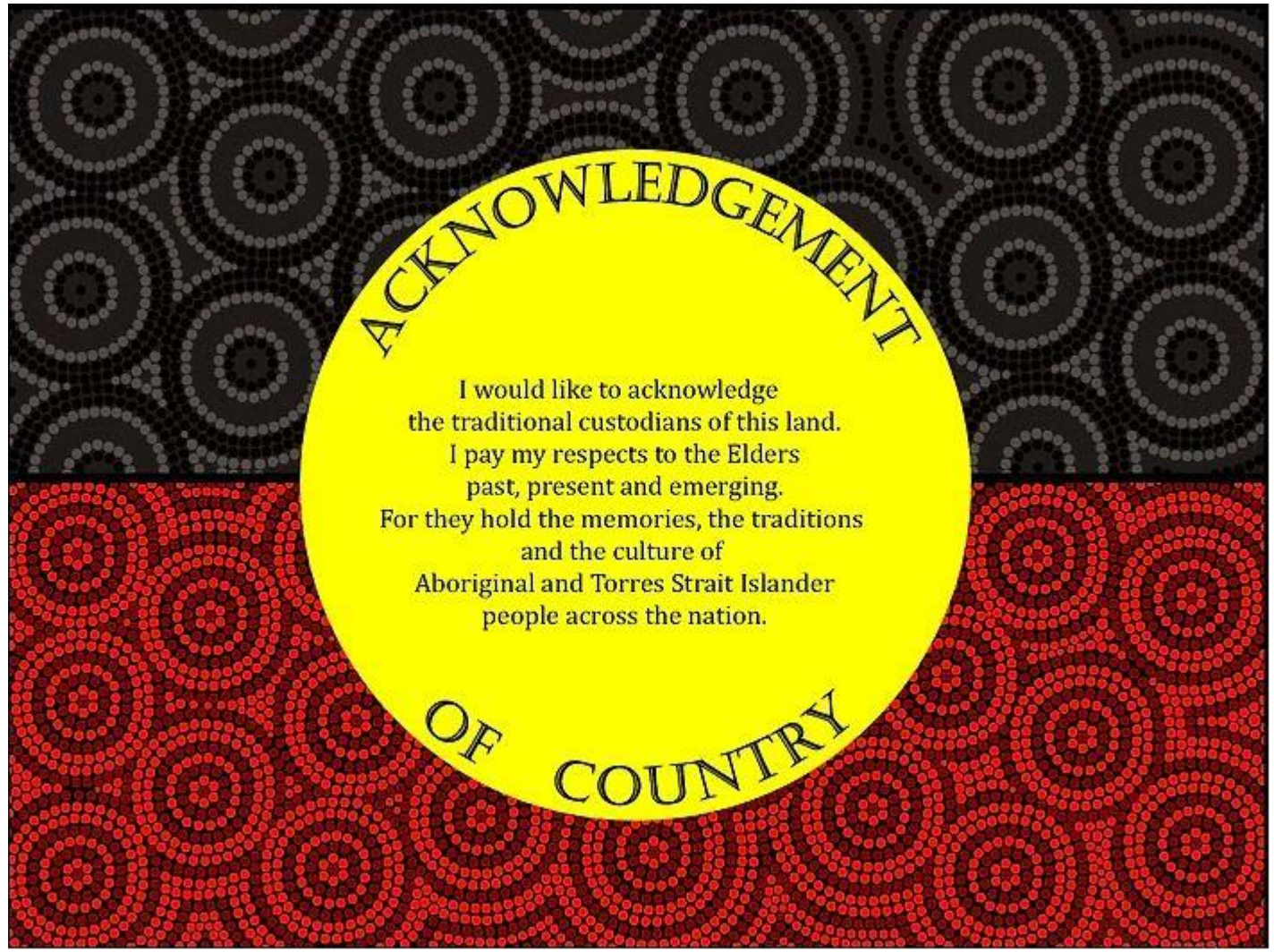
ACHS IMPROVEMENT ACADEMY

ACHS PERFORMANCE & OUTCOMES SERVICE

Comparative Performance an Essential Part of Clinical Governance (part 2)

Mr. Simon Cooper Manager ACHS Performance and Outcomes Service

Associate Professor Bernie Harrison Director ACHS Improvement Academy


ACKNOWLEDGEMENT
I would like to acknowledge
the traditional custodians of this land.
I pay my respects to the Elders
past, present and emerging.
For they hold the memories, the traditions
and the culture of
Aboriginal and Torres Strait Islander
people across the nation.
OF COUNTRY

Objectives

- Understand the role of indicators in driving service improvement
- Indicator design
- Data collection and tools for benchmarking
- Data visualisation
- Comparative Performance Improvement example

Why monitor performance?

- To set priorities and strategic directions for safe and high-quality clinical care and communicating them to the workforce and the community

- Implement processes that support clinicians' use of the best available evidence

- Monitor variation in practice and health outcomes compared with similar health service organisations or with best practice

Comparative Performance

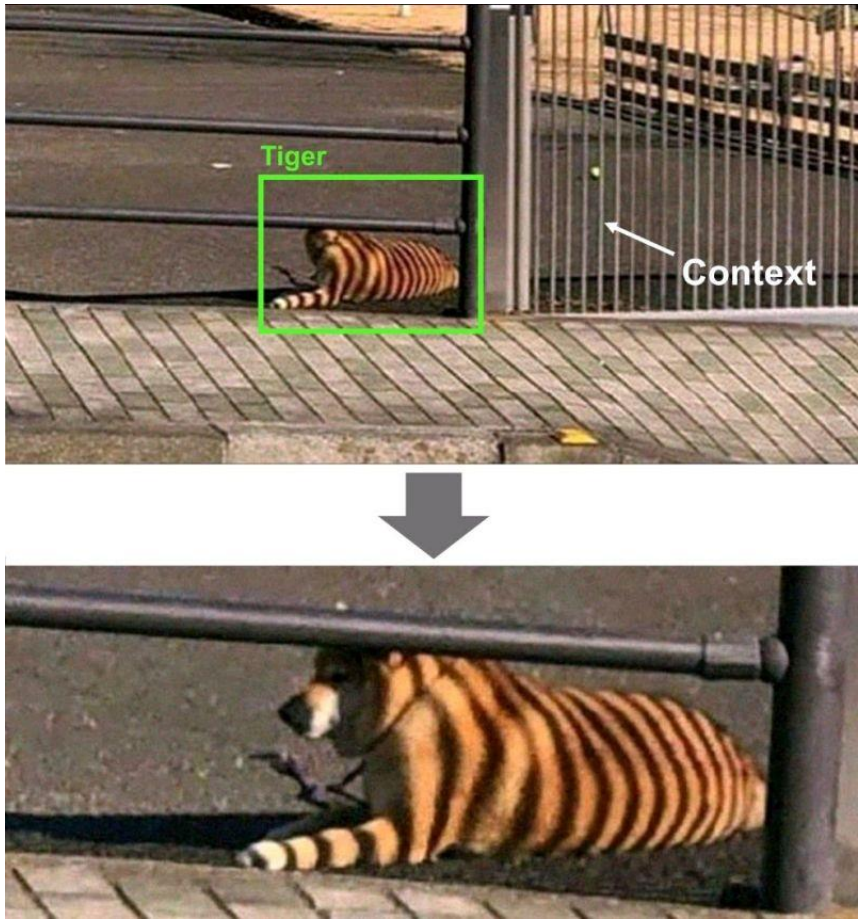
- Provides context to your data
- Understanding how you compare to peers
- Knowing where to allocate resources for improvement

How are indicators designed?

- Designed by Clinicians for Clinicians
- Evidence based
- Improve patient care
- Lead to improved health and a better patient safety culture

Good vs Bad indicator design

- Will the indicator improve clinical practice?
- Can the indicator easily be collected?
- Can you get a consensus of data?
- Will the indicator drive change?



Will the indicator improve clinical practice?

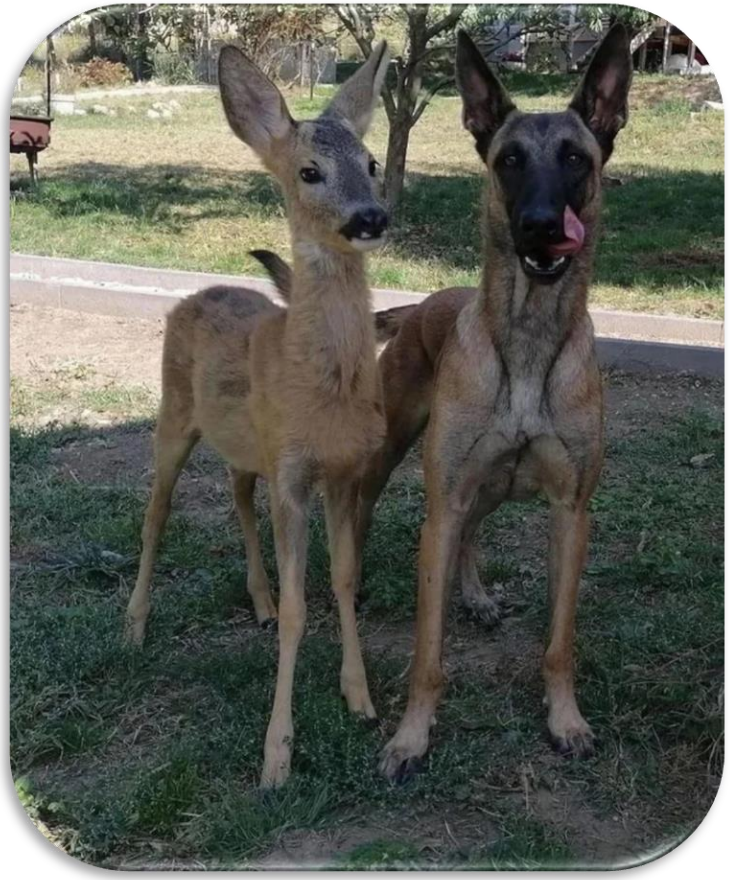
- Clinical evidence of efficacy
- Best indicators are well researched
- Will good performance lead to better care?

