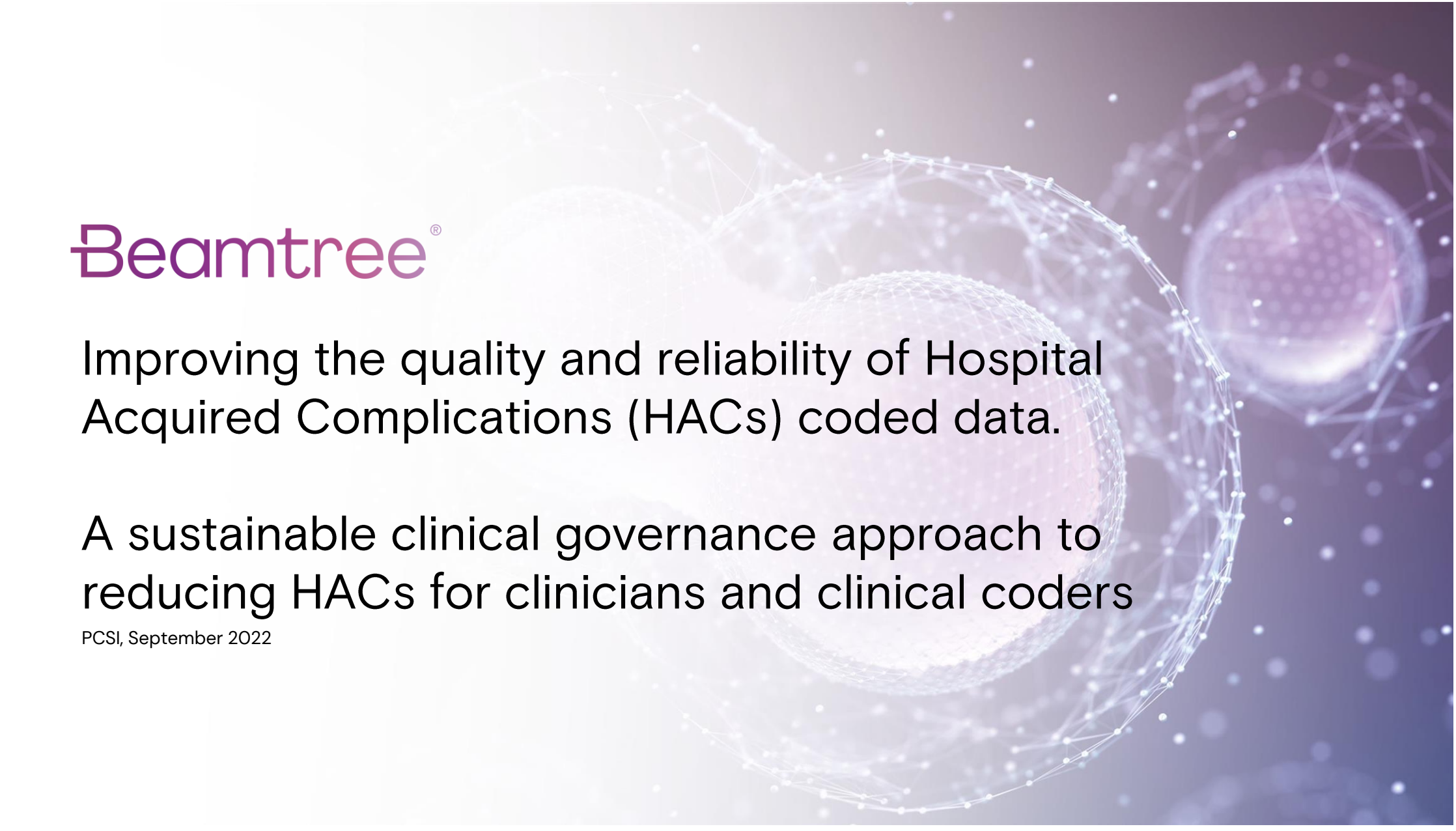


Beamtree®

Improving the quality and reliability of Hospital Acquired Complications (HACs) coded data.

A sustainable clinical governance approach to reducing HACs for clinicians and clinical coders

PCSI, September 2022

Outline of Presentation

- Impact of Hospital Acquired Complications
- Australian landscape for collecting, reporting and managing Hospitals Acquired Complications
- Challenges in HAC Management and Governance
- Beamtree RISQ HAC Management portal
- Case Study 1
- Case Study 2
- International Applicability
- Lessons Learnt and Next Steps
- Questions
- References

Activity:

Think about your health service. Write down the number one challenge with managing HACs

Impact of Hospital Acquired Complications

- Significant numbers of patients are harmed during health care, either resulting in permanent injury, increased length of stay in health care facilities, or even death.
- Linking quality and safety with hospital funding is being considered and implemented by many countries using a variety of approaches.
- Available evidence points to the provision of relevant and timely clinical information as an effective driver of safety and quality improvement.

