



Application of the Resource-Based Relative Value Scale System to Pediatrics

Committee on Coding and Nomenclature

Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of All Children

ABSTRACT

With an increased focus on payment and productivity measurement in health care, it is essential to understand the genesis and principles behind the Medicare Resource-Based Relative Value Scale (RBRVS) physician fee schedule. The majority of third-party payers, including a growing number of Medicaid programs and commercial payers, use variations of the Medicare RBRVS as their basis for physician payment. Many group practices have also adopted this system to benchmark physician productivity and determine variable compensation and bonus payments. Because pediatric care is underrepresented in any Medicare-based payment system analysis, unique aspects of physician work and practice expense may not be accurately reflected in the total relative value units (RVUs) for certain pediatric services. Despite this potential limitation, the American Academy of Pediatrics supports the use of *Current Procedural Terminology* (CPT) codes to report unique physician work and the RBRVS physician fee schedule as a uniform payment system. The American Academy of Pediatrics will continue to work to rectify perceived inequities of the RBRVS system as they pertain to pediatrics. *Pediatrics* 2008;122:1395–1400

BACKGROUND

Creation of Resource-Based Relative Value Scale Payment System

The Medicare Resource-Based Relative Value Scale (RBRVS), which reformed physician payments for Medicare recipients, was enacted by Congress and signed into law as part of the Omnibus Budget Reconciliation Act of 1989 (OBRA 89). The OBRA 89 created a uniform RBRVS physician payment system based on objective measures of physician work (work relative value units [wRVUs]), accurate assessments of the practice expense (PE) in providing professional services to patients, and an additional payment factor representing the professional liability cost (malpractice expense) inherent in each specific service. Together, these 3 components make up the total relative value units (RVUs) for the service. The 5-year transition plan to this payment methodology began on January 1, 1992. Because these RVUs are uniformly applied across all medical specialties providing services, the RBRVS system promotes equity in physician payment. The RBRVS system eliminated many of the dramatic disparities when payments were specialty and practice specific and based on the customary, prevailing, and reasonable (CPR) or usual, customary, and reasonable (UCR) fees for the service provided.

Conversion Factor

Congress also established a budget-neutral conversion factor (CF) that would not increase Medicare payments above that seen under the CPR system. This CF (or dollars per RVU) is an annual legislatively set national dollar value that converts the total RVUs for any service into a physician payment amount ($\text{RVU} \times \text{CF} = \text{payment}$) for the Medicare service provided. Congress recognized that increases in Part B (physician payments) Medicare expenditures attributable to increased enrollment, changes in medical practice, new technology, new *Current Procedural Terminology* (CPT) codes, and additional screening recommendations would occur but decided in toto that they must not exceed \$20 million dollars annually. However, every year the projected increases have

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Key Words

payment, coding, Resource-Based Relative Value Scale, RBRVS, physician work, practice expense

Abbreviations

RBRVS—Resource-Based Relative Value Scale
 OBRA 89—Omnibus Budget Reconciliation Act of 1989
 wRVU—work relative value unit
 PE—practice expense
 RVU—relative value unit
 CPR—customary, prevailing and reasonable
 CF—conversion factor
 CPT—*Current Procedural Terminology*
 CMS—Centers for Medicare and Medicaid Services
 AAP—American Academy of Pediatrics
 AMA—American Medical Association
 RUC—American Medical Association/Specialty Society Relative Value Scale Update Committee
 COCN—Committee on Coding and Nomenclature
 HIPAA—Health Insurance Portability and Accountability Act of 1996
 ICD-9-CM—*International Classification of Diseases, Ninth Revision, Clinical Modification*
 PLI—professional liability insurance
 GPCIs—geographic practice cost indices
 HCPCS—Healthcare Common Procedural Coding System
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exceeded that amount. In response to this conundrum, Congress agreed to a yearly update to the CF that was based on the percentage increase in the Medicare Economic Index (MEI). This index is a comparison of the projected increases in utilization, described as the Medicare Volume Performance Standard (MVPS), to the actual increase in spending and other Medicare funding factors. This link between payment and utilization was anticipated to provide physicians an incentive to control the type and number of services offered to Medicare recipients instead of merely linking the CF only to expenditure targets. Subsequently, the Balanced Budget Act of 1997 replaced the MVPS with a new sustainable growth rate system to control Medicare expenditures.

