The Dysfunction of Hospital Benchmarking

Why current benchmarking processes may be creating harm

HIC2019

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Why Benchmark

- Foster improved clinical outcomes
- Competitive Positioning
  - Attract new business
  - Generate patient confidence
- Determine value
  - Centre of Excellence
  - Negotiate preferential price
- Compliance
  - Contractual requirement
  - Meet accreditation criteria

Benchmarking is critical and integral to quality improvement

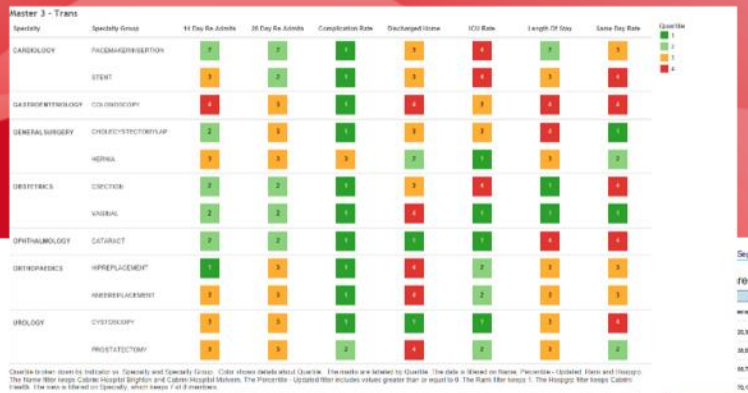
Cabrini's Multiplicity of Agencies

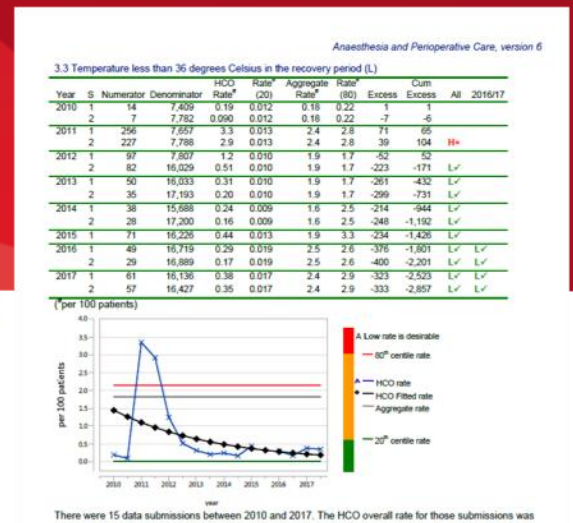
- Independent Hospital Pricing Authority (IHPA)
- Victorian Agency for Health Improvement (VAHI)
- VICNISS (Healthcare Associated Infections)
- Australian Council on Health Standards (ACHS)
- Health Round Table (HRT)
- Catholic Negotiating Alliance (CNA)
- Health Insurers (Medibank)
- Australian Rehabilitation Outcome Centre (AROC)
- Palliative Care Outcome Centre (PCOC)
- Registries
  - ANZICS, Joint Registry, Bariatric, Cardiac, etc

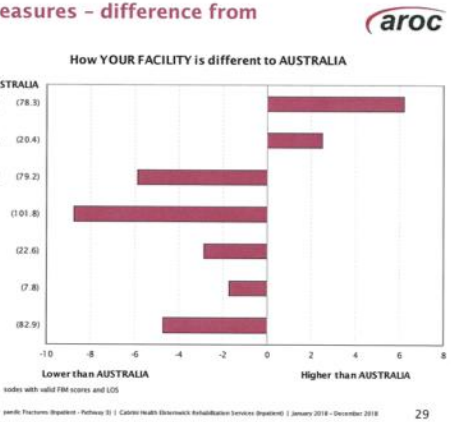
Multiplicity of Indicators

	Indicator Groups	Indicators
ACHS	20	324
HRT	5	73 (includes 16 HAC)
CNA	6	46
VAHI	4	16

How many indicators can a reasonable organisation focus on?







