complexity profile



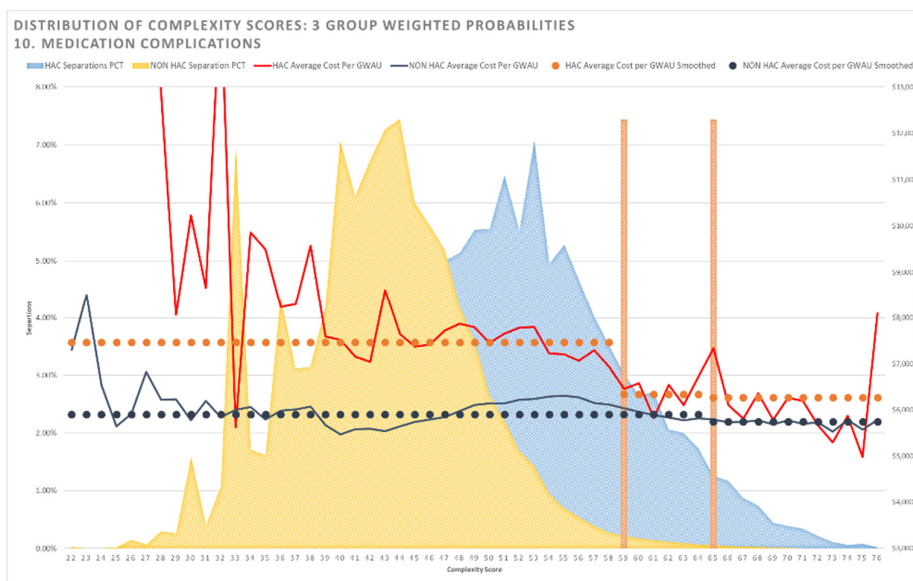


# HAC Risk modelling

HAC10 – Medication complications – Complexity bounds



# HAC Risk modelling





# Case study

- 73 year old male
- admitted through emergency for acute shortness of breath.
- background of congestive heart failure, hypertension, peripheral vascular disease and type 2 diabetes managed with oral medication.
- transferred to the ICU for non-invasive ventilation due to pneumonia before being transferred to the ward seven days later.
- While on the ward, the patient slipped and fell heavily while in the shower, resulting in a fracture of the lumbar vertebra L4-L5.
- The fracture was managed conservatively and the patient was discharged home 12 days following admission.

Complexity score calculations	
Risk factor breakdown	Complexity Score
Baseline	29.4969
Age Group: 070 to 074	9.4117
Congestive heart failure	2.1109
Peripheral vascular disease	3.368
Diabetes	-0.5203
DRG Type: Intervention	3.5008
MDC: Diseases & Disorders of the Respiratory System	-2.3675
Emergency admission	6.7791
ICU Hours	3.5505
<b>Total</b>	<b>55</b>
Adjustment calculations	
Complexity group	Moderate
Maximum adjustment	3.60%
Dampening	0.5438
<b>Final adjustment</b>	<b>1.90%</b>



# Hospital acquired complications

Complication	Complexity group		
	Low	Moderate	High
1. Pressure injury	14.3%	10.4%	9.2%
2. Falls resulting in fracture or intracranial injury	3.6%	1.9%	1.1%
3. Healthcare-associated infection	8.8%	2.5%	1.8%
4. Surgical complications requiring unplanned return to theatre	11.9%	6.6%	5.4%
5. Unplanned intensive care unit admission <sup>10</sup>	Nil	Nil	Nil
6. Respiratory complications	14.1%	6.9%	3.6%
7. Venous thromboembolism	12.1%	7.2%	5.1%
8. Renal failure	20.4%	12.8%	8.4%
9. Gastrointestinal bleeding	9.9%	8.0%	7.6%
10. Medication complications	10.8%	8.0%	7.1%
11. Delirium	10.8%	2.0%	1.1%
12. Incontinence	7.3%	4.5%	2.1%
13. Endocrine complications	8.9%	3.9%	1.7%
14. Cardiac complications	12.5%	4.7%	4.1%
15.1. Third degree perineal laceration during delivery <sup>10</sup>	Nil	Nil	Nil
15.2. Fourth degree perineal laceration during delivery	32.8%	32.0%	32.0%
16. Neonatal birth trauma <sup>10</sup>	Nil	Nil	Nil



