Transparency as a strategy to improve the value of hospital care

Peter Lindenauer MD MSc,
Center for Quality of Care Research
Baystate Medical Center
Tufts University School of Medicine

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A big problem that’s getting bigger

- Hospital care is expensive and growing
  - 696B of 2.2T of US health expenditure
  - 7.3% annual growth rate (2x inflation)
    - Increasing prices
    - Increasing utilization, intensity, pop. growth
- Overall quality and safety suboptimal
- Significant variation across institutions
- Little correlation between the amounts being spent and the outcomes we want to achieve
How transparency could help

Publicly reported performance data

Knowledge

Selection

Motivation

Change

Performance:
- Effectiveness of care
- Safety
- Patient-centeredness
- Unintended consequences

Source: Berwick 2003, Fung 2008
What do we know about the effects of transparency of hospital quality?

- Recent RAND systematic review
  - 50 articles reviewed
  - Mostly observational and qualitative; only 2 RCTs

Hospital selection
  9 studies ‡ No effects on selection

Change
  11 studies ‡ Consistent catalyst of QI

Clinical outcomes
  11 studies ‡ Mixed effects on outcomes

Source: Fung Annals Intern Med 2008
Market share effects of being identified as a high mortality hospital

<table>
<thead>
<tr>
<th>Highest mortality</th>
<th>Year before named as highest</th>
<th>Year after named as highest</th>
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<tbody>
<tr>
<td>1989</td>
<td>7.8%</td>
<td>9.1%</td>
</tr>
<tr>
<td>1990</td>
<td>6.8</td>
<td>6.9</td>
</tr>
<tr>
<td>1991</td>
<td>8.4</td>
<td>7.8</td>
</tr>
<tr>
<td>1992</td>
<td>3.2</td>
<td>3.1</td>
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<td>1993</td>
<td>10.6</td>
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<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>1995</td>
<td>6.8</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Source Jha A. Health Affairs 2006
Why transparency unlikely to have substantial effects on selection

- Hospital care more complex and patients often don’t know what they need
  - Rely on physician intermediaries to tell them
- Often not in a position to make choices of hospital
  - In emergency setting ambulance chooses
  - In elective settings patients typically choose a physician, whose admitting privileges dictates hospital choice
- Information about quality limited and conflicting
- Often few hospital providers in a local market
Transparency as catalyst for change

Number of activities

<table>
<thead>
<tr>
<th></th>
<th>Public-report hospitals</th>
<th>Private-report hospitals</th>
<th>No-report hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstetric care</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Cardiac care</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**SOURCE:** Survey data collected by the authors.

**NOTES:** Quality improvement activities for obstetrics included best practices around cesarean sections, best practices around vaginal birth after cesarean (VBAC), reducing third- or fourth-degree laceration, reducing hemorrhage, reducing prenatal complications, reducing postsurgical complications, and other. Activities for cardiac care included best practices for acute myocardial infarction, best practices for heart failure, best practices for community-acquired pneumonia, and other. For obstetrics, differences among hospitals in the three study conditions were statistically significant, $F = 8.3$, $df = 2$, 31, $p < .01$. For cardiac care, $F = 1.7$, $df = 2$, 11, ns.
NY State cardiac surgery reports

33% vs 19% relative reduction in 30-day mortality

Peterson E  JACC 1998;32:993
What do we know about the effects of hospital price transparency?

• Little empirical data; in theory it could reduce price discrimination and price dispersion
  - But can have unintended consequences on average prices, especially in concentrated markets
• Multiple reasons why it is unlikely to have substantial effects on selection by patients. In addition to usual reasons cited for clinical outcomes
  - 3rd party payment; co-pay limits reached quickly even for high deductible plans
  - Price often confused as a signal for quality

Sources: CBO Economic and Budget brief 2008, CRS Report for Congress 2008
Impact of price transparency on dispersion of hospital charges for newborn delivery 2003-2006

Source: State of California’s Office of Statewide Health Planning and Development, Healthcare Information Division
Note: Kaiser hospitals submitted no average charge data, and so are excluded.
GDP Price Index used to convert charges into 2006 dollars. Also see notes for Figure 3.
Lack of correlation between change in charges and delivery volumes

Source: State of California’s Office of Statewide Health Planning and Development, Healthcare Information Division
Notes: GDP Price Index used to convert charges into 2006 dollars.
Kaiser hospitals, which submitted no average charge data, are excluded.
Which *reporting initiatives are most likely to increase value*?

