



Australian Government
Productivity Commission

Australia's use of financial mechanisms to reduce HACs

ACE 9 July 2025

Persis Eskander and Nicholas Sladden

pc.gov.au





The Productivity Commission acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, waters and community. We pay our respects to their Cultures, Country and Elders past and present.

Why use financial mechanisms to improve the quality of healthcare?

- 1** Most nations use the activity-based funding (ABF) model to finance hospital expenditure. It was introduced in Australia in 2012.
- 2** ABF creates incentives for efficiency and encourages high-volumes of care, while placing limitations on cost growth. But ABF does not focus on promoting quality and safety of care.
- 3** Financial mechanisms can fill that gap by incentivising practices and actions that will deliver higher value care.

What are hospital acquired complications (HACs)?

HACs are complications that can be **reduced but not necessarily eliminated** with clinical risk mitigation strategies. The national list of HACs contains 16 categories.

HACs increase the cost of hospital care

HACs are examples of preventable poor-quality care.

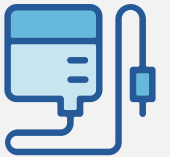
HACs increase the complexity of care a patient requires and/or the length of stay



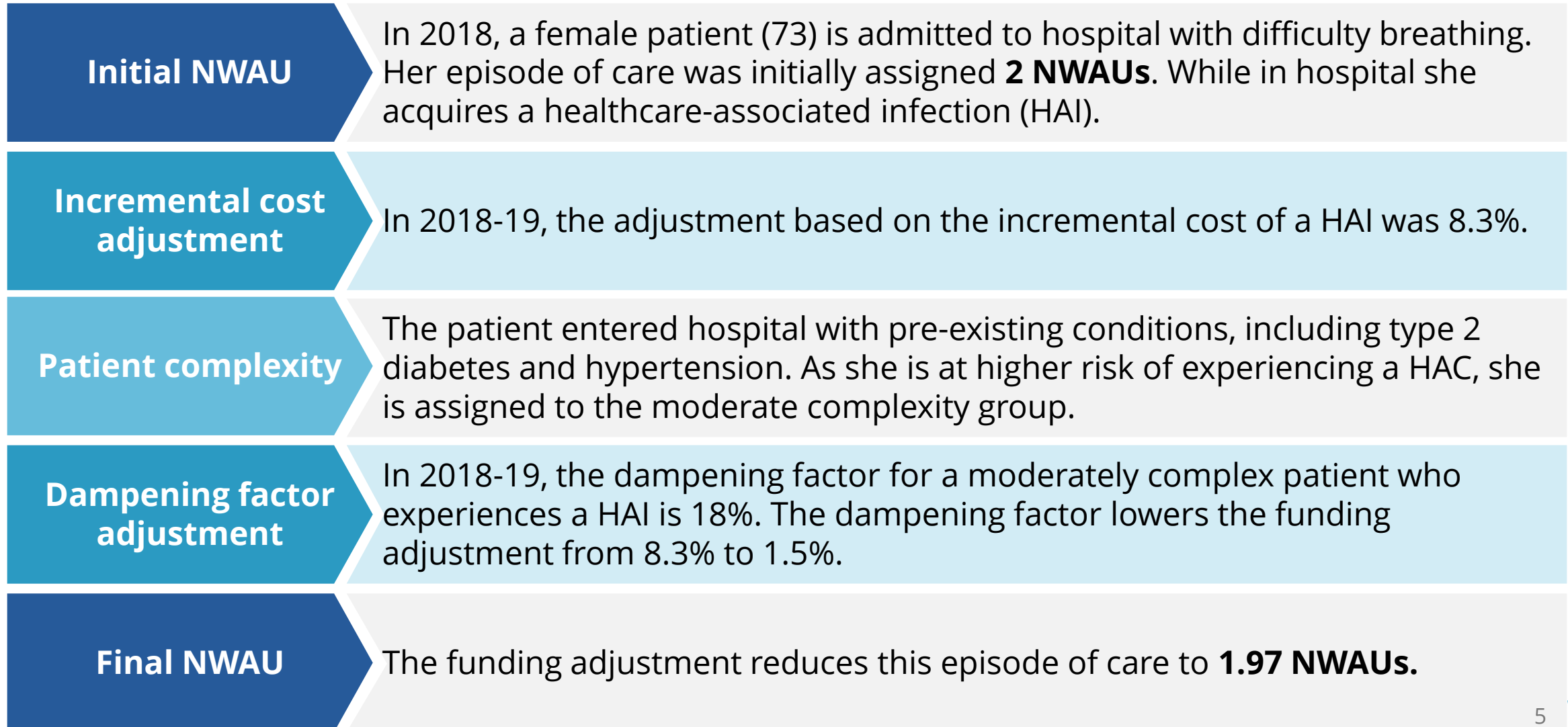
HACs cause direct harm to patients

HACs have serious consequences for patient outcomes and experiences.

