bureau of health information

Measuring and Reducing Unwarranted Clinical Variation at the System Level

Experiences from New South Wales, Australia

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Zi Health Services Research Conference 2017: "Learning from the Regions–Benefit for all?"

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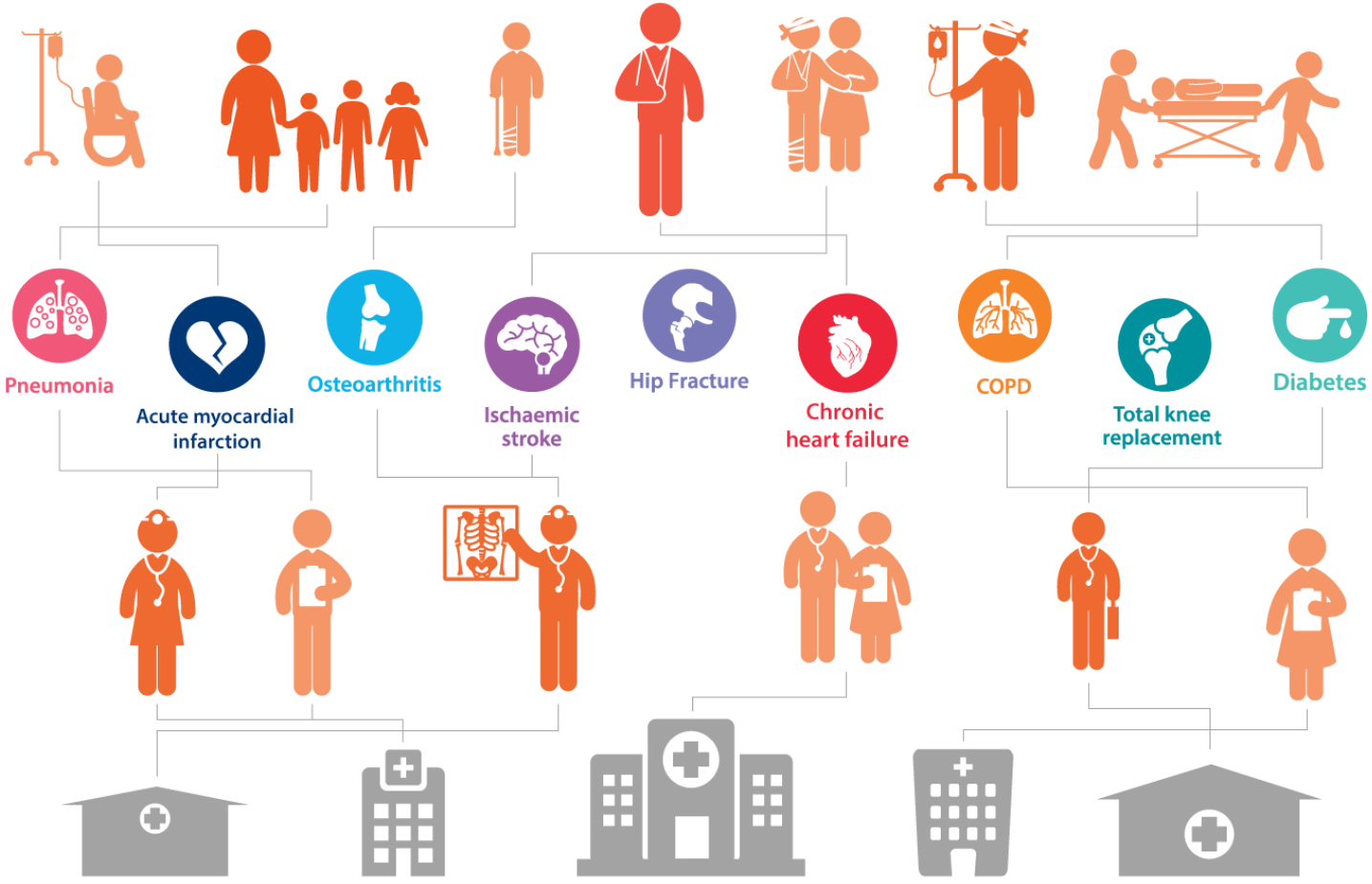
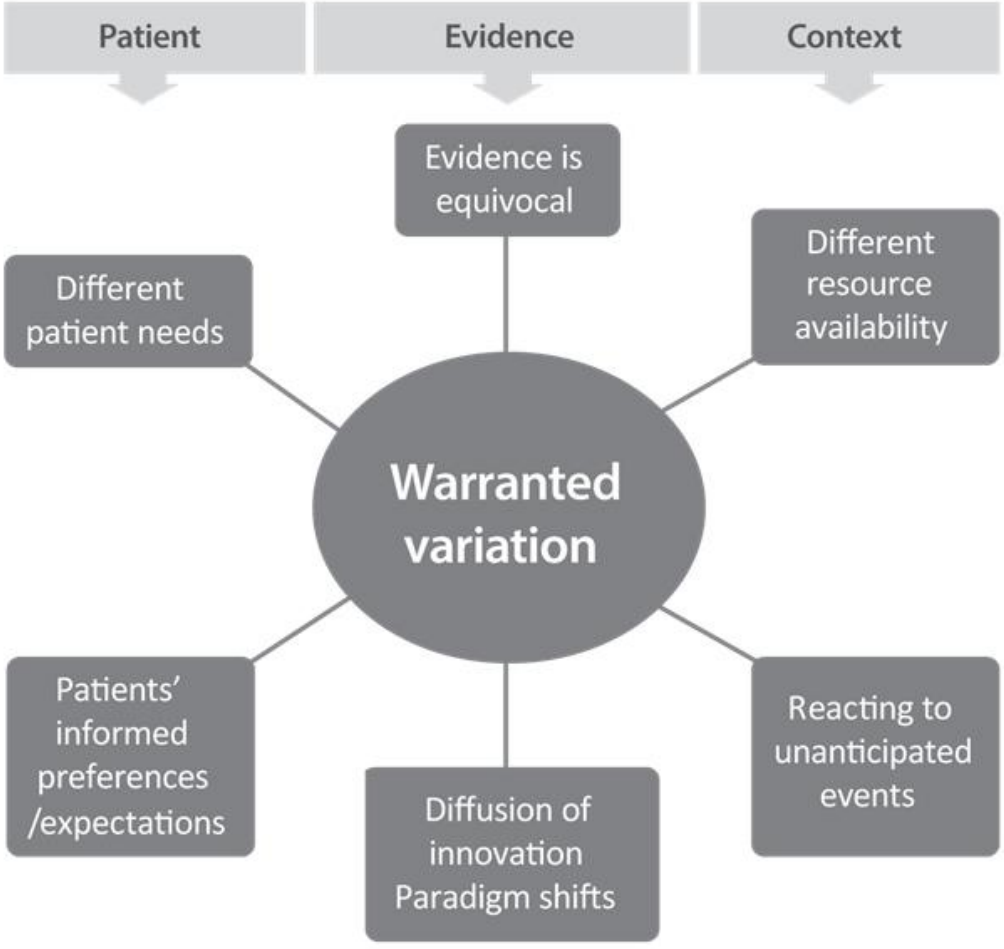
Healthcare varies



