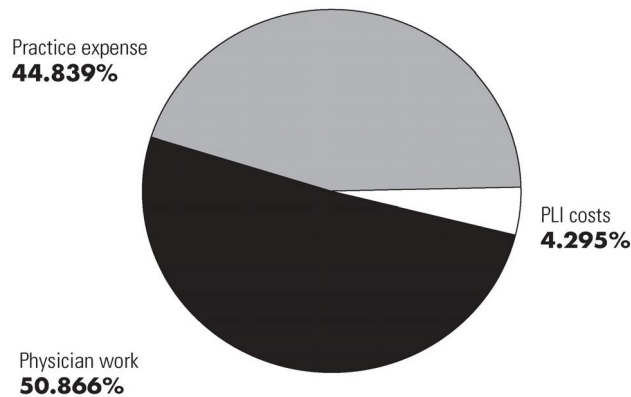


The Physician Work Component

Figure 4-1. Components of Medicare RBRVS



The greatest challenge in developing an RBRVS-based payment schedule was overcoming the lack of any available method or data for assigning specific values to physicians' work. The Harvard RBRVS study, therefore, played a critical role in the evolution of Medicare's payment system. Although the study contained several weaknesses, critical reviews of the data and methods concluded that it provided a reasonably valid basis for assigning relative values to the physician work component of the payment schedule. The physician work component now accounts for an average of 50.866% of the total relative value for a service because of the rebasing and revising of the Medicare Economic Index (MEI). (See Figure 4-1.) The MEI is an index intended to measure the annual growth in physicians' practice costs and general inflation in the cost of operating a medical practice. In 2011, the Centers for Medicare & Medicaid Services (CMS) announced their decision to rebase and revise the MEI to use a 2006 base year in place of a 2000 base year, which was the first time this was changed since 2004. CMS announced revisions to the MEI again in 2014. These changes were based on the recommendations of a technical advisory panel convened in 2012. These revisions included: moving payroll for nonphysician personnel who can bill independently from the PE proration to the physician work compensation (work) portion of the index; changing the price proxy for physician compensation to wages of professionals rather than of all private non-farm workers; creating new categories for clinical labor costs and for other professional services like billing; and changing the price proxy for fixed capital to business office space costs instead of residential costs. This change resulted in revised percentages for work, PE and professional liability insurance for the total relative value of a service, as listed below:

- Physician work percentage is 50.866%
- PE percentage is 44.839%
- Professional liability insurance is 4.295%

Further, work relative value units (RVUs) were held constant, but these changes resulted in adjusted PE, and professional liability insurance RVUs to produce the appropriate balance in RVUs among components and payments.

CMS has finalized the MEI weights for the different cost components of the MEI but is delaying implementation for future rulemaking, recognizing the need for public comment due to the significant impact to physician payments. The MEI weights that are currently implemented are still primarily based on 2006 data from the AMA's PPI survey. CMS intends to use data from the US Census Bureau's Service Annual Survey (SAS) as the primary source for the new weights and to supplement the

SAS data with other sources when SAS does not provide the necessary detail. The changes lead to substantial changes in the weights for many of the key components of physician practice expense (PE). For example, the weight for non-physician compensation increases from 16.6% in the current MEI to 24.7% in the proposed MEI, and the weight for professional liability insurance (PLI) decreases from 4.3% to 1.4%.

CMS will not implement the MEI changes in 2023, referencing the need for continued public comment. CMS also states that they will be interested to compare the results of the American Medical Association (AMA) PE data collection effort to the data used in their new MEI calculation. The MEI is utilized to proportion the components of the RBRVS between work, PE, and PLI. The current proportions of payment are physician work 50.9%, PE 44.8%, and PLI 4.3%. The proposed weights would be physician work 47.3%, PE 51.3%, and PLI 1.4%.

The Harvard University School of Public Health, under a cooperative agreement CMS, conducted the study that led to the initial relative work values, which appeared in the November 1991 Final Rule. The core of Harvard's landmark study was a nationwide survey of physicians to determine the work involved in each of about 800 services. About 4300 relative value estimates of the nearly 6000 services included in the 1992 Medicare relative value scale (RVS) were based directly on findings from the Harvard RBRVS study. Besides the Harvard study, the 1992 Medicare RVS also relied on findings from CMS' "refinement process," which it developed in response to public comments on the 1992 values. This refinement process also has contributed to updating the payment schedule since 1993.

Finally, values for new and revised procedures in the AMA's Current Procedural Terminology (CPT®) code set are also contained in the updated relative value scales for each year. To develop recommendations for CMS regarding relative values to be assigned to these new and revised codes, the AMA and the national medical specialty societies established the AMA/Specialty Society RVS Update Process.

This overview describes the three major sources of the physician-work component relative values:

- The Harvard RBRVS study
- The 1992 RVS refinement process
- The AMA/Specialty Society RVS Update Process

The sources of relative values for anesthesiology services are separate.