Australian landscape for collecting, reporting and managing Hospital Acquired Complications

Key stakeholders

1. Australian Commission on Quality and Safety in Healthcare
2. IHPA (Risk Adjustment Penalty Model & ICD-10-AM Coding Classification)
3. State and Territory Health Departments
4. Public and Private Hospitals
5. Clinicians
6. Clinical Governance and Quality & Safety Teams
7. Health Information Managers
8. Clinical Coders
9. Patients

Australian Commission on Safety and Quality in Health Care (ACSQHC)

The Australian Commission on Safety and Quality in Health Care (ACSQHC) defines a HAC as **a patient complication for which clinical risk mitigation strategies may reduce (but not necessarily eliminate) the risk of that complication occurring.**

ACSQHC undertook extensive consultation and in 2016 published a list of 16 HAC groups and 46 HAC indicators:

01 - Pressure injury	05 – Unplanned intensive care unit admissions	09 – Gastrointestinal bleeding	13 0 Endocrine complications
02 - Falls resulting in fracture or other intracranial injury	06 - Respiratory Complications	10 – Medication complications	14 – Cardiac complications
03 - Healthcare associated infection	07 - Venous thromboembolism	11 – Delirium	15 – Third and fourth degree perineal laceration during delivery
04 - Surgical Complications (unplanned return to theatre)	08 - Renal Failure	12 – Incontinence	16 – Neonatal birth trauma

Activity: What do you think are the top 3 HAC Groups within your hospital?

Independent Health and Aged Care Pricing Authority (IHACPA):
Coding Classification and HAC Penalty Model

Coding Classification

- ICD-10-AM/ACHI/ACS
- Coding standard on the assignment of Condition Onset Flag (COF)
- Assigned for every diagnosis code
- Reported data field

Risk Adjustment Model for HAC funding

- HACs have been measured and used as part of the ABF funding model for Australian public hospitals since July 2018 using a risk adjusted model.
- Public and Private hospital funders in Australia use this approach to reduce funding for episodes of care with a reported HAC

Activity: What do you think is the average additional cost of a Healthcare associated infection HAC?

Public Reporting of HACs

IHACPA National Benchmarking Portal

- HAC dashboard with indicators and graphs that compare data for one year to the previous year at State, Hospital, Stream and Peer Group Level
- Data is aggregated (all patient information is de-idenified)
- Provides insights in costs

Inform My Care – Queensland Health HAC

- The primary purpose of the Inform My Care interactive website is to provide transparent information about hospitals and residential agreed care facilities in Queensland
- Allows users to compare the quality and safety information relating to hospital treatment
- Compares HAC rates of QLD Public and Private hospitals on a quarterly basis

Challenges for Clinician and Coders in accurately capturing HACs

- Lack of trust in the coded data
- Lack of clinician engagement in HAC management
- Multiple sources of HAC data
- Lack of timeliness in HAC reporting
- Incomplete clinical documentation impacting on the assignment of condition onset flag and code assignment specificity

