HARVARD
SCHOOL OF PUBLIC HEALTH

BRIGHAM AND
WOMEN'S HOSPITAL

Drivers of Readmissions:
Implications for Performance Measurement

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NATIONAL READMISSIONS SUMMIT
DECEMBER 2013

Outline

- Readmission Basics
  - History of Readmissions
  - Why are Patients Readmitted?
- Implications for Performance Measurement
  - Competing Clinical Risks
  - Penalizing the Vulnerable
- Recommendations

Readmissions: not a new concept

Psychiatric patients

Planned readmissions for high-risk patients

Cost-consciousness

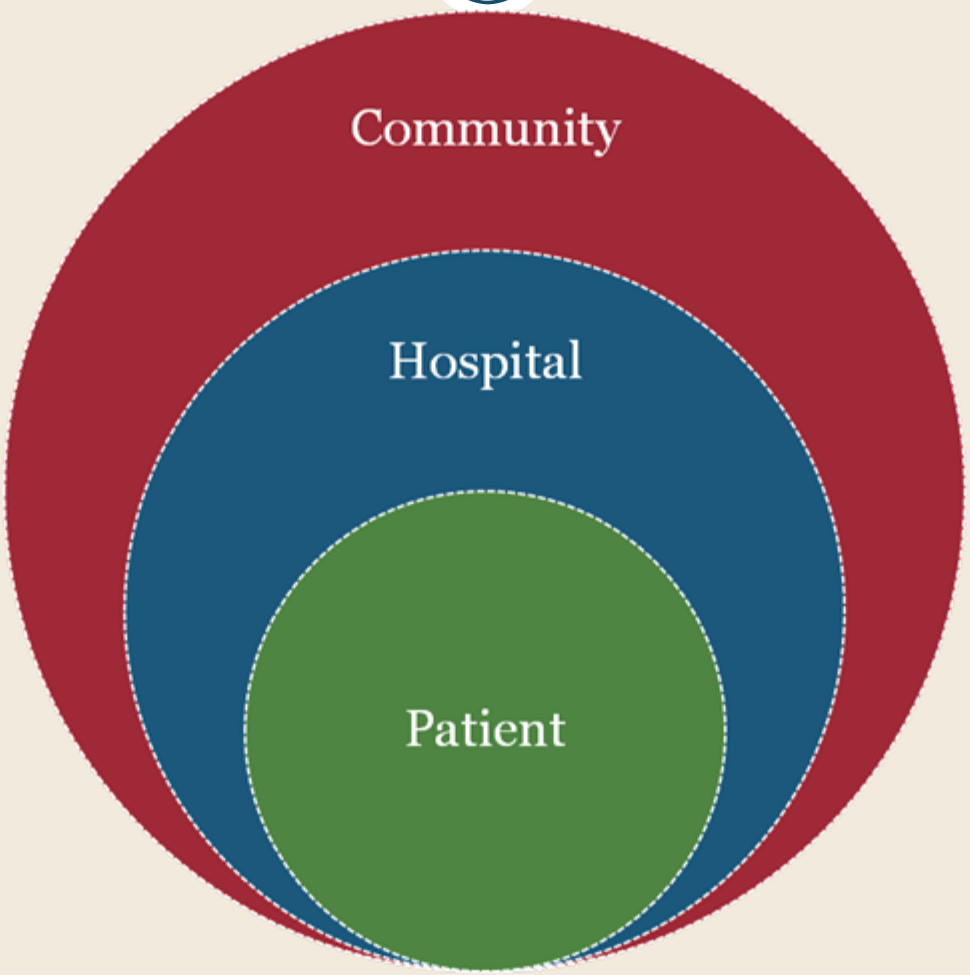
Surrogate outcome

"Repetitive hospitalizations are a major health problem in elderly patients with chronic disease, accounting for up to one fourth of all inpatient Medicare expenditures."