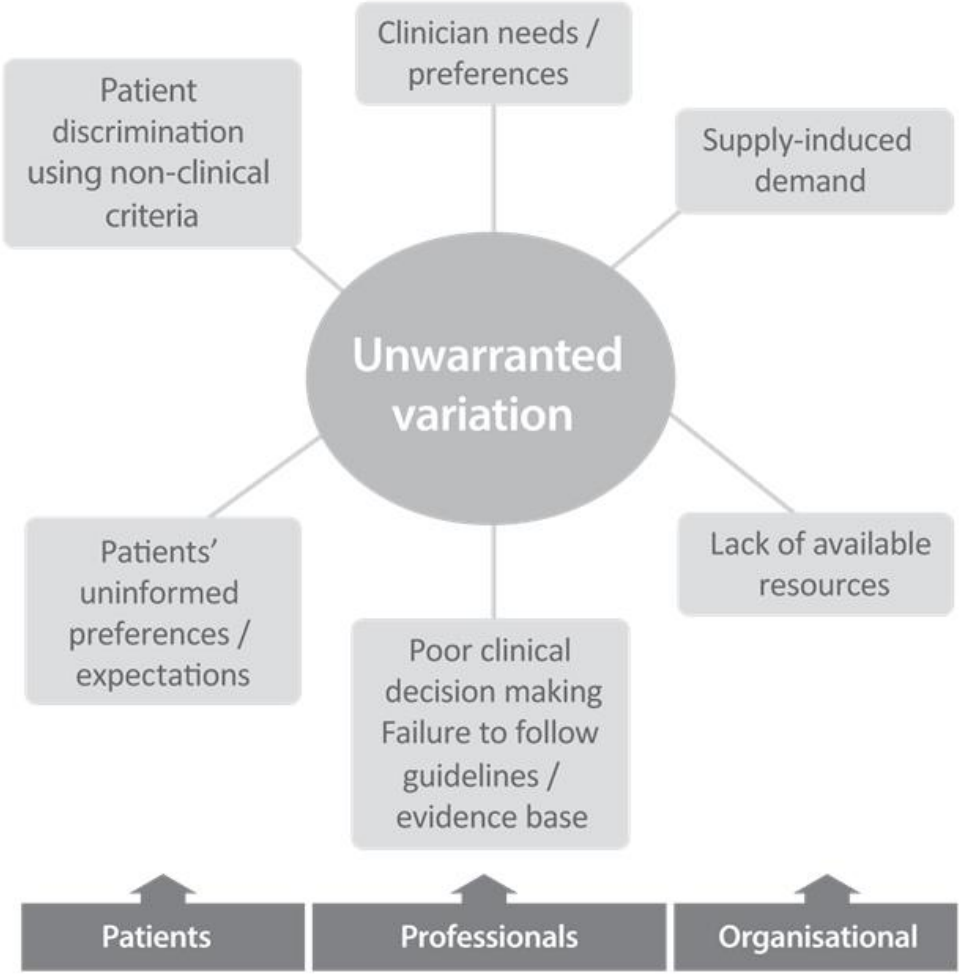
1. Understanding variation
2. Measuring variation
3. Acting on variation
4. Conclusion

1 Understanding variation

Clinical variation: how to judge?



Clinical variation: how to judge?



1 Understanding variation

2 Measuring variation

We can measure clinical variation by assessing the **appropriateness** (right care, right way, right amount), and **effectiveness** (desired and adverse outcomes) of the care provided**.**

Performance and unwarranted clinical variation

CAUSE

Unwarranted clinical variation is a result of gaps in clinical information and knowledge, lack of technical acumen, poor clinical decision-making, errors, lack of capacity