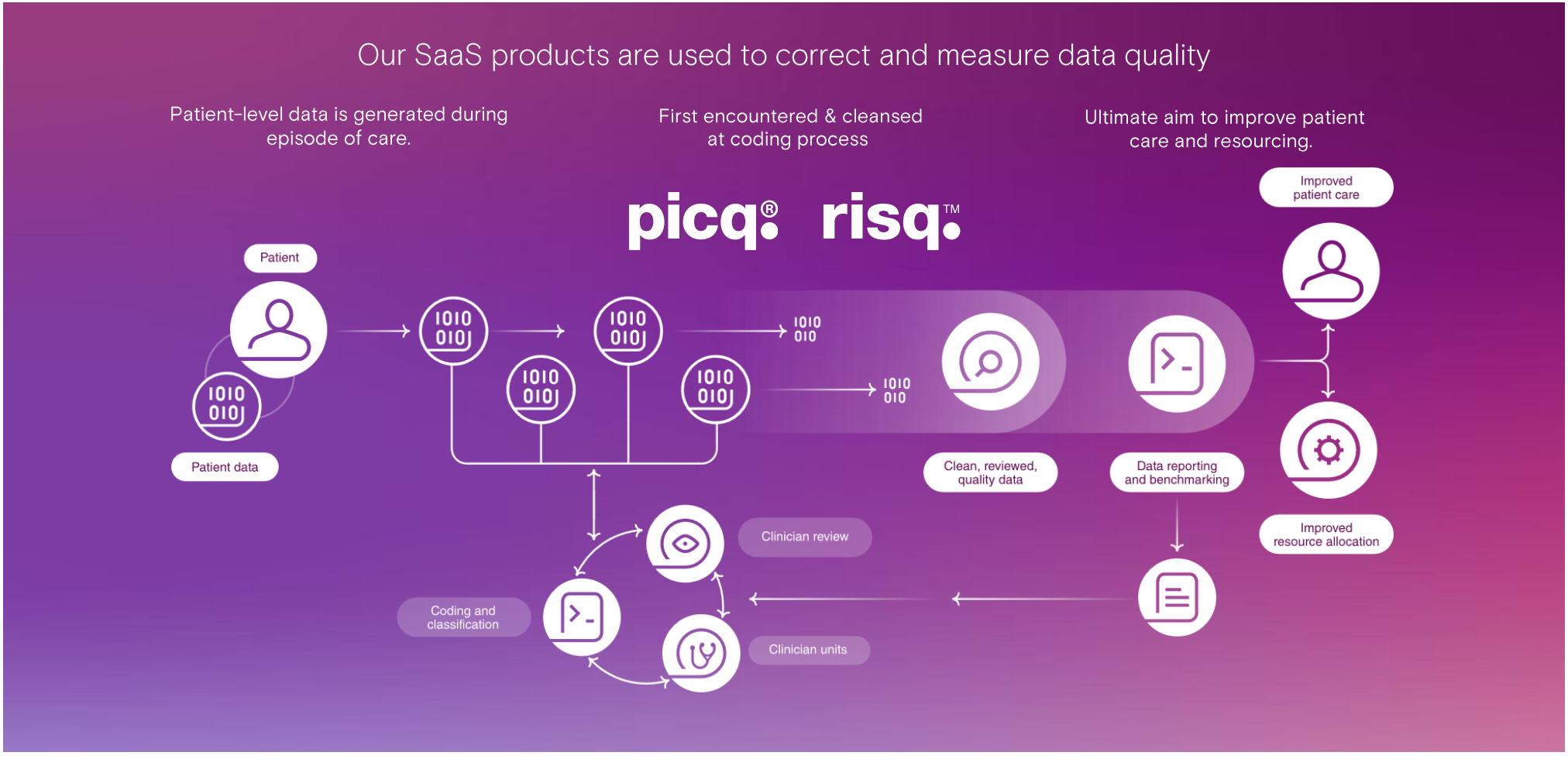
How can we ensure that HAC data that is reported is accurate and will ultimately improve the quality of care and patient safety? What systems and process have you considered?

Beamtree®

Creating a better future for health

We want to serve the healthcare ecosystem by turning data into positive action through insights and automation. We will become the global leader in the design of Learning Health Systems, enabled by our people, expertise and technologies, to help improve and save lives around the world.

Cutting-edge and timely **data analytics using our deep understanding of coding classification systems**



Beamtree RISQ HAC Management Portal

Key stakeholders

1. State Health Departments
2. Public and Private Hospitals
3. Clinicians
4. Clinical Governance and Quality & Safety Teams
5. Health Information Managers
6. Clinical Coders

RISQ enables hospitals and clinicians to better manage HACs

Identifies focus areas and set targets, allowing health services to monitor improvements over time

Measures data quality with a focus on reducing HACs error rates and to reduce financial penalties

Compares performance with industry best practice

Monitors HAC rates, drill down into clinical specialities or select records for review with detailed source information from the medical record

