Variations in spending and quality

The paradox of plenty -- and what we might do about it

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Variations in spending
across U.S. Regions

Per-capita Medicare Spending
1996          2000

$ 3,922       $ 5,229
$ 4,439       $ 5,692
$ 4,940       $ 6,069
$ 5,444       $ 6,614
$ 6,304       $ 8,283

Ratio: High to Low: 1.61       1.58
The paradox of plenty
What do higher spending regions -- and systems -- get?

Resource levels\(^1\)
- More hospital beds per capita (32%)
- More medical specialists (65%) and internists (75%)

Content / Quality of Care\(^1,2\)
- Technical quality worse
- No more major elective surgery
- More hospital stays, visits, specialist use, tests, procedures

Supply-sensitive services

Health Outcomes\(^1,2\)
- Slightly higher mortality
- No better function

Physician-reported quality\(^5\)
- Worse communication among physicians
- Greater difficulty ensuring continuity of care
- Greater difficulty providing high quality care

Patient-reported quality\(^1,3\)
- Lower satisfaction with hospital care
- Worse access to primary care

Trends over time\(^4\)
- Lower gains in survival (following AMI)
- Greater growth in per-capita resource use

Supply-sensitive services

(2) Health Affairs web exclusives, October 7, 2004
(3) Health Affairs, web exclusives, Nov 16, 2005
(4) Health Affairs web exclusives, Feb 7, 2006
What’s going on?

What explains the differences in practice?

Patient preferences -- can’t explain the differences observed
What’s going on?

What explains the differences in practice?

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Capacity and payment -- are important drivers
What’s going on?

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Capacity and payment -- are important drivers

Whatever capacity is in place will be fully utilized
What’s going on?

*What explains the differences in practice?*

**Patient preferences -- can’t explain the differences observed**

**Capacity and payment -- are important drivers**

**Clinical judgment -- in the gray areas -- is critical**

| Average percent of patients for whom physicians would recommend the specific intervention across regions of increasing spending | Spending |
|---|---|---|
| | Low | High |
| Q1 | Q5 | Trend? |
| Cardiology referral for angina and +ETT | 91 | 93 | ns |
| Oral agent for isolated elevated cholesterol | 44 | 53 | ↑ |
| Urology referral for mild BPH | 23 | 32 | ↑ |
| MRI for back pain and new left foot drop | 69 | 82 | ↑ |
| PSA test for 60 year old white male | 68 | 78 | ↑ |
| Recommend office visit for vaginitis | 45 | 57 | ↑ |

Sirovich *Archives of Internal Medicine.* 165(19):2252-6, 2005 Oct 24
Likely diagnosis
Local capacity and culture drive practice and spending

Clinical evidence (e.g. RCTs, guidelines) and principles of professionalism are a critically important -- but limited -- influence on clinical decision-making.

Physicians practice within a local organizational context and policy environment that profoundly influences their decision-making. Payment system ensures that existing (and new capacity) is fully utilized.

Consequence: reasonable individual clinical and local decisions lead, in aggregate, to higher utilization rates, greater costs -- and inadvertently -- worse outcomes.

A focus on technical quality (guideline adherence) can not fix the problems of rising costs and inadvertent harm.
Addressing the underlying causes of poor quality and high costs

Foster local organizational accountability

Theory: improving quality and costs will require local organizational accountability across multiple dimensions:

- Decisions about capacity: investment, recruitment, practice location
- Financial capacity to invest in electronic health records
- Organizational support for quality improvement, monitoring, feedback, informed patient choice, care coordination

Potential “Accountable Care Organizations” (ACOs)

- Individual physicians (advanced medical home)
- Established multi-specialty group practices

Hospital medical staff

- Welch-Miller proposed in early 1990’s for inpatient stays
- We extend this idea to include all patients and physicians
The Extended Hospital Medical Staff

Multispecialty group practice for all?

Approach

Use claims data to define where physicians work
Use claims data to identify the population they serve
The Extended Hospital Medical Staff
*Multispecialty group practice for all?*

**Approach**

**Results:** empirically defined multi-specialty groups

<table>
<thead>
<tr>
<th>Specialty mix and size of Extended Hospital Medical Staff</th>
<th>Urban or Large Town</th>
<th>Rural Large</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MD or DO per 100 beds</strong></td>
<td>Large</td>
<td>Med.</td>
<td>Small</td>
</tr>
<tr>
<td>Primary Care</td>
<td>30</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Medical Specialist</td>
<td>26</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Surgeon</td>
<td>25</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>45</td>
<td>34</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>83</td>
<td>57</td>
</tr>
</tbody>
</table>
The Extended Hospital Medical Staff