# Avoidable hospital readmissions

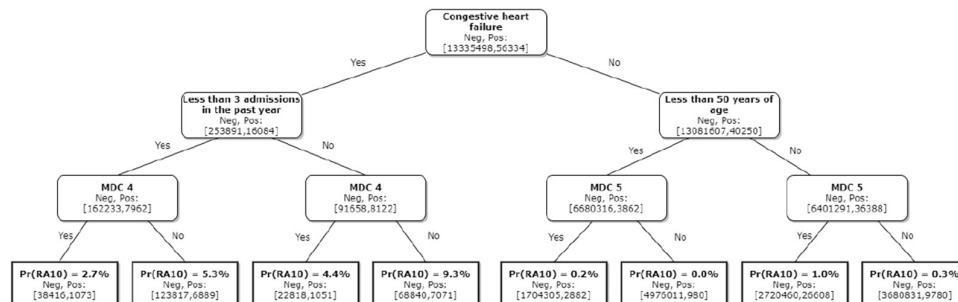
Model development



## Avoidable Hospital Readmissions

- Individual models for each readmission
  - Independent risk factor selection
- Machine learning decision-tree based technique
  - Gradient boosting decision trees using *LightGBM*

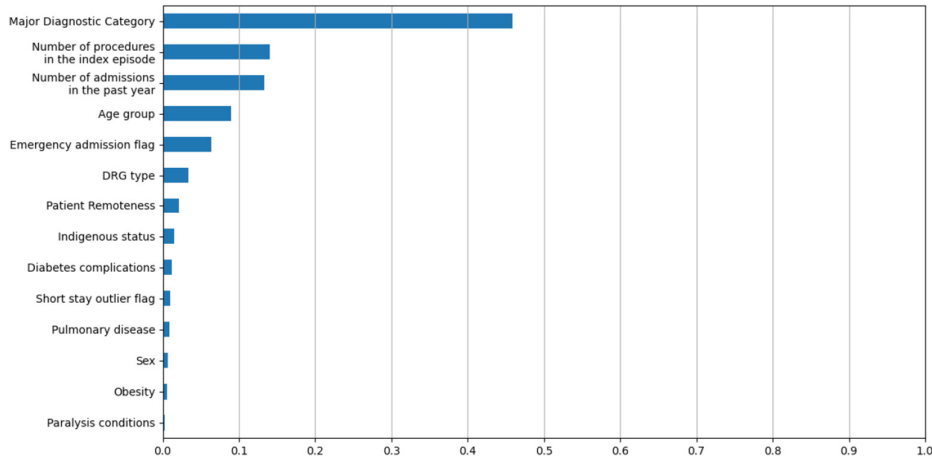
Example decision tree classifier for Readmission 10 - Cardiac complications





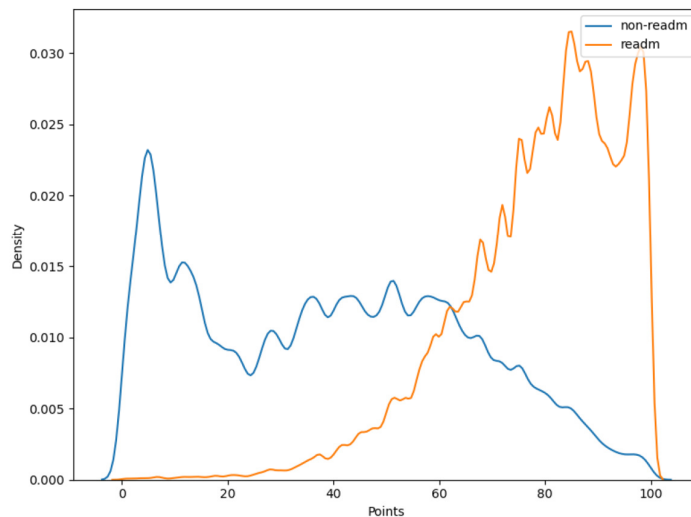
# Readmission risk factors

Figure 1: Top features relating to infections (AHR02) vs relative feature importance.