Harvard RBRVS Study

Phase I of the Harvard RBRVS study, completed in September 1988, provided relative value estimates for services provided by 18 medical and surgical specialties:

- Allergy and immunology
- Anesthesiology
- Dermatology
- Family practice
- General surgery
- Internal medicine
- Obstetrics and gynecology
- Ophthalmology
- Oral and maxillofacial surgery
- Orthopedic surgery
- Otolaryngology
- Pathology
- Pediatrics
- Psychiatry

- Radiology
- Rheumatology
- Thoracic and cardiovascular surgery
- Urology

Phase II, completed in December 1990, expanded the RBRVS to 15 additional specialties:

- Cardiology
- Emergency medicine
- Gastroenterology
- Hematology
- Infectious disease
- Nephrology
- Neurology
- Neurosurgery
- Nuclear medicine
- Oncology
- Osteopathic medicine
- Physical medicine and rehabilitation
- Plastic surgery
- Pulmonary medicine
- Radiation oncology

Phase II also reviewed four Phase I specialties (dermatology, ophthalmology, pathology, and psychiatry); expanded the study to include additional services provided by internists, general surgeons, and orthopedic surgeons; and included methodological refinements. Phase III, completed in August 1992, was primarily intended to revise problematic estimates from the earlier phases and expand the RBRVS to the remaining coded services. In particular, Phase III focused on a then-newly developed method for assigning relative value estimates to services closely related to those included in the Harvard study's national survey of physicians but that were not actually surveyed by the researchers.¹

Phase IV, completed in July 1993, included research and policy recommendations regarding development of vignettes for services provided by two limited-license professions (optometry and podiatry) and one nonphysician profession (clinical psychology) and establishing work values for some psychology services; developing reference services for each major specialty; developing relative work values for services furnished on a "by-report" basis; and developing data to determine payment policies for multiple and bilateral procedures.²

Physician Work Defined

Before work on the RBRVS surveys could begin, the researchers needed to define physician work. The Harvard RBRVS study initially conceptualized work as the time a physician spends providing a service and the intensity with which the time is spent. To better define the non-time-related elements of work, the researchers interviewed physicians, including members of the study's Technical Consulting Groups (TCGs). The TCGs were small groups of physicians in each studied specialty who were nominated by national medical specialty societies in a process coordinated by the AMA. As a result of these interviews, the Harvard study defined the elements of physician work, as the following:

- Time required to perform the service
- Technical skill and physical effort
- Mental effort and judgment
- Psychological stress associated with the physician's concern about iatrogenic risk to the patient

This definition often caused confusion because some physicians thought that work RVUs are determined only by the time required to perform a service. Work RVUs are based on direct estimates of physician work; however, no separate measures of time are used.

The Harvard study further divided physician work into the work involved before, during, and after a service.

The work involved in actually providing a service or performing a procedure is termed “intraservice work.” For office visits, the intraservice period is defined as patient encounter time; for hospital visits, it is the time spent on the patient’s floor; and for surgical procedures, it is the period from the initial incision to the closure of the incision (ie, “skin-to-skin” time).

Work prior to and following provision of a service, such as surgical preparation time, writing or reviewing records, or discussion with other physicians, is referred to as “preservice and postservice work.” When preservice, intraservice, and postservice work are combined, the result is referred to as the “total work” involved in a service. For surgical procedures, the total work period is the same as the global surgical period, including recovery-room time, normal postoperative hospital care, and office visits after discharge, as well as preoperative and intraoperative work.

Although the Harvard study defined physician work according to these distinct components, it did not measure work in this manner. Earlier attempts to separately measure time and intensity had produced unsatisfactory results. Instead, the study directly measured the work involved in a service. The RBRVS study’s definition of physician work is important because data from this study are the major basis for the physician work component of the Medicare payment schedule. A service on the schedule with more physician work–RVUs than another means that the former service involves more time, skill, effort, judgment, and stress than the latter. Efforts to refine and update the RBRVS have employed the same definition of work as the Harvard study.

Having defined and separated work into its component parts, the researchers then ensured that all surveyed physicians had the same basic service in mind when rating the work for value. The coding system used in the RBRVS is the AMA’s CPT coding system. To allow physicians to rate the work of a service, the TCGs for each specialty developed “vignettes” for each coded service included in the survey of that specialty. In many cases, the vignette came directly from the CPT code, as in the following description (as described in CPT 1987) for CPT code 63017, a service surveyed for orthopedic surgery:

Laminectomy for decompression of spinal cord and/or cauda equina, more than two segments; lumbar.

In other cases, particularly for visits and consultations, the TCGs designed vignettes to be representative of an average patient for the particular service being rated by that specialty. For these services, the development of a vignette ensured that each surveyed physician had the same basic service in mind. For example, the neurology vignette for CPT code 99160 (this code was replaced by CPT code 99291 in CPT 1992) read:

Initial hour of critical care in the ICU (intensive care unit) for a 65-year-old male who presents with a fever and status epilepticus.

National Survey

Once the TCGs agreed on the descriptions, Harvard launched its national survey of physician work. In Phase I, researchers completed nearly 2000 telephone interviews with physicians in 18 specialties. In Phase II, they completed about 1900 interviews with physicians in 15 additional specialties.

To obtain work ratings for each of the vignettes, the study used a technique known as “magnitude estimation.” Surveyed physicians were asked to use a particular service as a standard and to rate the intraservice work of about 25 other services relative to that standard.

The standard in each specialty was assigned an intraservice work value of 100. For a vignette that involved twice as much intraservice work as the standard, physicians were instructed to assign an intraservice work value of 200. Physicians would assign a value of 50 to a vignette that involved half as much intraservice work as the standard. Using this magnitude estimation method, physicians in each specialty assigned intraservice work relative values to all the vignettes on the survey for their specialty.

Cross-Specialty Process

Harvard researchers used the national survey to develop a relative value scale (RVS) for each specialty included in the study. The second step in constructing the RBRVS linked all of these specialty-specific scales onto a single scale.

The researchers organized cross-specialty panels to complete the second step. Panels consisted of about 10 physicians, each from a different specialty. The panel members, selected from the TCGs, considered potential specialty-to-specialty links, such

as a single service that physicians in two or more different specialties were likely to provide. For example, the panelists determined that the following service had the same value in several different specialties:

Decompression of carpal tunnel in a 48-year-old female, unilateral, ambulatory surgery unit.