Can the indicator easily be collected?

- Can you obtain the data for the indicator?
  - Do you have it easily available
  - Who do you contact to obtain it
- Manual audits = poorer reporting
- Automated collection needs coding
  - SNOWMED CT, ICD-10, FHIR

Can you get a consensus of data?

- You need to compare apples and apples
- Relevant comparison:
  - Performing the same service
  - Similar resources
  - Similar staff culture
  - Similar procedures / risk
- Risk adjustment can lead to false sense of security

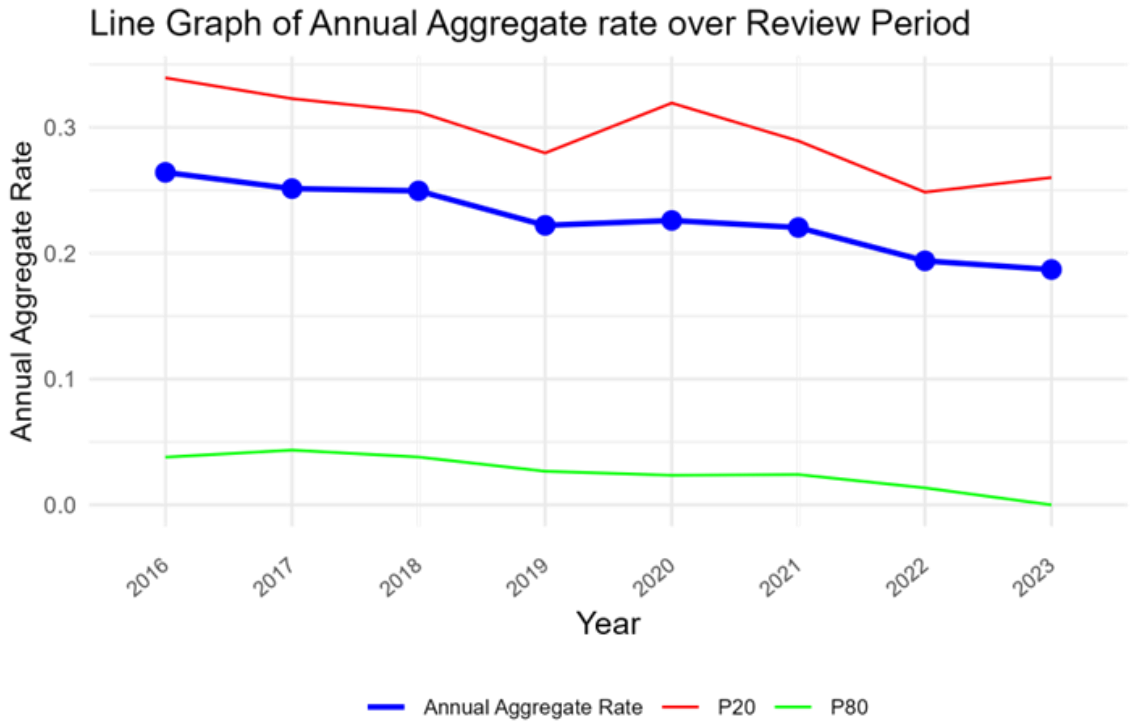


Will the indicator drive change?

- Does an improvement in the indicator improve the quality of care?

OR

- Document the improvement of the quality of care?



Indicators for comparative change

CI 3.1: Inpatients who develop ≥1 pressure injuries

Numerator	Number of inpatients who develop **one or more pressure injuries** during their admission, during the 6-month reporting period.		
Denominator	Number of **inpatient bed days**, during the 6-month reporting period.		
Desirable rate:	High ☐	Low ☑	Not specified ☐
Indicator type:	Structure ☐	Process ☐	Outcome ☑

- Binary indicators
  - Useful for emerging areas of care
- Single point indicators
  - Good to measure risk
  - Poor drivers of specific change
- Numerator / Denominator based indicators
  - Workhorse of indicators
  - Drive specific change

Numerator / Denominator indicators

- Inclusions
- Exclusions
- Definitions of key terms

Inclusions

- Pressure injuries as identified in the Hospital-Acquired Complications List^:
  - Stage III ulcer
  - Stage IV ulcer
  - Unspecified decubitus ulcer and pressure area
  - Unstageable pressure injury
  - Suspected deep tissue injury
- Newborns

Exclusions

- Pressure injuries classified as Grade 1 & 2
- Day stay patients are to be **EXCLUDED**

Definition of terms

For the purpose of CI 3.1:

This indicator measures the incidence of patients who develop one or more hospital acquired pressure injuries.

Inpatient bed days relate to overnight bed days and exclude day stay patients.

What indicators do I report?

AREAS OF HIGH RISK

WHERE YOU NEED TO IMPROVE

WHERE YOU CAN COLLECT THE DATA

Clinical Areas Covered by ACHS CI Sets

- Anaesthesia & Perioperative Care
- Day Patient
- Emergency Medicine
- Gastrointestinal Endoscopy
- Gynaecology
- Hospital in the Home
- Hospital-Wide
- Infection Control
- Intensive Care
- Internal Medicine
- Maternity
- Medication Safety
- Mental Health
- Ophthalmology
- Oral Health
- Paediatrics
- Pathology
- Radiation Oncology
- Radiology
- Rehabilitation Medicine
- Cancer Care
- Geriatric Care
- Ambulance Health Services

Current Clinical Care Standards

- Acute Anaphylaxis
- Acute Coronary Syndromes
- Acute Stroke
- Antimicrobial Stewardship
- Cataract
- Chronic Obstructive Pulmonary Disease
- Colonoscopy
- Delirium
- Heavy Menstrual Bleeding
- Hip Fracture
- Low Back Pain
- Management of Peripheral Intravenous Catheters
- Opioid Analgesic Stewardship in Acute Pain
- Osteoarthritis of the Knee
- Psychotropic Medicines in Cognitive Disability or Impairment
- Sepsis
- Stillbirth
- Third and Fourth Degree Perineal Tears
- Venous Thromboembolism Prevention

How to collect data

- Manual Collection
  - Labour intensive
  - Sampling often required
  - Easy to change indicators

- Automated Collection
  - Requires compatible IT systems / Electronic Health Record
  - Required IT skills and time to set up
  - Harder to change indicators

Automated data

- Can be matched to coding
  - MBS Coding
  - ADA Coding
  - ICD-10-AM
  - SNOWMED CT
  - FHIR
- Lag time for accurate coding (variable 2 days to 3-6 months)
- Code sets change
- Centralised coding databases (e.g. Shrimp / ONTOServer)

The future of health data

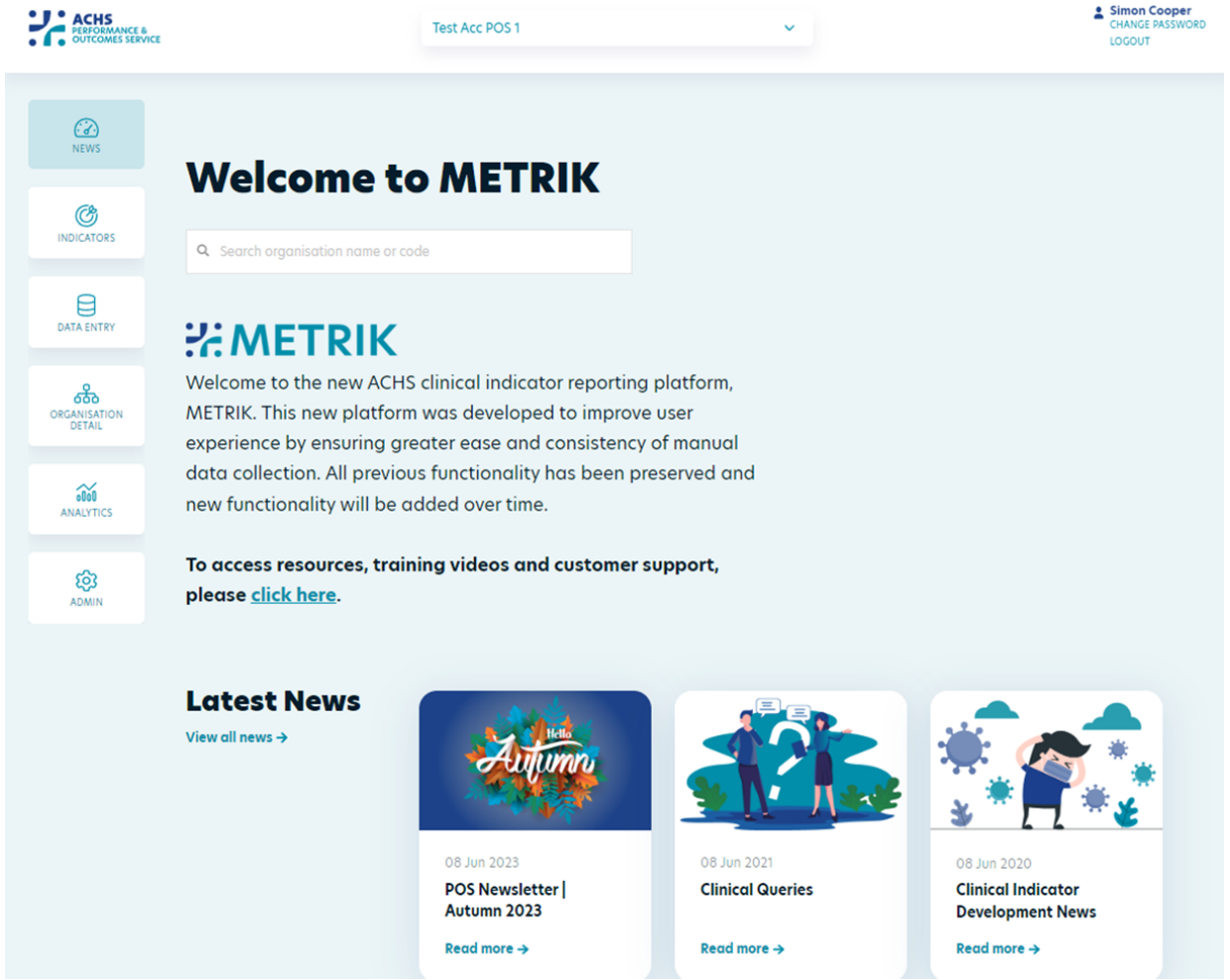
- National Digital Health Strategy (ADHA) - *National Healthcare Interoperability Plan (2023-2028)*