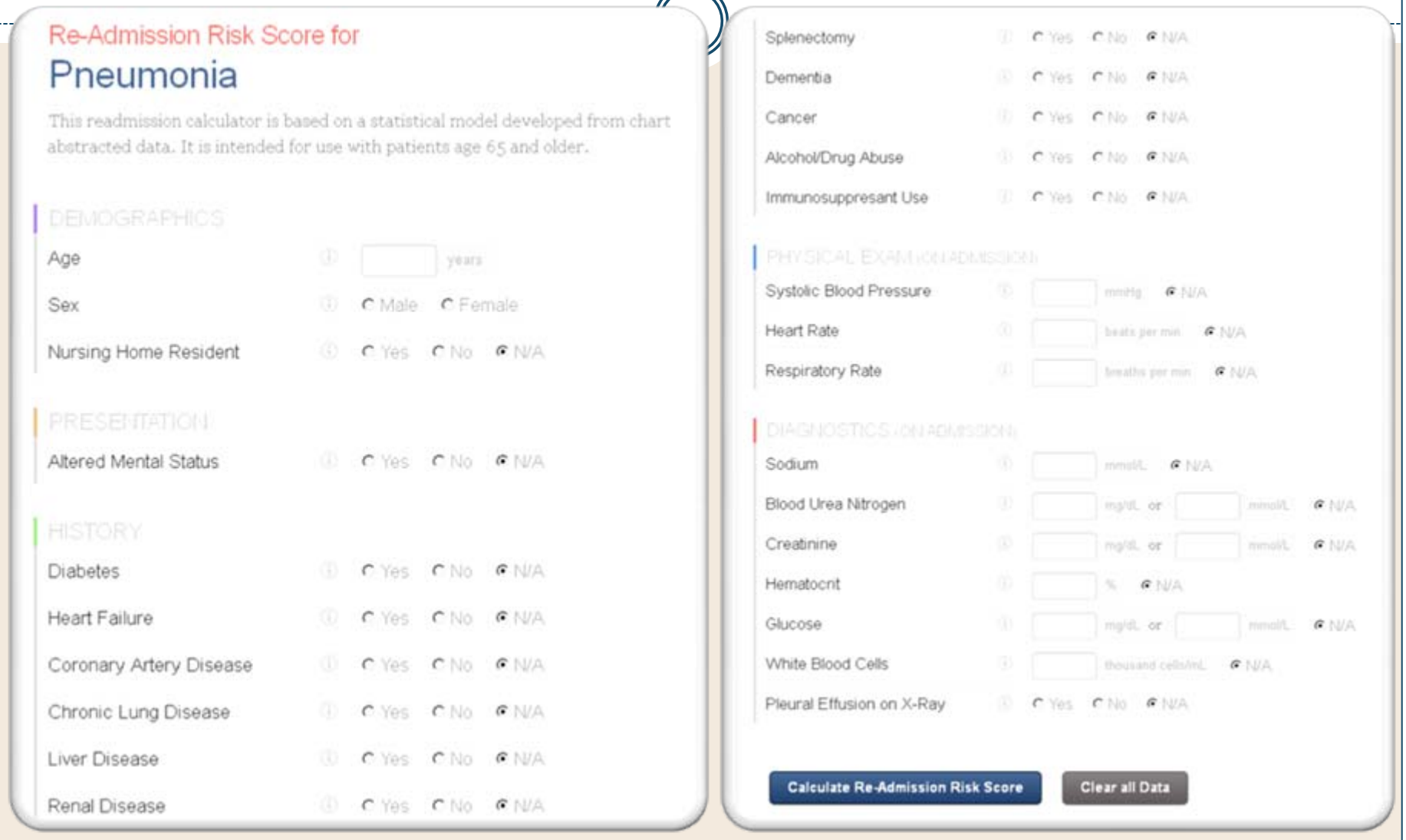
Readmissions are a clinical priority

Jenkins et al, Psychiatr Q 1953; MacDonnell et al, Gerotologist 1968; Nielsen et al, Am J Public Health 1972; Rouleau et al Am J Med 1981; Vinson et al, Am J Ger Soc 1990; Jencks et al, NEJM 2009, MedPAC 2009, Krumholz et al, Circulation 2009, Rosamond et al, AHA 2008

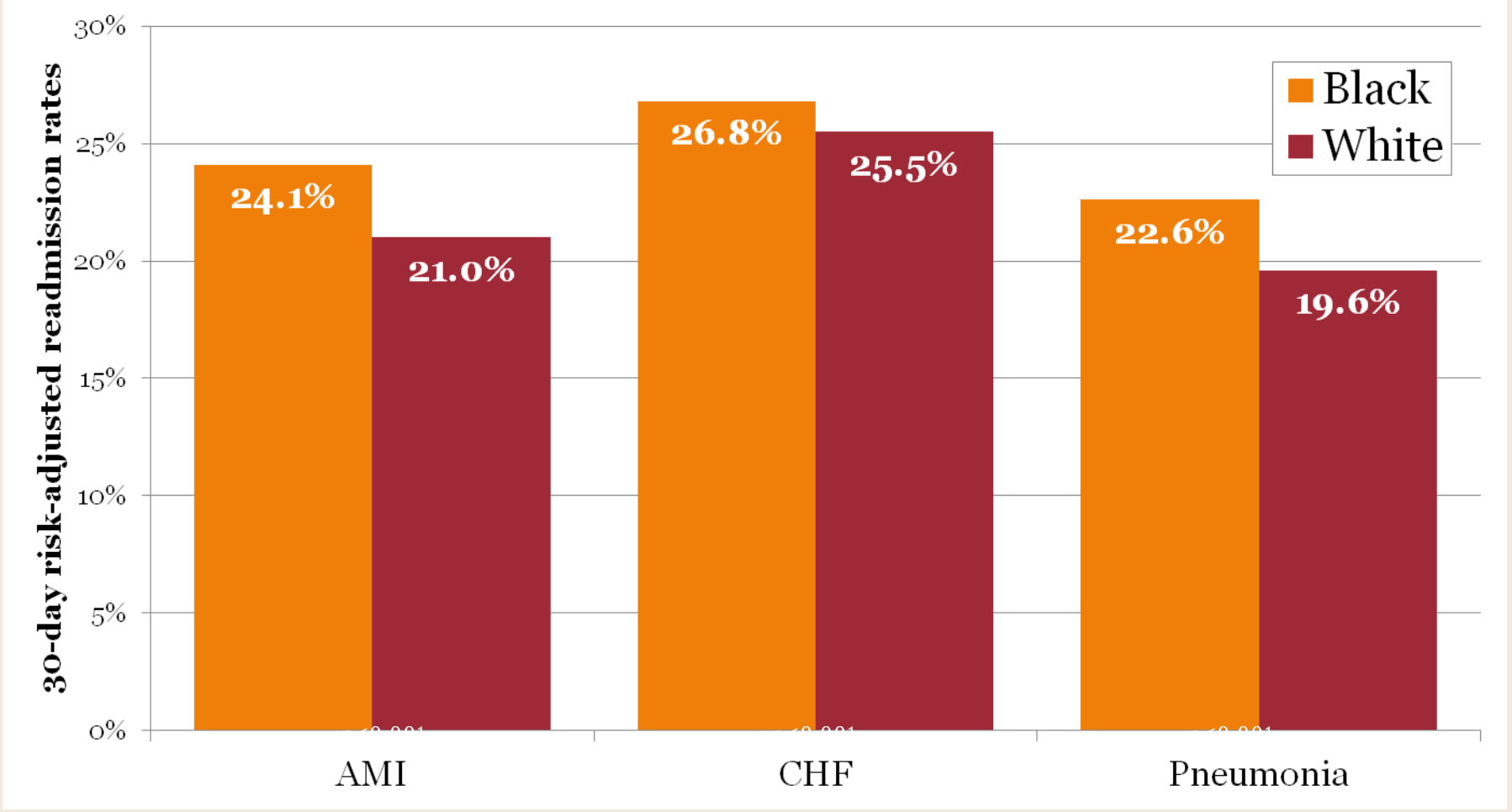
What causes readmissions?