The panels also considered pairs of different services, which are typically performed by physicians in different specialties but appeared to involve equal amounts of work. The following services, for example, served as a link between two specialties:

In nephrology, 'Insertion of a double-lumen femoral vein cannula for hemodialysis'; and, in general surgery, 'Excisional breast biopsy of a 2-centimeter lesion.'

The panels identified at least several specialty-to-specialty links for each of the studied specialties. Researchers then statistically analyzed the work ratings of the links obtained from the national survey for each specialty. This process linked all the specialty-specific scales to a common cross-specialty scale, while preserving, to the extent possible, the within specialty relationships of one service to another.

The cross-specialty process may have determined, for example, that two unilateral surgical procedures performed by different specialties, rated 80 and 120 in their respective specialty surveys, represented equal work. As a result, both might have been valued at 100 on the common scale. Assuming the magnitude estimation surveys for both services had rated the procedures as requiring 50% more work when done bilaterally, one would have been rated at 120, the other at 180 on their respective specialty scales. On the common scale, however, both bilateral procedures would be assigned a value of 150, preserving the values at 50% more than the unilateral procedures.

Preservice and Postservice Work

The RBRVS study employed several different methods to assign relative values to the preservice and postservice work involved in the surveyed services, depending on the type of service. Survey respondents rated both the intraservice work and the total work for visits and consultations in Phase II, for example, the difference being preservice and postservice work. For invasive procedures, surgeons were surveyed about the preservice and postservice time of specific components of procedures. For instance, general surgeons were surveyed about the time and work involved in a “hospital visit, three days post uncomplicated cholecystectomy with common bile duct exploration.” Researchers then derived an “intensity per unit of time” factor from the survey data and used it to estimate preservice and postservice work from data on preservice and postservice time.

Assigning RVUs to Nonsurveyed Services

The researchers surveyed physicians about the work involved in 800 services and extrapolated work values for the remaining services. The extrapolation method grouped services into “families.” For example, all coded services involving coronary artery bypass surgery became a family, as did all new patient office visits. The researchers theorized that the differences in average charges for services within a family would approximate the differences in physician work. Thus, if a nonsurveyed service in a family had a 20% higher average charge than the surveyed service, then the physician work involved in the former should be 20% higher than the latter. In practice, however, the extrapolation method often produced RVUs that seemed incongruous or paradoxical.

In Phase III of the study, the researchers developed a new extrapolation method using small groups of physicians. These groups established relationships between the surveyed and nonsurveyed services and assigned RVUs to them. The small-group process was also used to extend the RBRVS beyond the families of the surveyed services.

Phase IV, released in summer 1993, used the same small-group process to estimate work values for 227 by-report services. A review process was developed for 162 of these services, which previously had been studied in Phase III. Members of the TCG and assessment panels from Phase III were reassembled, and panelists reevaluated the existing work estimates. Researchers used a single survey of the assessment panels for each specialty for the review, which followed a two-step process: ranking the services by total and intraservice work, and then reviewing these values in the context of the specialty’s reference services and suggesting changes where necessary. These assessments were compared with the original estimates of intraservice and total-service work from Phase III. Work value recommendations were made for 145 of the procedures, and these showed a high level of agreement with Phase III values. For services that were not previously studied, panelists rated the work of each

service using magnitude estimation with multiple reference services. A total of 34 by-report services for oral and maxillofacial surgery, the major specialty studied, were reviewed.

Reviews of the RBRVS Study

After the final report of Phase I was released in September 1988, the AMA conducted an in-depth evaluation of the study's methods and results and contracted with the Consolidated Consulting Group, Inc., for an independent evaluation. The Physician Payment Review Commission (PPRC) also evaluated the Phase I results, as did CMS, which had provided the principal funding for the study.

These evaluations identified many flaws in the study, such as the inaccurate measurement of practice costs, but the reviewers' conclusions about the core of the study—measuring physicians' intraservice work—were very positive. The Consolidated Consulting Group report on the study concluded:

The RBRVS study's major effort—the measurement of physicians' intraservice work (ie, the work needed to perform specific services and procedures)—was successful. The RBRVS researchers . . . obtained generally accurate, reliable and consistent rankings of relative work from each of 18 specialties for about 22 representative services. These separate specialty-specific rankings were also successfully linked into a common scale. These results show that it is feasible to develop a work scale built on physicians' views about their work.

As a result of these reviews, the legislation that created the new Medicare payment system did not reflect two components of the RBRVS study: the study's method of assigning practice cost RVUs and its specialty training cost component. For the other components, the AMA and PPRC assessments recommended specific areas that needed refinement and correction.

Many of the national medical specialty societies also evaluated the study's data and results for their specialty's services. As a result, several societies requested that the Harvard researchers conduct a partial or complete restudy of their specialty's services. Some specialties turned to groups other than Harvard to reevaluate their services. For example, a group of specialty societies representing cardiovascular and thoracic surgeons jointly contracted with the consulting firm of Abt Associates for a separate study for their specialty. Finally, many of the specialty societies and individual physicians, as well as the AMA, commented on the work RVUs published in the *Notice of Proposed Rulemaking (NPRM)* and the November 1991 Final Rule.

The 1992 RVS Refinement Process

The 1992 Medicare RVS included RVUs for about 6000 CPT-coded services. Of these, about 1900 appeared for the first time in the 1991 Final Rule. Because there had been no opportunity for public review and comment on the RVUs for services that were excluded from the model payment schedule or the *NPRM*, all of the work RVUs in the 1991 Final Rule were published as "initial" RVUs.