1.3.02	Develop accurate terminology, interoperability standards and conformance for sustained and widespread use	• Australian Digital Health Agency	• Industry and technology vendors • Healthcare providers • All health departments • Government agencies	Ongoing to 2028	Underway
1.3.03	Develop Fast Health Interoperability (FHIR®) core standards that set the minimum requirements to support consistent capture and sharing of health information	• Australian Digital Health Agency • CSIRO • Department of Health and Aged Care • HL7 Australia	• All health departments • Industry and technology vendors • Healthcare providers	Initiate planning by 2023	Underway

- FHIR Clinical Decision Support (CDS) Hooks – Prescribing Meds.
- FHIR for forms
- Metrik API Support – Coming soon.

How to measure comparative performance

- Utilise collection and benchmarking software
  - ACHS Metrik
- Undertake analysis
- Diver deeper with analytics



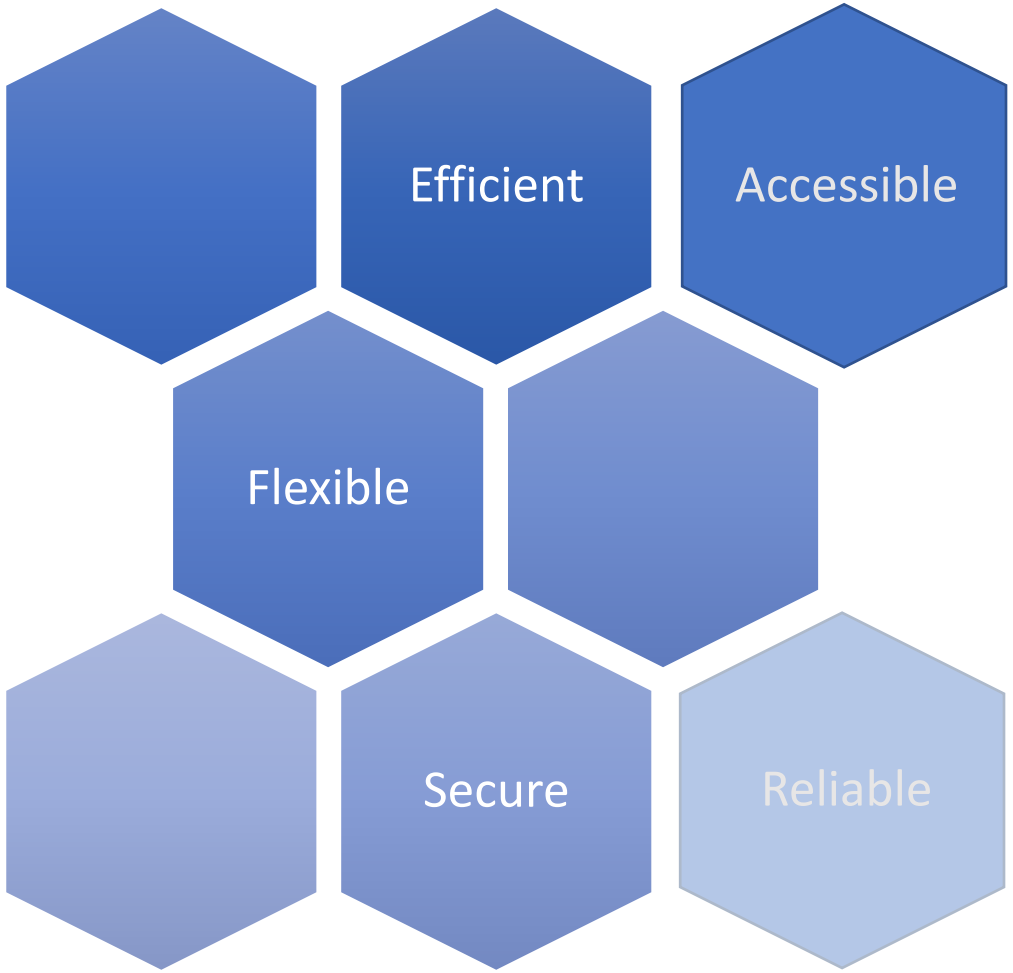
Metrik

Clinical Indicator Web Portal

- Ability to submit data regularly
- Access to wide range of data types
- No data duplication
- Data comparison flexibility

Data Analytics

- More complex comparisons
- Key data available at high level
- Explore your comparisons
- Export reports for review



ACHS PERFORMANCE & OUTCOMES SERVICE

Test Acc POS 1

Simon Cooper
CHANGE PASSWORD
LOGOUT

NEWS
INDICATORS
DATA ENTRY
ORGANISATION DETAIL
ANALYTICS
ADMIN

Welcome to METRIK

Search organisation name or code

METRIK

Welcome to the new ACHS clinical indicator reporting platform, METRIK. This new platform was developed to improve user experience by ensuring greater ease and consistency of manual data collection. All previous functionality has been preserved and new functionality will be added over time.

To access resources, training videos and customer support, please click here.

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POS Newsletter | Autumn 2023
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Clinical Queries
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08 Jun 2020
Clinical Indicator Development News
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Organisational data

- Data about an organisation is often as important as the dataset

- Collect data on:
  - Specialities / services
  - Types of care delivery (e.g. Virtual care)
  - Complexity of care (e.g. Maternity Service Capability Framework)
  - Size (bed numbers)
  - Population demographics (socio-economic)
  - Rurality

Metrik Organisational Data

Remoteness classification

Please select

ICU

Please select

ED

Please select

Mental Health

Please select

Rehabilitation Medicine

Please select

Radiology

Please select

Number of births (/year)

Number of Mental Health separations (/year)

Number of Paediatric separations

Number of Day Patient Procedures (/year)

Do you have a NICU?

Please select

Is Virtual Care Available?

Please select

Specialties of Day Patient Facility

- [ ] Cardiology
- [ ] Dermatology
- [ ] Endoscopy / Colonoscopy
- [ ] General Surgery
- [ ] Gynaecology
- [ ] Haematology / Oncology
- [ ] Haemodialysis
- [ ] Reproductive Medicine
- [ ] Ophthalmology
- [ ] Orthopaedics
- [ ] Oral Health
- [ ] Plastics / Cosmetics
- [ ] Cancer Care
- [ ] Drug & Alcohol

