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The Relationship Between Accreditation Criteria Results and Clinical Indicators

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Research Partners

- Australian Research Council (Linkage Grant)
- The Centre for Clinical Governance Research (CCGR), UNSW
- Australian Council on Healthcare Standards (ACHS)
- Ramsay Health Care

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Overview

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Key Issue

Do health services with superior accreditation results have better clinical performance as measured by clinical indicators, and vice versa?

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The literature

A Review of Health Sector Accreditation Literature
Greenfield and Braithwaite http:// clingov.med.unsw.edu.au

Associated with accreditation

- Health plans scores **(Dean Beaulieu 2002)**
- Patient safety indicators performance **(Miller 2005)**
- 7 hospital quality of care characteristics **(Hadley 1988)**
- Safety attitudes questionnaire **(Pronovost 2006)**
- Quality of care (acute myocardial infarction) **(Chen 2003)**

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The literature

Not- associated with accreditation

- Health plans scores **(Dean Beaulieu 2002)**
- Patient safety indicators performance **(Borenstein 2004; Miller 2005)**
- Medication error rates **(Barker 2002; Grasso 2005)**
- Hospital performance measures **(Griffith 2002)**
- Quality of care indicators **(Salmon 2003; Snyder 2005)**

The literature

The literature shows a contested picture.

There is as much associated with accreditation as there is not.

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Method

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Method

Data

- Collected by ACHS
- EQuIP survey data 2003 - 2005
- Clinical indicator (CI) data 2001 – 2005

Method
Data

- 530 organisations with both clinical indicator and EQuIP data
- 19 mandatory EQuIP criteria and six-month CI reports
- Linked data set = 28,023 records: the mean number of CI reports was 188

Method
Measures

- **EQuIP score** : ratings for 19 mandatory criteria were scored 1 – 5 and summed

- **CI measure** : observed over expected ratio for each CI. Log (observed / expected) for each CI was calculated for all years. Differences between observed and expected was converted to a z-score (observed – expected) / standard error

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Method

Analyses

Significant relationship was noted as <0.05

EQuIP and CIs

- Mean log(obs/exp) CIs and z score regressed against overall (sum) EQuIP score

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Method

Analyses

Significant relationship was noted as <0.05

Individual CIs and overall EQuIP

- Rate for individual CIs were regressed against the overall EQuIP score and weighted by the denominator to account for the different sizes of organisations

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Method

Analyses

Significant relationship was noted as <0.05

Individual EQuIP criteria and mean CI rate

- Individual EQuIP criteria regressed against the mean log(obs/exp) score

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Findings

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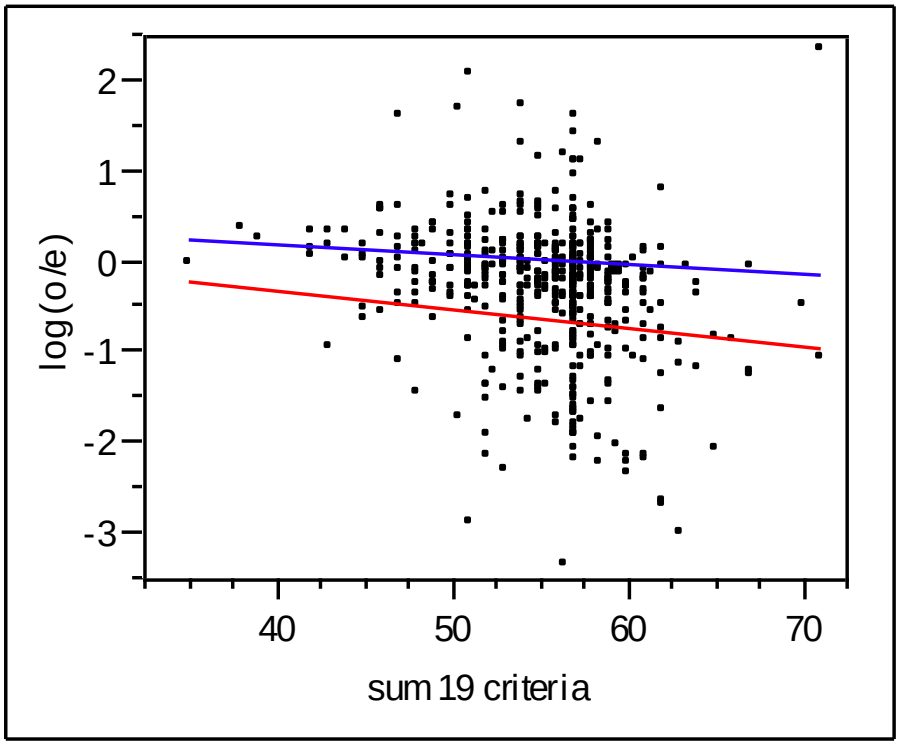
EQuIP and CIs

