Relative Value Unit (RVU) Data Analysis

Audio Seminar/ Webinar
January 22, 2009

Practical Tools for Seminar Learning
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Faculty

Lynn Kuehn, MS, RHIA, CCS-P, FAHIMA

Lynn Kuehn is president of Kuehn Consulting in Waukesha, WI. Ms. Kuehn is a healthcare consultant with over twenty years of experience in operational assessment, professional fee coding and reimbursement systems, data quality, and management of both independent and hospital-based clinic practices. She has authored numerous publications for AHIMA including Procedural Coding and Reimbursement for Physician Services, now in the 9th Edition, Effective Management of Coding Services, and the CCS-P Exam Preparation Guide. Her newest publication, A Practical Approach to Analyzing Healthcare Data, will be available from AHIMA in April.
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Our Topics Today

- The Role of RVUs
- RVU Components and Reimbursement
- Determining and Updating RVU Values
- Physician benchmarking and Data Analysis Using RVUs
- 2009 RBRVS Payment Methodology Update

The Role of RVUs

- Medicare (or CMS) Relative Value Units
  - Nonmonetary relative units of measure
  - Used for comparison of:
    - The relative difficulty associated with the different procedures
    - The costs associated with different procedures
  - Provide the ability to benchmark data
The Components of a Medicare RVU

• Three components
  • Work RVU (wRVU) ≈ 52%
    • Relative time, effort, and skill needed by a provider in the provision of a procedure
  • Practice Expense RVU (peRVU) ≈ 44%
    • Costs associated with maintaining a practice, such as rent, equipment, supplies and staff
  • Malpractice Expense RVU (mRVU) ≈ 4%
    • Professional liability insurance

Examples of RVU Component Values

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>wRVU</th>
<th>peRVU</th>
<th>mRVU</th>
<th>tRVU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Visit</td>
<td>99213</td>
<td>.92</td>
<td>.77</td>
<td>.30</td>
<td>1.72</td>
</tr>
<tr>
<td>Debride skin, partial</td>
<td>11040</td>
<td>.50</td>
<td>.66</td>
<td>.06</td>
<td>1.22</td>
</tr>
<tr>
<td>Colonoscopy and biopsy</td>
<td>45380</td>
<td>4.43</td>
<td>7.58</td>
<td>.35</td>
<td>12.36</td>
</tr>
<tr>
<td>Remove bladder stone</td>
<td>52317</td>
<td>6.71</td>
<td>16.97</td>
<td>.48</td>
<td>24.16</td>
</tr>
<tr>
<td>Echo exam of abdomen</td>
<td>76705-26</td>
<td>.59</td>
<td>.23</td>
<td>.03</td>
<td>.85</td>
</tr>
</tbody>
</table>
Other Relative Value Systems

- Relative Value for Physicians (RVPs)
  - Originally developed by McGraw-Hill, now updated and published by Ingenix
  - No component parts
- Similar in concept but different from CMS version
  - Values available for services not valued by Medicare
  - **DO NOT** intermix the values between the systems

RVUs as the Basis for Reimbursement

- The Resource Based Relative Value Scale (RBRVS) forms the basis for the Medicare Physician Fee Schedule
- Accounts for geographic differences using the Geographic Practice Cost Index or GPCI
- Used to calculate the Medicare Part B approved amount using a conversion factor (CF)
- Implemented with RBRVS in 1992
**Relative Value Unit (RVU) Data Analysis**

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**RVU Values**

- Published annually in the Federal Register
  - This year, Wednesday, November 19, 2008 on pages 69725 - 70238
- Available from CMS quarterly (Zipped download) at:
  - [http://www.cms.hhs.gov/PhysicianFeeSched/PFSRVF/list.asp](http://www.cms.hhs.gov/PhysicianFeeSched/PFSRVF/list.asp)
- File name = PPRRVU09

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**2009 National Physician Fee Schedule Relative Value File**

![Table Image]

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**GPCI Values**

- Also published annually in the Federal Register
- Available from CMS in same zipped download with RVU values
- File name = GPCI09

