FACTFILE

Shifts in Cardiology Treatment

Cardiac procedures move from inpatient to outpatient care

The shift from inpatient to outpatient care is increasing as hospitals transition from volume to value. A specific shift is seen in interventional cardiology treatment (cardiac catheterization, intracoronary stents, and percutaneous transluminal coronary angioplasties [PTCA]), which is moving from an inpatient hospital to outpatient hospital setting. Preliminary data show that most interventional cardiology procedures will soon be performed in the hospital outpatient setting. It will be important for hospitals to consider future demand and volume for interventional cardiology services; capacity for an increase in hospital outpatient volume; and staffing and operational implications.

DECREASE OF HOSPITAL INPATIENT CORONARY INTERVENTIONS

Even in the absence of a shift from a hospital inpatient to hospital outpatient setting, an overall decrease will continue in total volume of hospital inpatient PCIs (percutaneous coronary interventions). However, the trend is leveling off. PCIs are expected to show a modest decline from 633K in 2016 to 603K in 2026.

Change due to outpatient shift

Total growth (represented by the green bar) includes factors affecting change, represented by population growth, aging, and coverage changes; changes in the basic epidemiology of diseases; and hospital inpatient to outpatient shift—factors that are pushing utilization up and down. An inpatient to outpatient shift may be responsible for declines of nearly 84K potential discharges.

MAY 2016

U.S. Adults With Cardiovascular Disease by Gender

Gender is a factor in cardiovascular disease among adults in the United States. While 8% of the adult male population has cardiovascular disease, only 5-4% of female adults have the disease. There is also considerable variance between males and females who have cardiovascular disease based on state of residence, ranging from a high of 5 percentage points between males and females in Delaware to almost no difference between genders at 0.1 percentage points in Puerto Rico. It is interesting to note that Puerto Rico has one of the highest rates of cardiovascular disease in the U.S. territories for both men and women. In Guam, females have a higher cardiovascular disease rate at 5.1% compared to males at 4.3%. Adult males in West Virginia have the most prevalent cardiovascular disease rate at 12.5%, while females have the lowest rate of the disease in Utah at 2.9%.

Location | Male | Female
--- | --- | ---
United States | 8.0% | 5.4%
Alaska | 17.0% | 7.1%
Alaska | 5.4% | 3.2%
Arizona | 7.4% | 5.3%
Arkansas | 11.8% | 7.6%
California | 6.2% | 4.7%
Colorado | 5.9% | 3.5%
Connecticut | 7.1% | 4.7%
Delaware | 9.8% | 4.8%
District of Columbia | 5.1% | 3.4%
Florida | 9.7% | 6.4%
Georgia | 7.5% | 5.8%
Hawaii | 6.3% | 3.7%
Idaho | 6.6% | 4.1%
Illinois | 6.7% | 5.0%
Indiana | 9.3% | 5.2%
Iowa | 8.5% | 4.6%
Kansas | 7.5% | 4.8%
Kentucky | 11.7% | 8.0%
Louisiana | 9.5% | 8.3%
Maine | 10.2% | 5.6%
Maryland | 6.3% | 3.7%
Massachusetts | 8.4% | 4.2%
Michigan | 9.2% | 6.5%
Minnesota | 7.5% | 3.6%
Mississippi | 8.6% | 6.7%
Missouri | 9.4% | 6.3%
Montana | 7.3% | 4.4%
Nebraska | 7.3% | 4.5%
Nevada | 8.9% | 5.9%
New Hampshire | 8.0% | 4.2%
New Jersey | 8.2% | 5.2%
New Mexico | 7.8% | 4.8%
New York | 7.3% | 4.5%
North Carolina | 8.9% | 6.7%
North Dakota | 8.0% | 4.7%
Ohio | 9.4% | 6.3%
Oklahoma | 10.7% | 6.7%
Oregon | 7.1% | 5.6%
Pennsylvania | 9.1% | 5.8%
Rhode Island | 8.4% | 4.6%
South Carolina | 9.3% | 5.3%
South Dakota | 9.2% | 5.4%
Tennessee | 10.6% | 7.1%
Texas | 6.8% | 4.8%
Utah | 5.5% | 2.9%
Vermont | 21.7% | 4.9%
Virginia | 7.9% | 5.4%
Washington | 6.8% | 4.5%
West Virginia | 12.5% | 10.0%
Wisconsin | 7.3% | 4.1%
Wyoming | 7.9% | 4.6%
Guam | 4.3% | 5.1%
Puerto Rico | 11.2% | 11.1%

NOTES: U.S. totals exclude data from the territories. Data represent adults who report ever having or having been told by a doctor that they had a heart attack (myocardial infarction), angina, or coronary heart disease. Percentages are weighted to reflect population characteristics. Data is based on the Behavioral Risk Factor Surveillance System, an ongoing, state-based, random-digit-dialed telephone survey of noninstitutionalized civilian adults aged 18 years and older. Information about the BRFSS is available at http://www.cdc.gov/brfss/index.html.