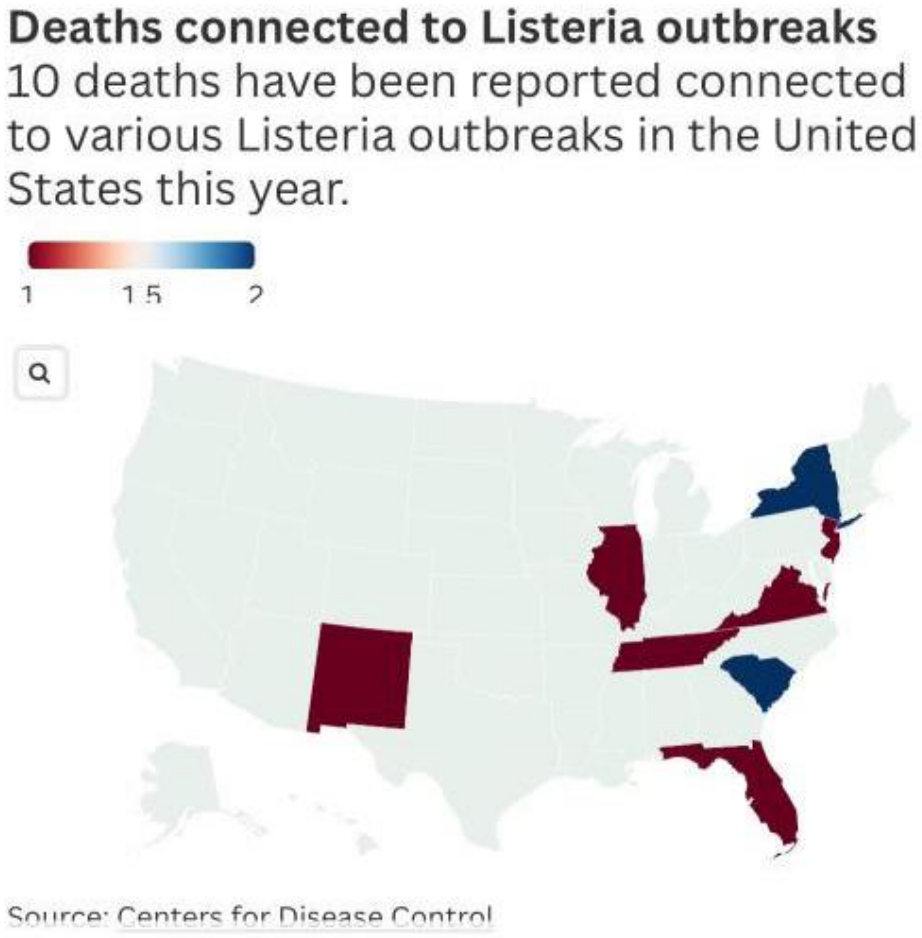
ac

care

Save

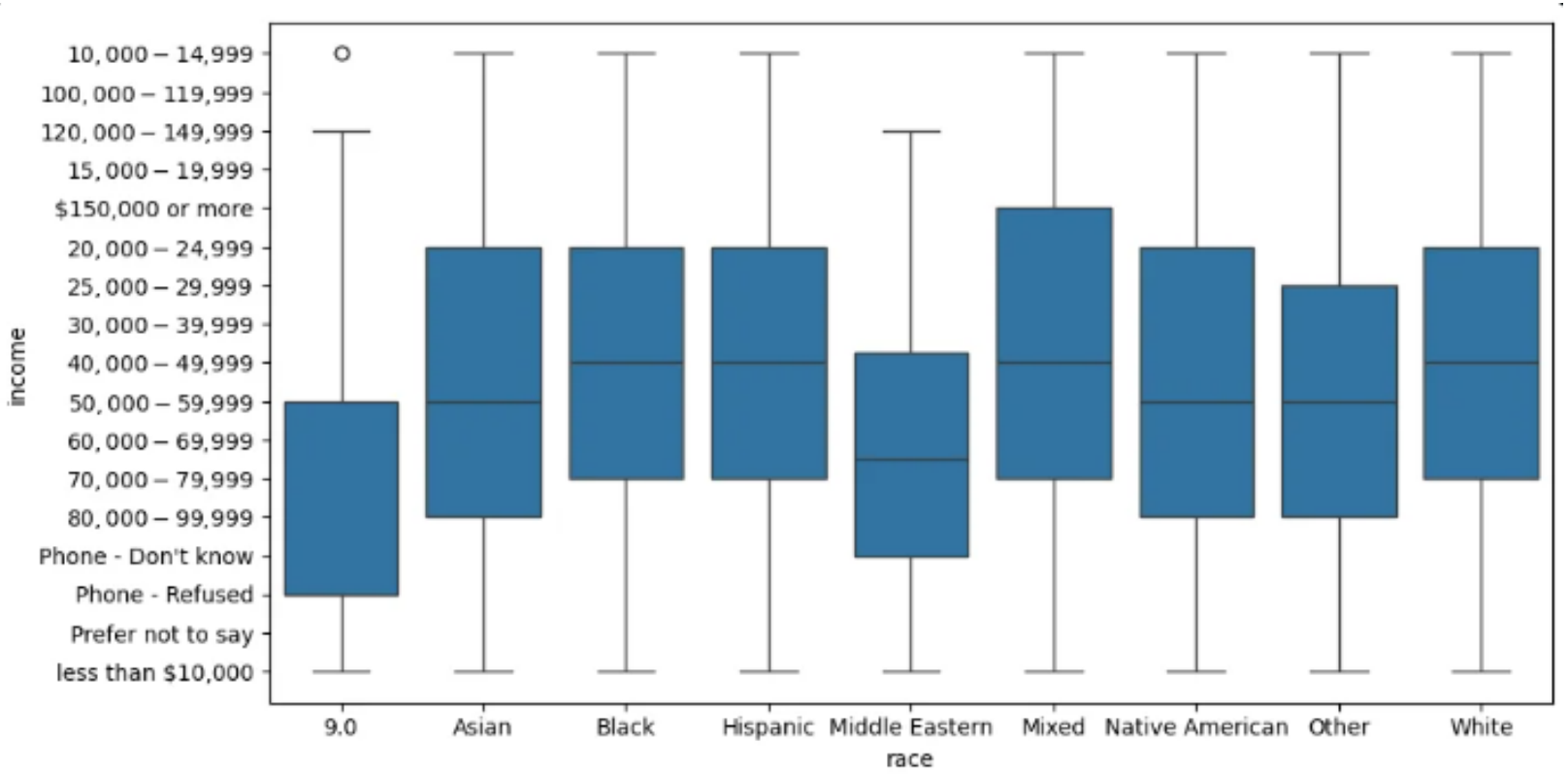
Data Visualisation

- Needs to be clean
- Not confusing
- Quickly convey relevant information



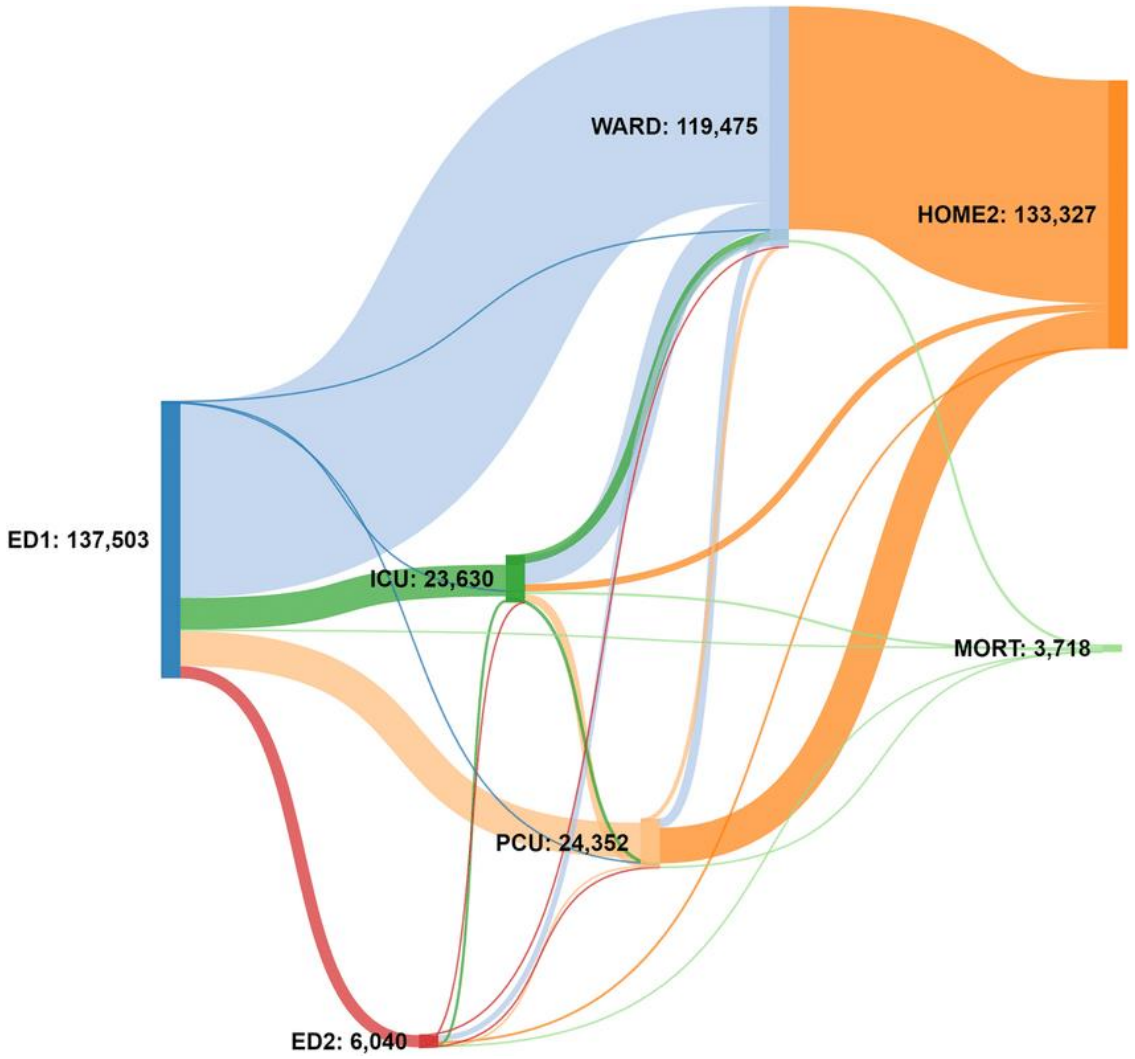
Poor Data Visualisation

- Data is confusing
- Data is not specific
- Data is poorly labelled

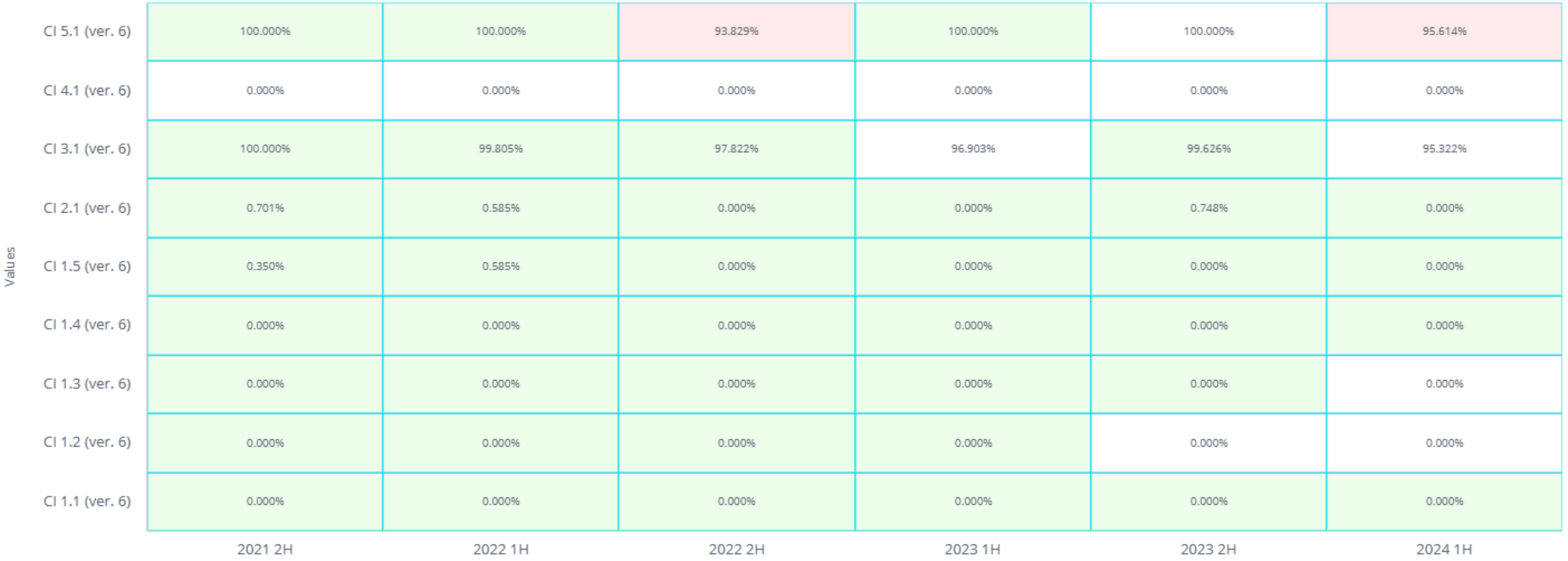


Types of visualisation

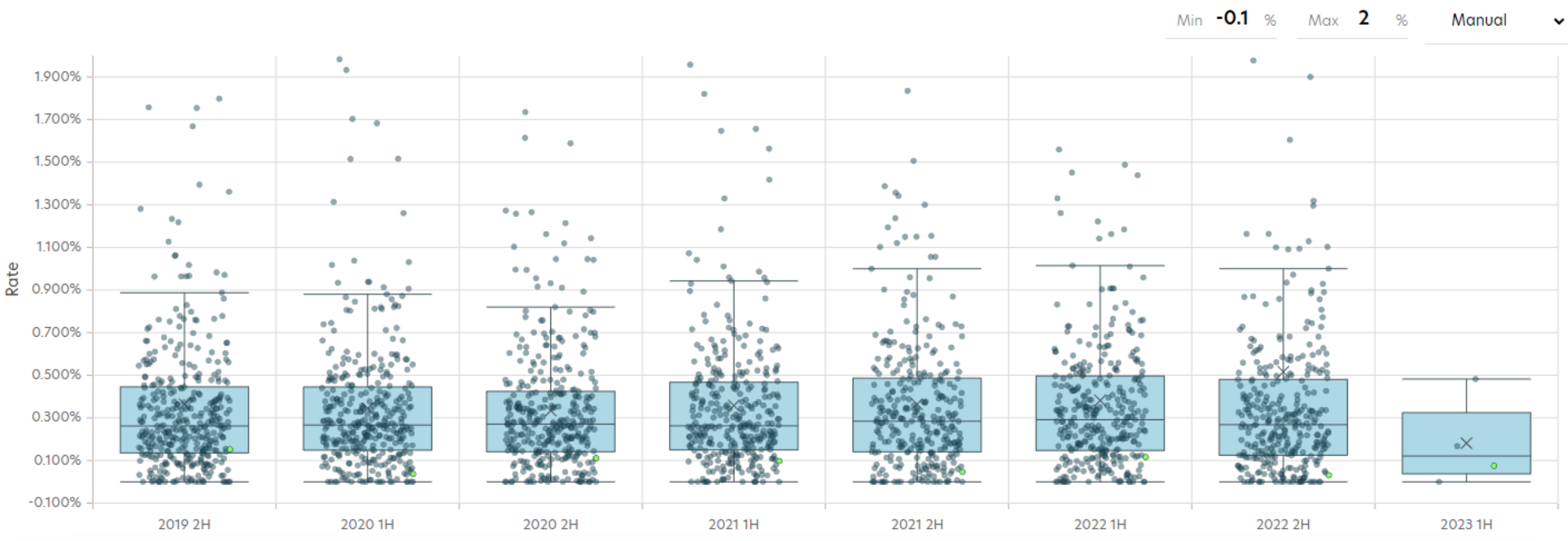
- Control Charts
  - Data over time
- Heatmaps
  - High level overview
- Box and Whiskers plots
  - Quartiles, and median
  - Skewing
- Scatter plots
  - Skewing / distribution
- Sankey Diagram
- Maps



Metrik Data Visualisation



Clinical Indicator vs. Benchmark



Period	2019 2H	2020 1H	2020 2H	2021 1H	2021 2H	2022 1H	2022 2H	2023 1H
Your Rate	0.152%	0.037%	0.111%	0.098%	0.046%	0.116%	0.031%	0.075%
Aggregate Rate	0.275%	0.293%	0.288%	0.323%	0.305%	0.311%	0.286%	0.329%
