

Relative Value Unit (RVU) Data Analysis

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Practical Tools for Seminar Learning

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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**

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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**

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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

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Examples of RVU Component Values

Description	Code	wRVU	peRVU	mRVU	tRVU
Office Visit	99213	.92	.77	.30	1.72
Debride skin, partial	11040	.50	.66	.06	1.22
Colonoscopy and biopsy	45380	4.43	7.58	.35	12.36
Remove bladder stone	52317	6.71	16.97	.48	24.16
Echo exam of abdomen	76705-26	.59	.23	.03	.85

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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

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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**

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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>
- ◆ **File name = PRRVU09**

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2009 National Physician Fee Schedule Relative Value File

HCPCS		MOD	DESCRIPTION	CODE	RVU	PE RVU	INDICATOR	PE RVU	INDICATOR	PE RVU	INDICATOR	PE RVU	INDICATOR	RVU	TOTAL	TOTAL	TOTAL	TOTAL
11	52317		Remove bladder stone	A	6.71	20.02	16.97		2.99		3.22		0.48	27.21	24.16	10.18	10.41	
12	52318		Remove bladder stone	A	9.18	4.04	NA	4.35	NA	4.04		4.35		0.65	13.87	14.18	13.87	14.18
13	52320		Cystoscopy and treatment	A	4.69	2.18	NA	2.36	NA	2.18		2.36		0.33	7.20	7.38	7.20	7.38
14	52325		Cystoscopy, stone removal	A	6.15	2.78	NA	3.00	NA	2.78		3.00		0.44	9.37	9.59	9.37	9.59
15	52327		Cystoscopy, inject materia	A	5.18	9.64		2.21		2.12		2.21		0.37	15.19	7.76	7.67	7.76
16	52330		Cystoscopy and treatment	A	5.03	16.74		9.32		2.32		2.50		0.36	22.13	14.71	7.71	7.89

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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

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2009 GPICs by State and Medicare Locality

Addendum E 2009 Geographic Practice Cost Indices (GPICs) by State and Medicare Locality					
Contractor	Locality	Locality name	Work GPIC	PE GPIC	MP GPIC
00510	00	Alabama	1.000	0.853	0.496
00831	01	Alaska	1.500	1.090	0.646
03102	00	Arizona	1.000	0.957	0.822
00520	13	Arkansas	1.000	0.846	0.446
01192	26	Anaheim/Santa Ana, CA	1.034	1.269	0.811
01192	18	Los Angeles, CA	1.041	1.225	0.804
01102	03	Marin/Napa/Solano, CA	1.034	1.265	0.432

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Calculating the Medicare Part B Approved Amount

$$[(wRVU \times wGPCI) + (peRVU \times peGPCI) + (mRVU \times mGPCI)] \times CF = \$$$

Conversion factor for 2009 is \$36.0666

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

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

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

$$28.15928 \times \$36.0666 = \$1015.61$$

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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?

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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

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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

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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**

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Determining RVU Values

- 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**

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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.**

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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**

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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**

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RVU Benchmarking

- ◆ **Productivity**
- ◆ **Costs**
- ◆ **Compensation**

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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**

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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

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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 (\approx 40 hrs)**

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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?**

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Clinical Full Time Equivalents (cFTEs)

- ◆ Afternoons are approximately a ½ day schedule
- ◆ If the practice uses 40 hrs, the cFTE is .5 cFTE
 - Hours worked divided by standard work hours

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Productivity Ratios

- ◆ Encounters per cFTE
- ◆ Procedures per cFTE
- ◆ wRVUs per cFTE
- ◆ Procedures per Encounter
- ◆ wRVUs per Encounter
- ◆ wRVUs per Procedure