Sustainable Growth Rate

The sustainable growth rate is a formula for determining the annual CF on the basis of the projected growth in gross domestic product per capita instead of historical patterns of volume growth. The Centers for Medicare and Medicaid Services (CMS) have maintained budget neutrality by a variety of measures but primarily by lowering the CF or rescaling Medicare RVUs. If utilization increases, updates that result in lower Medicare CF updates in subsequent years can lead to annual declines in payments to physicians providing services to Medicare recipients. Medicare RVU reductions have sometimes also been adopted by private payers. Historically, the American Academy of Pediatrics (AAP) has advocated that adjustments must only be made by alterations to the CF to maintain the integrity of the RVU-based payment system. This integrity is best preserved by maintaining the American Medical Association (AMA)/Specialty Society Relative Value Scale Update Committee (RUC)-recommended and CMS-published RVUs for each code.

Five-Year Review Process

The congressionally mandated 5-year review of RVU values is an opportunity to review changes in medical practice that may increase or decrease the cost of providing a specific service. During the 5-year review in 2005, the evaluation and management (E/M) codes, which make up the bulk of primary care billing (office, consultation, and hospital visit codes), were resurveyed. The surveys recognized the increase in average severity of illness as well as the increase in PEs associated with insurance processing and compliance monitoring. The CMS agreed with the 5-year review code revaluations, increasing RVU work values for the higher-level office, consultation, and hospital E/M services.

Payers must be encouraged to embrace the CMS 5-year review of relative work values and the recent efforts to implement an accurate, resource-based approach to the PE portion of total RVUs. The AAP recognizes that the CMS annual budget neutrality adjustments to the CF is a legislative mandate; however, the AAP strongly opposes arbitrary adjustments to the wRVUs as a method of controlling increasing Medicare costs. Private payers and Medicaid programs must recognize that these Medicare adjustments are the result of

budgetary constraints imposed by Congress (budget neutrality) and do not reflect changes in the provision of care or the relative value of work expended in providing a specific physician service.

Pediatric CPT Codes

The AAP, through its Committee on Coding and Nomenclature (COCN), continues to develop new/revised CPT codes appropriate for pediatrics. Once new codes are accepted by the CPT Editorial Panel of the AMA, the COCN works within the RUC process to provide the CMS with RVU recommendations that accurately reflect the work and direct PEs involved in providing services to children. The AAP has had significant successes in this process, as evidenced by the expanded list of neonatal and pediatric critical care, continuing intensive care, cardiac catheterization, care plan oversight, immunization administration, and non-face-to-face services codes. However, acceptance of a new code and its RUC valuation does not guarantee payment. As a first step toward appropriate payment, payers are expected to accept new codes as soon as they become effective.

Non-Medicare Use of the RBRVS

Pediatricians care for few patients covered by Medicare (with the exception of children with chronic renal failure). However, because the majority of non-Medicare payers, including Medicaid, have converted to the Medicare RBRVS payment system, changes in Medicare RVUs affect payments for children's services.

Non-Medicare payers are not legally bound to utilize the Medicare RBRVS or its CF and can establish their own payment methodologies. However, most, if not all, non-Medicare payers have adopted the RBRVS system. Although the RBRVS physician fee schedule was initially implemented by the CMS (formerly the Health Care Financing Administration [HCFA]) as a mechanism for the payment of physician services provided to Medicare recipients, the schedule has now been applied to all patient populations, including those commonly covered by Medicaid programs and commercial insurers. A recent report by the AMA revealed that 77% of the private plans surveyed in 2006 reported some use of an RBRVS payment system, compared with 74% in 2001 and 63% in 1998.¹ The AAP has dedicated itself to advocating for non-Medicare payers' CFs to at least be in parity with, if not above, the Medicare CF and for utilization of the most current Medicare RBRVS RVUs to be the basis of their payment methodologies.

