

What are the underlying causes of poor quality and high costs -- and what can we do about it?

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Argument

Supply sensitive services-- discretionary visits, tests, hospital stays -- comprise the major component of health care spending -- and are responsible for unwarranted regional variations in Medicare spending.

More isn't better. In fact --- overuse of supply sensitive services contributes to lower quality and worse health outcomes.

We are wasting 30% of Medicare spending.

To improve both the quality and efficiency of care, we must learn to effectively manage the use of supply sensitive services. This will likely entail:

- Limiting capacity
- Performance monitoring
- Payment reform

The implications of regional variations in Medicare spending

Motivation

Large disparities in spending across U.S. regions

Longstanding -- first noted in early 1970s

Not due to differences in price or illness

Largely due to differences in quantity of care: overall intensity

Key Questions:

What does more spending -- greater intensity -- buy?

What are the causes of the differences we observe?

Overview of study

Study population -- Medicare enrollees

Acute myocardial infarction	n = 159,393
Colorectal Cancer	n = 195,429
Hip Fracture	n = 614,503
Medicare Current Beneficiary Survey	n = 18,190

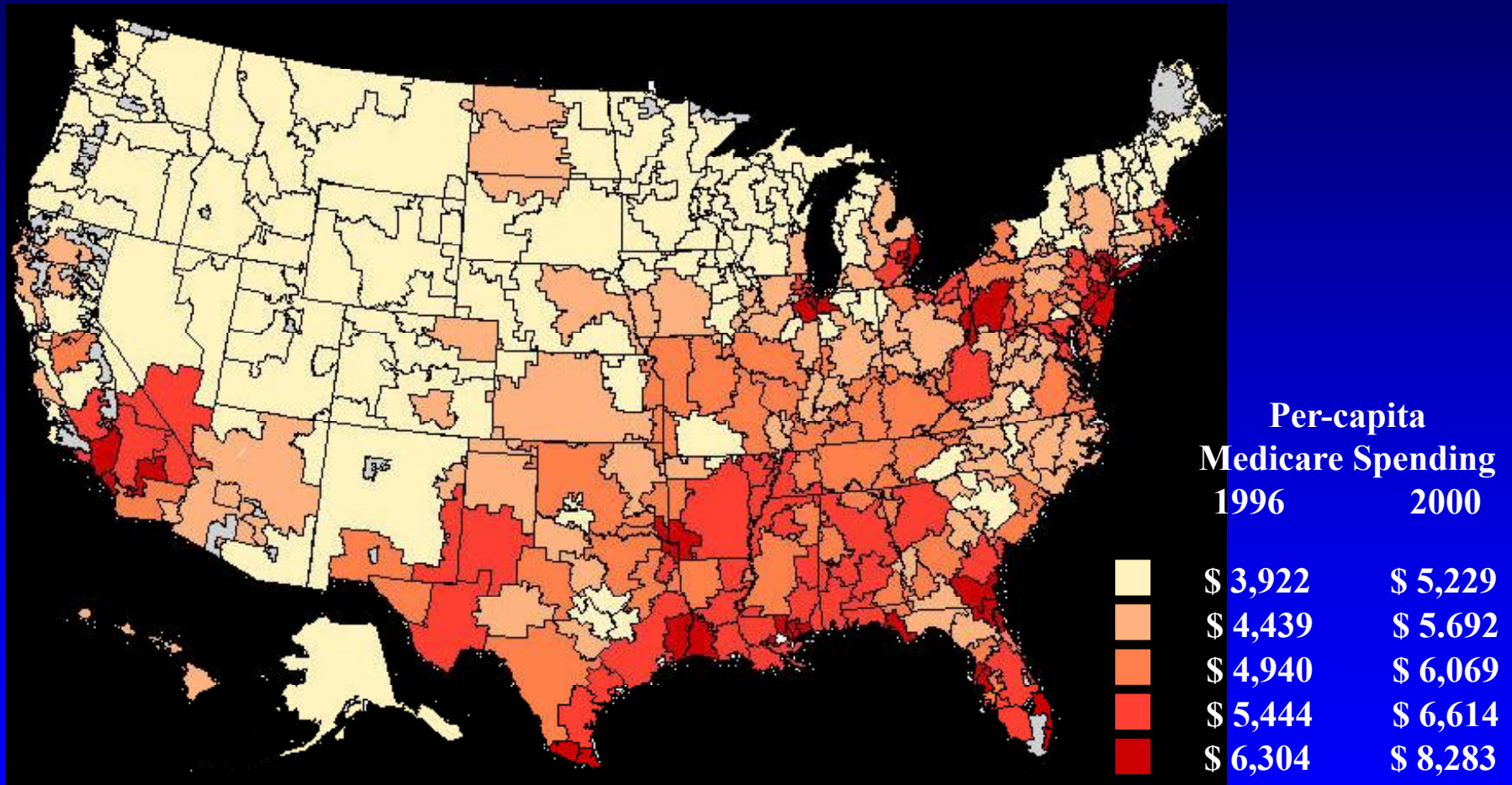
Study design -- natural experiment

Assigned each group to quintiles of practice intensity
based on region of residence

Region defined based upon Dartmouth Atlas (n=306)

Assignment ensured no differences in illness levels
across regions

Per-capita spending across intensity quintiles



Ratio: High to Low: 1.61 1.58

What does higher spending buy?

Content and process of care

Effective care: evidence based care

Preference sensitive care: multiple options involved

Supply-sensitive services: utilization associated with supply

Effective Care: Ratio of Rates in Highest vs Lowest Spending Regions

0.5 1.00 1.5 2.0 2.5 3.0

Acute MI

Reperfusion in 12 hours for AMI



Quintile 1

55.8

Quintile 5

49.8

0.5 1.00 1.5 2.0 2.5 3.0

Lower in High Spending Regions

Higher in High Spending Regions

Effective Care: Ratio of Rates in Highest vs Lowest Spending Regions

0.5 1.00 1.5 2.0 2.5 3.0

Acute MI

- Reperfusion in 12 hours for AMI
- Aspirin at admission
- Aspirin at discharge
- ACE Inhibitor at discharge
- Beta Blocker at admission
- Beta Blocker at discharge



0.5 1.00 1.5 2.0 2.5 3.0

Lower in High Spending Regions

Higher in High Spending Regions

General Population

- Mammogram, Women 65-69
- Pap Smear, Women 65+
- Flu shot during past year
- Pneumococcal Immunization (ever)



Preference-Sensitive Care: Highest vs Lowest Spending Regions

0.5 1.00 1.5 2.0 2.5 3.0

Procedures after AMI

- Angiography
- Angiography among appropriate cases
- Coronary Angioplasty
- Coronary Artery Bypass Surgery (CABG)



Major Surgery (all cohorts combined)

- Cholecystectomy
- Cataract Extraction
- Hernia Repair
- Total Hip Replacement
- Total Knee Replacement
- Back Surgery
- Carotid Endarterectomy