Patient factors matter

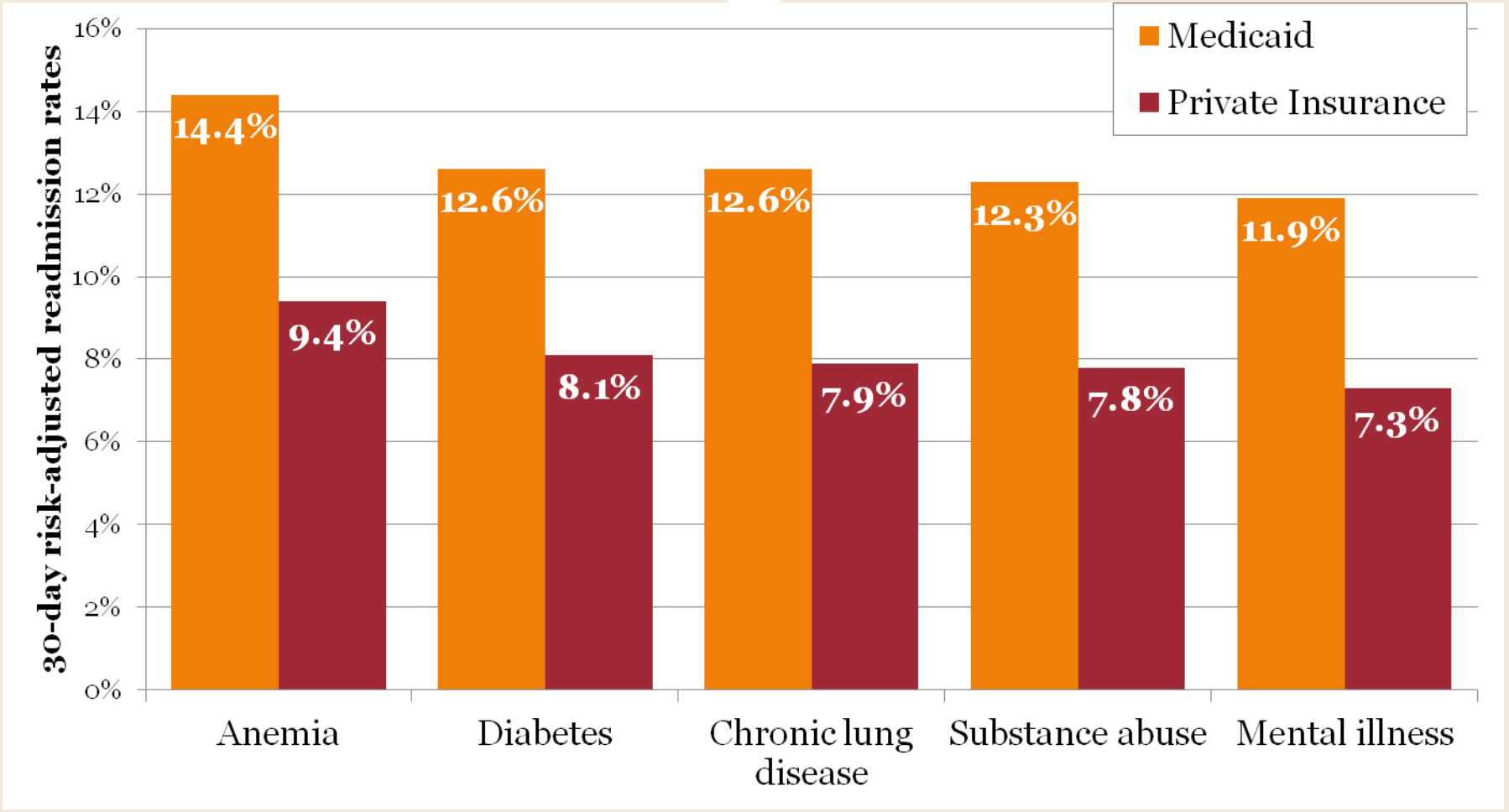


Patient factors: race

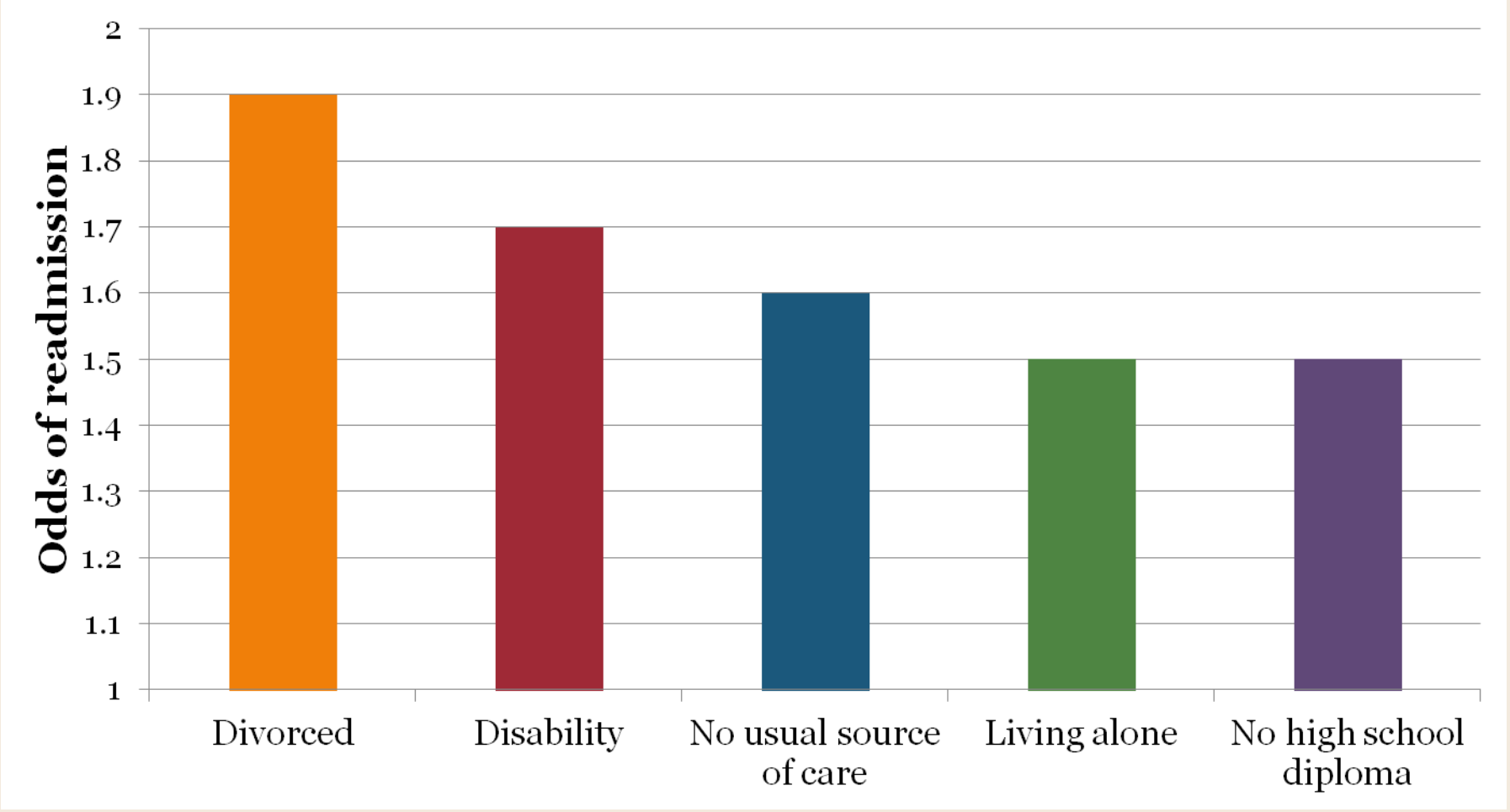


Joynt et al, JAMA 2011

Patient factors: insurance status

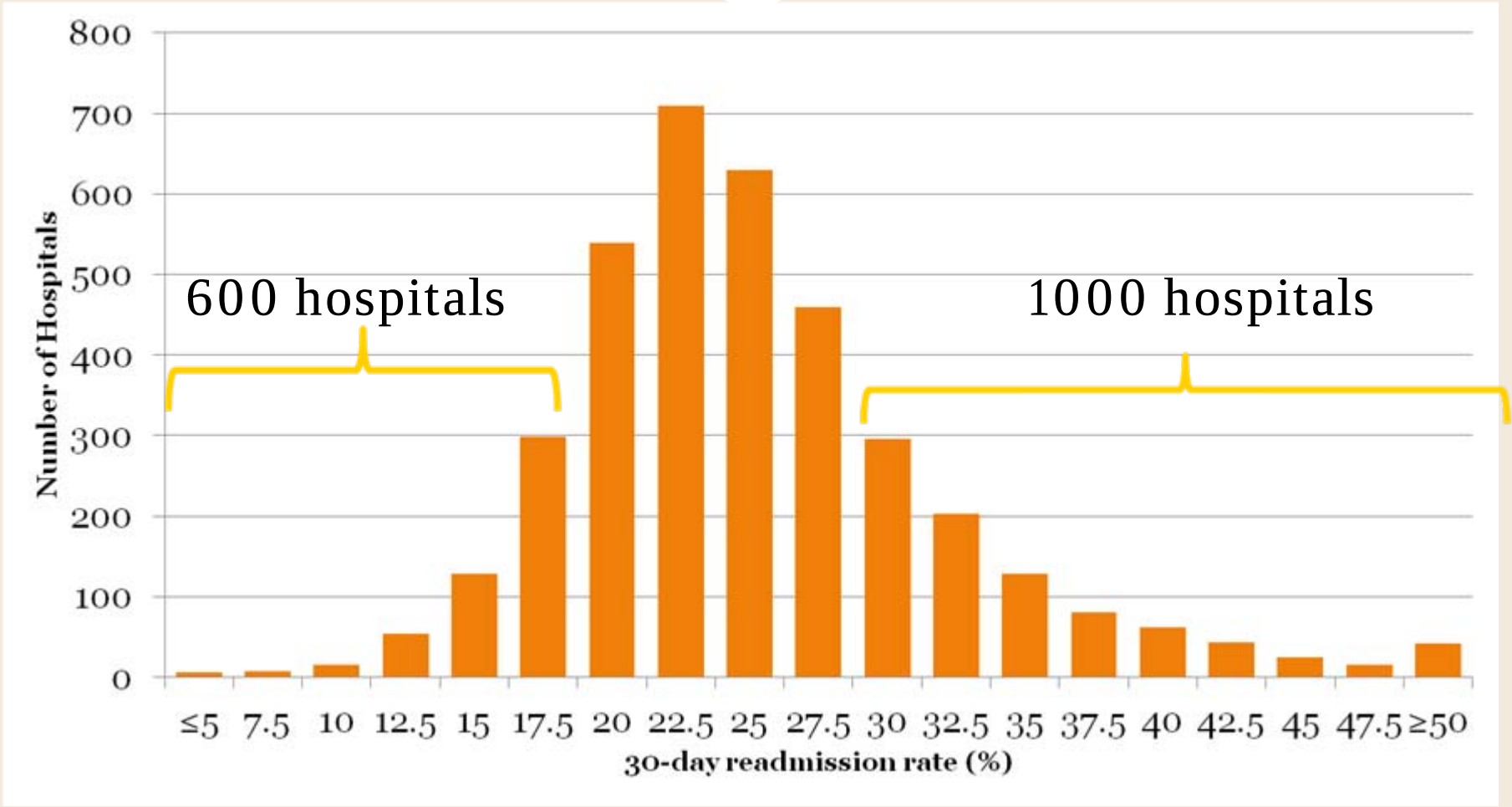


Patient factors: social issues



Arbaje et al, Gerontologist 2008

Hospital factors matter