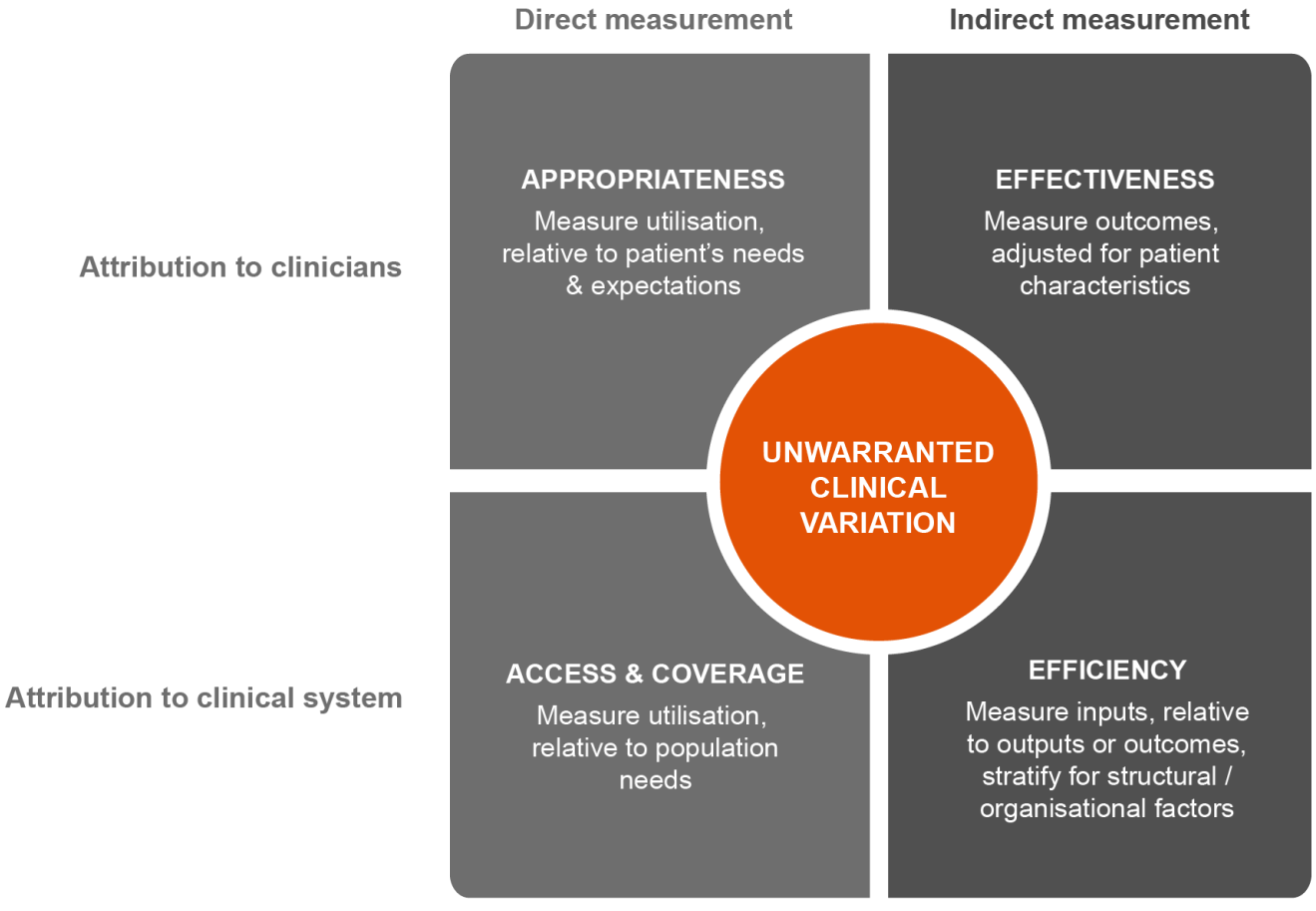
Unwarranted clinical variation

is grounded in any mismatch between patients' needs and expectations and the care provided, reflecting differences in the appropriateness and accessibility of care

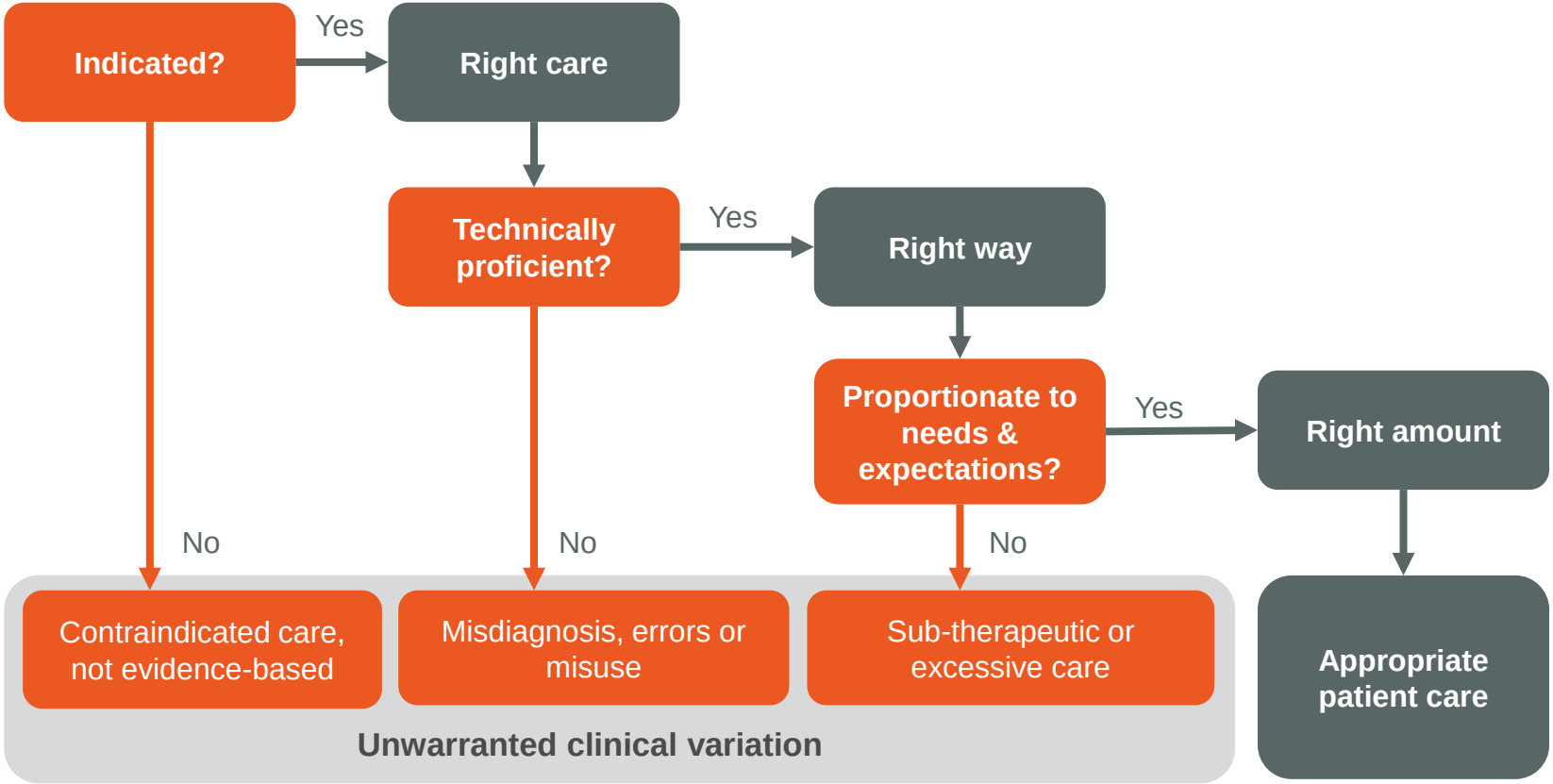
EFFECT

Unwarranted clinical variation impacts effectiveness or outcomes of care and efficiency of systems