In addition, the study was not completed in time for the January 1 implementation of the new system, although results for many of the services included in Phase III of the study had already been provided to CMS. Therefore, CMS established a process involving its carrier medical directors (CMDs) to assign work RVUs to about 800 services for which data were not available from the Harvard study. CMS also received comments on about 1000 proposed work RVUs included in the *NPRM* and used CMDs to review these RVUs prior to publishing the final 1992 RVS.

In the 1991 Final Rule, CMS was careful to state that the CMD process was not intended to be a short-term revision of the Harvard RBRVS. Instead, CMS used the process to assign RVUs to low-volume services, new services, and others that Harvard did not provide, and to refine some unreasonable estimates. For example, four-graft coronary artery bypass graft RVUs was adjusted to be greater than three-graft surgery.

CMS provided a 120-day period for public comment on the RVUs published in this first RBRVS Final Rule. During the comment period, CMS received about 7500 comments on the RVUs assigned to about 1000 services. Some specialty societies requested that CMS provide guidelines on how to prepare the comments, emphasizing the need for clinical arguments to support the comments.

In responding to the comments, CMS indicated that it considered principally those comments that followed its guidelines, rather than general comments regarding payment reductions. CMS also expanded its CMD process and developed an RVS refinement process, which involved 24 review panels, each with 13 members. Panel members included 33 CMDs and 127 physicians

nominated by 42 specialty societies. The multidisciplinary panels included physicians from the specialty or specialties that most frequently provide the service, physicians in related specialties, primary care physicians, and CMDs.

The objective of the review process was to allow four different panels to review each of the services. The panels' ratings of physician work were statistically analyzed to assess the consistency of ratings across the four groups.

The panels reviewed the work RVUs assigned to 791 codes. The results from Phase III were used as one source of relevant data. CMS retained the 1992 value for about half of these codes in the 1993 Medicare RVS. The refinement process resulted in higher values for about 360 codes and lower values for 35 codes. Notable among the code groups increased by the refinement process were the following:

- Hernia repair
- Home visits
- Obstetrical care
- Electroencephalogram (EEG) and EEG monitoring
- Nursing facility care
- Coronary artery bypass graft surgery
- Removal of larynx

CMS also reviewed 120 codes published in the 1992 *Final Notice* as interim values and subject to comment in 1993. A multispecialty panel of physicians reviewed 42 of these codes and made final RVU determinations by comparing the interim values to "reference services" whose work RVUs had not been challenged in the comment process.

The 1992 RVU Refinement of Evaluation and Management Codes

Work RVUs were reviewed by CMS for the CPT evaluation and management codes for visit and consultation services, which had been introduced in *CPT 1992*. Conflicting comments on the values were made by various specialty societies. Some specialties argued that the values for the lower levels of service should have been increased to reflect higher intensity of service. Others argued that the higher levels of service failed to adequately reflect the greater intensity of providing these services. Still others argued for a more linear progression between levels 4 and 5 of each code group. In the 1992 *Final Notice*, CMS reported that the physician panel it convened on this issue could not reach a consensus. However, using data from Phase III, it increased mid- to upper-level visits to reflect a more linear progression of work and reduced some lower levels. This process also reduced the values of the follow-up inpatient consultation codes.

Work RVUs for Medicare Noncovered Services

For the 1995 RVS, as in previous years, CMS convened multispecialty panels of physicians to assist in the refinement process. The agency established final values for several carrier-priced and Medicare noncovered services for which it previously had published proposed values. CMS relied strongly on the AMA/Specialty Society RVS Update Committee's recommendations in establishing proposed and final values, as it has each year when developing the payment schedule.

In the Final Rule published on December 1, 2006, CMS accepted the AMA's and RUC's recommendation for noncovered and bundled services. CMS recognizes that the Medicare RBRVS is used widely now by private payers, Medicaid, and workers' compensation plans to determine physician payment.

Completion of the Medicare RBRVS

In the 1994 Final Rule, CMS stated that with assignment of work RVUs for the 1995 RVS, it considered the RBRVS payment schedule to be "essentially" complete. Work relative value units were assigned to hundreds of codes that had been previously carrier-priced, for many commonly furnished services that were not covered by Medicare but paid by other payers, and for all pediatric services.

A mechanism to update the RBRVS on an ongoing basis was included as part of the Omnibus Budget Reconciliation Act of 1989 (OBRA 89). The statute requires that CMS conduct a comprehensive review of work relative values every five years. As part of this review process, all work RVUs on the 1995 and 2000 RVS were open for public comment. In the November 2004 Final Rule, CMS again opened the 2005 RVS for public comment for 60 days. The five-year review process and CMS' decisions are summarized later in this overview.

The AMA/Specialty Society RVS Update Process³

Besides refinements to correct errors in the initial RVUs, the Medicare RVS also must be updated to reflect changes in practice and technology. The AMA updates the CPT coding system annually under an agreement with CMS to reflect such changes. The AMA maintains the coding system through the CPT Editorial Panel. Annual updates to the physician work relative values are based on recommendations from a committee involving the AMA and national medical specialty societies. The AMA/Specialty RVS Update Committee (RUC) was formed in 1991 to make recommendations to CMS on the relative values assigned to new or revised codes in CPT.

The core of the RVS Update Process is the RUC. During its first year, RUC established procedures for specialty societies to reconcile their different viewpoints and agree on relative value recommendations. RUC has now completed 32 cycles of recommendations for updating the physician work component of the RBRVS, demonstrating its commitment to developing objective measures of physician work for new and revised CPT codes. RUC has recently embarked on establishing recommendations on direct PE inputs for new and revised codes.

The AMA believes that updating and maintaining the Medicare RVS is a clinical and scientific activity that must remain in the hands of the medical profession and regards RUC as the principal vehicle for refining the work and PE components of the RBRVS. From the AMA's perspective, RUC provides a vital opportunity for the medical profession to continue to shape its own payment environment. For this reason, the AMA has strongly advocated that Medicare adopt RUC's recommendations.