RISQ™ drives data and patient safety improvements

National Standards Measurement

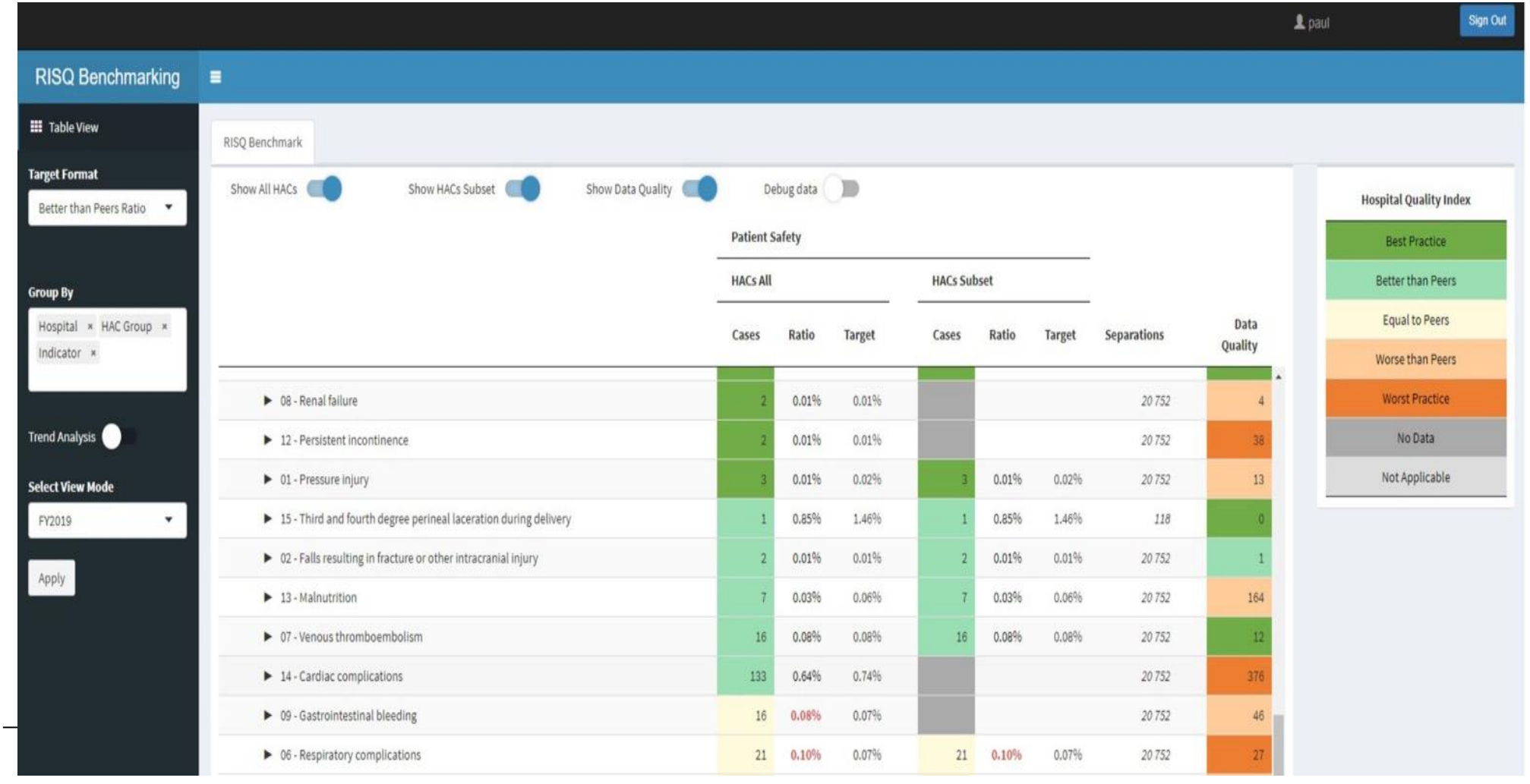
Utilise the latest ACSQHC standards for HAC measurement.

Benchmarking with Peers

Compares performance against similar hospitals and episodes to identify and assess unwarranted variation using IHPA risk adjusted methodology.

Workflow for Coders & Clinicians

Enable collaboration between coders and clinicians to ensure robust, accurate HAC data.



	Patient Safety							
	HACs All			HACs Subset				
	Cases	Ratio	Target	Cases	Ratio	Target	Separations	Data Quality
▶ 08 - Renal failure	2	0.01%	0.01%				20 752	4
▶ 12 - Persistent incontinence	2	0.01%	0.01%				20 752	38
▶ 01 - Pressure injury	3	0.01%	0.02%	3	0.01%	0.02%	20 752	13
▶ 15 - Third and fourth degree perineal laceration during delivery	1	0.85%	1.46%	1	0.85%	1.46%	118	0
▶ 02 - Falls resulting in fracture or other intracranial injury	2	0.01%	0.01%	2	0.01%	0.01%	20 752	1
▶ 13 - Malnutrition	7	0.03%	0.06%	7	0.03%	0.06%	20 752	164
▶ 07 - Venous thromboembolism	16	0.08%	0.08%	16	0.08%	0.08%	20 752	12
▶ 14 - Cardiac complications	133	0.64%	0.74%				20 752	376
▶ 09 - Gastrointestinal bleeding	16	0.08%	0.07%				20 752	46
▶ 06 - Respiratory complications	21	0.10%	0.07%	21	0.10%	0.07%	20 752	27

Case Study 1: Large Australian Public and Private Hospital Group

HAC Reduction Program was driven by

1. The Hospital Group Board introduced HAC reduction targets and reporting program with the aim of improving the quality of care and patient safety
2. The introduction of financial penalties by the payer

Case Study 1: Prevention of the HAC is the most effective strategy

To ensure a sustainable reduction in HACs an innovative approach was implemented, along with the establishment of robust systems and processes for accurate HAC coding and to enable the clinical teams to identify gaps with care and opportunities for improvement.