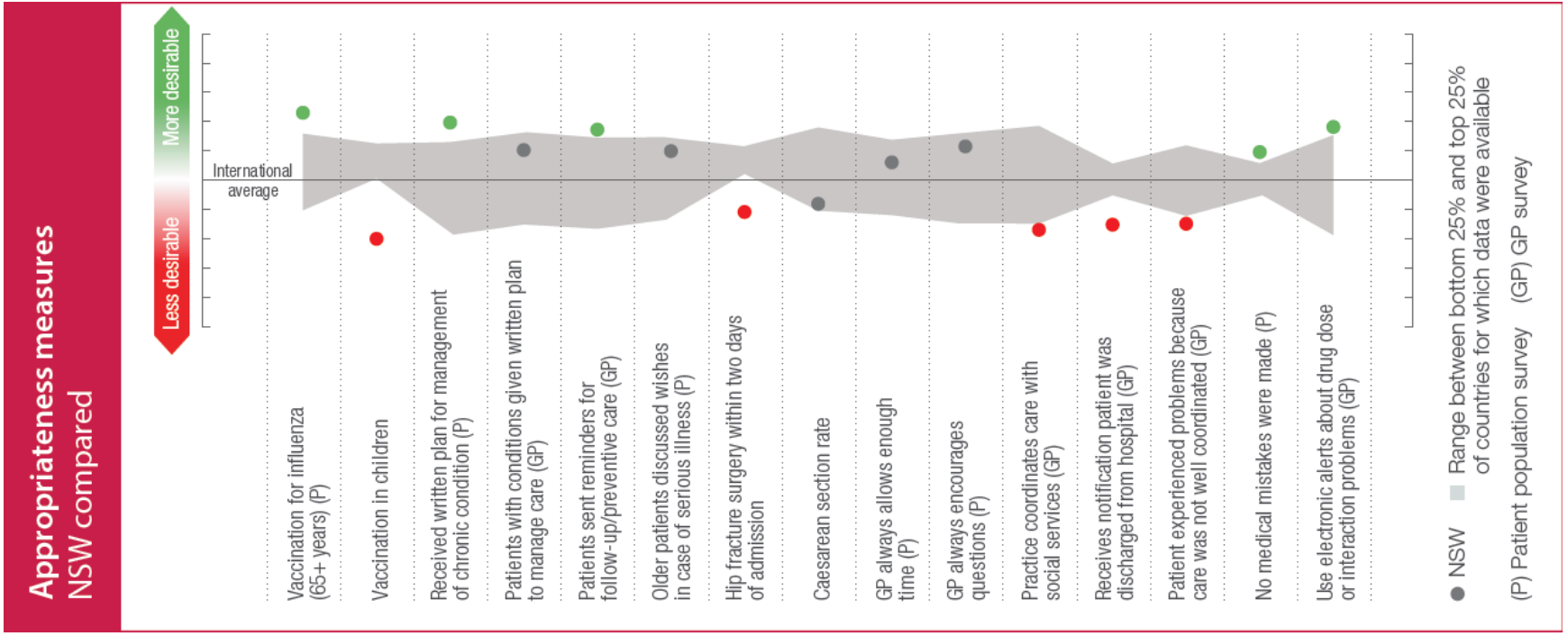
Measurement windows on unwarranted clinical variation



Appropriateness: Right care, right way, right amount



Appropriateness: Dashboard



Appropriateness: Specific measures

Number of knee arthroscopies by age and osteoarthritis diagnosis, NSW public and private hospitals, 2014-15

	Public hospitals		Private hospitals	
	Patients diagnosed with osteoarthritis in the three years preceding arthroscopy	Patients not diagnosed with osteoarthritis	Patients diagnosed with osteoarthritis in the three years preceding arthroscopy	Patients not diagnosed with osteoarthritis
Patients aged 50 and over	**1132 (26%)**	**1142 (27%)**	**5188 (37%)**	**2972 (21%)**
Patients aged under 50	**451 (10%)**	**1577 (37%)**	**1996 (14%)**	**3926 (28%)**
Total	**4,302**		**14,082**	

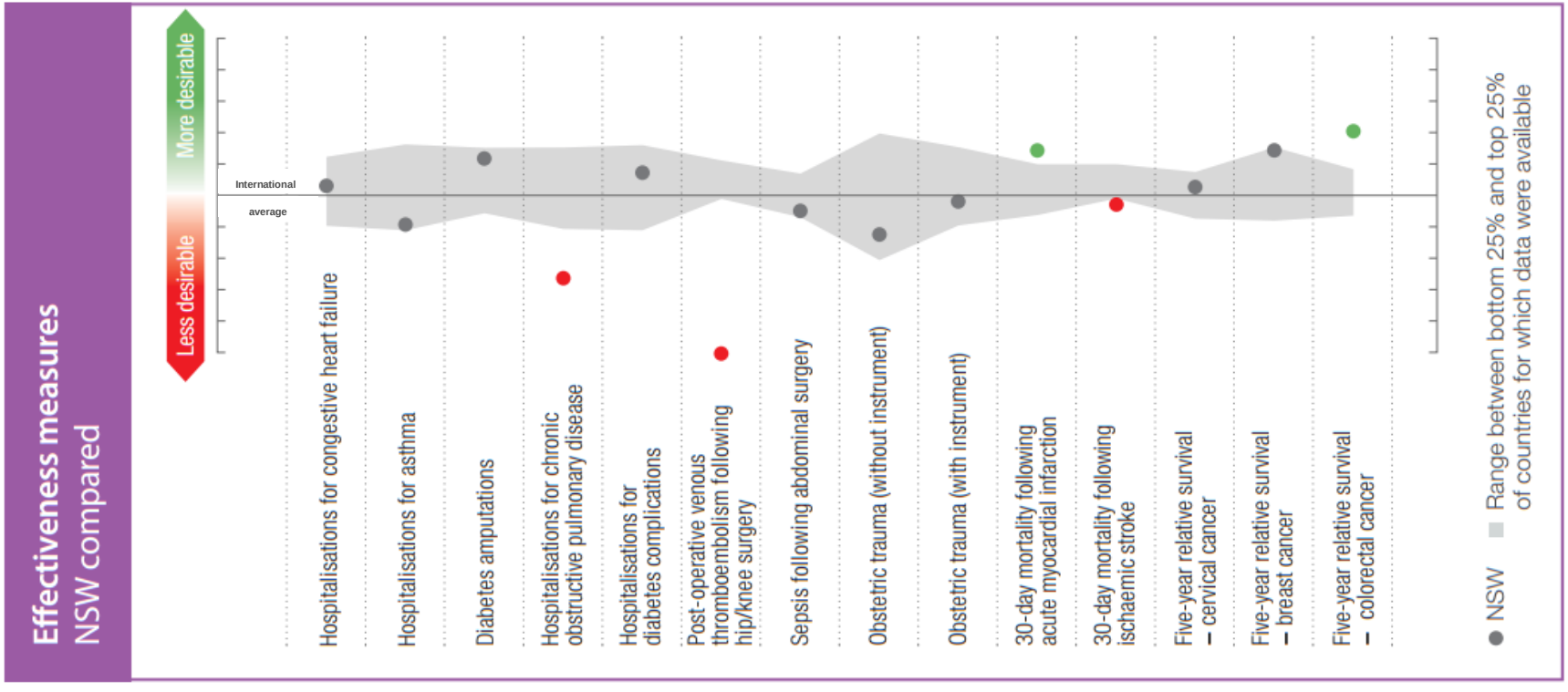
Source: NSW Ministry of Health, extracted from SAPHaRI, Centre for Epidemiology and Evidence (BHI analysis).