They also prolong a patient's recovery time.



The funding adjustment factors in patient complexity



Did the design of the funding adjustment play a role in its effectiveness?

The Australian Government introduced the funding adjustment in July 2018. States and territories were consulted on its design.

**Australian Government
adjusts its funding based
on the change in HAC rates**

However, states/territories decide whether to 'absorb' the impact of the adjustment.

**The adjustment is a
penalty if HAC rates are
higher than the previous
year**

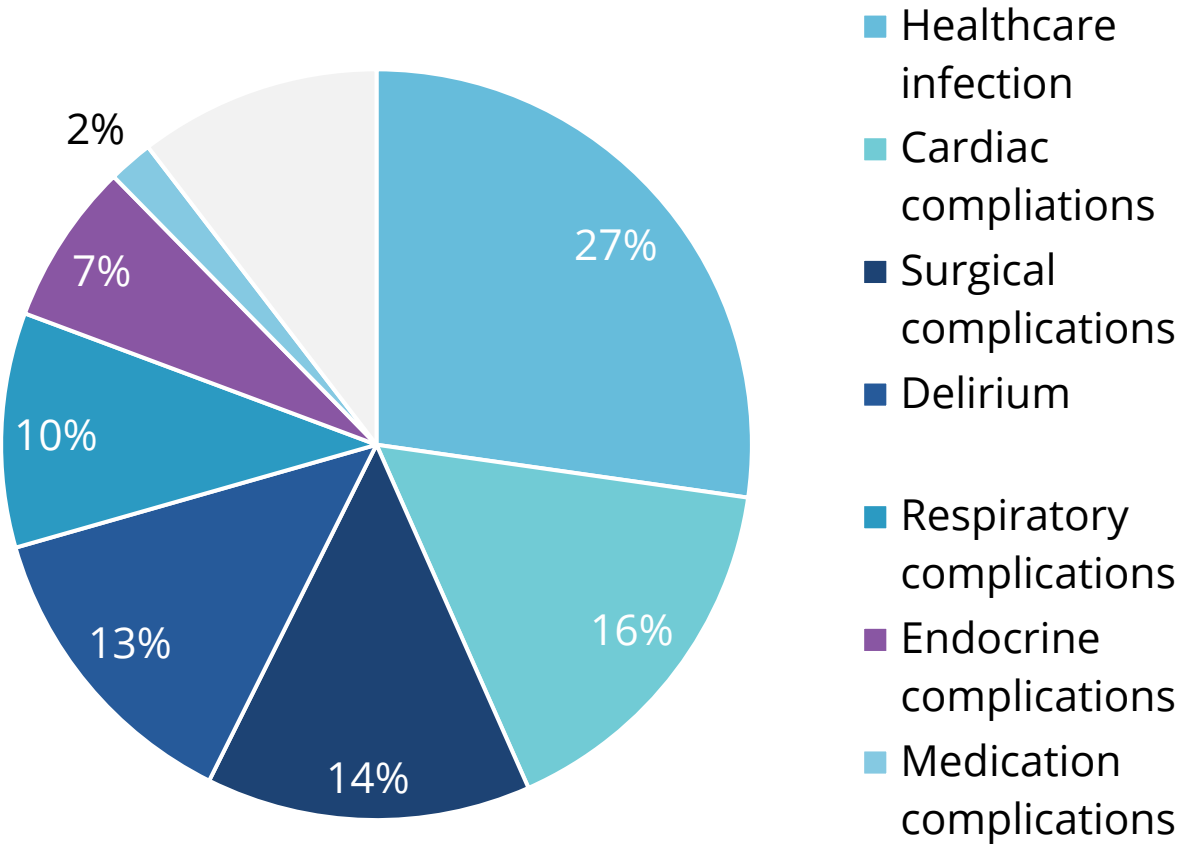
The changing baseline creates a disincentive to continue lowering HAC rates.