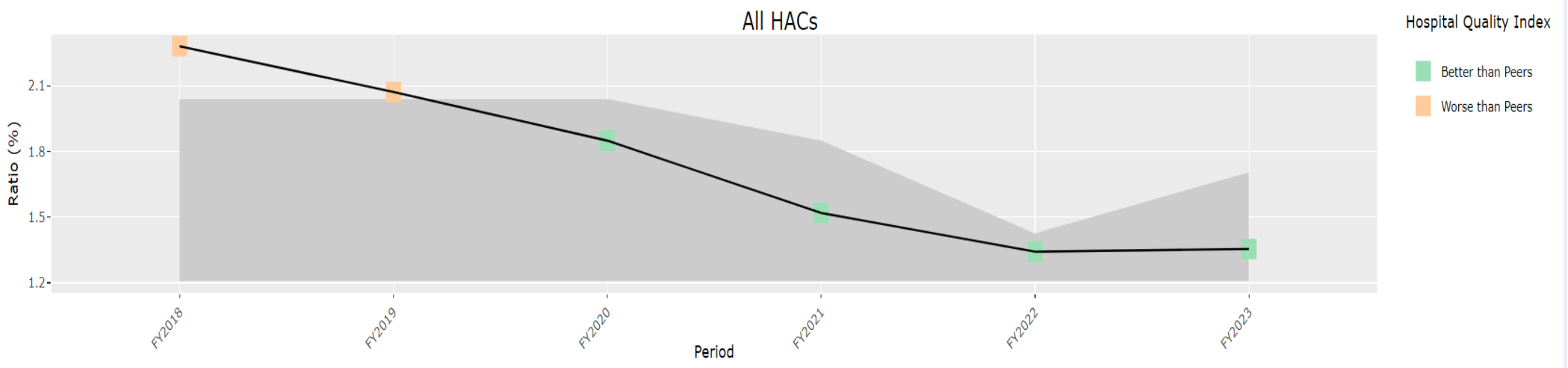
To achieve this hospital Executive believed that **HAC data must be of the highest quality to maintain confidence in the data and access to a single source of truth**. RISQ was implemented in 2019 as the tool to manage and govern HAC data across all their public and private hospitals.

Establishment of **Multidisciplinary Quality & Safety, Clinicians and Clinical Coders HAC Working Parties** The purpose was to:

- Identify the Priority HACs due to high rates, outliers, harm and/or clinical documentation, and coding issues, ie, Pressure Injuries (PIs), Surgical Site Infections (SSIs) and Venous Thromboembolism (VTE), and implement improvements to clinical care and processes.
- The Working Parties focus on a review of clinical practices to improve compliance with state and national standards, (including consistent education modules, patient information, policies, procedures and forms), and improved clinical documentation - inadequate clinical documentation impacts on the assignment of HACs coding.

Case Study Results:

Reduction in HACs which resulted in a reduction of financial HAC adjustment to the episodes of care