Structure and Process

RUC represents the entire medical profession, with 22 of its 32 members appointed by major national specialty societies, including those recognized by the American Board of Medical Specialties, those with a large percentage of physicians in patient care, and those that account for high percentages of Medicare expenditures. Four seats rotate on a two-year basis, with one seat reserved for a primary care representative, two reserved for internal medicine subspecialty and one for any other specialty society not a member of RUC, except internal medicine subspecialties or primary care representatives. The RUC Chair, the co-chair of the RUC Health Care Professionals Advisory Committee Review Board (an advisory committee representing non-MD/DO health professionals); the chair of the Practice Expense Subcommittee; and representatives of the American Medical Association, American Osteopathic Association, and CPT Editorial Panel hold the remaining six seats.

The major source of specialty input for the updating process is RUC's Advisory Committee, which is open to all (approximately 125) specialty societies in the AMA House of Delegates. Specialty societies that are not in the House of Delegates also may be invited to participate in developing relative values for coding changes of particular relevance to their members. Advisory Committee members designate an *RVS Committee* for their specialty, which is responsible for generating relative value recommendations using a survey method developed by RUC. Advisors attend RUC meetings and present their societies' recommendations, which RUC evaluates. Specialties represented on both RUC and the Advisory Committee are required to appoint different physicians to each committee to distinguish the role of advocate from that of evaluator.

RUC refers methodological issues to the Research Subcommittee, which is composed of about one-third the members of the full RUC. This subcommittee's principal responsibility is to develop and refine RUC's methods and processes.

The Administrative Subcommittee also includes one-third of RUC members and is primarily charged with the maintenance of the committee's procedural issues.

RUC established the Practice Expense Subcommittee to examine the many issues relating to the development of PE relative values. This subcommittee also is composed of one-third of the members of the full RUC. In 1999, RUC formed the Practice Expense Advisory Committee (PEAC) to review and suggest changes in the direct PE data, which was used to create PE relative values. The PEAC has completed its refinement activities. In 2005, RUC formed an ad hoc committee, the Practice Expense Review Committee (PERC) that reviewed any refinement issues that arose. This group assisted RUC in its review of PE inputs for new and revised codes. This group has since been disbanded, and RUC is now assisted by the PE Subcommittee for all PE refinement issues, as well as review of PE inputs for new, revised, and potentially misvalued codes.

In 1992, the AMA recommended that a Health Care Professionals Advisory Committee (HCPAC) be established to allow for participation of limited license practitioners and allied health professionals in both RUC and CPT processes. All of these professionals use CPT to report the services they provide independently to Medicare patients, and they are paid for these services based on the RBRVS Medicare Physician Payment Schedule (MFS). Organizations representing physician assistants, nurses, occupational and physical therapists, optometrists, podiatrists, psychologists, registered dietitians, social workers, chiropractors, audiologists, and speech pathologists have been invited to nominate representatives to the CPT and RUC HCPACs. The CPT HCPAC fosters participation in and solicits comments from these professional organizations in coding changes affecting their members, while RUC HCPAC allows those organizations to participate in developing relative values

for new and revised codes within their scope of practice.

To facilitate the decision-making process on issues of concern to both MDs/DOs and non-MDs/DOs, CPT and RUC HCPAC Review Boards were also formed. The review boards bring MDs/DOs and non-MDs/DOs together to discuss coding issues and relative value proposals. The RUC HCPAC Review Board comprises all 12 members of the current RUC HCPAC and three RUC members. For codes used by both MDs/DOs and non-MDs/DOs, the HCPAC Review Board acts much like a RUC facilitation committee. For codes used only by non-MDs/DOs, the RUC HCPAC Review Board replaces RUC as the body responsible for developing recommendations for CMS.

The Professional Liability Insurance (PLI) Workgroup was created in 2002 to review and suggest refinements to the PLI relative value methodology.

In 2006, RUC formed the Relativity Assessment Workgroup (RAW), formerly known as the Five-Year Identification Workgroup, to identify potentially misvalued services using objective mechanisms for reevaluation during the upcoming Five-Year Review. However, RUC determined in 2008 that this identification and review of potentially misvalued services will be conducted on an ongoing basis. The need for objective review of potential misvaluation has been a priority of RUC, CMS, and MedPAC. RAW has implemented a number of screens to identify potentially misvalued codes and is also charged with developing and maintaining processes associated with the identification and reconsideration of the value of “new technology” services. Further information on the RAW is provided later in this summary.

Facilitation Committees are established as needed during RUC meetings to resolve differences of opinion about relative value recommendations before they are submitted to CMS.

Beginning with the release of the 2014 MFS in November 2013, RUC began publishing voting records of the RUC and RUC meeting minutes. The voting record will contain the RUC’s aggregate vote for each issue.

RUC closely coordinates its annual cycle for developing recommendations with the CPT Editorial Panel’s schedule for annual code revisions and with CMS’ annual updates to the Medicare payment schedule.

The RUC process for developing relative value recommendations is as follows:

Step 1 The CPT Editorial Panel transmits its new and revised codes to RUC staff, which then prepares a “Level of Interest” form. The form summarizes the Panel’s coding actions.

Step 2 Members of RUC and HCPAC Advisory Committee review the summary and indicate their societies’ level of interest in developing a relative value recommendation. The societies have several options. They can:

- A. Survey their members to obtain data on the amount of work involved in a service and develop recommendations based on the survey results.
- B. Comment in writing on recommendations developed by other societies.
- C. Decide, in the case of revised codes, that the coding change requires no action because it does not significantly alter the nature of the service.
- D. Take no action because the codes are not used by physicians in their specialty.