Sources: Kaiser State Health Facts, Percent of Adults With Cardiovascular Disease by Gender, 2014. http://kff.org/other/

About the data: Truven Health Analytics™ maintains a database of inpatient and outpatient claims data, extending back 10 years. Using the database and the Physician/Supplier Procedure Summary (PSPS) database, representing 100% of all physician bills submitted to Medicare per year for all services, procedures were tracked by site of service for the years 2004 to 2014. Focus was on specific procedures where hospital inpatient declines were closely related to hospital outpatient increases, and interventional cardiology services showed the most dramatic inpatient to outpatient shift. The Truven Projected Inpatient Database (PIDD) was used to determine the impact of the migration of PCIs (catheterizations and stents) on the inpatient side. Declines in discharges by primary diagnosis for diagnoses most likely associated with PCIs were studied.

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Healthcare Operations

Upcoming Topic:
FACTFILE

MORE OUTPATIENT CARDIOLOGY TREATMENT

More patients are receiving interventional cardiology treatment in hospital outpatient settings as evidenced by Medicare payments to physicians (total dollars paid to physicians) for hospital outpatient cardiology services. In 2014, payments to physicians for hospital outpatient cardiology services exceeded payments to physicians for hospital inpatient cardiology services.

DECREASE IN INPATIENT SETTING PARALLELS INCREASE IN OUTPATIENT SETTING

The decrease in interventional cardiology treatments in the hospital inpatient setting parallels the increase for these services in the hospital outpatient setting. Preliminary data suggest that most of these procedures will soon be performed in the outpatient setting.

DECLINE IN INPATIENT CARDIOLOGY PROCEDURES BILLED TO MEDICARE

The decline in the number of hospital inpatient cardiology-related procedures being billed to Medicare shows procedures shifting from hospital inpatient to hospital outpatient care. There is also a shift within outpatient care, from hospitals to non-hospital sites of service.

### Table: Decline in Inpatient Cardiology Procedures Billed to Medicare

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Y2004</th>
<th>Y2014</th>
<th>Decline</th>
<th>% Decline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fracture/dislocation, arm, open</td>
<td>24,838</td>
<td>20,867</td>
<td>3,971</td>
<td>16%</td>
</tr>
<tr>
<td>Intracoronary stent placement</td>
<td>365,788</td>
<td>201,142</td>
<td>164,646</td>
<td>45%</td>
</tr>
<tr>
<td>Major vaginal surgery</td>
<td>86,579</td>
<td>21,409</td>
<td>65,170</td>
<td>75%</td>
</tr>
<tr>
<td>Other rectal procedures</td>
<td>17,548</td>
<td>11,216</td>
<td>6,332</td>
<td>36%</td>
</tr>
<tr>
<td>Other surg major, ENT</td>
<td>2,947</td>
<td>2,198</td>
<td>749</td>
<td>25%</td>
</tr>
<tr>
<td>Other surg major, OB-GYN</td>
<td>1,200</td>
<td>503</td>
<td>697</td>
<td>58%</td>
</tr>
<tr>
<td>Pacemaker insertion</td>
<td>159,710</td>
<td>81,839</td>
<td>77,871</td>
<td>49%</td>
</tr>
<tr>
<td>Parathyroid/adrenal procedures</td>
<td>9,768</td>
<td>4,607</td>
<td>5,161</td>
<td>53%</td>
</tr>
<tr>
<td>PTCA</td>
<td>45,094</td>
<td>17,162</td>
<td>27,932</td>
<td>62%</td>
</tr>
<tr>
<td>Thyroid lobectomy, partial or total</td>
<td>6,165</td>
<td>1,925</td>
<td>4,240</td>
<td>69%</td>
</tr>
<tr>
<td>Transurethral surgery</td>
<td>69,642</td>
<td>17,167</td>
<td>52,475</td>
<td>75%</td>
</tr>
<tr>
<td>Vaginal hysterectomy</td>
<td>18,328</td>
<td>13,410</td>
<td>4,918</td>
<td>73%</td>
</tr>
<tr>
<td>Vaginal procedures, major</td>
<td>3,720</td>
<td>1,718</td>
<td>1,982</td>
<td>46%</td>
</tr>
<tr>
<td>Valva procedures, major</td>
<td>3,870</td>
<td>1,892</td>
<td>1,978</td>
<td>49%</td>
</tr>
</tbody>
</table>