0.5 1.00 1.5 2.0 2.5 3.0

Lower in High Spending Regions

Higher in High Spending Regions



Supply-Sensitive Care : Highest vs Lowest Spending Regions

0.5 1.00 1.5 2.0 2.5 3.0

Physician Visits

- Office Visits
- Inpatient Visits
- Initial Inpatient Specialist Consultations

Tests and Procedures

- Electrocardiogram
- CT / MRI Brain
- Pulmonary Function Test

Hospital Utilization

- Discharges
- Total Inpatient Days
- Inpatient Days in ICU or CCU

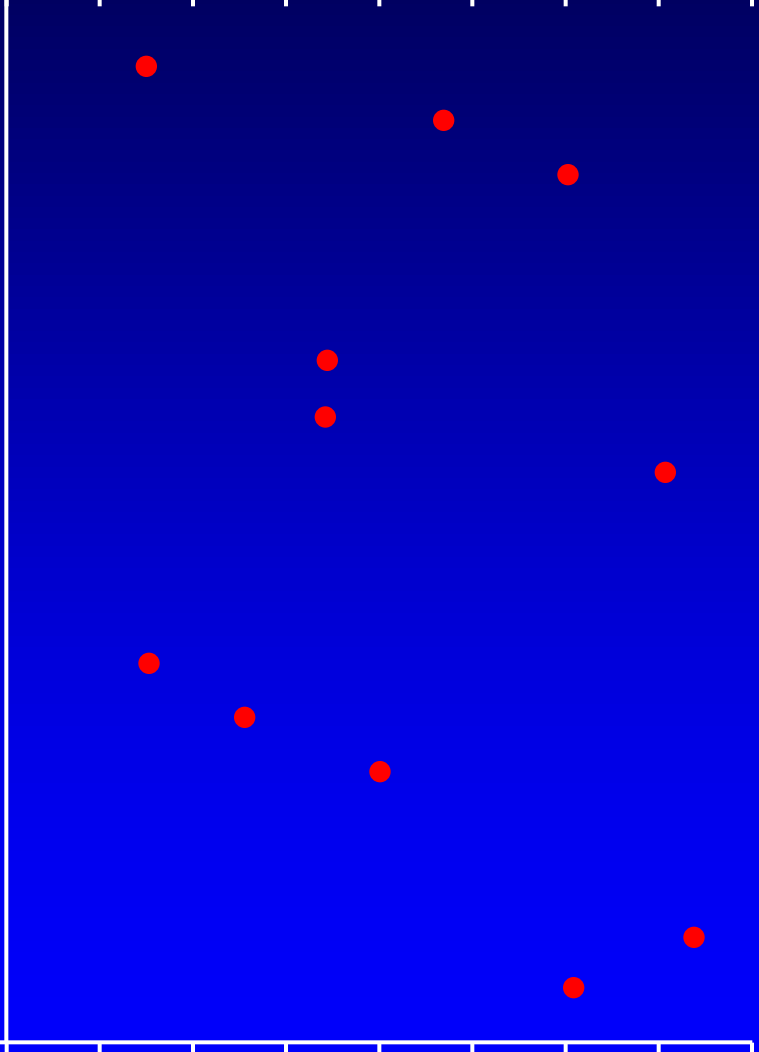
Procedures -- Last 6 months of life

- Feeding Tube Placement
- Emergency Intubation

0.5 1.00 1.5 2.0 2.5 3.0

Lower in High Spending Regions

Higher in High Spending Regions



What does more spending buy?

Quality and outcomes

Higher spending regions

Quality of care

AMI quality

worse

Preventive services

worse

Access to Care

Primary care

worse / no better

Waiting times

worse

Satisfaction

no better

Functional status

no better

Mortality

worse

The evidence -- key findings

Differences in spending are due to supply-sensitive services

- More frequent visits, specialist consultations, tests, imaging

- More time in the hospital

- More aggressive use of services at the end of life

More isn't better -- and may be worse.

We're wasting about 30% of Medicare spending.

Part 2 -- what's going on?

Why is spending higher?

Why is quality worse?

Why is spending higher?

Overuse of supply-sensitive services

These clinical decisions are highly discretionary

Scientific evidence largely non-existent

Decisions made under assumption “more is better”

Highly susceptible to capacity and incentives

Capacity:

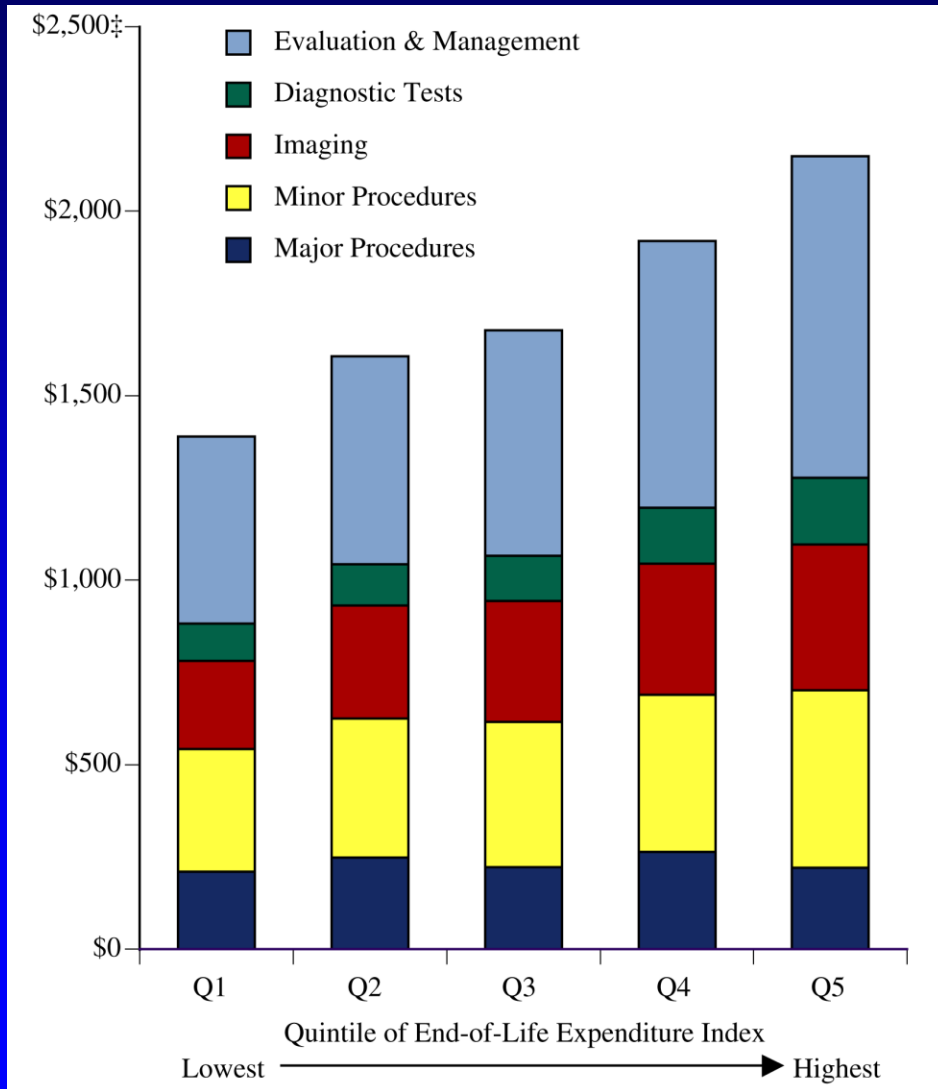
Physicians tend to stay busy

Tend to use available resources to manage care

Incentives: pay for more, likely to get more

Constitute the major component of health care spending

Supply-sensitive services



About 80% of spending on physician services is devoted to

visits / consults

diagnostic tests

imaging

minor procedures

Regional differences in intensity are due to these services