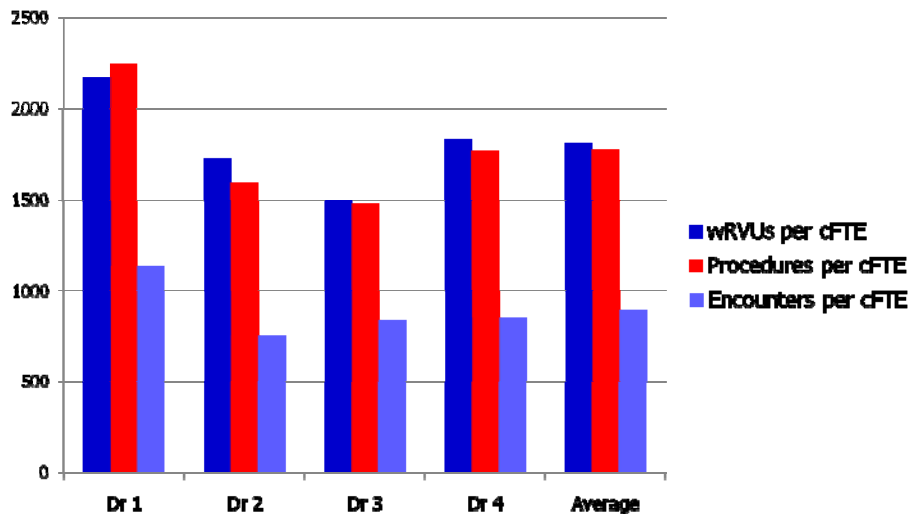
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Physician Productivity Example

Physician Productivity – My Town Family Practice, SC					
July, 20XX					
	Dr 1	Dr 2	Dr 3	Dr 4	Total
wRVUs	2,173.39	1,383.54	1,201.23	732.41	5,490.57
Encounters	1,139	608	672	342	2,761.00
Procedures	2,248	1,278	1,183	708	5,417.00
cFTE Status	1	0.8	0.8	0.4	3
					Average
Procedures/ Encounter	1.97	2.10	1.76	2.07	1.98
wRVUs/Encounter	1.91	2.28	1.79	2.14	2.03
wRVUs/Procedure	.97	1.08	1.02	1.03	1.02
wRVUs/cFTE	2,173	1,729	1,502	1,831	1,809
Procedures/cFTE	2,248	1,598	1,479	1,770	1,774
Encounters/cFTE	1,139	760	840	855	899

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Physician Productivity Graph



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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?

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What do the numbers tell us?

- ◆ #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

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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

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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

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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**

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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)

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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

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Costs per RVU

- ♦ **Physician compensation per wRVU**

$$\frac{\text{Total provider compensation expenses}}{\text{Total wRVU}} = \text{Cost per wRVU}$$
- ♦ **Malpractice expense per mRVU**

$$\frac{\text{Total malpractice expenses}}{\text{Total mRVU}} = \text{Cost per mRVU}$$
- ♦ **Overhead (Practice Expense) per peRVU**

$$\frac{\text{Total overhead expenses}}{\text{Total peRVU}} = \text{Cost per peRVU}$$

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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

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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

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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

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Resource/Reference List

- ◆ AMA/Specialty Society, Department of Physician Payment Policy and Systems, American Medical Association. *RVS Update Process*.
www.ama-assn.org/go/rbrvs
- ◆ Glass, Kathryn. 2008. *RVUs: Applications for Medical Practice Success, 2nd Edition*. Medical Group Management Association. Englewood, CO.

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- ♦ Goldsmith, Mindy. "Apple to Apples – RVU Analysis in Radiology" *Radiology Today* 6, No 11 (May 30, 2005): 14, available at:
http://www.radiologytoday.net/archive/rt_053005p14.shtml
- ♦ Kuehn, Lynn. 2009. *A Practical Approach to Analyzing Healthcare Data*, American Health Information Management Association. Chicago, IL.

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Appendix

Resource/Reference List

www.ama-assn.org/go/rbrvs

http://www.radiologytoday.net/archive/rt_053005p14.shtml

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

Glossary

- ◆ **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

Glossary

- ◆ **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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