RBRVS-Based Payment Methods
A Guide for Medicaid Programs

For the information of Medicaid programs, we have prepared this summary of RBRVS-based payment methods for the services of physicians and other individual practitioners. We welcome suggestions for future editions.

We can help Medicaid programs design, implement and maintain RBRVS-based fee schedules and other provider payment methods.

Introduction
The nation’s Medicaid programs spend over $9 billion a year purchasing the services of physicians and other individual practitioners. The list of services is highly disaggregated. Over 8,000 services are listed in the Current Procedural Terminology (CPT-4), the primary set of codes used by physicians.

The most common payment methods are:

• A fee schedule based on the Resource-Based Relative Value Scale (RBRVS) used by Medicare
• Paying a percentage of charges, with the provider’s charges usually subjected to a screen for reasonableness
• A fee schedule developed by the payer
• A fee schedule based on the Relative Value for Physicians (RVP) scale.1

This document is a summary of the RBRVS-based approach, which is increasingly popular among Medicaid programs.

History and Overview of RBRVS
Before the RBRVS, Medicare (and many other payers) paid physicians based on their charges, so long as the charges were “customary, prevailing and reasonable.” The result was sharp differences in Medicare payments for similar services, both across the U.S. and within a locality. The system also resulted in persistent growth in Medicare payments, since payments were limited only by whether a physician’s charges were broadly similar to those of neighboring physicians.

In 1989, U.S. Congress directed Medicare to replace this system with a fee schedule based on resources used to provide each service. Researchers then embarked on extensive projects to estimate resource-based “relative value units,” or RVUs, for each physician service. To create a fee, the RVUs for a service are multiplied by a conversion factor measured in dollars. Medicare implemented the RBRVS-based fee schedule in 1992.

One of Congress’s goals was to correct a perceived imbalance in payments between different kinds of physicians. Both the original RBRVS implementation and follow-on legislation in 1997 aimed to shift funds from surgeons to physicians for whom evaluation and management services were more important. This shift has in fact occurred.2
The American Medical Association (AMA), noting that the RBRVS meets many of its policy objectives, generally supports it. Physician associations that represent surgeons and other more procedurally oriented specialists tend to be more skeptical.

Development and revision of RVUs have always been contentious, reflecting measurement challenges and the large sums of money involved. The Medicare program sets the RVUs, but it relies heavily on recommendations from a committee of healthcare professionals organized by the AMA. The Relative Value Update Committee, or RUC, represents many physician specialty societies and non-physician associations. It makes recommendations on RVUs for new codes and periodically reviews the RVUs for all existing codes.

During the last 15 years, many millions of dollars have been spent on the RBRVS by the federal government and professional associations. This investment—and the fact that technical and controversial payment issues are played out at the national level—are chief reasons why so many other payers have chosen to adopt RBRVS. Since RBRVS covers more than 8,000 codes, few payers have the budget or experience to develop their own fee schedule. As a result, the RBRVS has been adopted by many:

- Medicaid programs
- Workers’ compensation plans
- BlueCross BlueShield plans
- HMOs
- Other private-sector payers.

**Calculation of Fees**

In principle, the fee schedule is simple. For each service, the fee equals the RVUs multiplied by a conversion factor. Example 1 in the table below shows that the “national” fee for drainage of a leg lesion (CPT 27603) is 12.990 RVUs multiplied by a $36.0666 conversion factor, or $468.51.

Details of the fee calculation are intricate, however. Details are as follows.

**RVU Components**

For each service, the total number of RVUs is the sum of three components:
- Physician work RVUs, which reflect the time, difficulty, judgment and stress associated with the service
- Practice expense RVUs, which reflect the cost of ancillary personnel, supplies and office overhead
- Professional liability insurance RVUs

Example 1 shows the work, practice and malpractice RVUs for CPT 27603. The split of RVUs varies by physician service. But on average, the work RVUs represent 52.5 percent of the RVUs, the practice expense RVUs 43.6 percent, and the malpractice RVUs 3.9 percent.