Costs reflect the capacity of the system

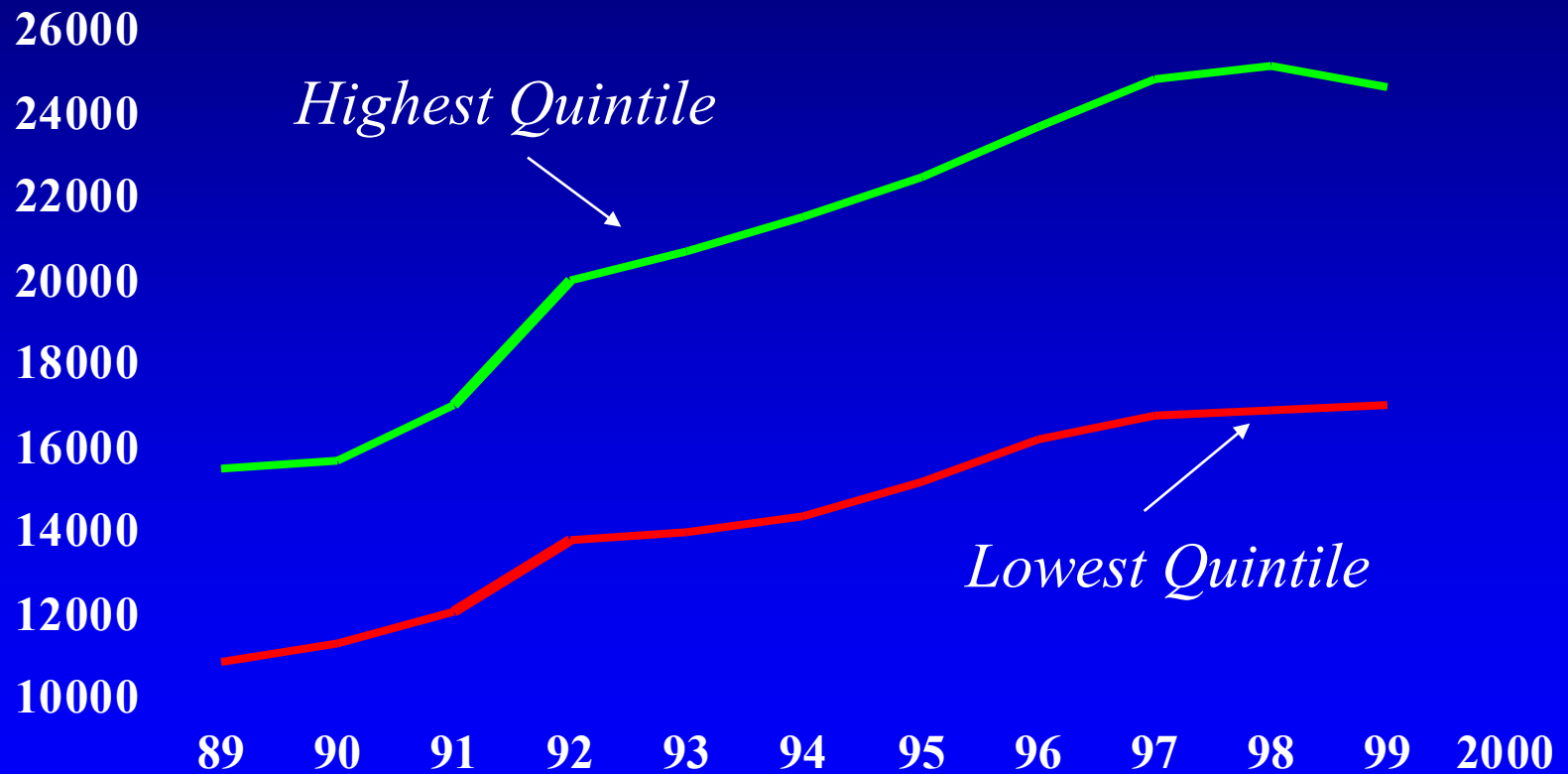
	Lowest Quintile	Highest Quintile	Ratio
Average Medicare Spending	\$3,922	\$6,304	1.61
<i>Supply of Resources</i>			
Hospital Beds / 1000	2.4	3.2	1.32
Physician Supply			
Medical Subspecialists	28	44	1.65
General Internists	23	37	1.75
Family practitioner / GP	35	27	0.74
Surgeons	44	56	1.29
All other specialties	59	78	1.37