- Weak association in the right direction between overall EQuIP scores and the mean CI score.

- Public / private and rural / urban factors had an impact on the association

Public and private sectors

Public (blue) and private (red) sectors have better CI rates (mean log(obs/exp) and mean z-score as the global EQuIP score increases



Individual CIs and overall EQuIP for 194 CI s

- There is not a strong relationship between the individual CI rates and the overall EQuIP score

EQuIP score and the CI rates for 194 CI s (cont)

- 194 CIs, 12 were statistically significant when public/private and metro/non-metro were included in the model
- 8 in expected direction, 4 in unexpected
- These CIs were in the following sets:
  - Adverse drug reactions (3) Anaesthesia (2)
  - Mental health (2) Radiology (2)
  - Hospital wide (1) Surgery (1) Day procedrue (1)

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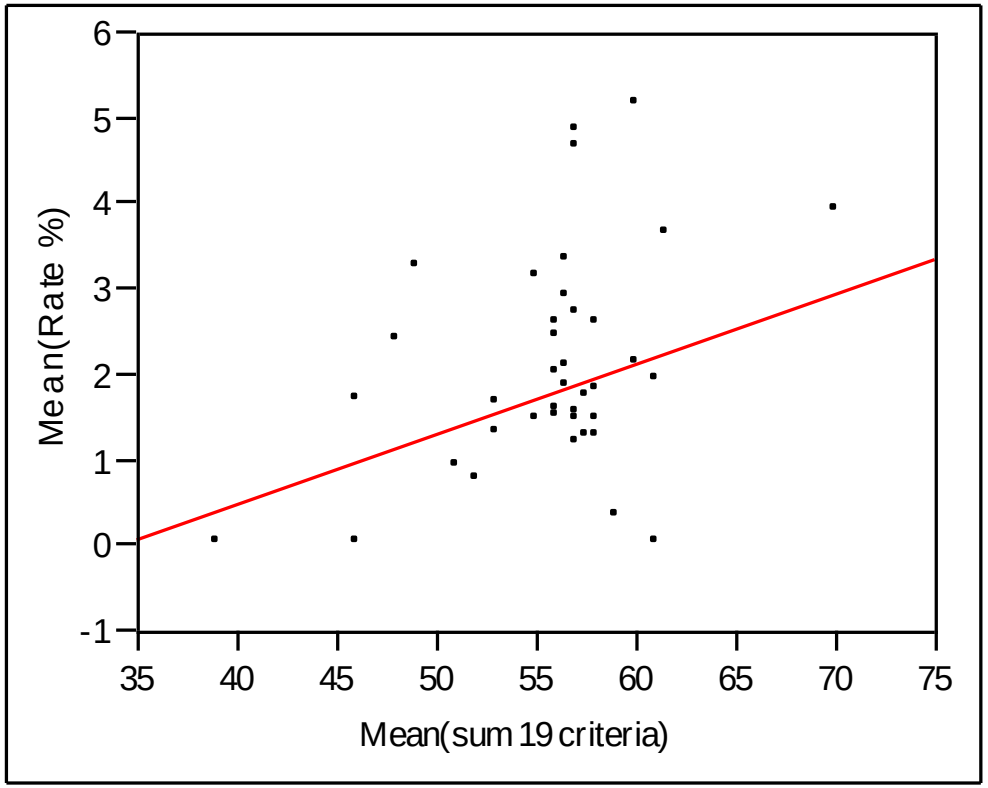
CABG mortality rates and EQuIP scores (n 38)