**Unlikely to change outcome or cost substantially (Value +/-)**
- Reporting hospital procedure rates
- Reporting hospital charges

**Likely to improve outcomes but increase cost (Value ?)**
- Reporting mortality rates
- Reporting process measure performance

**Likely to improve outcomes with little change in costs (Value +)**
- Reporting patient satisfaction

**Likely to improve outcome and decrease cost (Value ++)**
- Reporting readmission rates
- Reporting complication rates
- Reporting healthcare associated infection rates
Estimating savings from reduced readmission, HAI, complications

Rehospitalization
- MedPAC estimates 1.7M potentially preventable readmissions per year at cost of $12B (Medicare only)
- If reporting led to 10-20% incremental reduction in readmission rates:
  - 170,000 - 340k readmissions avoided @ $7000/event = $1.2-2.4B/yr

Healthcare associated infections
- CDC estimates $35-45 B per year in direct costs, of which 20% (340k cases @ ~ $8B) can be considered preventable
- If reporting led to 10-20% reduction in rate of preventable HAI:
  - 10-20% * 8 billion/yr = 800M-1.6B/yr

Complications
- Zhan estimated $4.6 B/yr in costs to hospitals from PSIs
- If reporting led to 10-20% reduction in injury rates:
  - 10-20% * 4.6 billion/yr = $460-920M/yr

Total potential savings: 2.46-4.92B / yr

Assumptions

• That transparency can stimulate additional 10-20% reduction in readmission, HAI and complication rates beyond that occurring as a result of secular trends / other ongoing QI
  - 14% incremental improvement in mortality reduction from public reporting of CABG mortality in NY
  - 20% difference between readmission rate in CA (19.5%) and OR (15.7%)
  - Hospital acquired infections declined 9.6% in PA between 2006 and 2007 in setting of public reporting (cause-effect?)

• That cost savings from reducing complications and HAI will be passed on to employers, government
General caveats

- Evidence for transparency’s effects on outcomes weak from an EBM standpoint
- Assigning savings to transparency inherently problematic as transparency typically the stimulus for changes in care. Need to avoid double-counting.
  - Hospital may address high complications rates by investing in CPOE with decision support; how to allocate resulting savings between the two strategies
Caveats specific to readmission and complication reporting

- Hospital leaders may be less motivated to reduce high readmission rates than high mortality or poor process measures
  - Significant source of revenue; argues for applying financial incentives
- Beds opened up by fewer readmissions and shorter length of stay from decreased complications may be filled by other pts
Results achievable in near term

- Broaden and strengthen readmission, complication and HAI reporting requirements
  - Requires investment in measures development and risk adjustment methodologies
  - Improvements in documentation and coding
  - Standardization of reporting
  - Linkage to payment

- Better engage patients through advertising, web design, social networking,
  - Awareness and trust of public reporting sites still low
Results achievable in long term

• Implement measures with greater value to patients
  - Focus on elective procedures, quality of life
• Streamline data collection – EMR
• Extend reporting period beyond acute window
  - Will requires changes to financing
• Address other system cost drivers such as rates
  - Report volume / appropriateness of care with linkage to reimbursement
Some policy options related to transparency

- Linking payment to quality to create appropriate incentives
- Reporting (and paying) for episodes of care rather than acute hospitalization
- Careful experimentation with tiered co-pays for elective procedures tied to quality, cost, value
- Address $ incentives which dampen efforts to call attention to high volume of care