Step 3 AMA staff develops survey instruments for the specialty societies. The specialty societies are required to survey at least 30 practicing physicians. For services with more than 100,000 claims, 50 surveys must be collected. For those with more than 1 million in claims, at least 75 physicians must respond. RUC survey instrument asks physicians to use a list of 10 to 20 services as reference points that have been selected by the specialty RVS committee.

Physicians receiving the survey are asked to evaluate the work involved in the new or revised code relative to the reference points. The survey data may be augmented by analysis of Medicare claims data and information from other studies of the procedure, such as the Harvard RBRVS study.

Step 4 The specialty RVS committees conduct the surveys, review the results, and prepare their recommendations to RUC. When two or more societies are involved in developing recommendations, RUC encourages them to coordinate their survey procedures and develop a consensus recommendation. The written recommendations are disseminated to RUC before the meeting.

Step 5 The specialty advisors present the recommendations at RUC meeting. The Advisory Committee members’ presentations are followed by a thorough question-and-answer period during which the advisors must defend every aspect of their proposal(s).

Step 6 RUC may decide to adopt a specialty society’s recommendation, refer it back to the specialty society, or modify it

before submitting it to CMS. Final recommendations to CMS must be adopted by a two-thirds majority of RUC members. Recommendations that require additional evaluation by RUC are referred to a Facilitation Committee.

Step 7 RUC's recommendations are forwarded to CMS approximately one month after every RUC meeting.

Step 8 The MFS, which includes CMS' review of RUC recommendations, is published each July in the proposed rulemaking and is open for public comment. The final values are published each November in the Final Rule and are implemented each January 1, thereafter.

Updating Work Relative Values

Each year RUC submits recommendations to CMS for physician work relative values based on CPT coding changes to be included in the Medicare payment schedule. Over the last 32 years, RUC has reviewed nearly all services paid through the MFS, accounting for 98% of spending. In addition, RUC submitted hundreds of recommendations to CMS for contractor-priced or noncovered services, including preventive medicine services. Each year CMS has relied heavily upon these recommendations when establishing interim values for new and revised CPT codes. Key recommendations for each annual cycle are briefly summarized below.

RUC submitted its first recommendations to CMS in July 1992, based on 1993 CPT coding changes, to be included in the 1993 Medicare payment schedule. The recommendations addressed physician work relative values for new and revised codes spanning the entire range of physician services, including orthopedic trauma care; a new section of CPT for hospital observation care; critical care; cardiology; urology; and coronary artery bypass surgery.

RUC's second set of recommendations, included in the 1994 Medicare RVS, again encompassed coding changes for a wide range of physician services. These recommendations included physician work values for new primary care codes for prolonged physician services and care plan oversight; the initial recommendations for pediatric services, including new codes for neonatal intensive care; pediatric surgery; hospital observation care; general surgery; skull-based surgery; and magnetic resonance angiography.

In the November 1993 Final Rule, CMS stated that it would defer establishing relative values for pediatric services, transplant services, and other carrier-priced and noncovered services until RUC evaluated these codes and developed recommendations. During 1994, much of RUC's work was devoted to developing recommendations for these codes. In May 1994, relative value recommendations were submitted for these services, including preventive medicine, newborn care, transplant surgery, and pediatric neurosurgery codes.

The third cycle of RUC recommendations for the 1995 Medicare RVS included values for orthopedic, esophageal, rectal, liver, bile duct, and endocrine surgery; neurology; and monthly end-stage renal disease. In addition, the RUC HCPAC Review Board developed its first set of work relative values, covering services for physical medicine and rehabilitation.

As previously discussed, OBRA 89 mandated that CMS conduct a comprehensive review of the RBRVS relative values on a five-year rolling basis. As part of this five-year review, RUC submitted work RVU recommendations for more than 1000 individual codes in September 1995. RUC activities related to this comprehensive review are detailed in the following section.

As a result of the Five-Year Review, RUC submitted relatively fewer recommendations for the 1996 RVS. RUC's relative value recommendations were reflected in the 1996 RVS for new CPT codes for trauma care and for new and revised codes for spinal procedures. Very few CPT coding changes were submitted for RUC's consideration for 1997. Extensive work RVU changes were implemented for the 1997 RVS, however, because of the five-year review. These changes are described in the "Five-Year Review" section.

RUC submitted its sixth year of work relative value recommendations for new and revised CPT codes in May 1997. The submission included recommendations on more than 200 CPT codes, including home care visits, observation same-day discharge services, various laparoscopic procedures, percutaneous abscess drainage procedures, and PET myocardial perfusion imaging. RUC also submitted recommendations for new CPT codes proposed by the American Academy of Pediatrics. The new codes better describe services provided to children, including conscious sedation, pediatric cardiac catheterization, and attendance at delivery. In addition, the RUC HCPAC Review Board developed recommendations in several areas, including paring, cutting, and trimming of nails; and occupational and physical therapy evaluation services.

RUC submitted work relative values for new and revised CPT codes in May of 1998, completing its seventh year of recommendations. RUC and the national medical specialty societies reviewed over 298 coding changes for CPT 1999 and submitted more than 100 recommendations to CMS. The remainder of the codes reviewed was editorial revisions or deletions. The recommendations included additions and revisions to the following services: inpatient and outpatient psychotherapy, hallux rigidus correction with cheilectomy, breast reconstruction, and radiologic examination of the knee. In addition, the RUC HCPAC Review Board also developed one recommendation for manual manipulative therapy techniques for CPT 1999.