APPLICABILITY TO PEDIATRICS

The work estimates driving the RBRVS Medicare physician fee schedule were developed primarily to reflect the services rendered to the typical Medicare patient and, as such, may not accurately reflect the breadth and scope of work expended to provide care to neonates, infants, children, and adolescents. A few Medicaid agencies have established a higher pediatric CF or established auxiliary fee schedules or case management fees to augment physician payment for children's care, recognizing that some pediatric services

are undervalued. These increases have been useful in some states to stimulate participation by physicians to expand access to prenatal care, obstetric care, and well-infant services.

Despite aforementioned reservations, the AAP advocates for the use of the RBRVS physician fee schedule as an appropriate and fundamentally fair system for valuing and establishing payment for pediatric services. The AAP believes that, in principle, an RBRVS-based fee schedule, supported by objective assessments of physician work, is more consistent and equitable than the previous CPR payment system under which physicians historically had been paid for their services. However, if appropriate access to health care for all children is to be ensured, Medicaid and other payers must recognize all of the CPT codes and their values; thus, the CMS must publish values for codes including those that are not applicable to the Medicare population. In addition, all payers, including Medicaid, must update their payment schedules in a timely fashion to include new codes and incorporate annual updates and revisions. Finally, with the advent of the Health Insurance Portability and Accountability Act (HIPAA [Pub L No. 104-191, 1996]), payers should no longer be allowed to utilize their own payment methodologies independent of the RBRVS.

The CMS has recognized that a Medicare-driven payment system may underrepresent or undervalue some components of pediatric work. The original Hsiao et al study² that led to the creation of the RBRVS was based on the AMA Master File list of physicians; because few pediatricians maintain membership in the AMA, few pediatricians were surveyed. It is inappropriate and not in the best interest of pediatricians to simply extrapolate work values assigned for services to children from those values determined by surveyed physicians who provide services primarily to adults.

In addition, the assumption that there is equivalency of work of pediatricians and pediatric medical subspecialists to that of internists and adult medical subspecialists has not been rigorously studied. In some pediatric medical subspecialties (eg, pediatric cardiology and pediatric nephrology) in which valid survey data have been collected, there is quantifiable evidence of underestimation of total pediatric physician work, particularly for situations in which major physiologic and developmental differences exist.^{3,4}

The AAP appreciates the efforts of the AMA to incorporate most of the unique characteristics of children's health care services into the CPT nomenclature. The AAP supports the continued efforts of the AMA and the CMS through the CPT and RUC processes to ensure that all pediatric services are represented by HIPAA code sets and that all RUC-surveyed codes have their RVU values published in the RBRVS via the *Federal Register*, even in cases in which the service is not paid under the Medicare program. Presently, the AAP is well represented on the CPT Advisory Committee, the RUC, and the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) Editorial Advisory Board. This representation provides the AAP a voice that is being more consistently heard and positively received by our adult col-

leagues and national payers. This representation must continue if children's unique coding challenges and the additional physician work and PE involved in many pediatric services is to be reflected in nationally assigned RVUs. However, given that payment policies vary dramatically across many Medicaid agencies, these published values are not always used for payment. This continues to lead to underpayment for many children's preventive health services, including screening services and immunization delivery. This will continue to threaten the health of children until Medicaid programs assume the same national regulatory requirements for payment that the Medicare program has established.

The connection between payment policy and health policy can be demonstrated in the Medicare system, in which a single national database (Medicare Part B Database) tracks Medicare utilization of CPT codes annually and over time. If Medicare payment levels fall, it is possible to see the immediate effect on health outcomes and higher future costs for Medicare recipients. Although this same premise certainly holds for pediatric patients, the absence of a single national database for Medicaid makes the demonstration of this association challenging. A single national Medicaid database would allow the AAP to demonstrate the strong correlation between access to preventive services and payment policies that fairly compensate the pediatrician for resources expended in the provision of those services.

COMPONENTS OF THE RBRVS PAYMENT SYSTEM

The RBRVS system assigns value to each procedure on the basis of 3 components:

- physician work;
- PE; and
- professional liability insurance (PLI).