Effectiveness: Variation in outcomes of care

OUTCOMES – risk adjusted

	Directly related to presenting condition	Not directly related to presenting condition
Improved health and wellbeing	• Survival	• Amelioration of depression • Improved cardiovascular fitness
Healthcare caused harm	• Prosthesis failure following knee replacement • Obstetric trauma	• Central line infection • CAUTI • Haemorrhage
Healthcare did not prevent harm	• Failure to recognise deteriorating patient • Aspiration pneumonia	• Pressure sore • Falls • Exacerbation of other comorbidities

Effectiveness: Dashboard

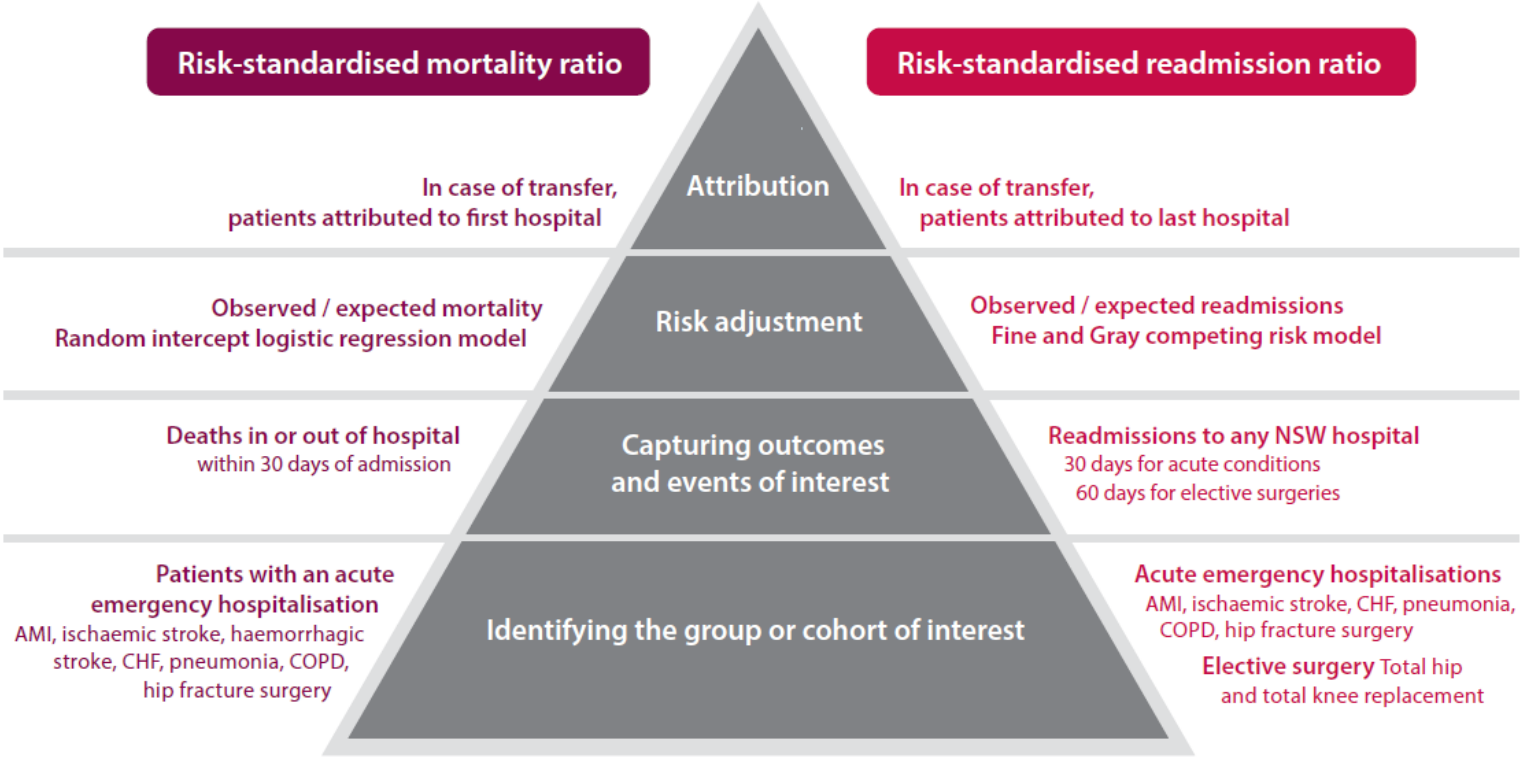


Effectiveness : Specific measure

Figure 62 Total knee replacement: length of stay of the index hospitalisation and return to acute care by principal diagnosis category, NSW public hospitals, July 2009 – July 2012