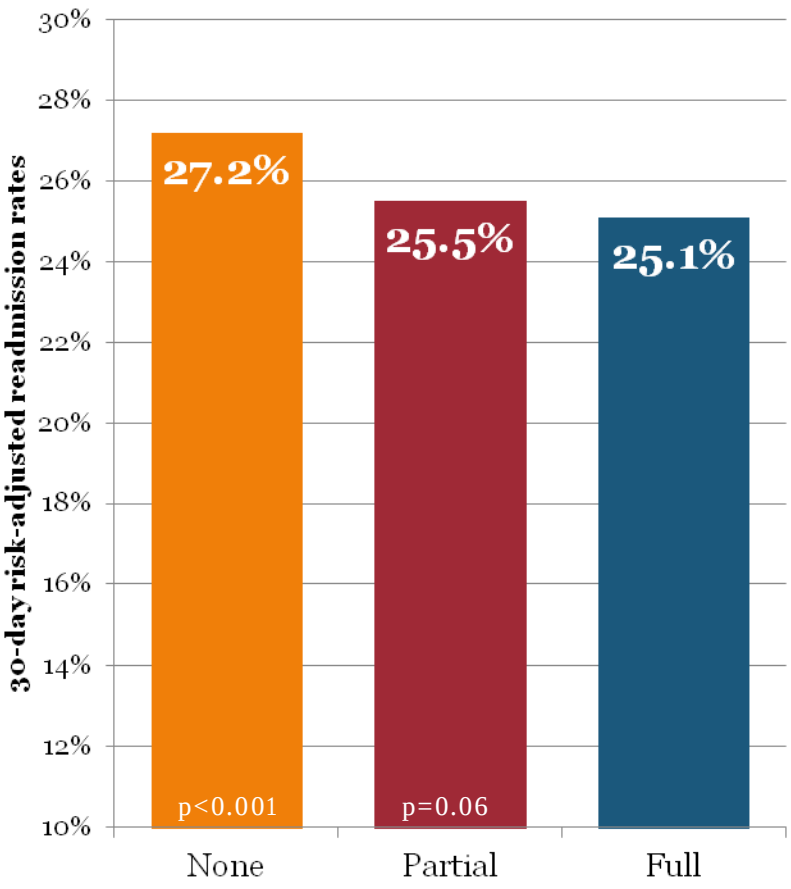
Joynt and Jha, Circ:QCOR 2011

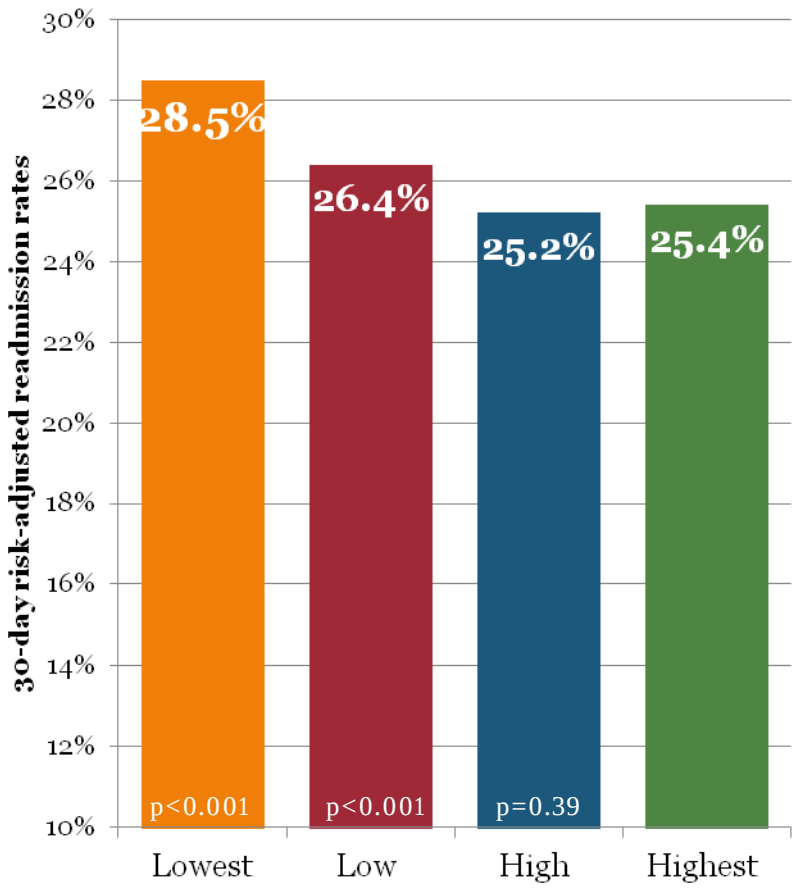
Hospital factors: quality of care

Score on discharge planning	CHF	P value	Pneumonia	P value
Lowest quartile	23.5%	0.54	18.4%	0.42
Second quartile	23.2%		18.5%	
Third quartile	23.6%		18.2%	
Highest quartile	23.7%		18.7%	