Physician Work

The physician work involved in actually providing a service or performing a procedure is called "intraservice work." In the office setting, the intraservice period is defined as face-to-face patient encounter time; in the hospital setting, it is the time spent on the patient's unit or floor; and for surgical procedures, it is the period from initial incision to the closure of the incision. Work performed before and after provision of a service is referred to as "preservice" and "postservice" work, respectively. When preservice, intraservice, and postservice work are combined, they create the "total work" involved in the provision of a service.

Because children are less cooperative and more anxious, many services and procedures for children, even when the more frequent need for procedural sedation is accounted for, require more face-to-face time compared with similar services provided to the typical adult. These differences are not represented in existing CPT codes for children's services. Children also require constant adaptations to the physical examination, in response to their constantly changing behavior and level of cooperation. CPT modifier 63 (procedure performed on infants <4

kg) was developed to recognize the increased intraservice time for and complexity of the smallest patients. For larger infants and children, modifier 25 is available to recognize situations in which a significant and separately identifiable evaluation and management service is provided. Follow-up communication with child-care facilities, schools, absent parents, or extended family (eg, grandparents) can also lead to a significant increase in surveyed postservice times.

Practice Expense

The PE component of the RBRVS includes clinical staff time, medical supplies, and medical equipment and accounts for 44% of a code's total RVUs, on average. Increased paperwork, reporting regulations (eg, immunization registries), and expenses involved in a movement to computerized practices are common to all practitioners. However, pediatric practices are more readily affected by factors such as prevalence of low-intensity office visits, larger volume of telephone calls, and increased case management requirements. High patient volume in pediatric practices requires more examination rooms per provider to maintain physician efficiency when compared with specialties that see only 1 to 3 patients per hour. Higher patient volumes require more administrative staff, more supplies, and more telephone calls. Recognizing that 40% to 50% of most pediatric office visits are scheduled within 24 hours of the encounter, pediatric staff members are often required to perform insurance verification at the time of patient arrival, which adversely affects their ability to process patients efficiently. Providing care to young children also requires more direct hands-on clinical staff time, resulting in less-efficient room use because of difficulties dressing and undressing patients, and is marked by increased complexity and time in collecting laboratory specimens or performing screening examinations. Furthermore, routine services, such as venipuncture, are typically more time and staff intensive for pediatric patients. These factors need to be accounted for in any resource-based PE study and in the resulting PE calculations for pediatric services.

The PE is quite different when the service is reported in the office (nonfacility) versus in a hospital or other facility. The facility PE is much lower, resulting from Medicare's separate payments for hospital services under Part A and physician services under Part B. Therefore, total RVUs to physicians for the same service provided in the office setting exceed the total RVUs for a similar service provided in the hospital or other facility setting.

When the RBRVS system was created, the CMS used the Socioeconomic Monitoring System (SMS) of the AMA to assign PE. The socioeconomic monitoring system was developed through a nationally representative sample of 4000 physicians in 34 specialties (low pediatrician membership in the AMA led to underrepresentation in this sample). PE was higher in the more "boutique" practices of the well-compensated specialties. These differences were retained in the original payment formulas. In 1998, the CMS changed to a new formula for calculating PEs. They chose a so-called top-down

approach using actual practice cost data that are allocated to services and procedures by using expert panels to decide what a typical patient encounter required. PE was then broken into 6 categories: clinical labor, medical supplies, medical equipment, office expense, administrative labor, and all other expenses. This new approach has led to significant readjustments in the PE component, which generally have been beneficial to primary care physicians.

Professional Liability Insurance

The RBRVS system assigns RVUs to cover the malpractice risk incurred by physicians in providing each cognitive or procedural service. These malpractice RVUs (PLI), originally calculated for office-based pediatricians, may systematically undervalue the practice liability costs for many pediatric specialties. The prolonged statute of limitation on child-related medicolegal actions, as compared with adult care, results in increased malpractice risk exposure (malpractice insurance tail) for physicians providing services for children, compared with adults. In many states, that exposure risk is measured in decades rather than years. As such, physicians treating minors are required to purchase an "extended reporting endorsement" to cover the liability risk until the patient achieves at least the age of majority. This imposes additional PEs in retaining medical charts and the attendant security protections for that protracted period. This difference in exposure is not calculated into the RBRVS PLI and was not included in the initial Hsiao et al study.² Pediatric-specific survey data for malpractice expense should be used for this component when assigning final RVU valuations. Without pediatric-specific CPT codes, however, there is no way to do this without having different CFs for pediatric patients.