### 2009 GPCIs by State and Medicare Locality

**Addendum E**

**2009 Geographic Practice Cost Indices (GPCIs) by State and Medicare Locality**

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Locality</th>
<th>Locality name</th>
<th>Work GPCI</th>
<th>PE GPCI</th>
<th>MP GPCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>00510</td>
<td>00</td>
<td>Alabama</td>
<td>1.000</td>
<td>0.853</td>
<td>0.496</td>
</tr>
<tr>
<td>00831</td>
<td>01</td>
<td>Alaska</td>
<td>1.500</td>
<td>1.090</td>
<td>0.646</td>
</tr>
<tr>
<td>03102</td>
<td>00</td>
<td>Arizona</td>
<td>1.000</td>
<td>0.957</td>
<td>0.822</td>
</tr>
<tr>
<td>00520</td>
<td>13</td>
<td>Arkansas</td>
<td>1.000</td>
<td>0.846</td>
<td>0.446</td>
</tr>
<tr>
<td>01192</td>
<td>26</td>
<td>Anaheim/Santa Ana, CA</td>
<td>1.034</td>
<td>1.269</td>
<td>0.811</td>
</tr>
<tr>
<td>01192</td>
<td>18</td>
<td>Los Angeles, CA</td>
<td>1.041</td>
<td>1.225</td>
<td>0.804</td>
</tr>
<tr>
<td>01102</td>
<td>03</td>
<td>Marin/Napa/Solano, CA</td>
<td>1.034</td>
<td>1.265</td>
<td>0.432</td>
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</tbody>
</table>
Calculating the Medicare Part B Approved Amount

\[
\left[ \text{wRVU} \times \text{wGPCI} \right] + \left[ \text{peRVU} \times \text{peGPCI} \right] + \left[ \text{mRVU} \times \text{mGPCI} \right] \times CF = \$
\]

Conversion factor for 2009 is $36.0666

For example, the approved amount for 52317 for Los Angeles, CA is calculated as:

\[
\left[ \left( 6.71 \times 1.041 \right) + \left( 16.97 \times 1.225 \right) + \left( .48 \times .804 \right) \right] \times CF = \$
\]

\[
6.98511 + 20.78825 + .38592 \times CF = \$
\]

\[
28.15928 \times 36.0666 = 1015.61
\]

The Power of GPCIs

- What is the unadjusted payment for CPT code 52317 for 2009?
- Is it higher or lower than the GPCI-adjusted amount paid for a claim in Los Angeles, CA?
Where RVUs come from …

- The RVS Update Committee (RUC)
  - 29 members, 23 from specialty societies
  - Six remaining are:
    - A chair
    - Co-Chair of RUC HCPAC Review Board
      (Limited license practitioners and allied health professionals)
    - Representatives from AMA and AOA, Chair of Practice Expense Subcommittee and CPT Editorial Panel

Determining RVU Values

- Annual cycle closely related to CPT Editorial Panel, meeting after
- RUC must submit recommendations by May of every year
- New RVUs or changes go into effect every January 1st
Determining RVU Values

1. New or revised codes transmitted to RUC staff, who prepares a “level of interest” form.

2. RUC members have options:
   a) Survey members
   b) Comment on other recommendations
   c) For revised codes, decide if no action necessary
   d) Take no action because not their specialty

3. AMA staff distributes survey instruments to determine work involved

4. Specialty RVS committees conduct surveys, review results and prepare recommendations on work, time and practice expense

5. Specialty advisors present recommendations at the RUC meeting
Determining RVU Values

6. RUC may adopt a specialty society’s recommendation, refer back or modify it before submitting it to CMS
7. The RUC’s recommendations are forwarded to CMS in May every year
8. The Medicare Physician Payment Schedule, which includes CMS’s review of the RUC recommendations, is published in late Fall.

Updating RVU Values

- RBRVS 5-year Comprehensive review process
- All RVUs were reviewed in
  - 1995, 2000, 2005
- Work is open to public comment
- Follows same basic 8 steps for initial RVU development
**Physician Benchmarking using RVUs**

- RVUs more appropriate than:
  - Charges, which are arbitrary
  - Costs, which are often unknown
  - Encounters, which don’t show intensity
- Consistent across the nation
- Vetted by specialty societies
- Can be collected automatically as services are coded