Jha et al, NEJM 2009

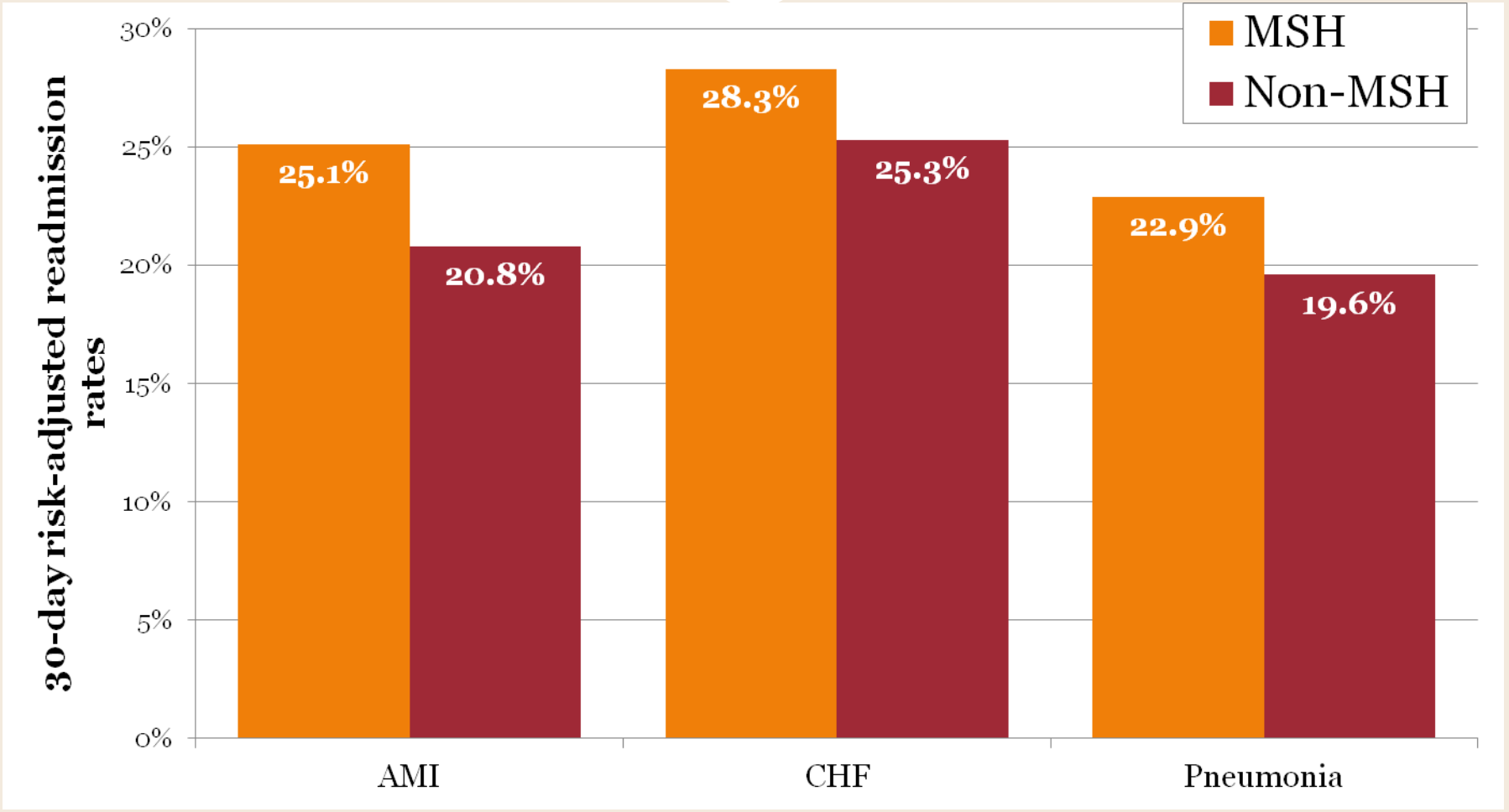
Hospital factors: clinical resources





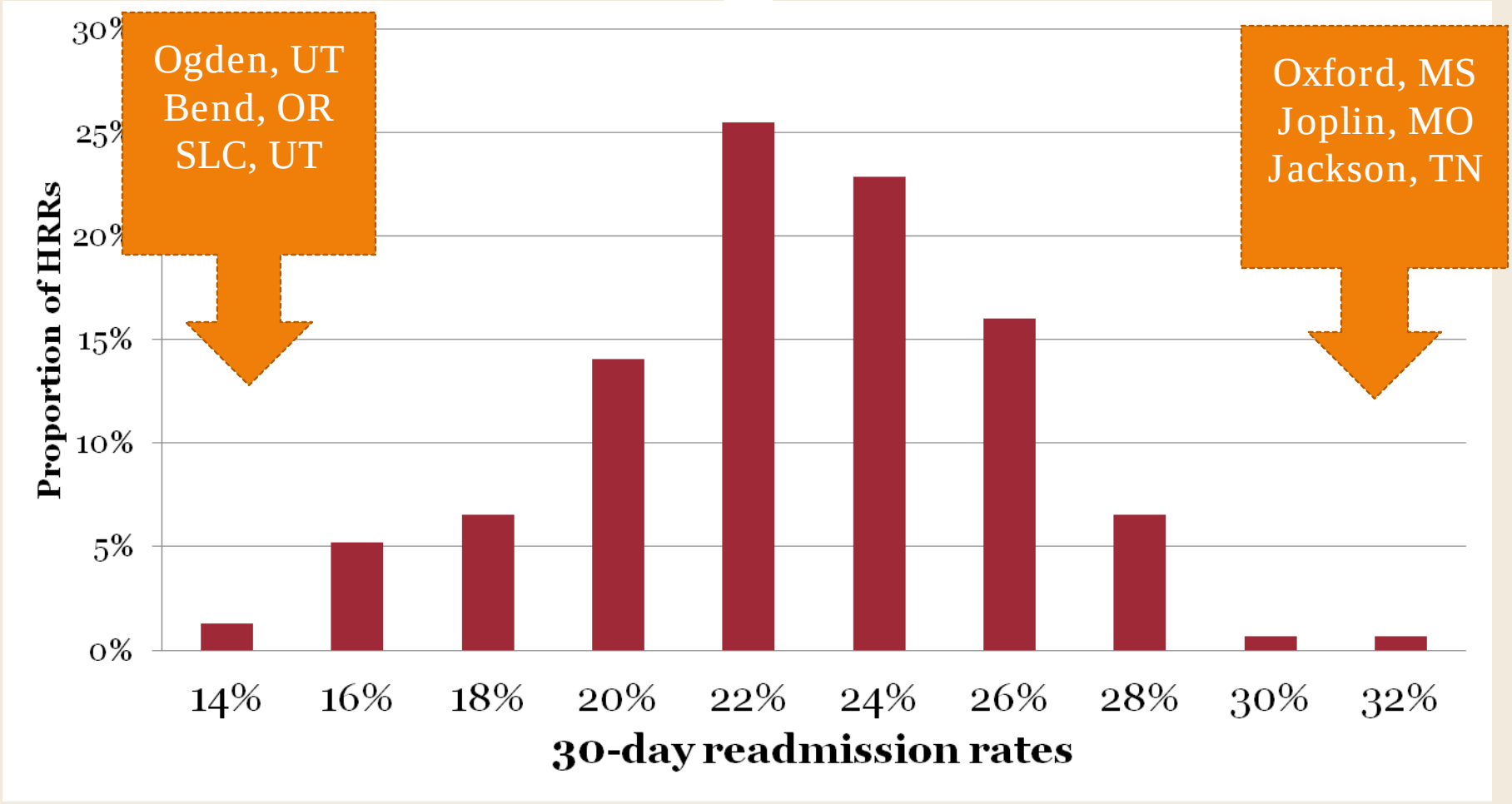
Joynt and Jha, Circ:QCOR 2011

Hospital factors: racial makeup

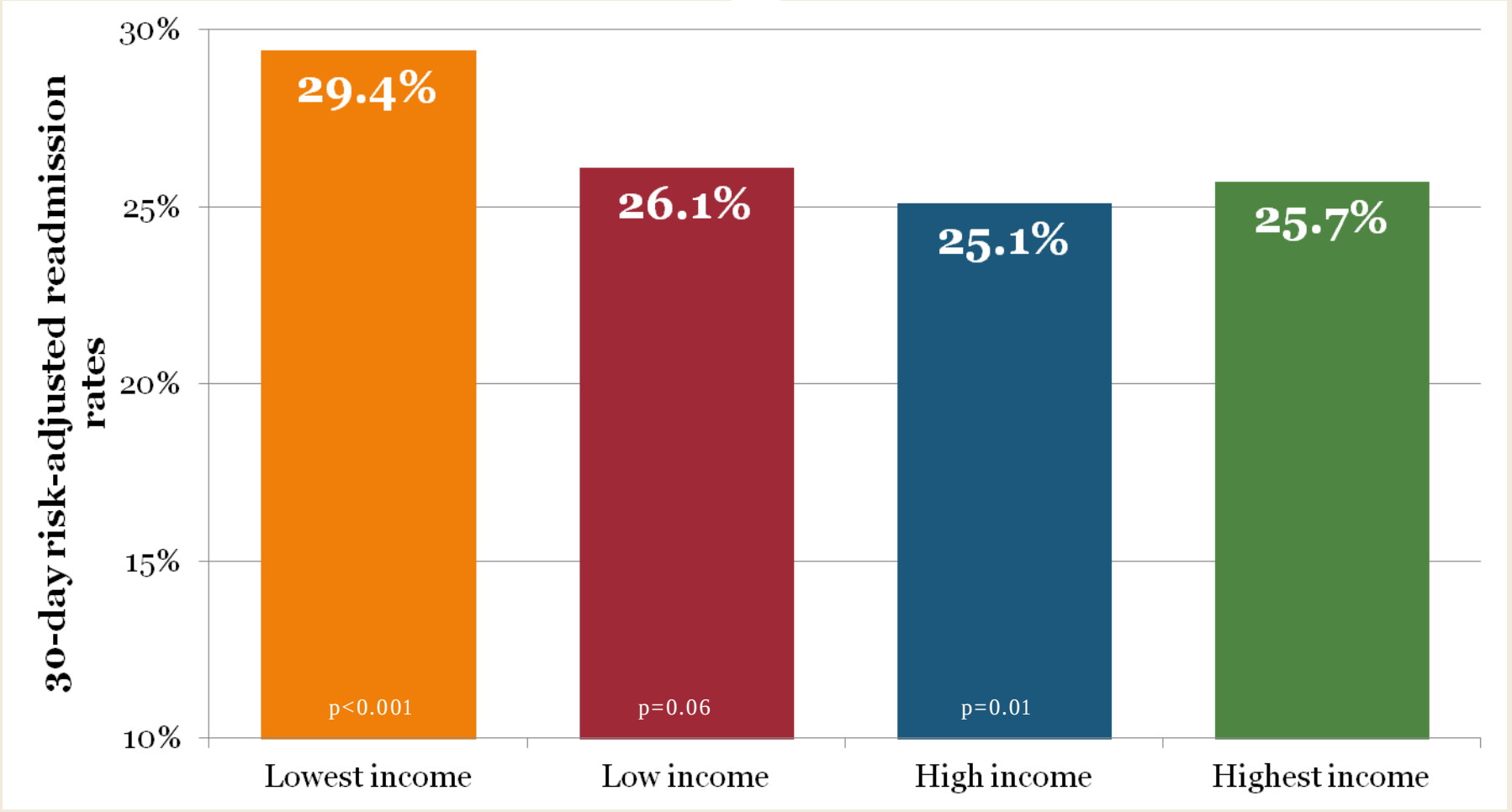


Joynt et al, JAMA 2011

Community factors matter



Community factors: income



Joynt and Jha, Circ:QCOR 2011