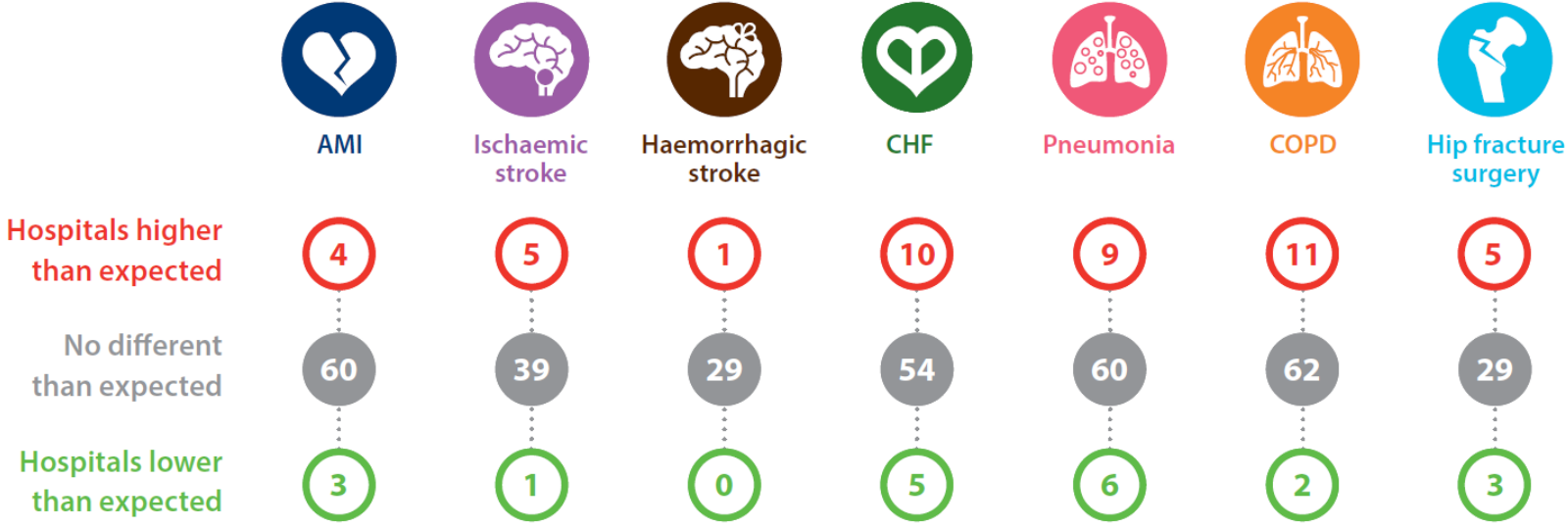
Effectiveness : Adjusted measures

Figure 23 Risk-standardised ratios for assessing performance in mortality and readmissions



Effectiveness : Adjusted measures

NSW public hospitals 30-day mortality results, by condition, NSW, July 2012 – June 2015

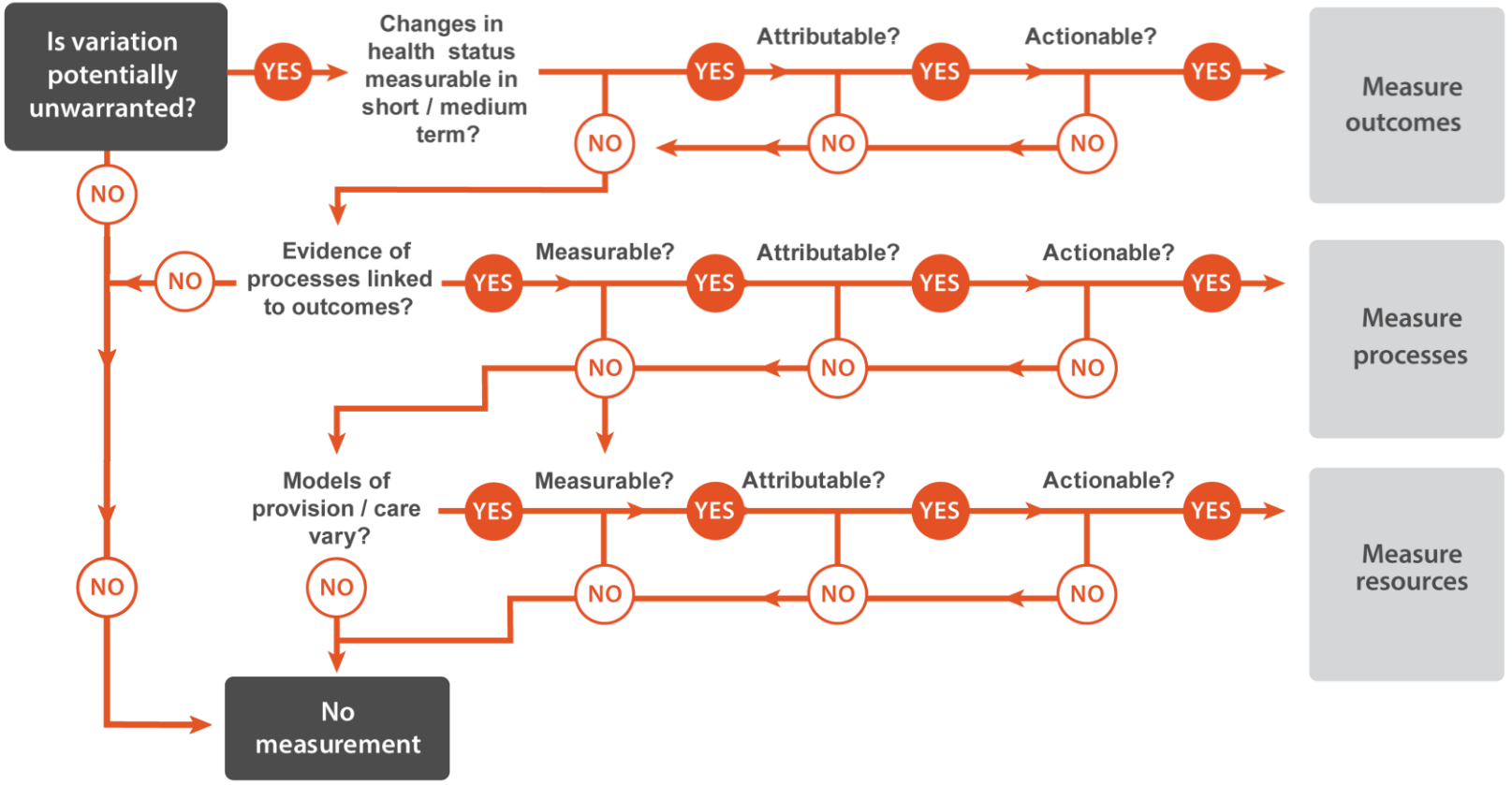


Effectiveness : Adjusted measures

Figure 6 30-day mortality, concentration of outlier results across hospitals, NSW, July 2012 – June 2015