# Readmission risk model

Figure 4: Readmission complexity due to cardiac complications (AHR10)





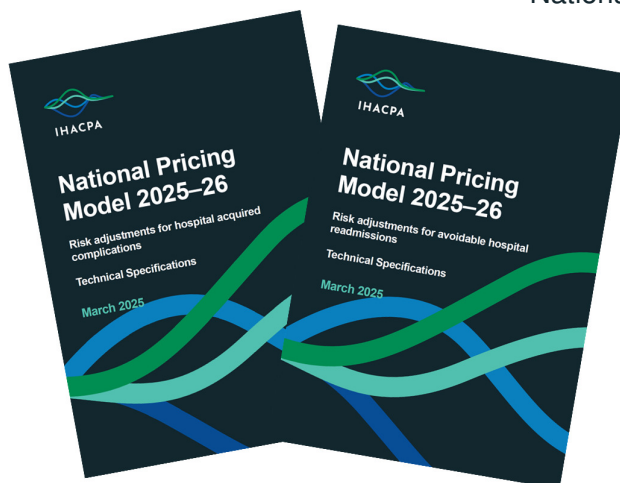
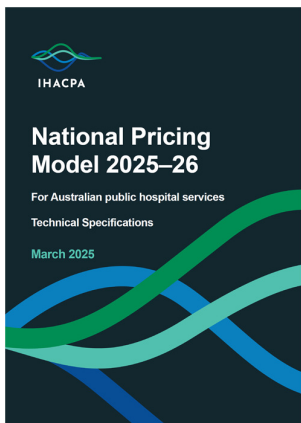
# Avoidable hospital readmissions

- Dampening applied to readmission episode price.
- Deducted from index episode. For example:
  - Index \$5,000
  - Readmission \$1,000
  - Max deduction is \$1,000
  - Risk adjustment
    - High risk renal = \$209
  - Adjusted index = \$4,791

Readmission category	Complexity group		
	Low	Moderate	High
1. Pressure injury	100%	39.4%	30.8%
2. Infections	100%	50.7%	40.9%
3. Surgical complications	100%	20.9%	19.6%
4. Respiratory complications	100%	34.8%	25.8%
5. Venous thromboembolism	100%	51.4%	42.0%
6. Renal failure	100%	28.4%	20.9%
7. Gastrointestinal bleeding	100%	31.6%	20.5%
8. Medication complications	100%	40.0%	33.7%
9. Delirium	100%	38.6%	33.3%
10. Cardiac complications	100%	45.7%	38.9%
11. Constipation	100%	40.6%	29.9%
12. Nausea and vomiting	100%	54.4%	40.2%



# All details available online



- ihacpa.gov.au
- Health care
  - Pricing
  - National Pricing Model Technical Specifications





# Application to funding



## Application to funding

- Sentinel events receive a price of zero.
- Hospital acquired complications and avoidable hospital readmissions receive a price reduction.
- Commonwealth funding is based on growth in national efficient price





# Application to funding 1

Year	Efficient price (no safety and quality adjustments)
2022-23	\$1,000,000
2023-24	\$1,050,000
Growth	\$50,000
Commonwealth growth funding (45%)	\$22,500



# Application to funding 1

Year	Efficient price (no safety and quality adjustments)	Safety and quality adjustment
2022-23	\$1,000,000	-\$20,000
2023-24	\$1,050,000	-\$20,000
Growth	\$50,000	
Commonwealth growth funding (45%)	\$22,500	





# Application to funding 1

Year	Efficient price (no safety and quality adjustments)	Safety and quality adjustment	Efficient price
2022-23	\$1,000,000	-\$20,000	\$980,000
2023-24	\$1,050,000	-\$20,000	\$1,030,000
Growth	\$50,000		\$50,000
Commonwealth growth funding (45%)	\$22,500		\$22,500



# Application to funding 2

Year	Efficient price (no safety and quality adjustments)	Safety and quality adjustment	Efficient price
2022-23	\$1,000,000	-\$20,000	\$980,000
2023-24	\$1,050,000	-\$18,000	\$1,030,000
Growth	\$50,000		\$50,000
Commonwealth growth funding (45%)	\$22,500		\$22,500