In May 1999, RUC submitted its eighth year of work relative value recommendations to CMS. This year also marked the first submission of direct PE inputs (clinical staff, supplies, and equipment) to CMS for use in developing PE relative values for new and revised CPT codes. There were more than 300 coding changes for CPT 2000; however, most were considered editorial in nature or reflected laboratory services included on the Medicare clinical laboratory payment schedule. RUC submitted recommendations for more than 100 new and revised CPT codes, including: critical care, deep brain stimulation, spine injection procedures, integumentary system repair, and laparoscopic urological procedures.

RUC forwarded recommendations on 224 codes in May 2000 in its ninth submission of annual new and revised code recommendations. The major issues reviewed in this cycle included: GI endoscopy procedures; MRI procedures; anesthesia services; stereotactic breast biopsy; and endovascular graft for abdominal aortic aneurism. RUC also reviewed public comments and submitted recommendations on nearly 900 codes as part of the second five-year review of the RBRVS. This project is discussed in more detail in the next section.

In May 2001, RUC submitted its 10th year of work relative value recommendations to CMS. RUC reviewed 314 codes, including many codes describing anesthesia services, hand surgery, pediatric surgery, and urological procedures.

In May 2002, RUC submitted work relative value units and direct PE inputs for 350 new and revised CPT 2003 codes. This represented the 11th year of relative value submissions.

In May 2003, RUC submitted work and PE recommendations for 162 CPT codes, including a new CPT section for central venous procedures, fetal surgery, and a number of new vascular surgery services.

In May and October 2004, RUC submitted work relative values and direct PE inputs recommendations for 149 new/revised CPT codes, including bronchoscopy, carotid stenting, transplantation services, and flow cytometry. RUC also submitted suggestions regarding PLI relative value crosswalks for new CPT codes.

RUC, in its 14th year of existence, submitted work relative value recommendations, direct PE inputs, and PLI crosswalks for 283 new and revised CPT codes. The major issues reviewed in this cycle included: free skin grafts, nursing facility services, domiciliary care services, and drug administration. In addition, RUC reviewed public comments and made recommendations to over 700 existing procedures in the third Five-Year Review of the RBRVS. For more information and discussion of the third Five-Year Review, see Recommendations from the Third Five-Year Review.

In May and October 2006, RUC submitted recommendations regarding the work, PE, and professional liability insurance information associated with 254 new and revised CPT codes. The major issues addressed in this cycle, include Mohs surgery, destruction of lesions, and various vascular surgery procedures. In addition, CMS accepted RUC's and the AMA's recommendation to publish RUC recommended values for 35 noncovered and bundled services in October 2006.

In May and October 2007, in its 16th submission of annual new and revised code recommendations, RUC forwarded recommendations on 266 codes. RUC reviewed many issues in 2007, including the clarification of the fracture treatment codes, alcohol/drug screening intervention, smoking cessation, telephone calls, and new hospital visits for infants aged 28 days or younger.

In its 17th year, RUC submitted work relative value recommendations, direct PE inputs, and PLI crosswalks for 233 new and revised CPT codes. This submission included recommendations for adult and pediatric end-stage renal disease services, as well as pediatric intensive care services. RUC also made recommendations on 204 potentially misvalued services as identified by RUC's RAW.

In May 2009, RUC forwarded recommendations on 216 CPT codes in its 18th submission of new and revised codes recommendations. In addition, RUC also made recommendations on 209 misvalued services as identified by RUC's RAW. This submission included recommendations for radical resection of soft tissue and bone tumor, myocardial perfusion, and urodynamic studies.

RUC in its 19th year submitted work relative value recommendations, direct PE input recommendations and PLI crosswalks for 204 new and revised CPT codes. This submission included recommendations for CT of the abdomen and pelvis, pathology consultation, diagnostic cardiac catheterization, excision and debridement, endovascular revascularization and subsequent observation visits. RUC also made recommendations on 88 potentially misvalued services as identified by RUC's RAW.

In May 2011, RUC submitted work relative value recommendations, direct PE input recommendations and PLI crosswalks for 252 new and revised CPT codes. More than 50% of the CPT code revisions for CPT 2012 originated from either the 4th Five-Year Review process or the potentially misvalued services process. This submission included recommendations for injection procedure for sacroiliac joint, molecular pathology services, pulmonary function testing and treatment of retinal lesion or choroid.

In May 2012, RUC submitted work relative value recommendations, direct PE input recommendations and PLI crosswalks

for 204 new and revised CPT codes. Nearly 75% of the CPT code revisions for CPT 2013 originated from the potentially misvalued services process. This submission included recommendations for complex chronic care coordination (CCCC) services, transitional care management (TCM) services, psychotherapy, and molecular pathology. CMS modified the interim work valuation for 17 CPT 2013 new/revised codes, by means of recommendations of the CMS organized refinement panel and comments submitted by the public to support RUC's data. Implementation of these new values for psychotherapy and other services increased the percentage of RUC 2013 work values accepted to 90%.

In November 2013, CMS announced acceptance of all RUC recommendations for psychotherapy services, leading to \$150 million in improved payments for these services each year. Depending upon the individual physician's mix of services, Psychiatry, on average, will experience a six percent increase in Medicare payments. This results from a three-year effort by the CPT Editorial Panel, RUC, and organizations representing individuals providing mental health services to redefine and revalue these critical services. The CPT coding system implemented new codes on January 1, 2013. Some were surveyed in 2012, and others in 2013. CMS waited to implement the RUC recommendations for the entire family of codes as a group, for 2014.

In addition to the acceptance of the psychotherapy services, CMS reversed its positions on several other services (implemented in 2013) and will now accept the original RUC recommendations. As a result, the RUC acceptance rate for individual services for 2013 increased from 85% to 90%.