Min	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Q1	0.136%	0.148%	0.141%	0.151%	0.141%	0.147%	0.125%	0.056%
Median	0.262%	0.266%	0.270%	0.263%	0.284%	0.292%	0.268%	0.121%
Q3	0.445%	0.440%	0.425%	0.468%	0.486%	0.491%	0.477%	0.246%
Max	4.169%	3.411%	1.735%	3.846%	3.008%	6.410%	49.057%	0.482%

METRIK

CI Submissions

Clear Filter

Country Name

State Name

Public / Private

Rurality

Stratification

Stratification Category

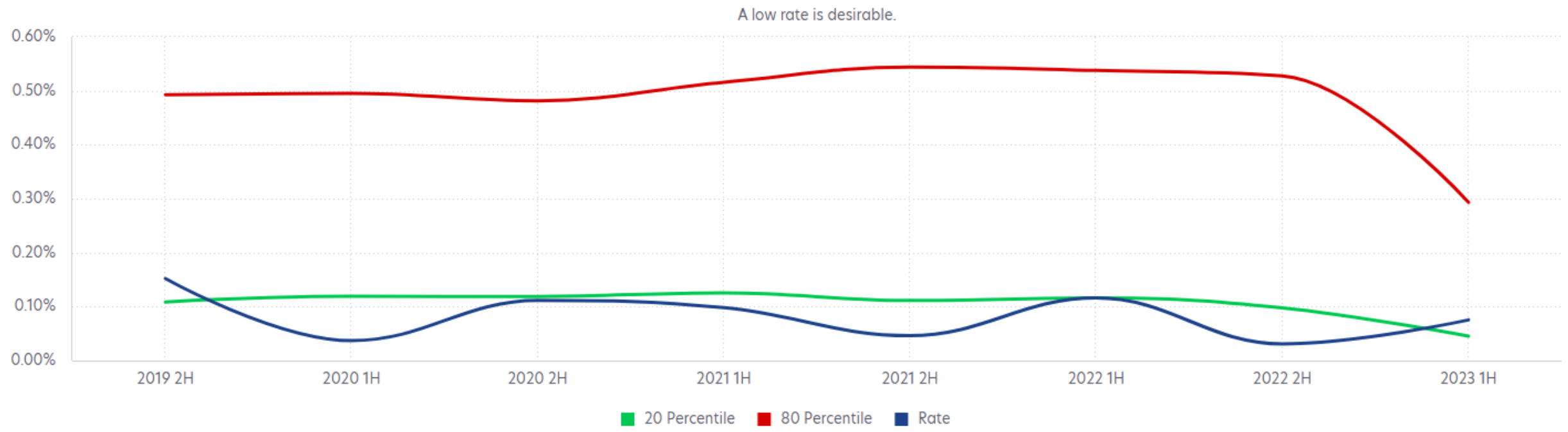
2,470 Records Displayed

This analysis measures Rate by Periods and by Selected Facility.

- Average Rate was 0.08% across all eight Periods.
- Values ranged from 0.03% (2022 2H) to 0.15% (2019 2H).
- The largest single decline occurred in 2020 1H (-76%).
- Contrasting with the overall decrease, the largest net growth was from 2020 1H to 2022 1H, when Rate increased by 0.08 percentage points.