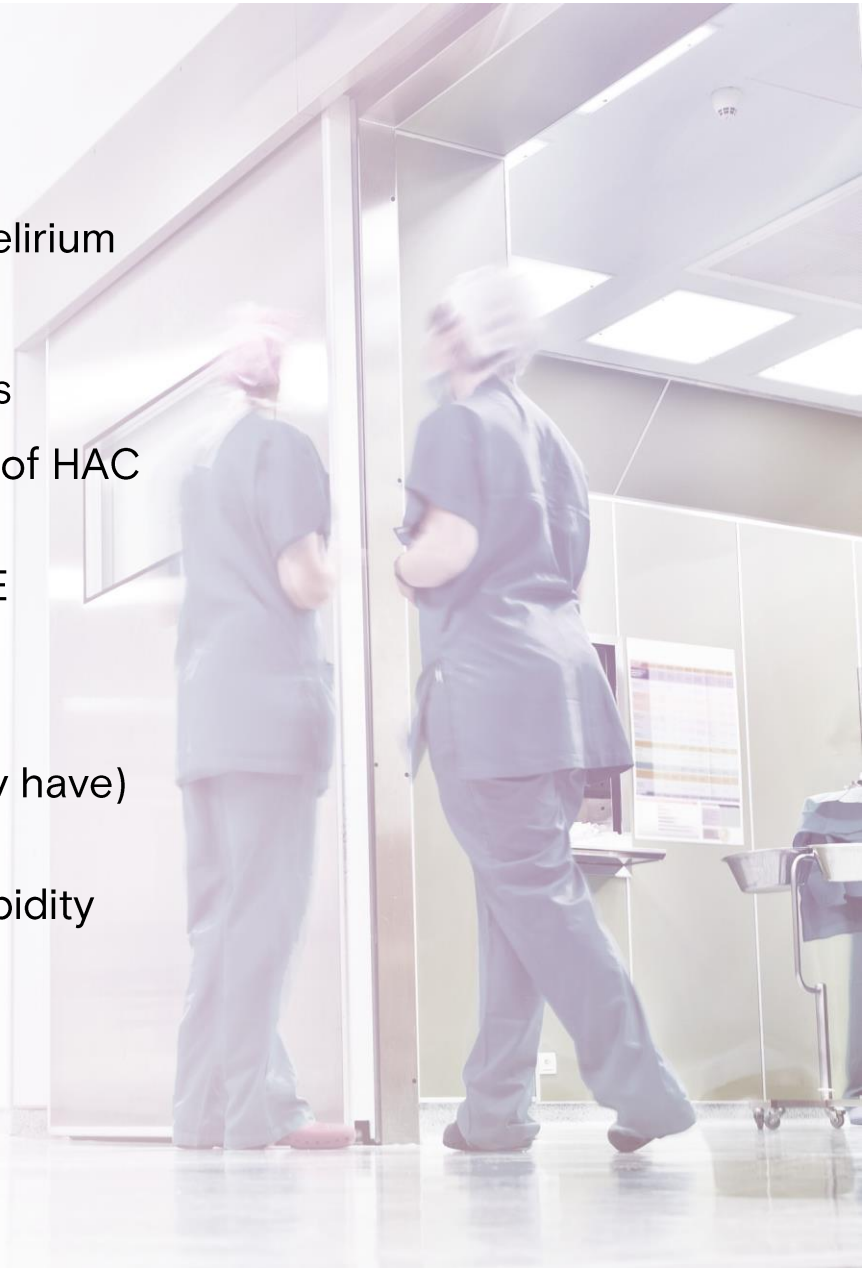
CSV Excel

Search:

Period	Cases	Ratio	Target	Separations	Quality Index
FY2018	1700	2.281%	2.040%	74514	Worse than Peers
FY2019	3118	2.073%	2.040%	150443	Worse than Peers
FY2020	2897	1.850%	2.040%	156607	Better than Peers
FY2021	2530	1.519%	1.850%	166573	Better than Peers
FY2022	2096	1.342%	1.426%	156197	Better than Peers
FY2023	403	1.354%	1.704%	29754	Better than Peers

Reported Outcomes

- Better patient screening for risk factors on admission, such as delirium
- Improved pre-admission clinical information from patients
- Better tools for staging pressure area and education to clinicians
- Improved documentation by clinicians and enhanced specificity of HAC conditions, such as cardiac complications and VTE
- Review of clinical practice in areas of surgical site infections, VTE management
- More accurate HAC coding
- Case reviews of episodes with HACs to identify factors that (may have) caused the HAC
- Sharing of data with clinicians at Craft Group Meetings and Morbidity and Mortality meetings