Geographic Practice Cost Indices

The OBRA 89 also introduced the concept of geographic practice cost indices (GPCIs), initially to address the disparity in CPR charges seen in urban (37% higher) versus rural practices. This was implemented despite the difficulty that rural communities faced in recruiting and retaining sufficient medical providers. Both the PE and the medical liability costs (PLI) are known to be higher in the urban setting. Physician earning calculations also include inherent cost-of-living expenses, most usually higher in more urban settings. Higher PE and medical liability costs in the urban setting were built into these RVU values. However, only one quarter of the cost-of-living difference was built into the RVU values. Each component of the total RVU (physician work, PE, and PLI) are subjected to different correction values, with states varying in the number of regions that are assigned different GPCIs. For example, Alabama has only a single correction value for each component, whereas California has 10 regions with different GPCIs, and Texas has 8 such regions.

RBRVS CONVERSION

Conversion from RVUs to dollar payments is a multistep process that is covered in detail in the AAP RBRVS

brochure (www.aap.org/visit/rbrvsbrochure.pdf) and RBRVS conversion spreadsheet (www.aap.org/visit/RBRVSConversionSpreadsheet.xls).

HIPAA CODE SETS

The HIPAA established standard transaction codes for medical claims submission. The primary codes for reporting physician encounters include the Healthcare Common Procedure Coding System (HCPCS) level I and level II codes for procedural reporting and the ICD-9-CM³ codes for diagnosis reporting.

HCPCS Level I Codes: CPT

HCPCS level I codes are also called CPT codes. CPT is a listing of descriptive terms and identifying codes for reporting medical services and procedures developed and maintained by the AMA. The CPT nomenclature comprises 3 categories of codes: category I CPT codes, category II CPT codes, and category III CPT codes.

Category I CPT Codes

Category I CPT codes describe a procedure or service identified with a 5-digit CPT code and descriptor nomenclature. Category I CPT codes must represent services/procedures that are:

- approved by the US Food and Drug Administration;
- performed across the country in multiple locations;
- performed by many providers; and
- clinically efficacious.

Category II CPT Codes

Category II CPT codes are supplemental tracking codes used to measure performance. The purpose of these codes is to decrease the need for record abstraction and chart review associated with performance-improvement initiatives, thereby minimizing administrative burdens and associated costs to providers when measuring the quality of patient care. Category II CPT codes are intended to facilitate data collection about the quality of care rendered by allowing providers to code certain services and test results that support nationally established performance measures, presumably having an evidence base contributing to quality patient care. Category II codes are optional and are not required for correct coding and may not be used as a substitute for category I codes. As physician payment begins to be tied more closely to patient outcomes through pay-for-performance programs, the reporting of category II codes will be necessary to qualify for supplemental payments. Pediatric practices must also be prepared for rapidly expanding quality and disease management measures. To qualify for payer pay-for-performance (P4P) incentives, pediatricians must be able to easily code for the services being measured or explain why services were not indicated or refused by patients. Although this need has led to a rapidly expanding set of codes that describe these expected/refused services, the number of applicable pediatric measures has not kept pace with adult measures.

There must be appropriate codes and modifiers in place to accurately report pediatric patient encounters.

Category III CPT Codes

Category III CPT codes are temporary codes for emerging technology, services, and procedures. If a category III CPT code is available, it must be reported in lieu of an unlisted category I CPT code, because the latter does not allow the opportunity for the collection of specific data.