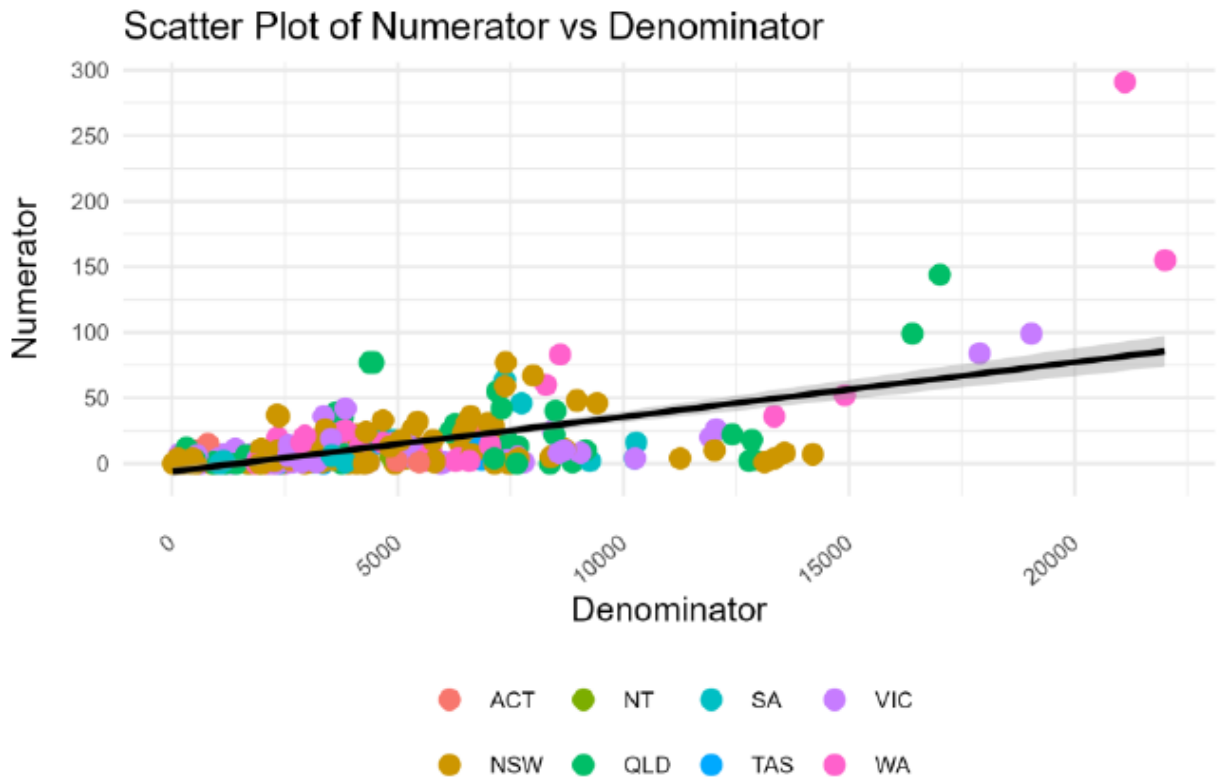
Period	2019 1H
Your Rate	0.000%
Aggregate Rate	1.184%
Min	0.000%
Q1	0.088%
Median	0.379%
Q3	0.947%
Max	24.194%

Metrik Data Visualisation



Indicator level not site level data is also helpful

- Scatter plots show skewing
- Linearity allows for prediction
- Bubble plots provide a good visual of grouped distribution



Data Comparison

Your ‘data story’ is even more useful if it can be compared over time and against other providers through benchmarking

Stratification is how you ‘slice’ data into smaller pieces for closer analysis

This is the basis of peer reporting and comparisons

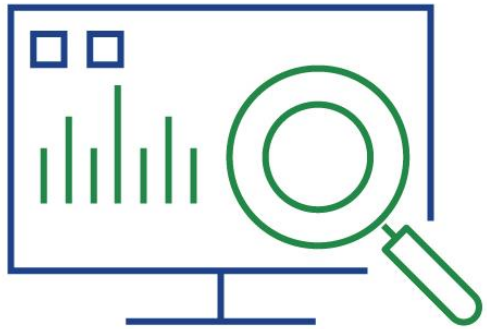
Use stratification as a tool for analysis considering case mix or structural comparisons

<u>Advantages</u>

1. Allows closer service comparison (like for like)
2. Allows for group performance benchmarking (public vs private)

<u>Disadvantages</u>

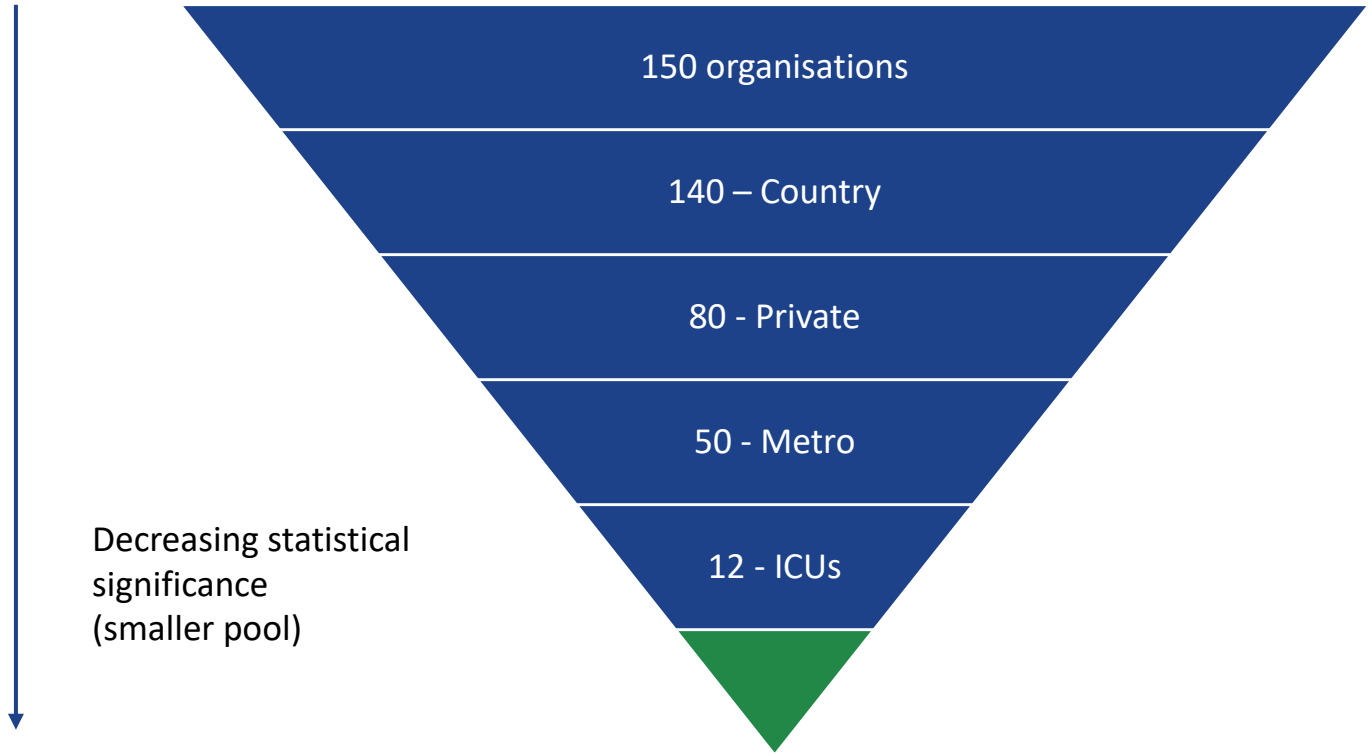
1. Drill down effect
2. Smaller data size



Drill Down Effect

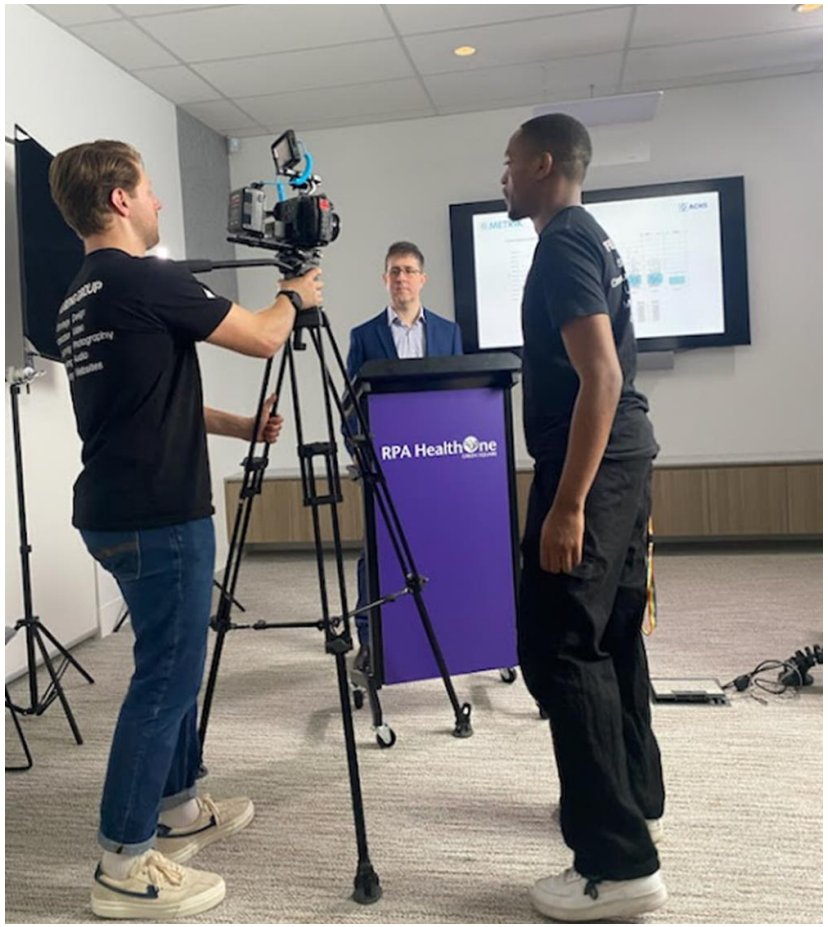
Be careful when comparing your data through benchmarking as stratification can lead to the ‘drill down effect’ resulting in decreased statistical significance

An example of how the drill down effect works:



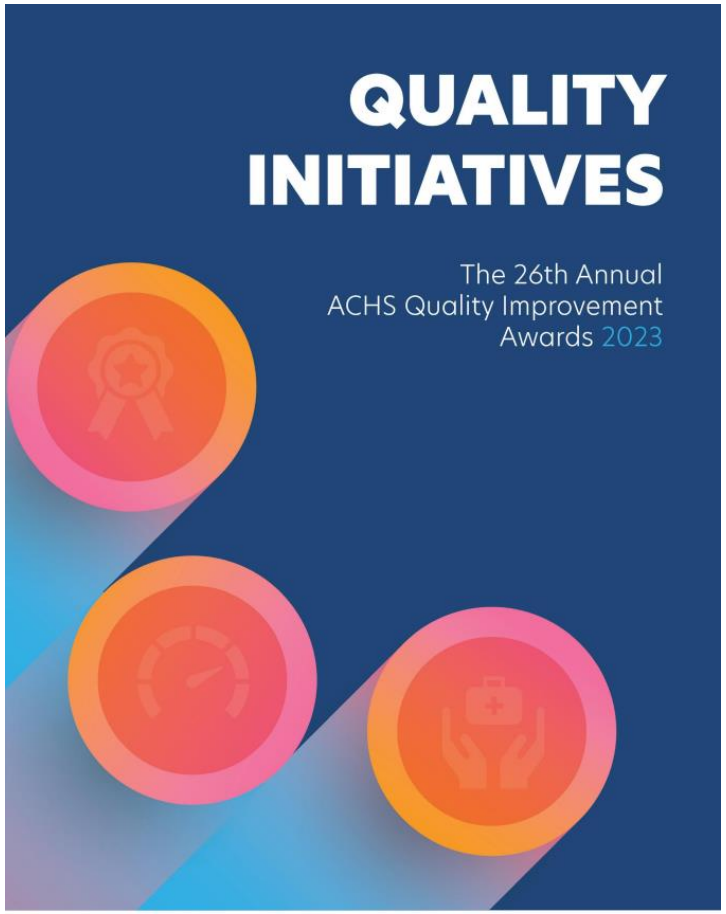
Utilisation of the ACHS CI Data

- Quality improvement activities
  - Education and training
  - Policy & procedure changes
  - Personnel changes
  - Equipment changes
- Share and learn experience from other organisations



Example of quality projects

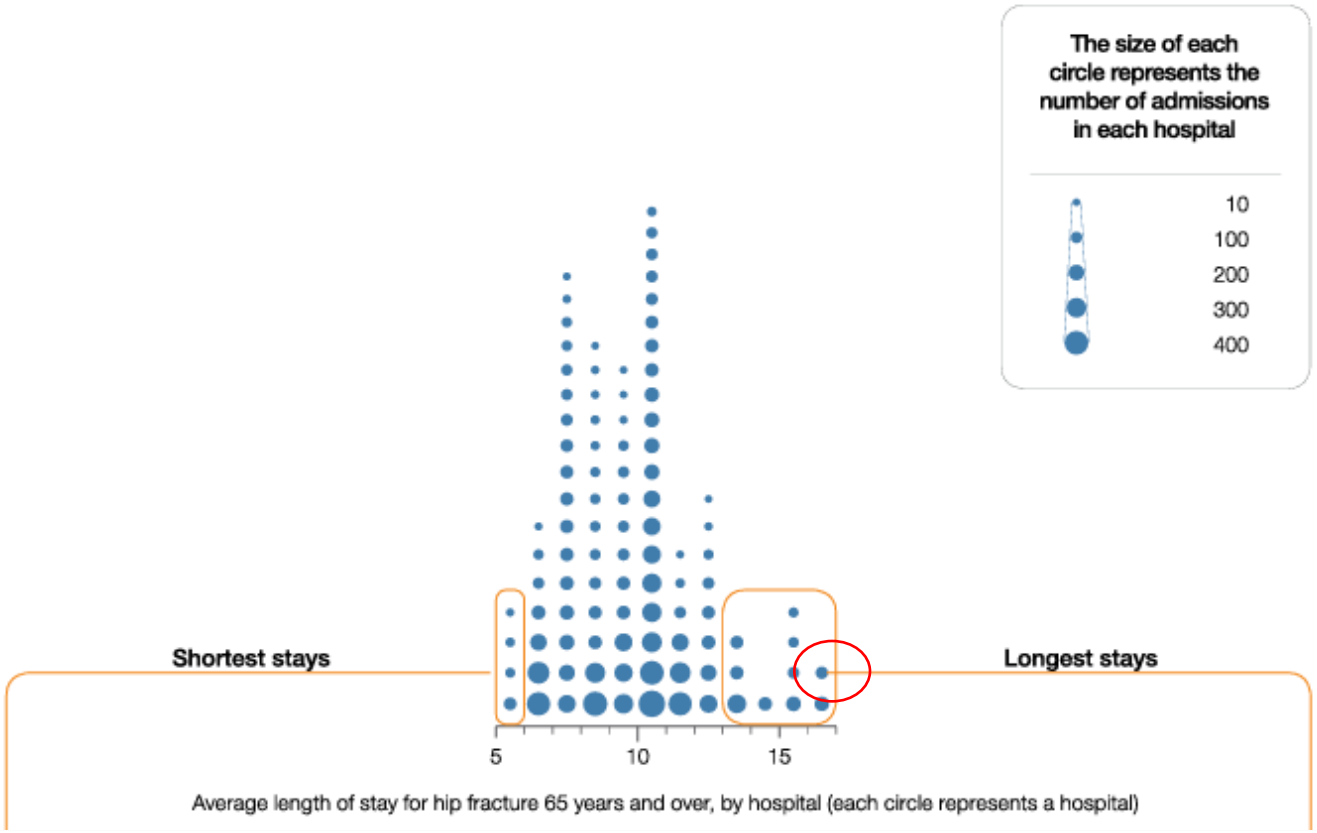
- Usage of mechanical restraints in ventilated patients
- VTE prophylaxis added to ICU medical checklists
- Exit Block projects
- Team structural change to align workflows
- Training projects
  - Falls training
  - Specimen identification error training
  - Hygiene training
- Additional falls equipment (bed and chair alarm mats, mobility aids for high risk patients)
- Electronic flagging of patients



ACHS QI QUALITY IMPROVEMENT AWARDS

Hip fracture average length of stay in hospital by peer group – 65 years and over

Figure 59: **Average length of stay for hip fracture patients aged 65 years and over, major and large public hospitals, 2012–13**



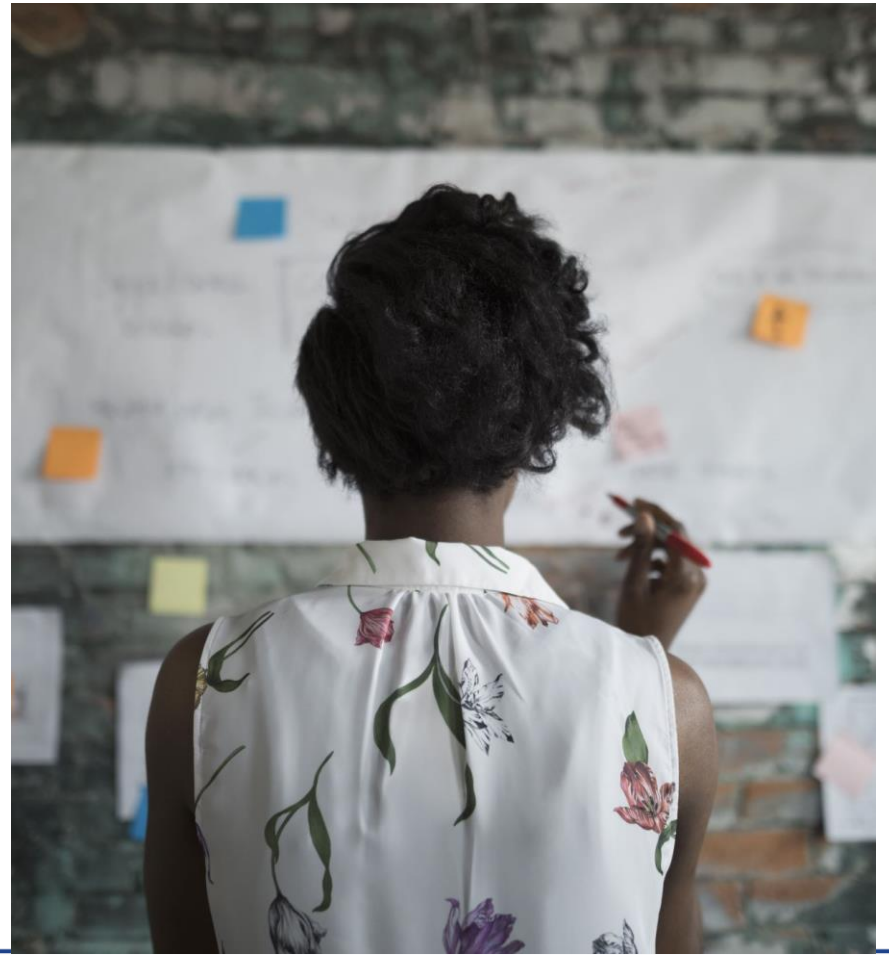
Source: National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014).

Australian Atlas of Healthcare Variation

SAQ201_04_Chapter3_v6_FILM_tagged_merged_3-9.pdf (safetyandquality.gov.au)

This data comes to you as a senior leader with responsibility for this part of the service, you are an outlier for # NOF. (These data are validated).