**Is the adjustment too
small to matter?**

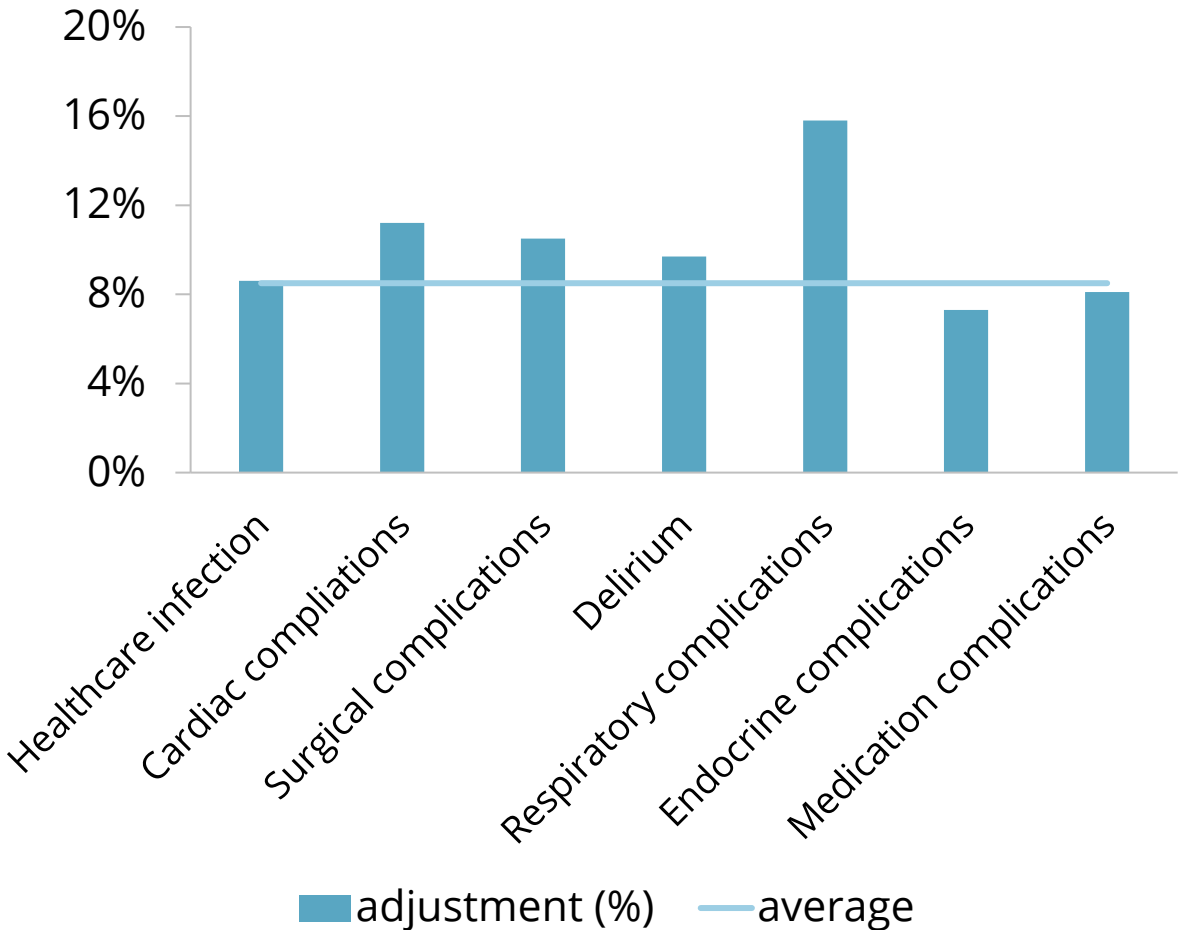
The adjustment should be set in line with the social benefit gained from lowering HAC rates.

Seven categories account for almost 90% of all HACs

Prevalence by HAC group



Incremental cost by HAC group



Difference-in-differences model

Primary question

What happened to **HAC rates** in the **treated group** compared to **control group** after the funding adjustment was implemented?

Study period

The pre-policy period was July 2016 to June 2018. To avoid the confounding effects of the COVID pandemic, our post policy period was limited to July 2018 to February 2020.

Treatment and control groups

Some states/territories applied the funding adjustment during the study period and some did not. These formed our treatment and control groups, respectively.

Parallel trends assumption

We visually observed parallel trends in the pre-policy period and conducted multiple placebo tests to confirm compliance.