(1) Day Patient version 6

(2) ACHS organisation code: 123456 (3) First Half 2019 Australasia (4) Public Facility

(5) Total number of organisations for the selected category submitting data for this set for First Half 2017: 3

CI NO (6)	Indicator Number/Description (7)	Your Numerator (8)	Your Denominator (9)	Your Rate (10)	99% Confidence Interval for Your Rate (11)	Your Expected Number of Events (12)	Number of Orgs Submitting Data 1H2017 (13)	Aggregate Rate for These Organisations 1H2017 (14)	Outlier (15)	Graph (16)
3.1	Cancellation of the procedure after arrival due to pre-existing medical condition (L)	1	2125	0.047%	(0.000-0.168)	7	2	0.327%		
5.1	Unplanned return to operating room on same day as initial procedure (L)	2	2034	0.098%	(0.000-0.277)		1			
6.1	Unplanned transfer or overnight admission related to procedure (L)	34	2034	1.672%	(0.941-2.402)	10	2	0.503%		

All healthcare-associated *S. aureus* bloodstream infections

In 2017-18, there were 10 cases reported during 127,985 days of patient care under surveillance at this hospital. The rate of infection was 0.78 cases per 10,000 days of patient care under surveillance.

Year	Cases	Rate	Peer group average	Patient days under surveillance
2017-18	10	0.78	Not peered	127,985
2016-17	9	0.67	Not peered	135,146
2015-16	11	0.80	Not peered	137,237
2014-15	10	0.68	Not peered	147,932
2013-14	12	0.85	Not peered	140,954
2012-13	12	0.87	Not peered	138,008
2011-12	14	1.03	Not peered	136,413
2010-11	15	1.11	Not peered	135,099

Rates and Patient days under surveillance for years prior to 2014-15 may not be directly comparable to later years. See About the data for details of a change in specifications.

Variable Participation

- VAHI
  - 67 private hospitals
    - 8 Acute Group A Hospitals
- Catholic Network Alliance
  - 33 private hospitals
    - 6 large private hospitals
- Health Round Table
  - ~200 hospitals (5 private)
    - 2 Acute Group A Hospitals
- ACHS
  - 608 hospitals (307 private)
    - 27 large private hospitals
    - Participation rate ranges from 1 – 223 private hospitals

Variance in Algorithms

- Exclusions used in various agency algorithms
  - Age 95 and over
  - Palliative care
  - Day patients
  - Mental Health
  - Chemotherapy, haemodialysis, radiotherapy
  - Emergency admissions
  - Ungroupable DRGs (DRG 9)
  - Organ donors
  - Rehabilitation
  - Paediatric
  - Unqualified newborns
  - “Planned” readmissions, ICU admissions
  - Length of Stay > 200 days
  - Deaths in hospital

Planned/Unplanned

- Urology (ureteroscopy and stone ablation)
  - Stent removal
    - Required 7 – 14 days post discharge
    - Scheduled
  - Repeat ablation
    - Expected, but conditional
    - Multiple (3+) implies poor technique
  - Haemorrhage
    - Anticipated but not expected

Variance in Cost

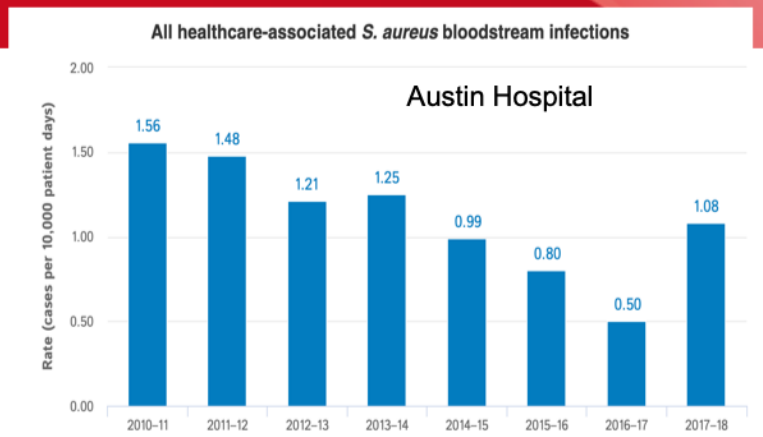
- Financial
  - Ranges from $45,000 income to $150,000 cost per year
- Extraction
  - Manual data extraction
  - Data filtering, cleansing, validation
  - Data submission
  - Data correction
- Reporting
  - Training
  - Interpretation, research, explanation

