

The Basics of RVUs & RBRVS

How RBRVS came to be:

Use of the resource-based relative value scale (**RBRVS**) and the relative value unit (**RVU**) methodology is an integral part of many physician practices. Most government programs and many private payers use this system as the basis for physician payment. This system is the foundation of medical group financial analysis and is unique to the medical service industry.

Use of this system was implemented by the Centers for Medicare and Medicaid Services (**CMS**) in 1992. Prior to this, CMS and most private payers based their payments on the historical charges physicians billed for their services. Payers referred to these costs as usual, customary, and reasonable (**UCR**). The problem was that each payer interpreted UCR differently.

In 1986, Congress authorized a 30-month study to be performed by researchers at the Harvard School of Public Health and in cooperation with the American Medical Association (**AMA**) to develop a compensation system based on relative physician resource input costs. This multidisciplinary team, led by William Hsiao, included statisticians, physicians, economists, and measurement specialists. The study was completed in 1988 and the results were submitted to the Health Care Financing Administration (**HCFA**), predecessor to the CMS.

The study evaluated 18 major specialties. Using the Physician's Current Procedural Terminology (**CPT**) manual, the researchers assigned relative values to more than 7,000 codes.

The study evaluated three components of a physician's resource input:

- 1) The work done by physicians for certain CPT codes
- 2) The practice costs incurred in rendering services
- 3) The opportunity cost of training or income foregone by physicians to obtain additional training.

Reviewers of the study found a high degree of reliability and validity. Although there were critics and detractors of the study, the researchers emphasized the extent of agreement reached among the many different constituents to create a fair, although imperfect, method of evaluating physician services.

Since use of the RBRVS system began in 1992, CMS has updated it annually by adjusting units for existing CPT codes and setting units for new codes.

Why RVUs:

Relative Value Units (**RVUs**) are a national standard used for measuring productivity, budgeting, allocating expenses, and cost benchmarking. While RVUs have been shown to be statistically valid and reliable, they are closely tied to coding, thus making appropriate coding a key to having good data for any analysis.

Before the introduction and use of RVUs, there was no quantitative ways of tracking provider/physician productivity other than by counting the number of procedures performed and patients seen. However, this offered little more than simple volume measurements.

How RVUs work:

Relative Value Units (**RVUs**) do not represent monetary values. Instead, they represent the relative amount of physician work, resources, and expertise needed to provide services to patients. The actual dollar amount of a payment for the physician's services results only when a conversion factor (**CF**), dollar per RVU, is applied to the Total- RVU.

The Total-RVU (tRVU) consists of three components:

- 1) The Work RVU (wRVU) which consists of the relative number of units involved in the work performed by the physician or provider. The work-RVU is related to the direct expenses associated with what the physician receives for payment in salary and direct benefits.
- 2) The Practice Expense RVU (peRVU) which represents the cost to operate the medical practice and is related to the general overhead expenses of the practice. There are two types of practice expense-RVUs: facility (hospital) and non-facility (office). The non-facility rate is usually higher than the facility rate since it includes overhead expenses. This difference is sometimes referred to as the "Site of Service" differential. Not all CPT codes have a Site of Service differential. This differentiation is generally used by government payers.
- 3) The Malpractice RVU (mRVU) which estimates the relative risk of each CPT code. This is related to the cost of malpractice insurance for the physician and the practice.

Some codes have additional components, which the CMS defines as "Professional Fees" (Modifier 26) or "Technical/Equipment Component" (TC). These two components combined equal the "Global" RVU for that particular code.

However, since practice cost and malpractice risk varies by geographic locations, CMS also implemented a geographic practice cost index (**GPCI**) in 1992. This index is updated every three years.

Thus, the Total-RVU formula for any CPT code is:

$$\text{Total-RVU} = (\text{wRVU} \times \text{wGPCI}) + (\text{peRVU} \times \text{peGPCI}) + (\text{mRVU} \times \text{mGPCI})$$

while the payment formula is:

$$\text{Payment} = (\text{Total RVU}) \times (\text{CF for the year in question})$$

Using RVUs:

RVUs are used for measuring productivity, allocating expenses, budgeting, and cost benchmarking.

For a "cost per RVU" measure, the formula is:

$$\text{Cost per RVU} = (\text{Sum of total expenses}) / (\text{Sum of total RVUs})$$

Cost per RVU is the foundation of RVU cost analyses. This cost per RVU is often the “bottom line” for contract negotiations based on RVUs and conversion factors.

For contracting purposes, RVUs can be used to answer such questions as:

- 1) What percentage of RBRVS is a good contract?
- 2) When does more volume equal profit and when does more volume equal loss?
- 3) Do our contracted rates cover our costs?

For budgeting purposes, RVUs can be used to answer such questions as:

- 1) How does our department (or practice) compare to others?
- 2) How does revenue break-down compare to expenses break-down?

2007 and the Budget Neutrality Factor

When the RBRVS system was implemented, Congress mandated that all RVUs were to undergo a review every five years to ensure that they are appropriately based on current practice. The most recent five-year review was completed in 2006. As a result, new work-RVUs for over 400 codes went into effect in 2007.

By law, CMS is required to make an annual adjustment to physician payments (fees) in order to maintain budget neutrality if the changes to the work-RVUs result in an increase, or decrease, in the overall fee schedule outlays of more than \$20 million dollars. CMS has implemented a budget neutrality adjustment factor (**BNF**) of 0.8994 to be applied to the work-RVUs for payment purposes.

Note that this budget neutrality factor only applies to physician fees. It is used in order for CMS to comply with congressional requirements placed on the Medicare budget and fee schedule. These adjustments are a result of budgetary constraints imposed by Congress, hence budget neutrality.

Thus, the Total-RVU formula for any CPT code when used for calculating physician fee is:

$\text{Total-RVU} = (\text{wRVU} \times 0.8994 \times \text{wGPCI}) + (\text{peRVU} \times \text{peGPCI}) + (\text{mRVU} \times \text{mGPCI})$
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For further information on these topics, a good place to start would be to check out:

- <http://www.google.com>
- <http://www.cms.hhs.gov/>
- <http://www.ama-assn.org/>