Difference-in-differences logit model

Equation 1 – the effect of the funding adjustment on the probability of a HAC

$$\begin{aligned} &P(HAC_{ijt} = 1) \\ &= \beta_0 + \beta_1 treated_{ij} + \beta_2 post_t + \beta_3 (treated_{ij} \times post_t) + \sum_{n=1}^k \theta_k X_{ijt} + \gamma_j + \lambda_t + \varepsilon_{ijt} \end{aligned}$$

Equation 2 – the effect of the funding adjustment on the probability of a *specific* HAC

$$\begin{aligned} &P(HAC(a)_{ijt} = 1) \\ &= \beta_0 + \beta_1 treated_{ij} + \beta_2 post_t + \beta_3 (treated_{ij} \times post_t) + \sum_{n=1}^k \theta_k X_{ijt} + \gamma_j + \lambda_t + \varepsilon_{ijt} \end{aligned}$$

Accounting for the role of patient risk factors

Age

Ranging from 1 to 95 years old.
Patients older than 95 were excluded



Charlson score

A numerical index of comorbidity



Gender

Gender was not a relevant
characteristic for three HACs



ICU status

Whether the patient entered the ICU
during their episode of care.



Diagnosis related group

All patients are assigned either a
medical or intervention category



Admission status

Whether admission occurred on an
emergency rather than elective basis



Major diagnostic category

Comprises 24 groups covering parts
of the body

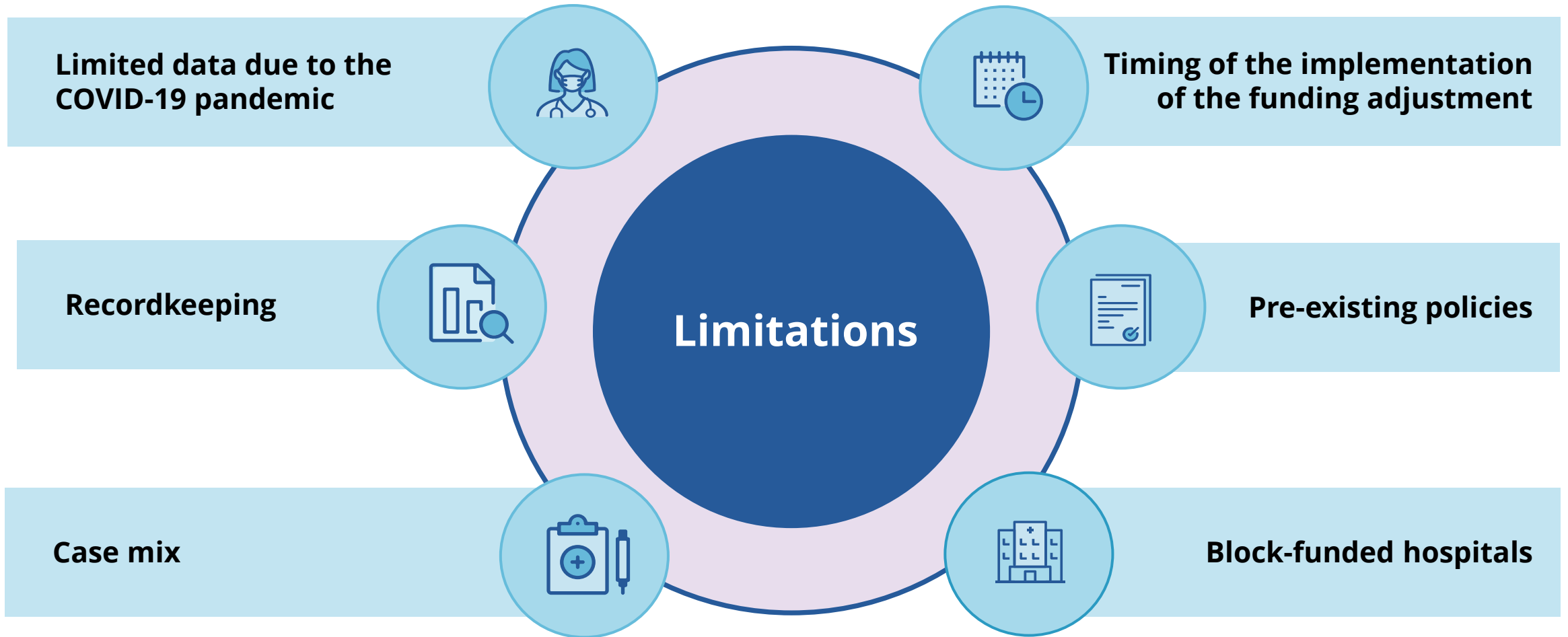


Transfer status

Whether the patient was transferred
from another hospital



Limitations of our analysis



Results coming soon...

- 1** The National Health Data Hub (NHDH) are the custodians of hospital data.
- 2** Findings are currently undergoing NHDH publication approval.
- 3** Results will be published in a Productivity Commission report when finalised.

Stay tuned!





Contact: communications@pc.gov.au