Unexpected direction: better EQuIP score having higher mortality R-square = 15%, p= 0.01)



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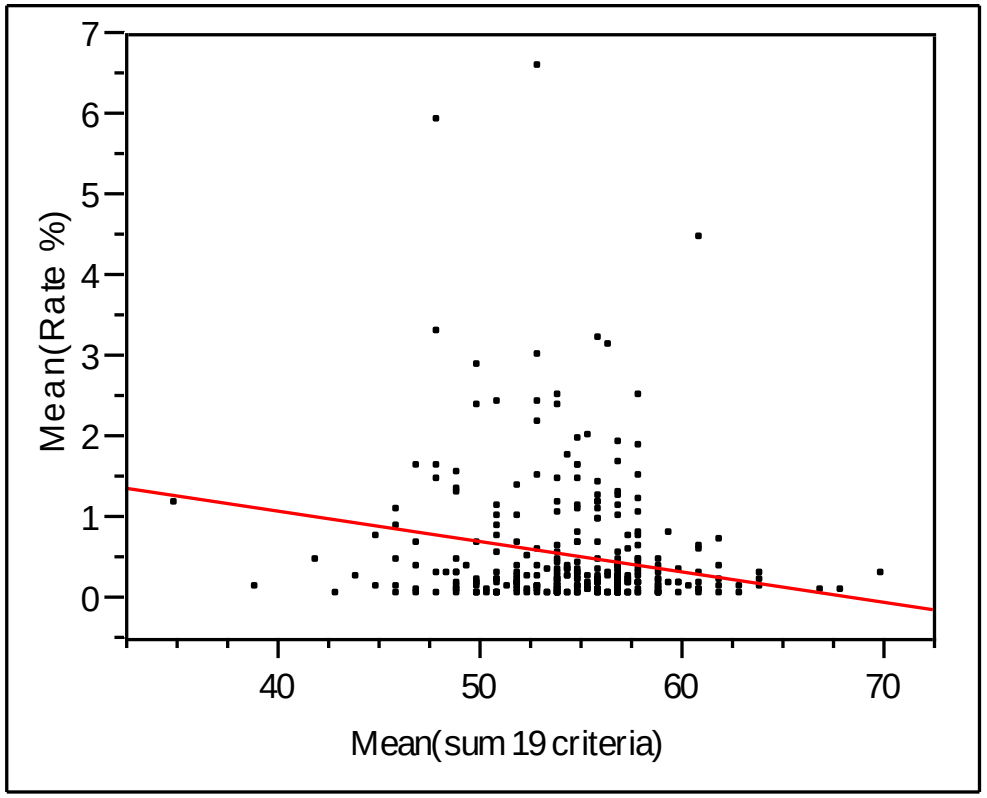
Day only cancellations for administrative reasons

improves with a better EQuIP score

(R-square = 3%, p = .0001)



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Relationship between EQuIP criteria and mean CI score

- There were 12 criteria statistically related to the mean CI score. In 9 criteria, Extensive Achievement (EA) had a better CI score (right direction); 3 EA were worse

- An example is 1.4.1(continuum of care - discharge) R-square 4%, $p < 0.0001$. Although statistically significant, the criterion does not explain the variation in mean CI.