47 hospitals had no 'higher than expected' results

Unwarranted clinical variation: Measurement algorithm



1 Understanding variation

2 Measuring variation

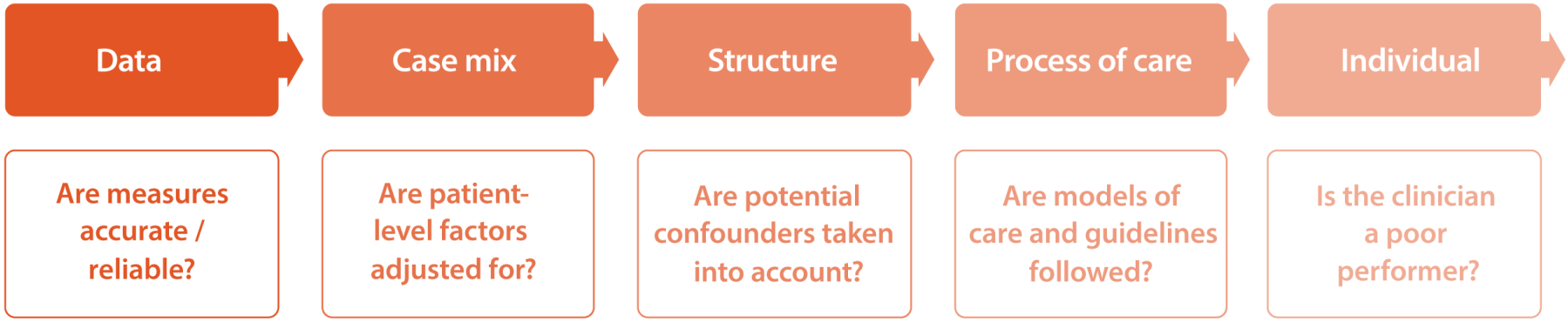
3 Acting on variation

Reporting unwarranted clinical variation

- In print, online and interactive
- Detailed hospital profiles
- Extensive clinical engagement
- Unwarranted clinical variation taskforce
- Audit program – clinical redesign (ACI)
- Better value care (Ministry program)

