Value of the Vascular Surgeon to the Health Care System

Richard J. Powell MD
Section of Vascular Surgery
Dartmouth-Hitchcock Medical Center

Potential View of the Health Care Administrator of Vascular Surgery

- Poor Payor Mix
  - > 70% of patients Medicare
  - Pts < 65 frequently Medicaid

Potential View of the Health Care Administrator of Vascular Surgery

- Poor Payor Mix
  - > 70% of patients Medicare
  - Pts < 65 y/o frequently Medicaid

- High cost procedures
  - EVAR / TEVAR

EVAR Net Financial Margin

- Grafts & Implants - 52%
- Other Technical Costs - 48%
- - Supplies
- - Technical Overhead
- - Statistically Allocated
- - Technical Direct

Technical Revenue: $37,657
Technical Cost: $32,877
Total Margin: -$4,850

Professional Revenue: $2,481
Professional Cost: $7,746
Professional Margin: -$5,265

Presentor Disclosure Information

Richard J Powell, MD
FINANCIAL DISCLOSURE:
Consultant
- AnGes Inc
- Aastrom
- Boston Scientific
DSMB
- Levant
- EV3
- CLEVER – NIH NHLBI
Current Grants/Research Support:
- NIH NHLBI
Value of the Vascular Surgeon to the Health Care System

1. Direct Vascular Surgery P & L
2. Vascular Surgery is an enabling service
   - Cardiology
   - Ortho/Neuro surgery spine exposure
   - Oncology
   - Urology
3. Vascular Surgery Case Mix Index

Vascular Revenue Adjusted for wRVU and Inflation
*Indexed to 2010 dollars

Physician Revenue Adjusted for wRVU/CPI*
-20.9%, p=0.07

Hospital Revenue Adjusted for wRVU/CPI*
-6.6%, p=0.24

Downward trend in both physician and hospital revenue when adjustments are made for volume and inflation.

Vascular Revenue Adjusted for wRVU and Inflation
*Indexed to 2010 dollars

Physician Revenue Adjusted for wRVU/CPI*
-20.9%, p=0.07

Hospital Revenue Adjusted for wRVU/CPI*
-6.6%, p=0.24

There is a downward trend over time in both physician and hospital revenue when adjustments are made for volume and inflation.

Impact of Combined Technical and Professional Revenue on Hospital Margin

Cardiac Surgery
Neonatology
Neurosurgery
Hospital Medicine
Vascular Surgery
General Surgery
Thoracic surgery
Radiation Oncology

There is a downward trend over time in both physician and hospital revenue when adjustments are made for volume and inflation.
2. Vascular Surgery: An Enabling Service Line

- 300 “off service” patients over 4 yrs
  - 52% spine exposure
  - 14% vascular control no hemorrhage
  - 14% vascular control with hemorrhage
  - 19% vascular reconstruction
- Generated ~1400 RVUs/year

Tonita et al, JAMA Surg 2016

3. Case Mix Index

3. Case Complexity → Case Mix Index (CMI)

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Case Mix Index</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleveland Clinic</td>
<td>2.46</td>
<td>Top 1%</td>
</tr>
<tr>
<td>U. of Pittsburgh</td>
<td>2.21</td>
<td>Top 2%</td>
</tr>
<tr>
<td>Dartmouth-Hitchcock</td>
<td>2.13</td>
<td>Top 3%</td>
</tr>
<tr>
<td>Houston Methodist</td>
<td>2.13</td>
<td>Top 3%</td>
</tr>
<tr>
<td>MGH</td>
<td>1.87</td>
<td>Top 7%</td>
</tr>
<tr>
<td>Mayo Clinic</td>
<td>1.82</td>
<td>Top 9%</td>
</tr>
<tr>
<td>BI Deaconess</td>
<td>1.61</td>
<td>Top 23%</td>
</tr>
</tbody>
</table>

Centers for Medicare and Medicaid Services, 2010

CMI increased from 2.4-2.8 at Dartmouth Vascular

3. Case Mix Index

3. Case Complexity → Case Mix Index (CMI)

<table>
<thead>
<tr>
<th>Specialty</th>
<th>CMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Surgery</td>
<td>5.56</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>2.81</td>
</tr>
<tr>
<td>Cardiology</td>
<td>1.87</td>
</tr>
</tbody>
</table>

Centers for Medicare and Medicaid Services, 2010
Conclusions


2. Vascular surgery presence allows for safe conduct of many additional highly reimbursed procedures.

3. Favorable vascular surgery CMI improves hospital wide reimbursement from CMS.

4. wRVUs can measure productivity but are not a good measure of value of the vascular surgeon.