**Geographic Differentials**

Medicare pays different fees in each of 92 localities across the U.S. Each RVU component is adjusted for local differences in salaries, malpractice premiums and other costs. The adjustment factors are called Geographic Practice Cost Index (GPCI) values. A locality may be a state or a smaller area.

In Montana, for example, costs tend to be lower than the national average, so some GPCI values are less than 1. Example 2 in the table below shows the effect of GPCIs on the fee.

**Site-of-Service Differentials**

The basic calculations assume the service is provided in a physician’s office, where the physician pays all costs of staff, supplies and equipment. In fact, though, the service may be provided in a setting where the physician does not pay all expenses. So, to prevent Medicare from paying twice for these expenses, it reduces the number of practice expense RVUs when the service is provided in a:
- Hospital
- Ambulatory surgery center
- Skilled nursing facility
- Community mental health center.

The size of the reduction varies from code to code. Example 3 shows the effect of the site-of-service differential on the fee.

**Professional Differentials**

Though the RBRVS is often referred to as the physician fee schedule, Medicare also uses it to pay for services by:
- Physician assistants
- Nurse practitioners
- Certified registered nurse anesthetists
- Certified nurse midwives
- Clinical psychologists
- Clinical social workers
- Physical therapists
- Occupational therapists
- Speech language pathologists
- Audiologists.

**Medicare Fee Schedule Payment Calculation Examples in 2009**

<table>
<thead>
<tr>
<th>Ex.</th>
<th>Code</th>
<th>Mod</th>
<th>Locality</th>
<th>Provider</th>
<th>Place of Service</th>
<th>Work RVUs</th>
<th>Work GPCI</th>
<th>Practice Expense RVUs</th>
<th>Practice Expense GPCI</th>
<th>PLI RVUs</th>
<th>PLI GPCI</th>
<th>Total RVUs</th>
<th>Prof. Diff.</th>
<th>Modifier Effect</th>
<th>Conv Factor</th>
<th>Fee</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>27603</td>
<td>None</td>
<td>Physician</td>
<td>Office</td>
<td></td>
<td>5.120</td>
<td>7.130</td>
<td>0.740</td>
<td></td>
<td></td>
<td></td>
<td>12.990</td>
<td></td>
<td></td>
<td></td>
<td>$468.51</td>
</tr>
<tr>
<td>2</td>
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<td>Physician</td>
<td>Office</td>
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<td>5.120</td>
<td>1.000</td>
<td>7.130</td>
<td>0.847</td>
<td>0.740</td>
<td>0.673</td>
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<td>$36.0666</td>
<td>$420.43</td>
<td></td>
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<tr>
<td>3</td>
<td>27603</td>
<td>Montana</td>
<td>Physician</td>
<td>Hospital</td>
<td></td>
<td>5.120</td>
<td>1.000</td>
<td>4.000</td>
<td>0.847</td>
<td>0.740</td>
<td>0.673</td>
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<td></td>
<td></td>
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<td>Montana</td>
<td>Phys Asst</td>
<td>Office</td>
<td></td>
<td>5.120</td>
<td>1.000</td>
<td>7.130</td>
<td>0.847</td>
<td>0.740</td>
<td>0.673</td>
<td>11.657</td>
<td>$36.0666</td>
<td>$357.37</td>
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</tr>
<tr>
<td>5</td>
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<td>50</td>
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<td>Physician</td>
<td>Office</td>
<td></td>
<td>5.120</td>
<td>1.000</td>
<td>7.130</td>
<td>0.847</td>
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<td>0.673</td>
<td>11.657</td>
<td>150%</td>
<td>$36.0666</td>
<td>$630.65</td>
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</tbody>
</table>
RBRVS-Based Payment Methods

Depending on the provider type – and at times procedure code – non-physicians may be paid less than physicians. Physician assistants and nurse practitioners are generally paid at 85 percent of the physician fee, for example. See Example 4.

Modifiers
Physicians attach modifiers to billing codes to provide the payer with additional information. CPT 27603-50, for example, indicates that the physician performed the procedure bilaterally (on both legs). Some modifiers increase or reduce payment, while other modifiers have no effect on payment. In Example 5, the effect is to increase payment by 50 percent.