*Multispecialty group practice for all?*

**Approach**

**Results:** empirically defined multi-specialty groups where most care is delivered by the group or referral center
The Extended Hospital Medical Staff

*Multispecialty group practice for all?*

**Approach**

**Results:** empirically defined multi-specialty groups where most care is delivered by the group or referral center performance differs dramatically on important dimensions

<table>
<thead>
<tr>
<th></th>
<th>Low Spending</th>
<th>Middle</th>
<th>High Spending</th>
<th>Ratio High to Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammography 65-69</td>
<td>51.1</td>
<td>49.2</td>
<td>44.7</td>
<td>0.87</td>
</tr>
<tr>
<td>Colorectal Cancer screen</td>
<td>12.2</td>
<td>13.4</td>
<td>15.9</td>
<td>1.30</td>
</tr>
<tr>
<td>Eye exams, diabetes</td>
<td>41.3</td>
<td>41.0</td>
<td>40.7</td>
<td>0.98</td>
</tr>
<tr>
<td>HBA1c, diabetes</td>
<td>57.8</td>
<td>57.2</td>
<td>53.6</td>
<td>0.92</td>
</tr>
<tr>
<td>Hospital Discharges</td>
<td>308</td>
<td>374</td>
<td>407</td>
<td>1.32</td>
</tr>
<tr>
<td>SNF stays</td>
<td>70</td>
<td>78</td>
<td>85</td>
<td>1.20</td>
</tr>
<tr>
<td>Care transitions</td>
<td>0.80</td>
<td>0.94</td>
<td>1.01</td>
<td>1.26</td>
</tr>
<tr>
<td>Physician services**</td>
<td>$2,085</td>
<td>$2,560</td>
<td>$3,295</td>
<td>1.58</td>
</tr>
<tr>
<td>Acute care hospital</td>
<td>$2,086</td>
<td>$2,432</td>
<td>$2,649</td>
<td>1.26</td>
</tr>
</tbody>
</table>

*Average group performance across regional spending levels*
The Extended Hospital Medical Staff
*Multispecialty group practice for all?*

**Approach**

**Results:** empirically defined multi-specialty groups
where most care is delivered by the group or referral center
performance differs dramatically on important dimensions
and in the magnitude of spending growth

<table>
<thead>
<tr>
<th>Percent increase</th>
<th>Absolute increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>46%</td>
<td>$936</td>
</tr>
<tr>
<td>33%</td>
<td>$675</td>
</tr>
<tr>
<td>27%</td>
<td>$551</td>
</tr>
<tr>
<td>21%</td>
<td>$431</td>
</tr>
<tr>
<td>10%</td>
<td>$198</td>
</tr>
</tbody>
</table>

Increase in per-beneficiary spending at EMHS, by quintile of average increase 99-03
Moving forward

*Barriers shouldn’t be dismissed*

Current market going in the opposite direction

Medical staff organizations are weak

Legal obstacles to gainsharing


Moving forward

Advantages of EHMS as locus of accountability

Performance measurement more tractable at EHMS level
   Can include all physicians who contribute to care within frame of measurement immediately -- with adequate sample sizes
   Broader measures: quality, outcomes, coordination, costs.
   May face lower resistance from physicians than individual reporting.
   More practical: 5000 units to audit vs 500,000

Establishes a locus of accountability for capacity
   No other logical candidate
   SGR-like formula would create incentives to constrain capacity growth

Hospitals can intervene to improve quality
   Finance electronic health records for associated physicians
   Implement quality improvement initiatives

Moving forward

Recognize that it will take time

Encourage development of Accountable Care Organizations

  Provide incentives for physicians to self-define as ACO, with clear criteria (size, capabilities, defined hospital relationships)
  Provide incentives for beneficiaries to choose responsible physician
  Financial incentives for shared Electronic Medical Record (EMR)

Begin to report performance measures at ACO (or Extended Hospital Medical Staff) level

Move steadily toward payment reform

  Shared savings demonstrations (public-private?)
  Establish growth pools at EHMS level
Major points

Higher spending across regions and physician groups is largely due to overuse of *supply-sensitive services* -- hospital and ICU stays, MD visits, specialist consults; *and more is worse*. 

Overuse is largely a consequence of reasonable differences in clinical judgment *(not errors)* that arise in response to local organizational attributes (capacity, clinical culture) and state / national policies promoting growth and more care. 

Policy initiatives (performance measurement, payment reform) should strive to foster the development of Accountable Care Organizations.

Candidates organizations include: multi-specialty groups, physician-hospital organizations, the extended hospital medical staff.