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Readmission Policy

- Major policy initiatives
  - Public Reporting: Hospital Compare
  - Hospital Readmissions Reduction Program
- Both rely on “fair” performance measurement

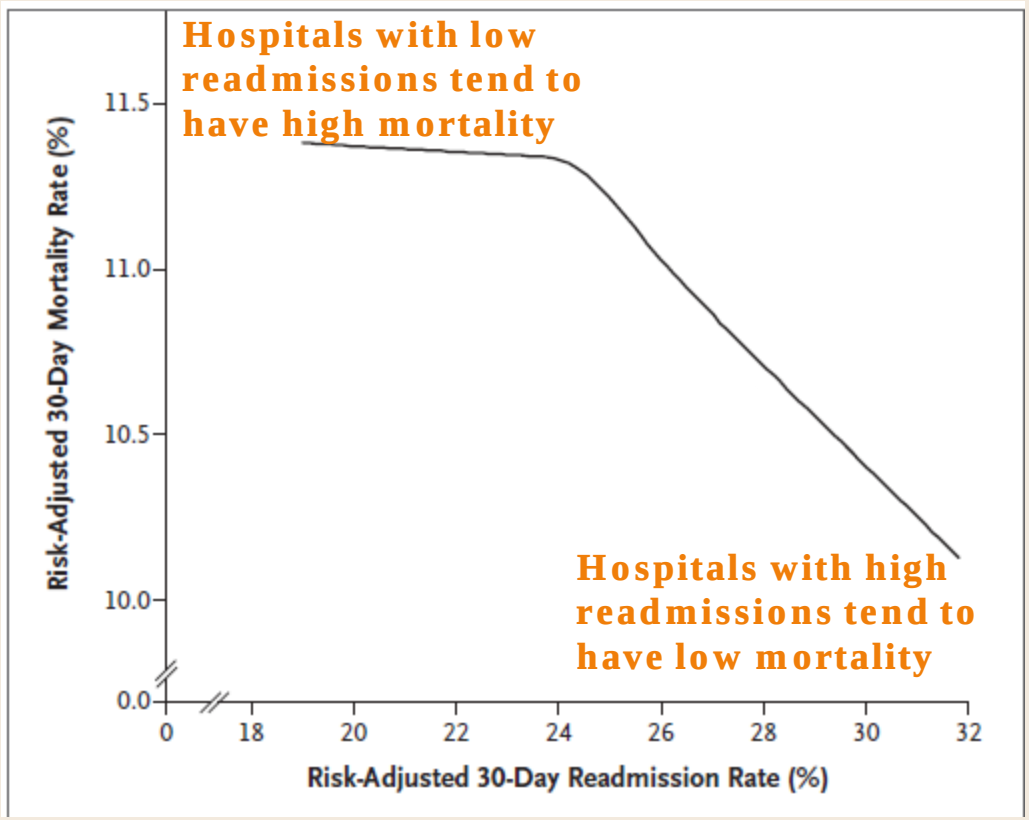
United States Senate 2009, Krumholz 2009, AHA 2010

Competing Clinical Risks

- Potential outcomes of a hospitalization:
  - In-hospital death
  - Post-discharge death