HCPCS Level II Codes

HCPCS level II codes (commonly referred to as “hick-picks” codes) are Medicare national level II codes used to identify services not included in the CPT nomenclature (eg, ambulance services, durable medical equipment, prosthetics, orthotics, and supplies). HCPCS level II codes are alphanumeric codes that consist of a single letter followed by 4 digits. Pediatricians most commonly utilize HCPCS level II codes that start with the letter “J” for reporting things such as injectable drugs that ordinarily cannot be self-administered, chemotherapeutic and immunosuppressive drugs, and inhalation solutions, as well as some orally administered drugs. HCPCS level II codes also include American Dental Association *Current Dental Terminology* (CDT) codes (“D” codes) used to record and report dental procedures.

ICD-9-CM Codes

The *International Classification of Diseases, Ninth Edition* (ICD-9)⁶ was published by the World Health Organization (WHO) in 1975. The current edition in the United States for morbidity classification, ICD-9-CM,⁵ has been in use since 1979. The original intent of ICD codes was for epidemiologic reporting and not billing for services, albeit in the United States third-party payers tend to use it for that purpose. The ICD-9-CM consists of 3 volumes. Volumes 1 and 2 (a tabular list containing a numerical list of the disease code numbers and an alphabetical index to the disease entries) are used to assign diagnosis codes. Volume 3 is a classification system only used by hospitals for tracking inpatients for surgical, diagnostic, and therapeutic procedures. The rules and guidance for ICD-9-CM are published in the *ICD-9-CM Official Guidelines for Coding and Reporting*⁷ and the American Hospital Association *Coding Clinic for ICD-9-CM*.⁸

In 1989, the World Health Organization released ICD-10. It has replaced ICD-9 throughout the world for both morbidity and mortality statistics since 1994 and has been used in mortality statistics in the United States since 1999. The AAP has been a supporter of implementing ICD-10-CM for morbidity diagnosis coding because of its greater specificity. In addition to allowing for better epidemiologic tracking of injuries and diseases, it would also allow providers to better identify certain patients with specific conditions that might benefit from tailored disease management programs.

HIPAA Standard

Because HIPAA code sets are the national standard for coding physician services and communicating with

third-party payers, regulations require their use for electronic data exchange. Third-party payers, however, do not necessarily recognize or pay for the full spectrum of health care services or follow the diagnosis coding rules represented by these codes. The HIPAA does not require insurers to pay for all HIPAA-mandated codes; it merely requires them to follow the respective code-set coding rules and accept transactions electronically that utilize these codes. The AAP strongly advocates for the acceptance and payment for all HIPAA-mandated CPT codes by all payers and encourages AAP members to work to that end in negotiating contracts with individual payers.

RECOMMENDATIONS

1. The principles of the Medicare RBRVS system should be supported by pediatricians as an intrinsically more reasoned and equitable payment methodology than alternative systems.
2. The AAP and its members should continue, through the involvement of the COCN on the AMA/Specialty Society Relative Value Scale Update Committee, to correct RBRVS system inequities and ensure that the RBRVS system appropriately accounts for the work, PE, and professional liability expense in caring for neonates, infants, children, and adolescents.
3. Pediatric health care providers should advocate for recognition by all payers, including Medicaid, of the full spectrum of CPT codes and their guidelines.
4. The AAP and its members should continue to advocate that RBRVS adjustments only be made by the CMS exclusively through changes to the annual CF and not through changes to wRVUs to maintain the integrity of the RVU-based payment system that is used by most payers.
5. Pediatric health care providers should insist that the CMS publish values for all RUC-valued CPT codes, not just those that are applicable to the Medicare population.
6. The AAP and its members should continue to advocate for a national Medicaid pediatric database analogous to the Part B Medicare Data Files database that is legislated and published annually. A national Medicaid database for health care services for children is critical for making the Office of the Inspector General, Medicare, and Medicaid compliance programs applicable to pediatricians. The current use of Medicare-based utilization patterns inappropriately labels pediatricians as "outliers" and potential targets for health care fraud investigations. Only by understanding the frequency with which codes for pediatric services are

reported will there be an ability to analyze utilization patterns and the effects of new codes on total health care costs. Such a database will also provide an improved ability to determine the effects of coding and payment on access to children's health care services.

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