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
Part 1 -- The evidence

Ongoing research project on regional variations in spending

Support from: Robert Wood Johnson Foundation
National Institute of Aging

www.annals.org/issues/v138n4/toc.html
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

Acute MI
Reperfusion in 12 hours for AMI

<table>
<thead>
<tr>
<th>Quintile 1</th>
<th>Quintile 5</th>
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<tbody>
<tr>
<td>55.8</td>
<td>49.8</td>
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*Lower* in High Spending Regions

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

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

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

Lower in High Spending Regions

Higher in High Spending Regions
**Preference-Sensitive Care: Highest vs Lowest Spending Regions**

### 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

*Lower in High Spending Regions*

*Higher in High Spending Regions*
Supply-Sensitive Care: Highest vs Lowest Spending Regions

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

Lower in High Spending Regions
Higher in High Spending Regions
What does more spending buy?
Quality and outcomes

<table>
<thead>
<tr>
<th>Quality of care</th>
<th>Higher spending regions</th>
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<tbody>
<tr>
<td>AMI quality</td>
<td>worse</td>
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<td>Preventive services</td>
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<th>Access to Care</th>
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<tbody>
<tr>
<td>Primary care</td>
<td>worse / no better</td>
</tr>
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<td>Waiting times</td>
<td>worse</td>
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| 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
About 80% of spending on physician services is devoted to visits / consults, diagnostic tests, imaging, and minor procedures.

Regional differences in intensity are due to these services.
Costs reflect the capacity of the system

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<td><strong>Supply of Resources</strong></td>
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<td>Hospital Beds / 1000</td>
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<td>Physician Supply</td>
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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
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.

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

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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

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.

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