  - Readmission
- The “denominator” for readmissions only includes patients that survive to discharge, and patients that die after discharge can’t be readmitted
  - Therefore, the two outcomes are linked
- So what do the data show us?

Competing Clinical Risks

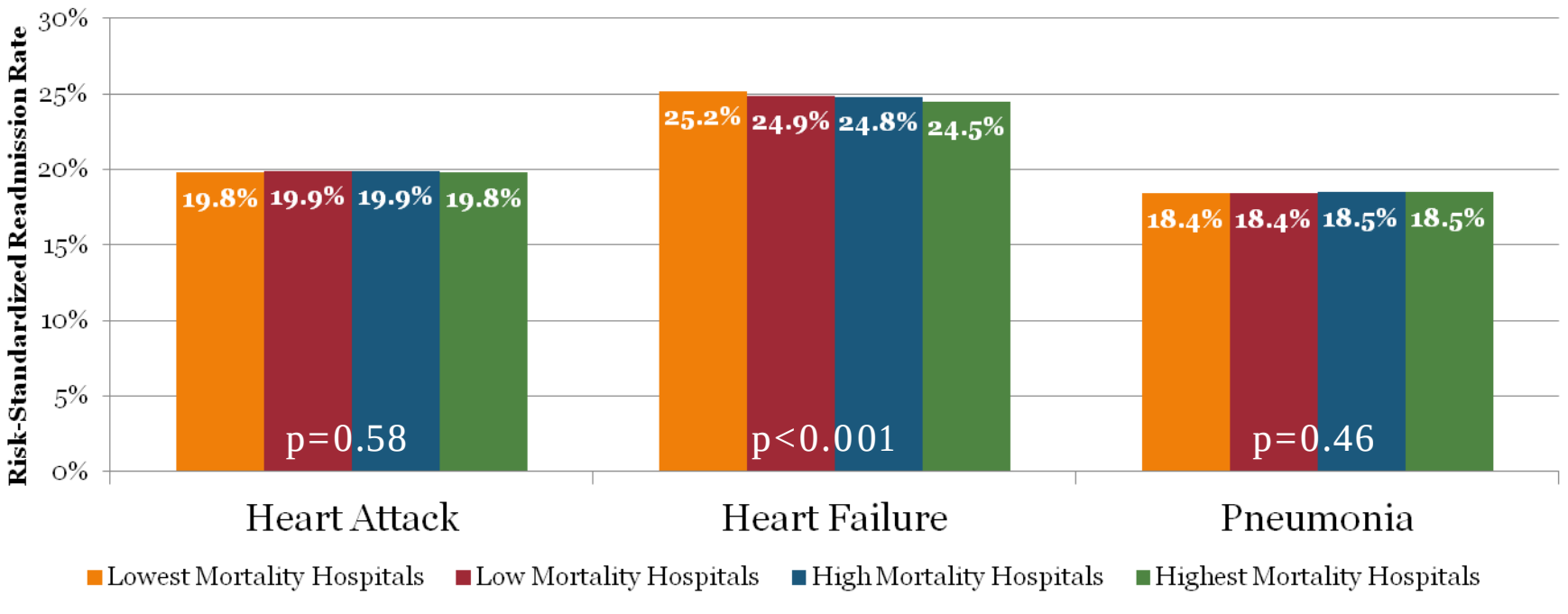
- For heart failure, readmission rates are negatively correlated with mortality rates