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Over half of regional variation in Medicare spending is explained by the local supply of hospital beds and medical specialists

Costs of care during first year after AMI, in regions with high and low cardiologist supply



Part 2 -- what's going on?

Why is spending higher?

Supply-sensitive services represent the major component of Medicare spending

Capacity is a powerful determinant of the use of supply sensitive services

We've failed to limit the growth of capacity

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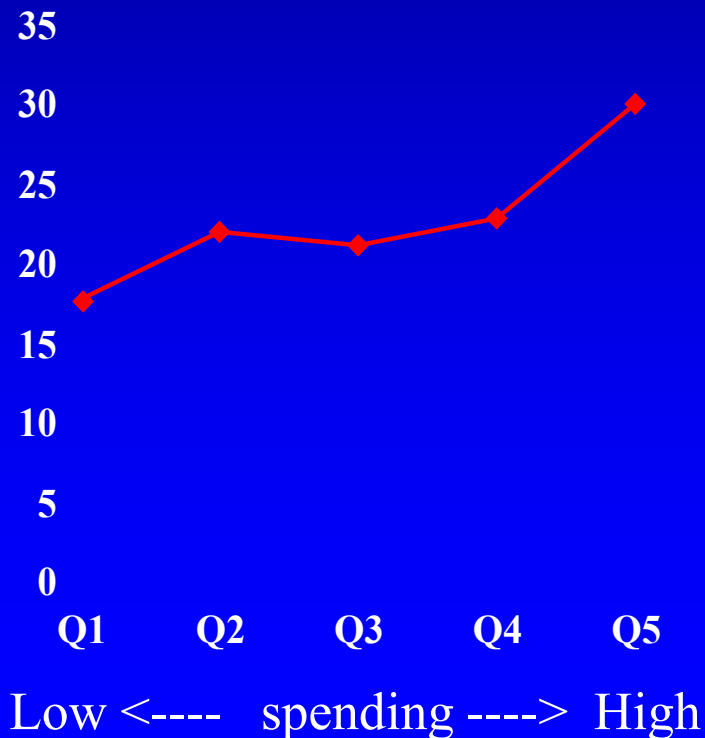
We've failed to limit the growth of capacity

Why might quality be worse?

Why might quality be worse?

Having more physicians involved in care increases complexity and likelihood of errors.