## Application to funding 2

Year	Efficient price (no safety and quality adjustments)	Safety and quality adjustment	Efficient price
2022-23	\$1,000,000	-\$20,000	\$980,000
2023-24	\$1,050,000	-\$18,000	\$1,032,000
Growth	\$50,000		\$50,000
Commonwealth growth funding (45%)	\$22,500		\$22,500



## Application to funding 2

Year	Efficient price (no safety and quality adjustments)	Safety and quality adjustment	Efficient price
2022-23	\$1,000,000	-\$20,000	\$980,000
2023-24	\$1,050,000	-\$18,000	\$1,032,000
Growth	\$50,000		\$52,000
Commonwealth growth funding (45%)	\$22,500		\$22,500



# Application to funding 2

Year	Efficient price (no safety and quality adjustments)	Safety and quality adjustment	Efficient price
2022-23	\$1,000,000	-\$20,000	\$980,000
2023-24	\$1,050,000	-\$18,000	\$1,032,000
Growth	\$50,000		\$52,000
Commonwealth growth funding (45%)	\$22,500		\$23,400



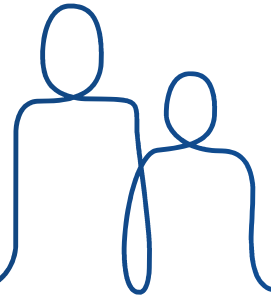
# Impacts





# Impacts

- National benchmarking portal
- Peer reviewed literature

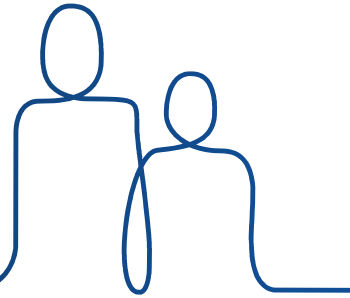


# National benchmarking portal

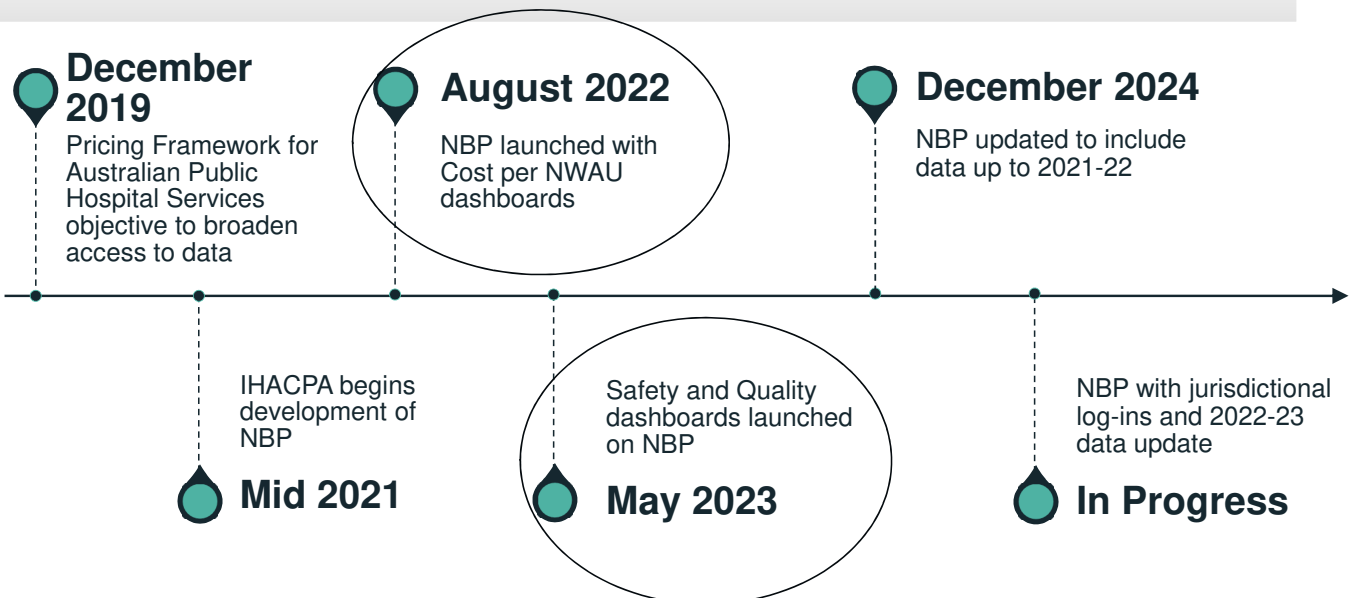


# National benchmarking portal

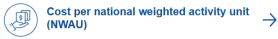
- The national benchmarking portal is a website-based application
- Provides open access to insights from data collected by IHACPA
- Provides a platform to explore and compare cost and activity data from public hospitals throughout Australia
- Gain insights into the safety and quality measures which are included in the National Pricing Model.