Professional and Technical Components
The modifiers for professional interpretation (26) and technical component (TC) are exceptions to the preceding section about modifiers. These modifiers are used for many diagnostic tests that can be divided into the technical performance of the test and its interpretation by the physician.

Modifier TC indicates that only the technical component was provided; modifier 26 indicates that only the professional component was provided. The absence of a modifier indicates that the physician is billing for both components (the “global service”).

For these types of diagnostic tests, Medicare has created three sets of RVUs – in effect treating each component as if it were a distinct CPT code. A chest X-ray (CPT 71010) is an example.

Medicare Fees for a Chest X-Ray, 2009

<table>
<thead>
<tr>
<th>Code</th>
<th>Component</th>
<th>RVUs</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>71010-26</td>
<td>Professional Component</td>
<td>0.25</td>
<td>$9.02</td>
</tr>
<tr>
<td>71010-TC</td>
<td>Technical Component</td>
<td>0.41</td>
<td>$14.79</td>
</tr>
<tr>
<td>71010</td>
<td>Global Service</td>
<td>0.66</td>
<td>$23.80</td>
</tr>
</tbody>
</table>

RVUs are not adjusted for geographic practice cost differentials. Fee reflects the 2009 Medicare conversion factor.

HCPCS Codes
The RBRVS primarily applies to CPT-4 codes. But there are RBRVS-based fees for some Healthcare Common Procedure Coding System (HCPCS) Level II codes. The CPT-4 is HCPCS Level I; it is maintained by the AMA. The Centers for Medicare & Medicaid Services (CMS) maintains Level II codes. Medicare has developed RBRVS-based fees for Level II codes that are billed by physicians.

Status Codes
All service codes in the Medicare fee schedule have a status code that reflects Medicare coverage and payment policy. The more important codes are:

- “A” – Covered without restrictions; paid for using RBRVS calculations. (About 8,400 codes are in the Medicare 2009 fee schedule.)
- “B” – Bundled services, which are covered by Medicare but have no RVUs and no fees. Payment for these services is considered to be “bundled” into Medicare’s payment for related services. Providers may not bill a Medicare patient for the service. An example is telephone consultation. (About 80 codes.)
- “C” – Carrier-priced code. Some non-specific or very rarely used codes have no RVUs but are typically paid at a percentage of charges. (About 630 codes.)
- “E,” “N,” “X” – Not paid through the RBRVS. Some codes aren’t covered by Medicare; others are covered but not paid using the RBRVS.

Global Periods
As a rule, RBRVS-based payment is highly disaggregated. Physicians are paid separately for many different services provided to the same patient. The exception is that surgeons receive a single, global payment that covers the procedure and all related services within a certain time period. For surgical care, then, the Medicare unit of payment is an episode of care rather than a service.

Global periods depend on the specific surgical service and are as follows:

- 000 – Includes all related services on the day of the procedure
- 010 – Includes all related services on the day of the procedure and in the following 10 days
- 090 – Includes all related services on the day of the procedure, the day before it and in the following 90 days
- MMM – Includes all services related to a specific maternity code (e.g., 59400 includes all prepartum, delivery and postpartum care)

All evaluation and management services – and most surgical and medical services – are assumed to be related to the original service, unless the physician indicates otherwise through a modifier. In that case, payment is made separately.

Anesthesia Services
The RBRVS is not used to pay for anesthesia services. But there is an explicit link between the RBRVS and anesthesia payment method. For anesthesia, Medicare payment equals:

\[
\text{Payment} = (\text{Time Units} \times \text{Base Units}) \times \text{Anesthesia Conversion Factor}
\]

A time unit is 15 minutes, though Medicare pays for partial units.

Base units are adapted by Medicare from the American Society of Anesthesiologists’ Relative Value Guide. Though the terminology is similar to the RBRVS, the two sets of relative values are not on the same scale. To make anesthesia RVUs consistent with the resource-based RVUs used for other physician services, Medicare uses a separate conversion factor for anesthesia. In 2009 it was $20.92 at the national level.