Case Study 2: Large Private Hospital Group in Queensland

HAC Reduction Program was driven by

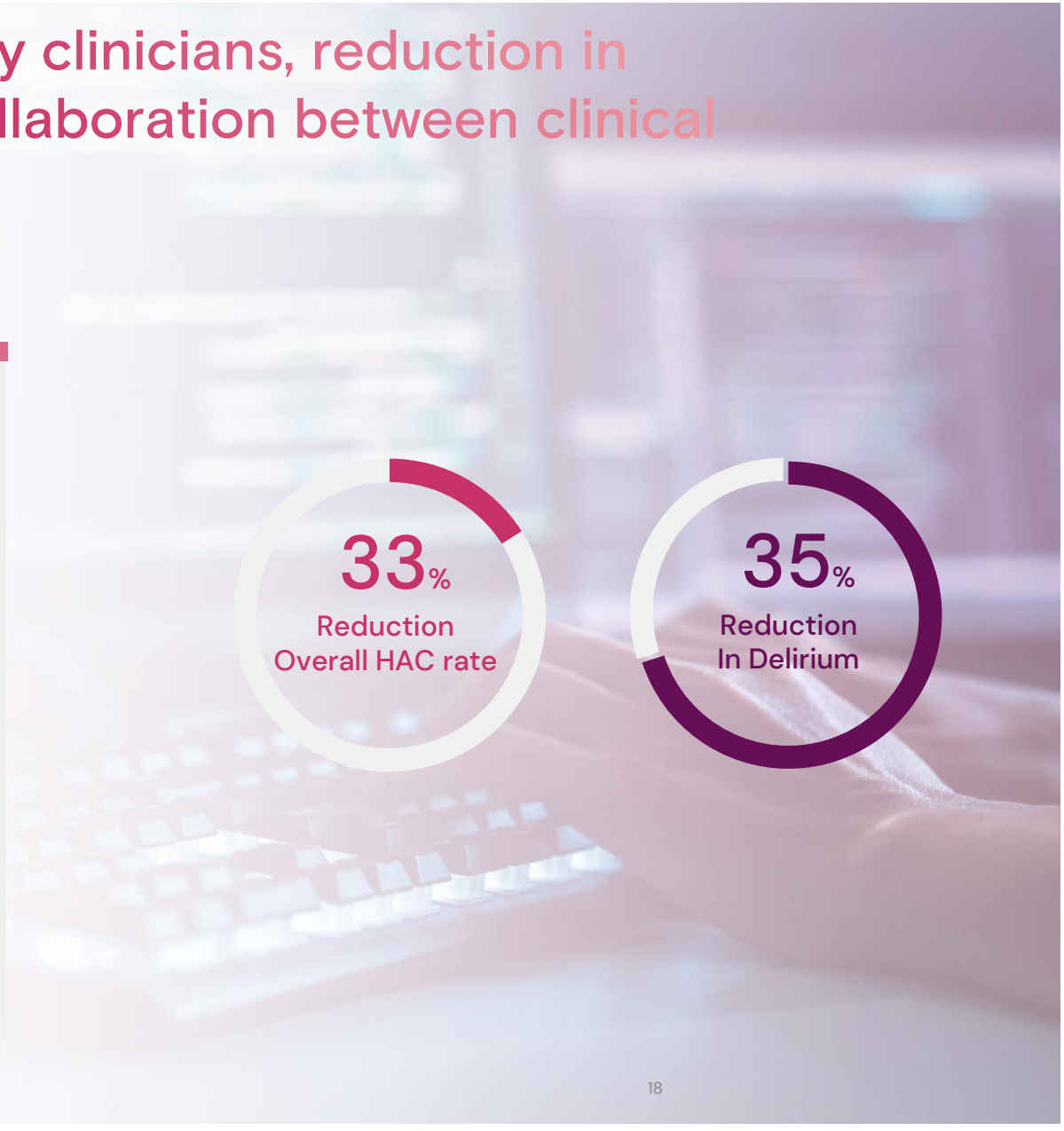
- QLD Inform My Care Public Reporting of Quality and Safety Indicator
- Lack of trust in the data and lack of ownership of data which would require a multidisciplinary approach for HAC reporting and governance

“ If coding of HACs does not accurately reflect trust incidents rate, mistrust in the data can build with clinical governance programs than focusing on querying the data rather than preventing the HAC”

Case Study Results:

Increase trust in coded data by clinicians, reduction in reportable HACs and great collaboration between clinical codes and clinicians

"The Beamtree HAC solution implemented by us have driven many improvements in health information, data management and the delivery of clinical care. The partnership with our clinical coder and clinicians is one of collaboration."



Reported Outcomes

- Implementation of processes and systems to review coded HACs data with clinicians
- Improved coding education, focusing on the assignment of Condition Offset Flag (COF) codes, (ie. presence of condition on admission / in hospital) and improved clinical coders' knowledge of the ACSQHC 16 HACs and clinical aspects
- Enhanced compliance with the RISQ Portal including development of consistent guidelines using RISQ coder workflow
- Consistent policies, procedures, forms and education for HACs have been developed and implemented
- Collaborative approach by the clinical and HIS teams to ensure consistency and standardisation, and also supports the hospitals in gaining efficiencies by removing duplication and rework across the hospitals.
- Improvements in clinical documentation from clinicians and patients with great specificity

International Applicability

Large scale quality coding audits were undertaken in Ireland, Singapore and Saudi Arabia.