Gorodeski et al, NEJM 2010.

Competing Clinical Risks

- Another way of looking at the same phenomenon: hospitals with low mortality have similar or higher readmission rates than those with high mortality



Numbers shown are average readmission rates in each quartile of mortality rates. From Press et al, Health Affairs 2013.

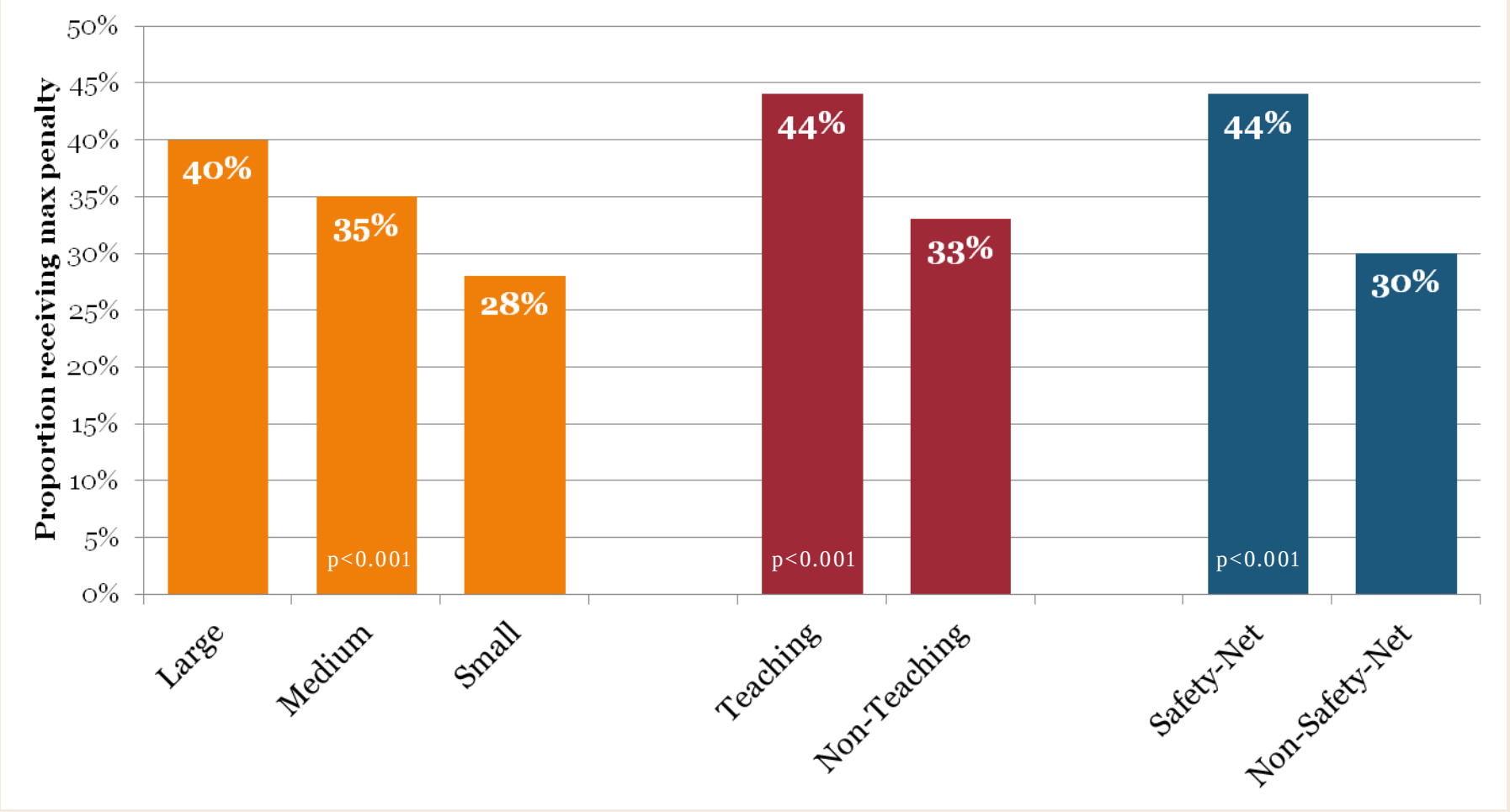
Why might we see this relationship?

- Competing hypotheses…
- Hospitals with low mortality save sick patients
  - These patients are then more likely to be readmitted
- Hospitals with low mortality admit well patients
  - The “propensity to admit” explains both low mortality rates and high readmission rates
- Readmissions and mortality measure different things
  - Relationship seen is confounding by race, or outpatient care

Penalizing the Vulnerable

- Factors likely under hospitals' control
  - Inpatient treatments
  - Scheduling outpatient follow-up
- Factors likely beyond hospitals' control
  - Patient resources and compliance
    - Family support, ability to afford medications
  - Quality of primary care in the community
  - Availability of community resources
- Hospitals must do vastly different work

Penalizing the Vulnerable



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Summary

- Readmissions are a tough problem
  - Need to better understand patient, hospital, and community factors that influence them
  - Working on these factors can improve care
  - Amazing innovations are improving patient care
- Readmissions are a poor comparative quality metric
  - Asking hospitals to do very different jobs
  - We may penalize those at the highest risk
  - Readmissions aren't always a bad thing
  - Preventability is an elusive concept

Recommendations

- Adjust readmissions for socioeconomics
  - Not the same as letting hospitals off the hook
- Acknowledge competing risks
  - Reward hospitals with low mortality rates
- Focus on shorter-term readmissions
  - Better reflection of hospital quality
- Move towards population-based metrics
  - Requires new levels of integration

Thank You!

- I look forward to your thoughts!