For anesthesia for an ankle operation (CPT 01486), for example, the number of base units is seven. If the anesthesiologist spends 90 minutes with the patient, then payment would be:

\[
\frac{7 \times (90/15)}{X} \times 20.92 = 271.96
\]
RBRVS-Based Payment Methods

As with other physician services, payment varies depending on locality. The locality adjustment is made by using different anesthesia conversion factors in different parts of the country. The set of anesthesia relative values is the same everywhere.

Lab Services

The RBRVS is not used to pay for clinical lab tests, such as a complete blood count or a urinalysis. These services are paid using Medicare’s clinical lab fee schedule, which is also typically used by Medicaid programs. For most lab tests, physicians are not paid separately for their interpretation of results. For some more-complicated tests, separate payment is made using an RBRVS-based fee (for example, CPT 83912-26, interpretation of a genetic examination).

Applying Medicare Methods to Medicaid

For Medicaid programs, the great benefit of an RBRVS-based payment method is that the federal government and the professional associations have already spent millions of dollars developing and updating the RBRVS. Though the RBRVS has its critics, there is no denying the fact that it is widely accepted. A state that adopts an RBRVS-based approach can also make relatively easy comparisons of its payment levels with Medicare and other payers. Although the RBRVS was developed for Medicare, the RVUs reflect the population in general. The Medicare RVUs for obstetrics, for example, are applicable to a Medicaid population.

Medicare also estimates RVUs even for some services it doesn’t cover but that Medicaid programs typically do, such as preventive care (e.g., CPT 99392). The number of CPT-4 services for which a Medicaid program cannot obtain RVUs is about 250. In these cases, a Medicaid program can estimate its own RVUs by comparison with other codes or use “fill-in” RVUs made available by a commercial publisher.

Since Medicaid programs differ from Medicare in coverage and payment policy, it is necessary to adapt the RBRVS for use in a Medicaid program. These adaptations may include:

- Medicare coverage of some services not covered by Medicare, such as preventive care
- Use of different conversion factors or policy adjustments to boost payment rates for services of particular policy importance to Medicaid, such as family planning or obstetrics
- Changing professional differentials
- Changing effects of modifiers on payment
- Adapting the list of Medicare status codes to reflect Medicaid coverage and payment policy decisions
- Paying more or less for services provided in certain areas (e.g., rural areas) or for certain age groups (e.g., children).

These adaptations are relatively straightforward to implement. They create a payment method that reflects the policy needs of a Medicaid program, while remaining largely similar to the Medicare method.

Keeping Up With the RBRVS

Even for Medicaid programs that adopt the RBRVS almost in its entirety, significant effort is required each year to keep current. Medicare’s major revision to the RBRVS occurs each January 1, coinciding with the annual update to the CPT-4 coding scheme. Medicare publishes proposed changes in the Federal Register in the preceding May or June; the final rule is typically published in late October or early November. The changes usually include:

- New RVUs for new CPT codes
- Revised RVUs for pre-existing codes
- A new conversion factor
- Changes to GPCI values
- Miscellaneous changes in physician payment policies, such as definitions and coding rules.

Some Medicaid programs do annual updates in two phases:

1. The first phase, for January 1 implementation, comprises review of new codes and their Medicare RVUs
2. The second phase can be implemented at any time. It involves review of Medicare’s changes in RVUs and payment policies that affect the more than 8,000 codes that were not new on January 1.

Since Medicare sets RBRVS parameters to meet its own budget and policy goals, states should conduct a detailed budget simulation to ensure that Medicare’s changes are consistent with Medicaid budget and policy goals.

Medicare performs quarterly, usually minor, RBRVS updates. In practice, it is usually sufficient for other payers to monitor these updates and make their own changes as necessary. Information about the physician fee schedule is published on the CMS website (http://www.cms.hhs.gov/PhysicianFeeSched/).

Contact Us

Account Manager or Kevin Quinn
Director of Payment Method Development
Tel: 406.457.9550
E-mail: kevin.quinn@acs-inc.com
For more information you can also visit www.xerox.com/govhealthcare

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