# Background



Periodic insights



Cost per national weighted activity unit (NWAU)  
The average cost used to deliver health service activity expressed as a common unit.



Hospital acquired complications  
A complication experienced by a patient during their hospital stay which clinical risk mitigation strategies may reduce the risk of that complication occurring.

Hospital Acquired Complications

HAC trends HAC activity NWAU adjustments



Let's explore what the NBP tells us about safety and quality...

# Peer reviewed literature



## Incorporating Safety and Quality Measures Into Australia's Activity-Based Funding of Public Hospital Services

Samuel B. G. Webster<sup>1</sup>, Sarah E. Neville<sup>1</sup>, Jennifer Nobbs<sup>2</sup>, Jada Ching<sup>1</sup> and Kees van Gool<sup>1,3</sup>

<sup>1</sup>Independent Health and Aged Care Pricing Authority, Darlinghurst, NSW, Australia. <sup>2</sup>Beamtree, London, UK. <sup>3</sup>Menzies Centre for Health Policy and Economics, The University of Sydney, Sydney, NSW, Australia.

**ABSTRACT:** In a bid to improve quality of care, numerous countries have incorporated rewards and penalties into hospital services. This paper outlines recent advances in Australia to incorporate financial penalties for hospital-acquired and avoidable hospital readmissions (AHRs) adjustments into the funding of public hospital services. It describes of suitable measures to identify episodes, the design of the analytical approach used for risk adjustment and the calculations including dampening effects to account for the level of risk. Using the 2019 to 20 round of data collection, an adjustment analysis, incremental costs of HACs and AHRs, and the funding dampening effects, the paper further details strategies undertaken by the Independent Health and Aged Care Pricing Authority (IHACPA) to ensure transparency and engagement. The paper argues that both the technical development and its implementation strategies have been and quality an integral and accepted part of Australia's public hospital funding arrangements.

**KEYWORDS:** Safety and quality, hospital pricing and funding, hospitals

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### Introduction

Health care in Australia is a joint responsibility between the Commonwealth (federal), state and territory governments. Public hospitals are a major component of these shared responsibilities. All Australians have access to public hospital services which, collectively, account for approximately 32% of total annual health care expenditure.<sup>1</sup> Public hospitals are funded by federal, state and territory governments but the 6 state and 2 territory governments are the system managers within their respective health systems. In addition, local hospital managers

volume of activity delivered, and the year is dependent on the growth in funding (ABF) service delivery. A nationally weighted activity units (AWU) of the complexity of the activity. More costly activities have a higher AWU value. A less complex activity has a lower AWU value. The NEP reflects the value of care. The NEP reflects the value of care. The NEP reflects the value of care.

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## Financial Penalties Associated with a Decline in Hospital-Acquired Complications: Evidence from a National Study of Australian Hospitals

25 Pages • Posted: 13 Apr 2025

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### Abstract

Background Approximately one in ten patients are harmed during hospital admission. Evidence for targeting inpatient harm using pay-for-performance (p4p) policies is inconclusive. Objective To examine any association between the introduction of a financial penalty on 1 July 2018 and the incidence of the hospital-acquired complications (HACs) in Australian public hospitals. Methods Administrative data on every Australian inpatient admission (age >17 years) between 1 January 2014 and 30 June 2021 was used to analyse changes in quarterly HAC incidence (per 1,000 admissions) and rate of admissions with at least one HAC (HAC episode rates) – both standardized to the study population – using an interrupted time series approach. Results Just under 20 million inpatient admissions took place over the study period. Of these, 947,057 (22%) (mean age 69 (SD: 18),



# Thank you

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