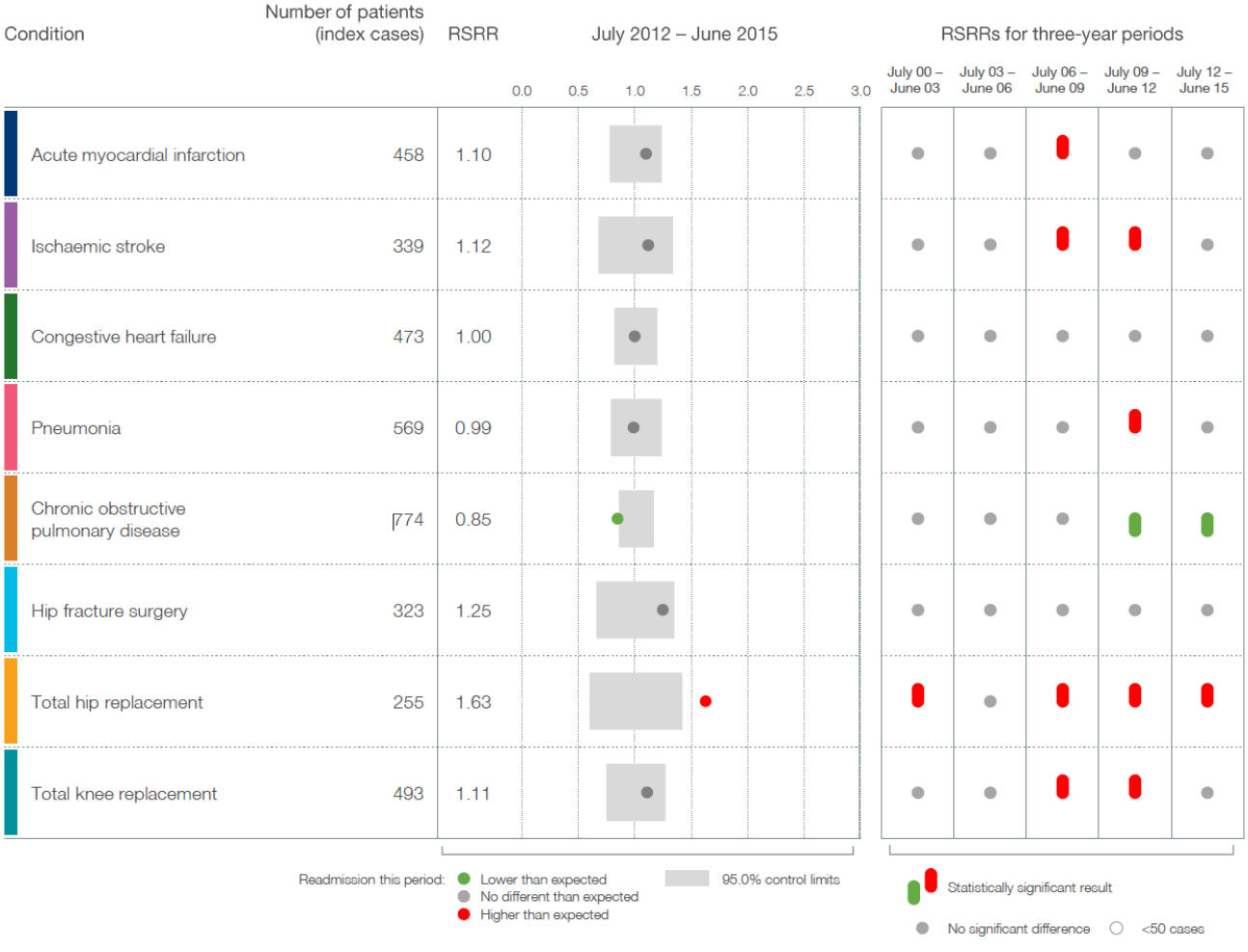
Attributing and investigating variation

- Special cause variation approach

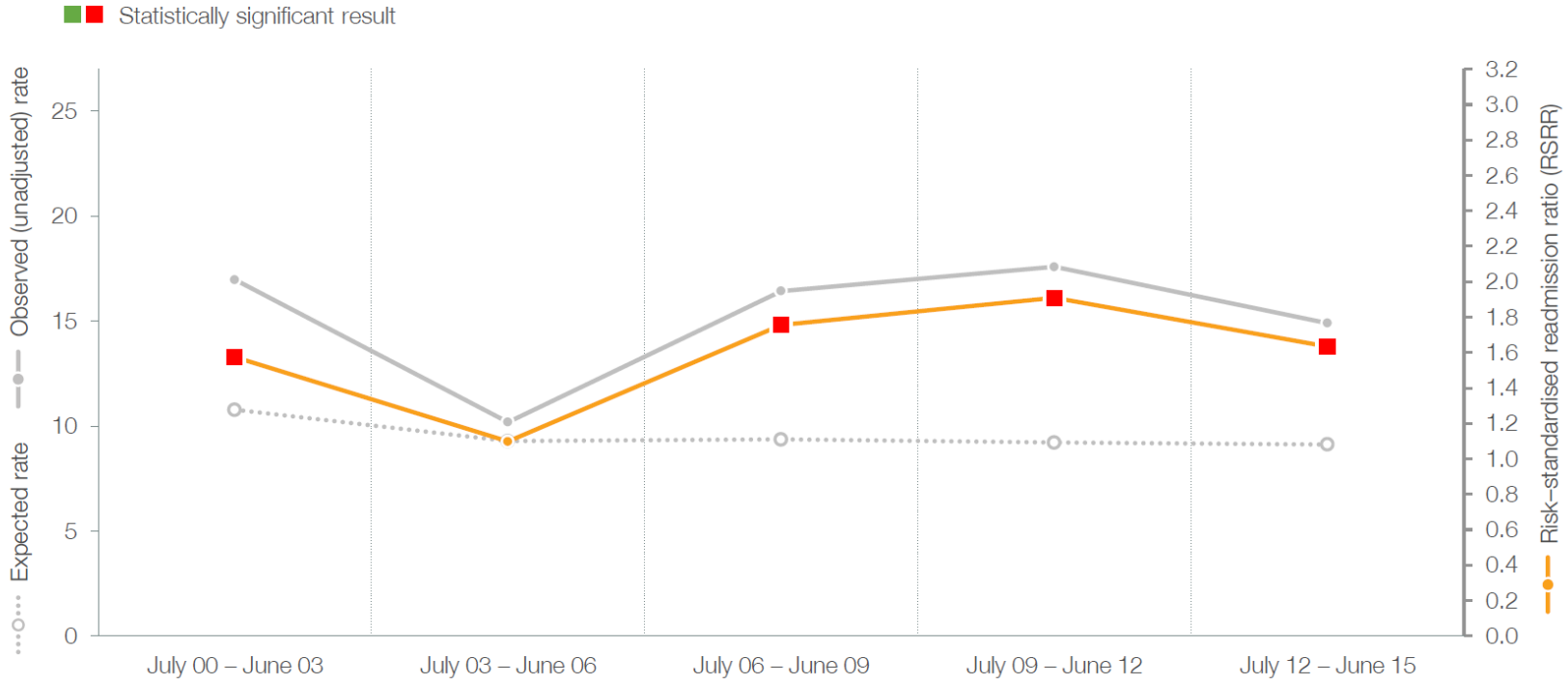


(Lilford et al, 2004)

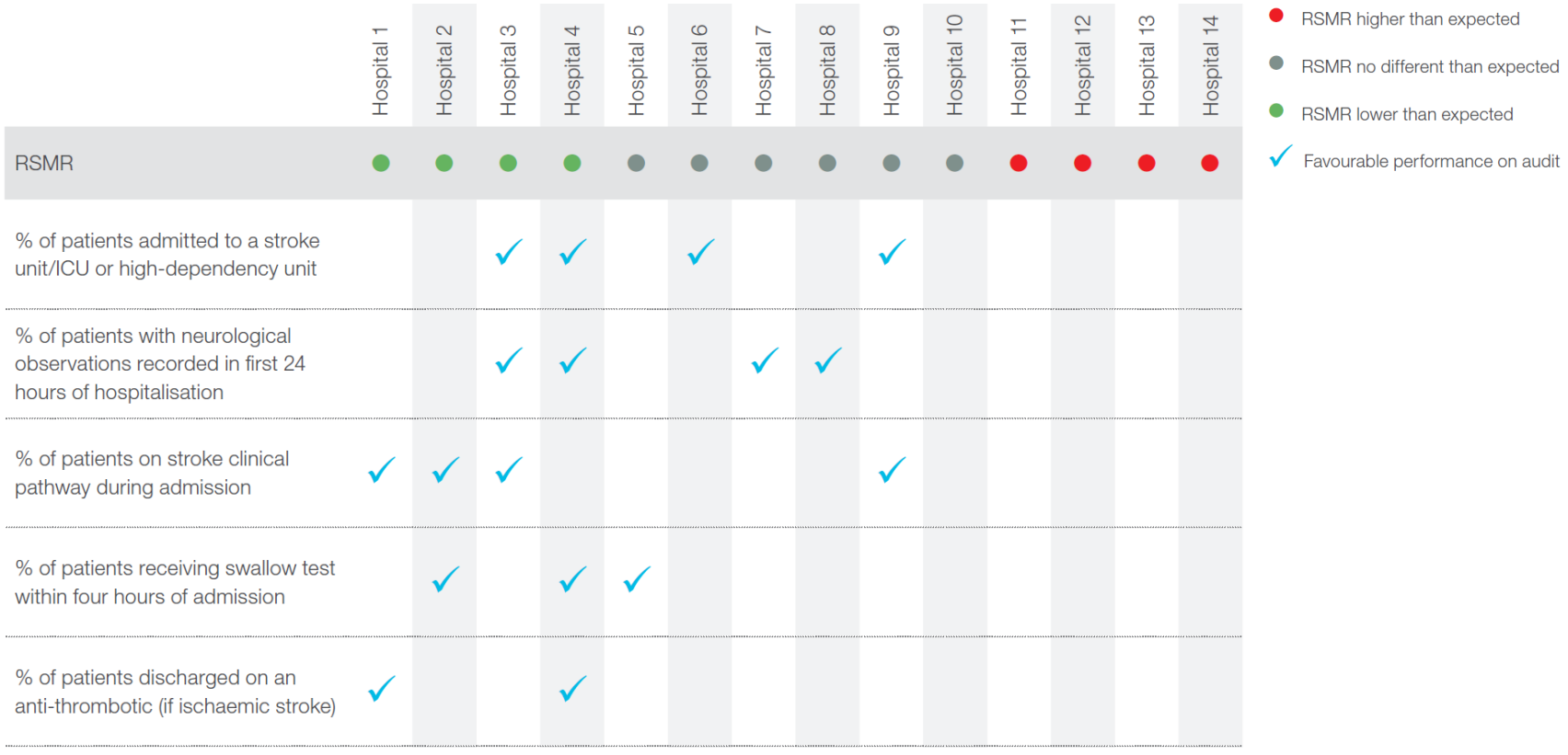
Risk-standardised readmission ratios (RSRRs) for six acute conditions and two elective surgeries



Total hip replacement, this hospital's risk-standardised readmission ratio, expected readmission rates and observed (unadjusted) readmission rates, July 2000 – June 2015



Attributing and investigating variation



1 Understanding variation

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4 Conclusion

Measuring and acting on variation

- Measuring variation
  - Condition-specific more than clinician-specific
  - Risk-adjusted and peer group compared
  - Assessing variation both for “all or nothing measures” as well as “variation in grey zones”

- Acting on variation
  - High level indicators and detailed local profiles
  - Local engagement in development and diffusion
  - Alignment with audit and improvement programs
  - Coercive and normative approaches

Thank you!

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