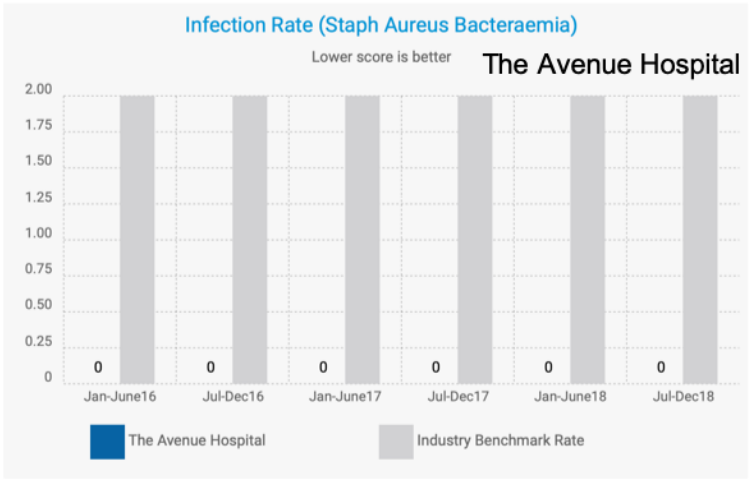
Variance in Results

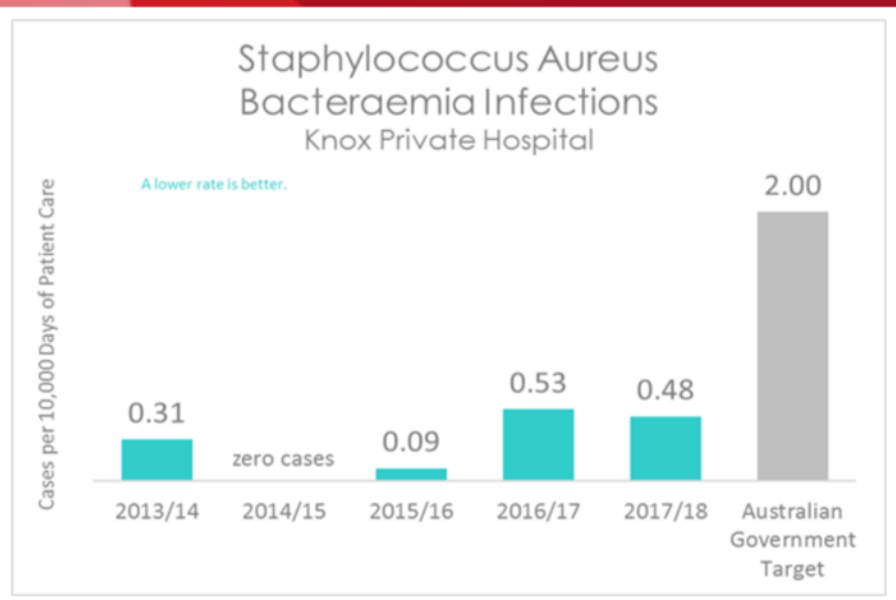
HSMR	VAHI	HRT
Malvern	65	2.1
Peer	92	2.6