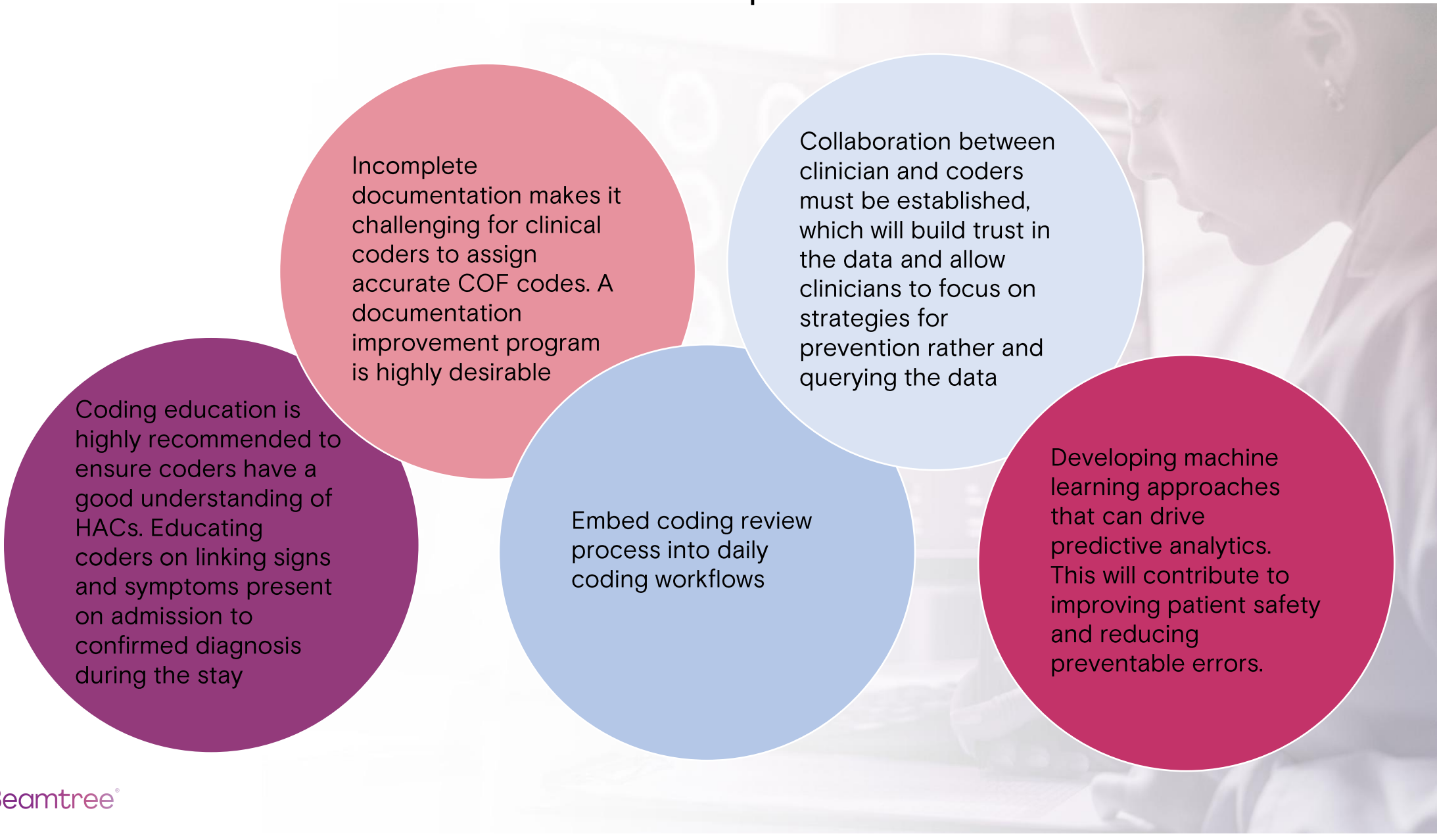
The scope included an assessment against the ACSQHC 46 HAC indicators and Hospitals were benchmarking against Australian peers, using the IHPA HAC Risk Adjusted Model.

Findings included variation in:

- assignment of COF codes accuracy
- occurrence of HACs within speciality groups
- length of stay unrelated to HACs
- capturing of patient complexity
- assignment of care types to patients

The results demonstrated that one data source can be used for multiple purposes, and the value of measuring and benchmarking HACs across Countries to reduce variability of care and to focus on improving patient outcomes.

Lessons Learnt and Next Steps



Answers to Activities

- What do you think are the top 3 HAC Groups within your hospital?
    - Top 3 HACs in for Australian Public and Private Hospitals
        - Healthcare associated infection
        - Delirium
        - Cardiac Complications
    - Most common complication diagnosis
        - Delirium
        - UTI
        - Pneumonia
        - Arrhythmias
        - Aspiration pneumonia
        - Blood stream infection

- What do you think is the average additional cost in of a Healthcare associated infection HAC? $9,600 (USD) (*Based on Australian 2014-15 data* Available from: https://grattan.edu.au/report/safer-care-saves-money)

Beamtree

Thank you

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