Ambulatory Surgery Centers and Outpatient Surgery Use

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Outpatient surgery growth

Adapted from the American Hospital Association Trendwatch, 2006-8
Spending growth outpacing other areas

Adapted from GAO 08-452
Proliferation of ASCs

Adapted from the American Hospital Association, Trendwatch 2008
Surgery use increases with capacity

ASC Market Share
- Low
- High

Rates of Surgery (per 1000)

- Arthroscopy: 4.5 vs. 9.8 (P < 0.01)
- Cystoscopy: 11.9 vs. 34.5 (P < 0.01)
- Cataracts: 44.3 vs. 101.5 (P < 0.01)
- Colonoscopy: 81.3 vs. 106.5 (P < 0.01)

Hollenbeck Surg Innov 17, 2010
ASCs are integral to delivery

• 1\textsuperscript{st} established in 1970
• Offload care from hospital
• Nearly 50\% of all outpatient surgeries (22 million annually)
• Overall Medicare payments growing by 11\% annually
• Ownership permitted through exceptions to Anti-kickback Statute
Advantages of ASCs

- Administrative control
- Increase surgeon efficiency
- Convenience and satisfaction
- Better quality
Lower cost per surgical episode

Average payments (thousands $)

- HOPD
- ASC

- Endo bladder
- Prostate biopsy
- Endo urethra
- Urodynamics
- Endo ureter
- SWL
Some worry that incentives may lower thresholds for surgery.

Threshold for surgery

Doctor

Patient

Doctor

Financial incentives

Utilization
Physician ownership may spur utilization

By John M. Hollingsworth, Zaojun Ye, Seth A. Strope, Sarah L. Krein, Ann T. Hollenbeck, and Brent K. Hollenbeck

TECHWATCH

Physician-Ownership
Of Ambulatory Surgery Centers
Linked To Higher Volume
Of Surgeries
Physician-owners do more

- Carpal Tunnel
- Cataract Excision
- Colonoscopy
- Knee Arthroscopy
- Myringotomy

Owners vs. Nonowners

Hollingsworth, JM Health Affairs 29, 2010
“Chicken or the egg”

High Volume Surgeon ↔ Owner
Volume rises more rapidly among owners

<table>
<thead>
<tr>
<th>Procedure</th>
<th>ASC Owners</th>
<th></th>
<th></th>
<th>Nonowners</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Annual Caseload</td>
<td>Δ in Caseload</td>
<td></td>
<td>Annual Caseload</td>
<td>Δ in Caseload</td>
<td>D-D</td>
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<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Δ (p)</td>
<td>Pre</td>
<td>Post</td>
<td>Δ (p)</td>
</tr>
<tr>
<td>Carpal tunnel release</td>
<td>7</td>
<td>15</td>
<td>8 (0.02)</td>
<td>7</td>
<td>9</td>
<td>2 (0.01)</td>
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<tr>
<td>Cataract excision</td>
<td>131</td>
<td>197</td>
<td>66 (0.01)</td>
<td>60</td>
<td>56</td>
<td>-4 (0.22)</td>
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<tr>
<td>Colonoscopy</td>
<td>101</td>
<td>318</td>
<td>217 (0.01)</td>
<td>53</td>
<td>73</td>
<td>20 (0.01)</td>
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<tr>
<td>Knee arthroscopy</td>
<td>73</td>
<td>96</td>
<td>23 (0.01)</td>
<td>41</td>
<td>44</td>
<td>3 (0.04)</td>
</tr>
<tr>
<td>Myringotomy</td>
<td>47</td>
<td>45</td>
<td>-2 (0.82)</td>
<td>42</td>
<td>46</td>
<td>4 (0.15)</td>
</tr>
</tbody>
</table>
Physician ownership and utilization

- Surgeons become higher volume after ownership

- Mechanism unclear
  - Referral patterns vs. incentives

- Limitations
  - Florida
  - Counts instead of rates (denominator unknown)
  - Ownership definition
Opening of Ambulatory Surgery Centers and Procedure Use in Elderly Patients

Data From Florida

**John M. Hollingsworth, MD, MS; Sarah L. Krein, PhD, RN; Zaojun Ye, MS; Hyungjin Myra Kim, ScD; Brent K. Hollenbeck, MD, MS**

**Background:** Ambulatory surgery centers (ASCs) potentially deliver care more efficiently than hospitals. However, ASC proliferation may increase discretionary surgery use because of financial incentives for the physicians who staff them. To explore this possibility, we measured the impact of the opening of an ASC in a health care market, as defined by the hospital service area (HSA), on rates of procedure use.