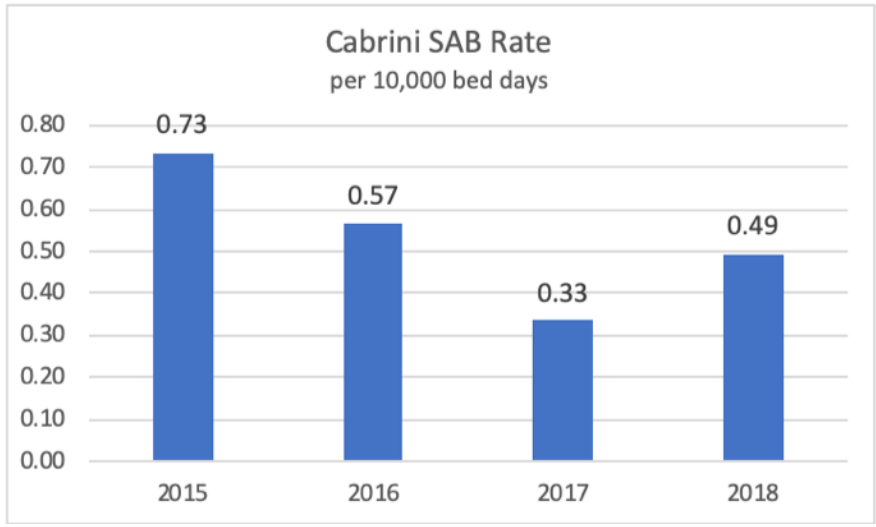
Pressure Injuries	ACHS	CNA	HRT
Malvern	0.129%	0.12	0.9
Peer	0.071%	0.66	3.2

HAC	Medibank	VAHI	CNA	HRT
Malvern	6.3	1.9	4.7	2.2
Peer	4.8	1.5	3.5	2.6


All healthcare-associated S. aureus bloodstream infections
Austin Hospital
Rate (cases per 10,000 patient days)
2.00
1.50
1.00
0.50
0.00
1.56
1.48
1.21
1.25
0.99
0.80
0.50
1.08
2010–11
2011–12
2012–13
2013–14
2014–15
2015–16
2016–17
2017–18


Infection Rate (Staph Aureus Bacteraemia)
Lower score is better
The Avenue Hospital
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0
0
0
0
0
0
0
Jan-June16
Jul-Dec16
Jan-June17
Jul-Dec17
Jan-June18
Jul-Dec18
The Avenue Hospital
Industry Benchmark Rate


Staphylococcus Aureus Bacteraemia Infections
Knox Private Hospital
A lower rate is better.
Cases per 10,000 Days of Patient Care
0.31
zero cases
0.09
0.53
0.48
2.00
2013/14
2014/15
2015/16
2016/17
2017/18
Australian Government Target


Cabrini SAB Rate
per 10,000 bed days
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.73
0.57
0.33
0.49
2015
2016
2017
2018

Data Sources & Data Quality

- PAS
  - Coded data
  - Based on medical documentation
- Riskman
  - Observed data
  - Variability in reporting, completeness, consistency
- Provider supplied
  - Laboratory records
  - Specialist supplied
    - Intended MBS codes
    - Theatre recorded MBS codes
    - Medicare billed MBS codes

Adjustment

- Case mix adjustment
  - Age
  - Diagnosis
  - Complexity
  - Acuity
- Peer
  - Selection and identification of peers
    - Size, case mix, ownership, geographic, funding structure
- Frailty
  - Strong correlation with dependency and complexity
  - Not currently collected

Ideal State

- Defined set of core hospital sector indicators
- Facility specific stratifications
  - Public/Private
  - Hospital Size – peer clustered
  - Overnight/Day stay
- Standard definitions
  - Agreed and published by a trusted agency
    - Regular and meaningful provider and consumer input
  - Defined data sources
  - Numerators, Denominators clearly defined
  - Adjustment methodology consistently applied
- Transparency
  - Defined reporting criteria and format

Does Benchmarking Create Harm?

Concern that current state:

- Undermines trust in the data and reporting
- Provides clinicians with an excuse to ignore health data
- Allows selective determination of comparators
- Potentially allows misuse for competitive advantage
- Seldom (if ever) available to clinicians
- Requires intense training to interpret the reports

Summary

- Benchmarking is essential to continuous quality improvement
- Require only a small set of core clinical indicators
  - Focus on fixing the material variance
- Indicators should be universal and comparable
- Reports should be:
  - Clinically useful (generate provider reflection)
  - Engaging (easily understood)
  - Transparent (available)