**RVU Benchmarking**

- Productivity
- Costs
- Compensation
Physician Productivity

- Commonly tracked by using wRVU
- wRVUs adjusted when modifiers have been applied:
  - -50 modifier = 150% of wRVU
  - -51 modifier = 50% of wRVU
  - -62 modifier = 62.5% of wRVU
  - -78 modifier = 50% of wRVU
  - -80 modifier = 16% of wRVU

Data Analysis Using RVUs

- Averages
- Ratios
  - Denominator determination
    - Full time equivalents
      - Determined by the practice as the standard full time work week
    - Clinical full time equivalents
      - Only describes clinical work
Clinical Full Time Equivalents (cFTEs)

- Does not describe:
  - Research work
  - Management duties
  - Teaching physician responsibilities
- Number of hours of clinical work divided by a normal week (≈ 40 hrs)

Clinical Full Time Equivalents (cFTEs)

- If physician works 4, 8-hour days in clinic, does no hospital rounds and does not take call,
  - The cFTE is 32 hours divided by 40 or .80 cFTE
- What is the cFTE of a physician working afternoons in urgent care, with no other responsibilities?
Clinical Full Time Equivalents (cFTEs)

- Afternoons are approximately a $\frac{1}{2}$ day schedule
- If the practice uses 40 hrs, the cFTE is .5 cFTE
  - Hours worked divided by standard work hours

Productivity Ratios

- Encounters per cFTE
- Procedures per cFTE
- wRVUs per cFTE
- Procedures per Encounter
- wRVUs per Encounter
- wRVUs per Procedure
**Physician Productivity Example**

<table>
<thead>
<tr>
<th>Physician Productivity - My Town Family Practice, SC</th>
<th>July, 20XX</th>
<th>Dr 1</th>
<th>Dr 2</th>
<th>Dr 3</th>
<th>Dr 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>wRVUs</td>
<td></td>
<td>2,173.39</td>
<td>1,383.54</td>
<td>1,201.23</td>
<td>732.41</td>
<td>5,490.57</td>
</tr>
<tr>
<td>Encounters</td>
<td></td>
<td>1,139</td>
<td>608</td>
<td>672</td>
<td>342</td>
<td>2,761.00</td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td>2,248</td>
<td>1,278</td>
<td>1,183</td>
<td>708</td>
<td>5,417.00</td>
</tr>
<tr>
<td>cFTE Status</td>
<td></td>
<td>1</td>
<td>0.8</td>
<td>0.8</td>
<td>0.4</td>
<td>3</td>
</tr>
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<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedures/Encounter</td>
<td>1.97</td>
<td>2.10</td>
</tr>
<tr>
<td>wRVUs/Encounter</td>
<td>1.91</td>
<td>2.28</td>
</tr>
<tr>
<td>wRVUs/Procedure</td>
<td>.97</td>
<td>1.08</td>
</tr>
<tr>
<td>wRVUs/cFTE</td>
<td>2.17</td>
<td>1.729</td>
</tr>
<tr>
<td>Procedures/cFTE</td>
<td>2,248</td>
<td>1,598</td>
</tr>
<tr>
<td>Encounters/cFTE</td>
<td>1,139</td>
<td>760</td>
</tr>
</tbody>
</table>

**Physician Productivity Graph**

- **wRVUs per cFTE**
- **Procedures per cFTE**
- **Encounters per cFTE**
What do the numbers tell us?

- Which one of the physicians is the least productive?
- Using which of the data points?
- What other data might be helpful?

#3 is least productive using:
- wRVUs per encounter
- wRVUs per cFTE
- procedures per cFTE

#2 is least productive using:
- encounters per cFTE

Overall, physician #3 is the least productive
What do the numbers tell us?

What other data might be helpful?
- Consider calculations based on different types of procedures:
  - Office-based procedures
  - Facility-based procedures
  - Radiology procedures
  - Different types of E&M codes

Service Line Analysis

- Any service line coded using CPT codes, such as:
  - Radiology, EP Studies, Pathology
- Analysis by RVU
  - Total RVUs by exam type
  - Average RVUs per day
  - Average RVUs per FTE
  - Cost per RVU for department, individual exams, or types of expense
**Costs per RVU**

- Requires two sets of figures
  - Production numbers with CPT codes and associated component RVU values
  - Practice expenses
    - Physician compensation
    - Malpractice expenses
    - All others expenses (overhead)
- Sorted by provider, if using provider-specific above