**Design:** With a 100% sample of outpatient surgery encounters, we measured annual rates of use for discretionary (cataract surgery, colonoscopy, and upper gastrointestinal [GI] tract endoscopy) and imperative (cancer-directed breast surgery) procedures among Medicare-eligible persons. Using a multiple-time series research design, we compared the change in procedure use for HSAs where ASCs opened with that of HSAs where an ASC was never present.

**Setting:** Florida HSAs.

**Patients:** All patients 65 years or older undergoing outpatient surgery from January 1, 1998, through December 31, 2006.

**Main Outcome Measure:** Adjusted HSA-level rates of procedure use.

**Results:** In HSAs where an ASC opened, colonoscopy use increased by 1610 procedures per 100,000 per year (95% confidence interval, 736-2485; P = .001) and upper GI tract endoscopy use increased by 775 procedures per 100,000 per year (159-1391; P = .01). However, rates of cancer-directed breast surgery remained flat. Among HSAs where an ASC opened, the relative increases in colonoscopy and upper GI tract endoscopy use were approximately 117% and 93% higher, respectively, 4 years after the opening compared with HSAs without ASCs.

**Conclusion:** The opening of an ASC within an HSA is associated with significant increases in discretionary surgery use.

Hospital use decreases, case mix severity increases

Hollingsworth, JM Arch Surg 146, 2011
Opening of ASCs leads to more surgery

Hollingsworth, JM Arch Surg 146, 2011
<table>
<thead>
<tr>
<th>Procedure</th>
<th>HSAs that were initially without an ASC but later experienced one’s opening</th>
<th>HSAs where an ASC was never present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy</td>
<td>Adjusted rate per 100,000 U.S. population* (SE)</td>
<td>% Change (95% CI)</td>
</tr>
<tr>
<td></td>
<td>Baseline</td>
<td>Year 2</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td>5094 (441)</td>
<td>7856 (718)</td>
</tr>
<tr>
<td></td>
<td>+117 (+59 to +174)</td>
<td>+2 (-29 to +26)</td>
</tr>
<tr>
<td>Upper endoscopy</td>
<td>3067 (288)</td>
<td>4361 (485)</td>
</tr>
<tr>
<td></td>
<td>+95 (+30 to +155)</td>
<td>-1 (-30 to +28)</td>
</tr>
<tr>
<td>Cataracts</td>
<td>1979 (279)</td>
<td>6722 (2272)</td>
</tr>
<tr>
<td></td>
<td>+374 (+6 to +642)</td>
<td>-4 (-57 to +49)</td>
</tr>
<tr>
<td>Breast surgery</td>
<td>468 (56)</td>
<td>441 (93)</td>
</tr>
<tr>
<td></td>
<td>+17 (-55 to +87)</td>
<td>-20 (-51 to +11)</td>
</tr>
</tbody>
</table>
Growth appropriate or not?

Increase in surgery with most discretionary indications

- Colonoscopy
- Cataracts
- Upper endoscopy

Before
After
Incentives are partially responsible for growth

- Medical liability concerns
- Medical uncertainty
- Disease prevalence (patient preference, marketing)
- Incentives
- Technology

Utilization
Potential solutions

- Reimbursement
- Payment reforms
  - ACOs
  - Bundling
- Nuanced approach to exceptions from Anti-kickback statute
Causes of utilization and spending

- Medical liability concerns
- Tort reform
- Medical uncertainty
- CER
- Disease prevalence (patient preference, marketing)
- Education Informed DM
- Coverage with evidence development
- Incentives
- Technology