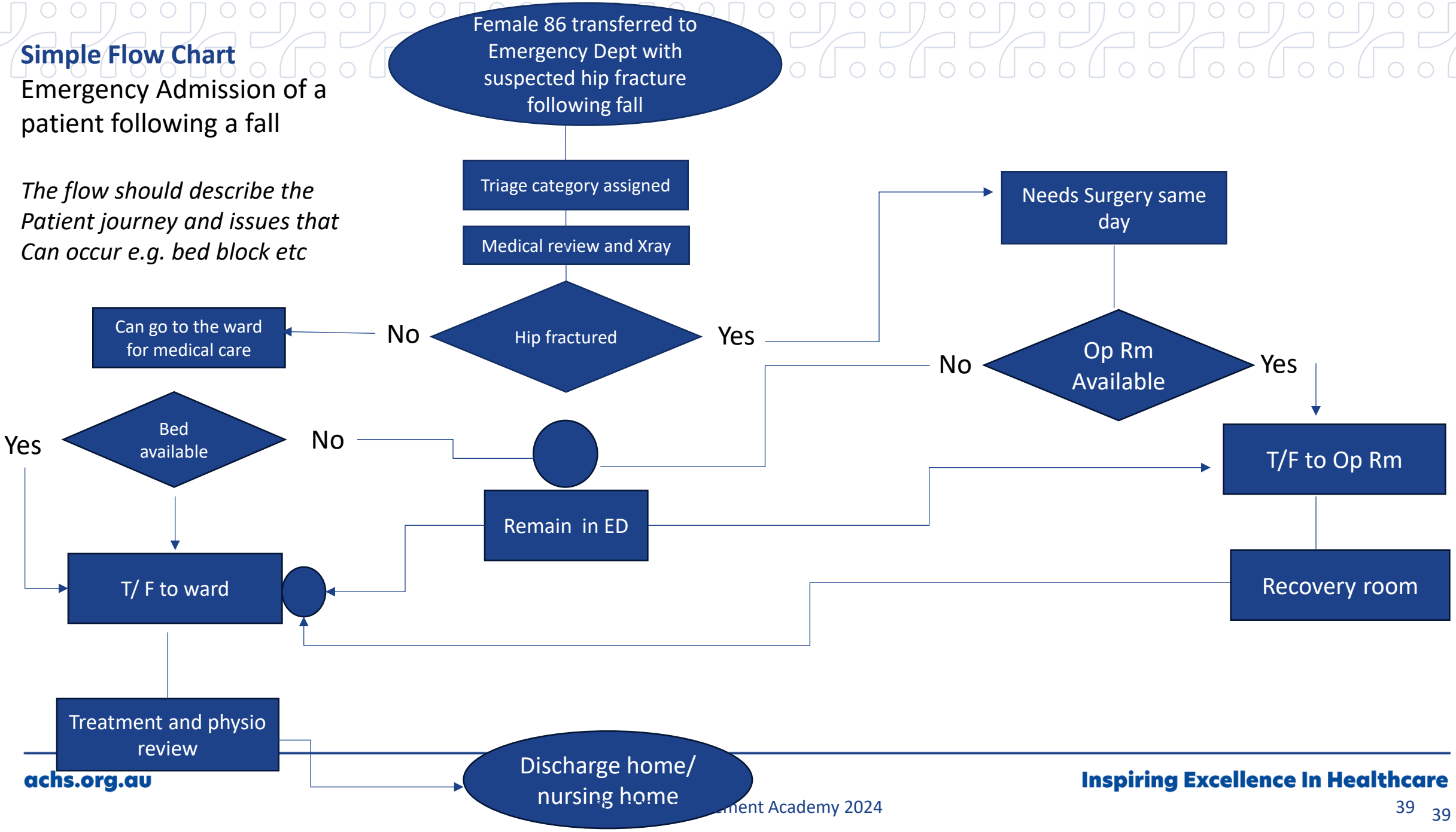
1. What are your questions?
2. What is your plan?
3. Who do you need to engage with?
4. What actions can you take?
5. How will you know if this is getting worse or better?
6. Are there other considerations?



Simple Flow Chart

Emergency Admission of a patient following a fall

The flow should describe the Patient journey and issues that Can occur e.g. bed block etc



Assessing Your Performance

the probability of performing perfectly

So… you have to measure not only one KPI but all the others as well.

To get an accurate reflection of your performance, you have to multiply them all out.
There is a cumulative impact as they all impact each other. When we do this, we can see what the probability of getting a perfect health care encounter is?

Step in process	Probability 1 = perfection
Triage category correct	.90
Seen within the triage time frame	.95
Meets the 4 hour rule	.90
Gets to the correct speciality ward	.85
Tests and investigations are available in 12 hours	.89
Correct diagnosis is made	.98
Patient has no delays in treatment	.95
Probability of perfect health encounter	**.54 (54%)**

https://www.logisticsbureau.com/the-best-kpi-the-probability-of-a-perfect-order/

The role of complexity in reducing performance

the probability of performing perfectly

No. of Steps	0.95	0.99	0.999	0.999999
1	0.95	**0.990**	0.999	0.999999
25	**0.28**	**0.78**	**0.98**	**0.998**
50	0.08	**0.61**	0.95	0.995
100	0.006	**0.37**	0.90	0.99

Two Options

1. Improve perfection of each step
2. Simplify the process

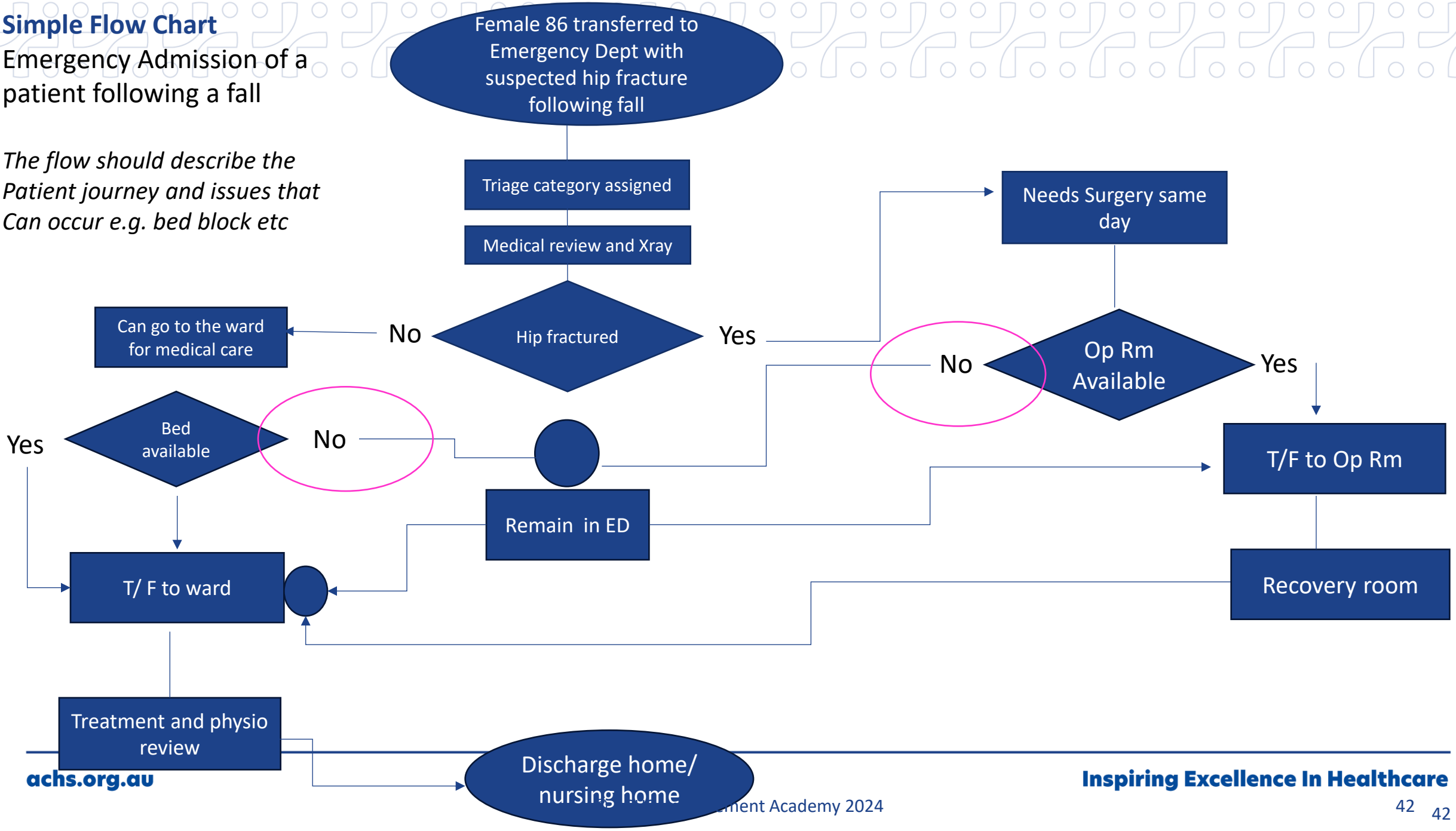
http://www.ehcca.com/presentations/qualitycolloquium1/frankel.ppt

Boston MA 2003

Simple Flow Chart

Emergency Admission of a patient following a fall

The flow should describe the Patient journey and issues that Can occur e.g. bed block etc



Quality Improvement is the Science of Process Management

'Organise everything around Value added (front line) Work Processes' *(W. Edwards Deming)*

'Quality Controls Cost'

Questions?

5 Macarthur St Ultimo
NSW, Sydney 2007

T (02) 9281 9955
F (02) 9211 9633

Email: POS@achs.org.au