**Costs per RVU**

- Average cost per RVU
  1. List all CPT codes used in a spreadsheet, along with RVU values for each component
  2. Weight each RVU component value by the GPCI and total the RVU components for each code
  3. List the number of times each CPT code was used and multiply this number by the weighted RVU for the code (be sure to weight for modifier use, such as 150% for -50 and 50% for -51, etc)
**Costs per RVU**

- **Average cost per RVU** (cont.)
  4. Total the RVUs produced for the period being evaluated
  5. Obtain the total expense for the same time period
  6. Divide the total expenses by the total RVUs
  7. Calculate the cost for any CPT by multiplying the average cost per RVU by the relative weight for that CPT code

---

**Costs per RVU**

- **Physician compensation per wRVU**
  \[ \text{Total provider compensation expenses} = \text{Cost per wRVU} \]
  \[ \frac{\text{Total wRVU}}{} \]

- **Malpractice expense per mRVU**
  \[ \text{Total malpractice expenses} = \text{Cost per mRVU} \]
  \[ \frac{\text{Total mRVU}}{} \]

- **Overhead (Practice Expense) per peRVU**
  \[ \text{Total overhead expenses} = \text{Cost per peRVU} \]
  \[ \frac{\text{Total peRVU}}{} \]
Break Even Analysis

- **Break Even Conversion Factor**
  \[ \frac{\text{Total Fees}}{\text{Total RVUs}} = \text{Conversion Factor} \]

- **Use this conversion factor to:**
  - Set fees for new codes
  - Determine if managed care contracts are in line with current fees

2009 RBRVS Payment Methodology Updates

- Replaces the previously proposed 15.1% decrease with a 1.1% increase
- Eliminates the Budget Neutrality adjustor used in 2008 but increases many wRVU values
- Sets CF as $36.0666 or $36.07
- Extends the work GPCI floor and therapy cap exception process through 12-31-09
2009 RBRVS Payment Methodology Updates

- Increases PQRI bonus incentive to 2% for 2009 and 2010
- Implements a five-year program of incentive payments for e-prescribing and extends current e-prescribing fax exemption until 1-1-2012
- Significantly curtails retroactive billing
- Adds two HCPCS codes for follow-up inpatient telehealth consultation

Resource/Reference List

Resource/Reference List


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January 29, 2009

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Resource/Reference List

www.ama-assn.org/go/rbrvs

**RVU Abbreviations**

- **RVU** = Relative Value Unit
- **RBRVS** = Resource Based Revenue Value Scale
- **wRVU** = Work RVU component
- **perRVU** = Practice Expense RVU component
- **mRVU** = Malpractice expense RVU component
- **tRVU** = Total RVU
- **GPCI** = Geographic Practice Cost Index
- **CF** = Conversion Factor
- **BECF** = Break Even Conversion Factor
Glossary

- **Benchmarking**: An analysis process based on comparison; a comparison of performance against a standard point of excellence, either within the organization (for example, from year to year) or among organizations on specified variables (for example, cost per RVU or average RVU per visit).

- **Break even conversion factor (BECF)**: The multiplier used to create a fee schedule at which level the projected volume covers the cost of operation.

- **Clinical full-time equivalent (cFTE)**: The full time equivalent of hours worked for a physician in a clinical capacity, which excludes research work, managerial duties and teaching physician responsibilities.
Conversion factor (CF): National monetary multiplier that converts relative value units into payments

Data analysis: The process of looking at and summarizing data with the intent to extract useful information and develop conclusions

Geographic practice cost index (GPCI): Index based on relative difference in the cost of a market basket of goods across geographical areas. A separate GPCI exists for each element of the relative value unit (RVU), which includes physician work, practice expenses, and malpractice. GPCIs are a means to adjust the RVUs, which are national averages, to reflect local costs of service
**Relative value unit (RVU):** A measurement that represents the value of the physician work, practice expense and malpractice expense involved in providing a specific professional medical service in relation to the value of other medical services.

**Resource-based relative value scale (RBRVS):** A Medicare reimbursement system to compensate physicians according to a fee schedule predicated on weights assigned on the basis of the resources required to provide the services.

**RVU Update Committee (RUC):** A unique multi-specialty committee that reviews survey data presented by specialty societies and develops RVU recommendations for consideration by CMS.
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