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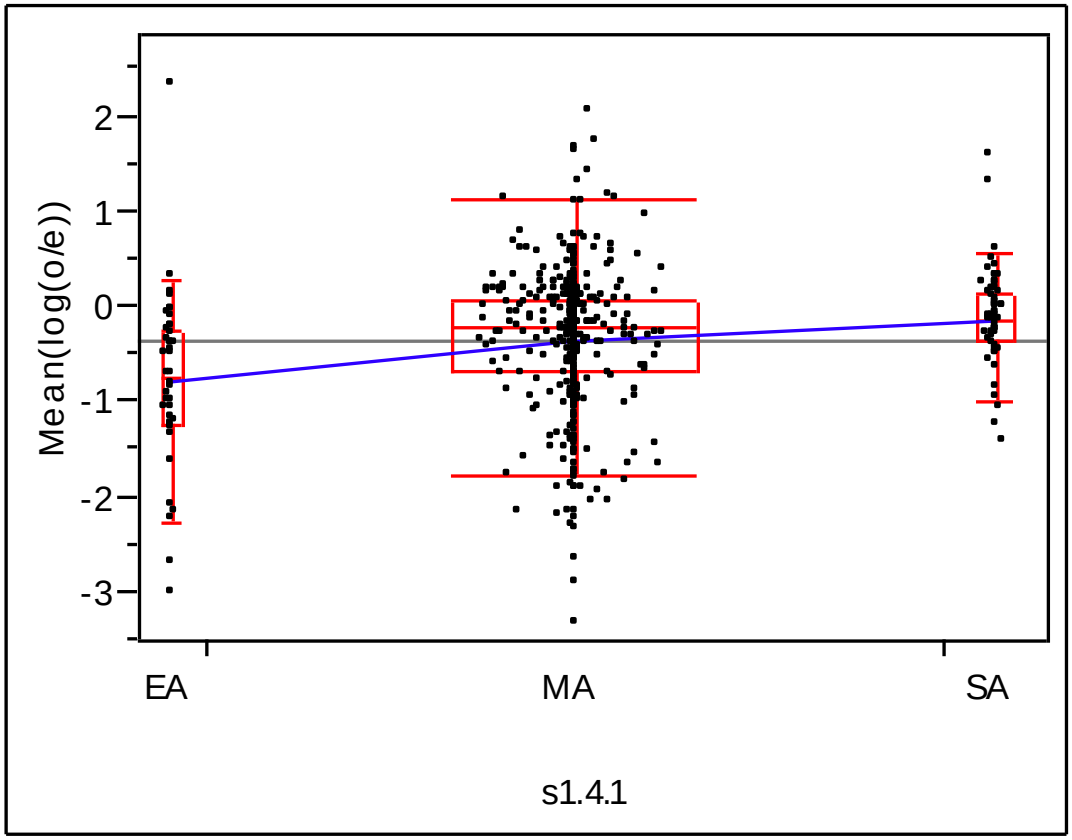
Continuum of care criteria 1.4.1



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Discussion

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Discussion

Limitations

- Statistical issues – data gaps
- Clinical indicator data – large variation within organisations
- EQuIP ratings – little variation in the ratings

Discussion

The literature : quality and safety

- Measurement of quality and safety is multidimensional (Miller 2005)

- *Structure* and *Process* not necessarily linked to O*utcomes* and the science of linking is immature (Miller 2005, Pronovost 2006)

- Most safety parameters are difficult or impossible to capture in the form of valid rates (Pronovost 2006)

Discussion

The literature : accreditation and measures of safety and quality

- Contested evidence
- ‘Should accreditation scores and empiric measures of quality and safety be correlated if they measure different domains of quality and safety’ but it is a confusing message for consumers (Miller 2005)

Discussion

ACHS accreditation

- Generic organisation-wide systems (structure and process) for quality and safe care
- Demonstration of outcomes
- Evaluation of systems 19 quality and safety issues (mandatory criteria)
- *Quality* of outcomes per se not the focus (unless a risk)

Discussion

ACHS Clinical indicators

- No mandatory collection
- Tools for quality improvement – clinical specialties
- Organisation's trended data with outliers (> 5SD) identified

Conclusion

What does this all mean?

- Clinical indicators and accreditation are complementary tools
- Quality and safety are multidimensional
- Measurement is still immature and needs researching