Percent of AMI patients seeing
10 or more different MDs



Patients in high spending regions are much more likely to have multiple physicians involved in their care.

Why might quality be worse?

Having more physicians involved in care increases complexity and likelihood of errors.

Hospitals are dangerous places -- unnecessary hospital stays could help explain the higher mortality rates.

Part 3 -- what's to be done?

Underlying causes of poor quality and high costs

- Ignoring the problem of supply-sensitive services
- Wrong level of accountability for quality and costs
- Inadequate information on performance
- Flawed incentives (rewarding more care)

Solutions

- Direct limits on growth of capacity
- Organizational accountability for quality and costs

Approaches: direct limits on capacity

Physician supply:

- Freeze (or reduce) GME payments and positions

- Freeze (or gradually reduce) number of medical licenses

Hospital / Other facilities:

- Use payment system to reward reduced capacity

- Capital payments broken out --- and limited

- Restrict (or preclude) payments to new facilities

- Reinvigorate Certificate of Need

Organizational accountability for quality and costs

What's the right organizational level?

Integrated delivery systems

Hospital medical staffs -- and their hospital

Large medical groups

Necessary element: hospital and associated physicians

Why?

1. Large enough to support infrastructure for improvement
2. Performance measurement feasible (samples adequate)
3. *It's the level at which supply exerts its influence.*

Organizational accountability for costs (supply sensitive care)

Readmission rates over 3 years at Boston and New Haven
Teaching hospitals for cohorts of chronic disease patients

Hospital
Loyalty (%)

76.4 Boston University

81.2 St. Elizabeth's

62.2 Boston City

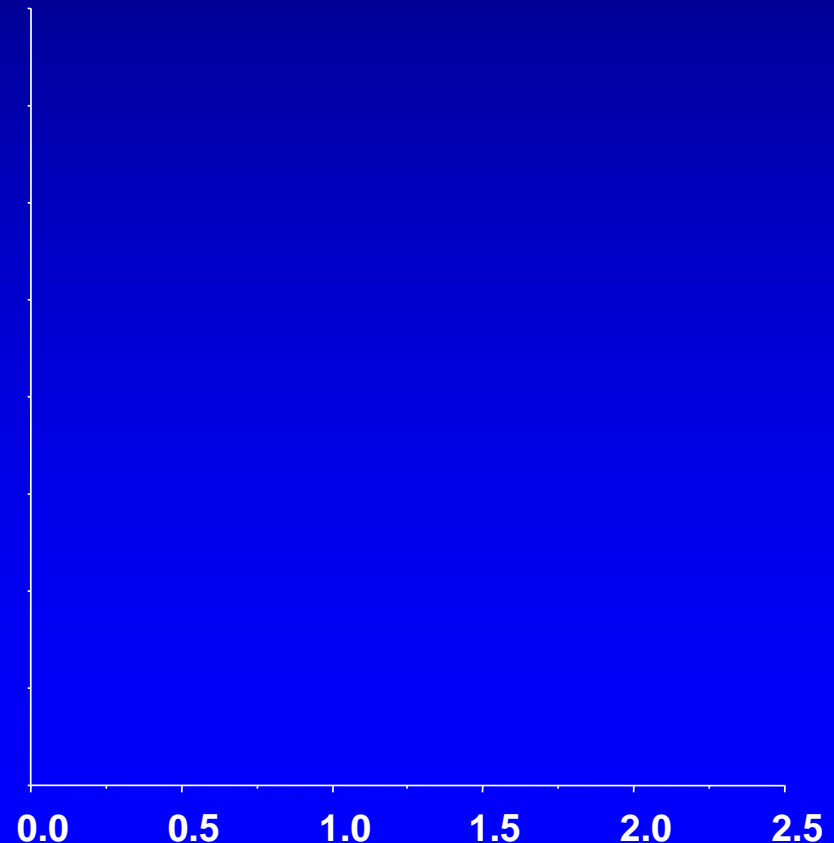
67.9 Brigham and Women's

80.6 Beth Israel

74.7 Mass General

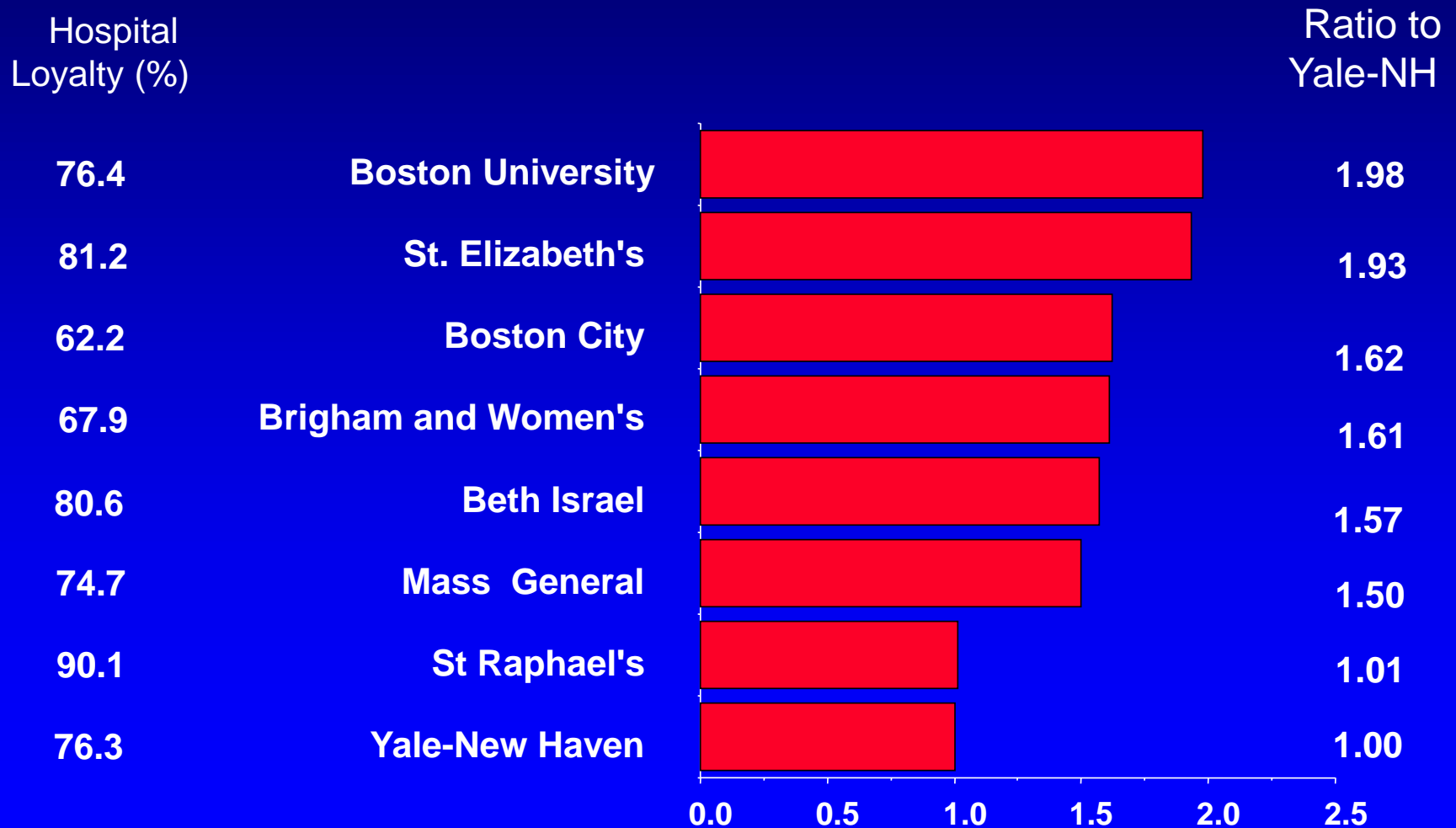
90.1 St Raphael's

76.3 Yale-New Haven



Organizational accountability for costs (supply sensitive care)

Readmission rates over 3 years at Boston and New Haven
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Organizational accountability for quality and costs

Define accountable care providers

Integrated delivery systems, medical groups

Hospitals and their affiliated medical staffs

Monitor their performance (using Medicare data)

Overall costs -- use of supply sensitive services

Quality -- existing measures are fine

Move beneficiaries to these providers

Allow inefficient providers to fail

Summary of the argument

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To improve both the quality and efficiency of care, we must learn to effectively manage the use of supply sensitive services. This will likely entail:

- Limiting capacity

- Performance monitoring -- at the hospital / medical staff level

- Payment reform