The CPT 2014 code set and the 2014 MFS included major changes for upper gastrointestinal (GI) endoscopy procedures. RUC reviewed and submitted recommendations for 65 individual upper GI endoscopy codes. Unfortunately, CMS only accepted 22 (34%) of these specific recommendations. CMS adopted the RUC-recommended time for GI endoscopy but felt that the intensity of the services was overstated and indicated that there is no differentiation in the intensity of the services within gastroenterology. CMS failed to recognize the appropriate coding and payment for immunohistochemistry, establishing payment per specimen, rather than per slide as defined by the CPT code set and valued by RUC. CMS accepted nearly 90% of the non-GI-related services.

In May 2014, RUC submitted work relative value recommendations, direct PE input recommendations, and PLI crosswalks for 350 new, revised or potentially misvalued CPT codes. This submission included recommendations for chronic care management services and lower GI endoscopy services. The chronic care management services recommendation was the result of a multi-year effort by the AMA, CPT Editorial Panel, RUC, and several national medical specialty societies. Starting on January 1, 2015, CMS established a payment rate of \$42.91 for new CPT code 99490, which can be billed up to once per month per qualified patient. By adopting this RUC proposal, CMS is taking steps to improve Medicare beneficiaries' access to primary care.

In its 25th year, RUC submitted work relative value and direct PE input recommendations and PLI crosswalks for 278 new, revised, and potentially misvalued services. This submission for the 2016 MFS included recommendations for genitourinary catheter procedures, paravertebral block injection services, and percutaneous biliary procedures.

For CPT 2017, RUC submitted work relative value and direct PE input recommendations and PLI crosswalks for 200 new, revised, and potentially misvalued services. This submission for the 2017 MFS included recommendations for moderate sedation services, cognitive impairment assessment and care planning, and several other surgical and procedural services.

For CPT 2018, RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks for 275 new, revised, and potentially misvalued services. This submission for the 2018 MFS included recommendations for psychiatric collaborative care management services, cognitive impairment assessment and care plan services, and several other surgical and procedural services.

For CPT 2019, RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks for 182 new, revised, and potentially misvalued services. This submission for the 2019 MFS included recommendations for chronic care management services, chronic care remote physiologic monitoring, interprofessional Internet consultation, and several other surgical and procedural services.

For CPT 2020, RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks for 301 new, revised, and potentially misvalued services. This submission for the 2020 MFS included recommendations for transitional care management services, emergency department visits, online digital evaluation service (e-visit), and several other surgical and procedural services.

During the public health emergency (PHE) in 2020, numerous new CPT codes were created for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus 2019 [COVID-19]) testing, vaccines, immunization administration, and creation of CPT code 99072 to help practices pursue payment for additional supply and infection-control costs associated with caring for patients during the COVID-19 PHE.

For CPT 2021, RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks for 154 new, revised, and potentially misvalued services. The submission for the 2021 MFS included recommendations for breast

reconstruction, hip and knee arthroplasty, remote retinal imaging, and several other surgical and procedural services.

For CPT 2022, RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks, for 185 new, revised, and potentially misvalued services. The submission for the 2022 MFS included recommendations for principal care management and chronic care management, remote therapeutic monitoring, anesthesia services for image-guided spinal procedures, cataract surgery, and several other surgical and procedural services.

For the CPT 2023 code set, RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks, for 206 new, revised, and potentially misvalued services. The submission for the 2023 MFS included recommendations for inpatient and office or other outpatient consultations, emergency department services, inpatient and observation care services, somatic nerve injections and abdominal hernia repair, and several other surgical and procedural services, as well as recommendations for immunization administration including additional SARS-CoV-2 codes (which went into effect immediately).

For the CPT 2024 code set, the RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks, for 87 new, revised, and potentially misvalued services. The submission for the 2024 MFS included recommendations for a wide range of services including neurostimulator services, advance care planning, phrenic nerve stimulation, as well as recommendations for additional severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) immunization administration codes (which went into effect immediately), and a new code to capture the costs of providing a pelvic exam. CMS also increased the valuation of hospital visits in maternity care codes, consistent with the ongoing RUC recommendation to increase visit valuation within all codes with a global period to be consistent with stand-alone E/M visits.

For the CPT 2025 code set, the RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks, for 127 new, revised, and potentially misvalued services. The submission for the 2025 MFS included recommendations for a wide range of services including fascial plane blocks, excimer laser treatment, behavioral counseling & therapy, as well as annual screenings for alcohol and depression, and telemedicine evaluation and management services. While the CMS proposal for telemedicine will not use the new telemedicine office visits codes for Medicare payment, the RUC recommendations for these services were published without revision.

For the CPT 2026 code set, the RUC submitted work relative value and direct PE input recommendations, as well as PLI crosswalks, for 179 new, revised, and potentially misvalued services. The submission for the 2026 MFS included recommendations for 46 new lower extremity revascularization (LER) CPT codes, coronary therapeutic services and procedures, prostate biopsies, RSV monoclonal antibody administration, and many other surgical and procedural services.

The table below summarizes all of RUC's recommendations to date and CMS' consideration of these recommendations.

History of RUC Recommendations

Year	Recommendations Submitted (Number of CPT Codes)	Work Relative Values at or Above RUC Recommendations (After Final Rule)
CPT 1993	253	79%
CPT 1994	561	89%
CPT 1995	339	90%
CPT 1996	196	90%
CPT 1997	90	96%
CPT 1998	208	96%
CPT 1999	70	93%

CPT 2000	130	88%
CPT 2001	224	95%
CPT 2002	314	95%
CPT 2003	350	96%
CPT 2004	162	96%
CPT 2005	149	99%
CPT 2006	283	97%
CPT 2007	254	98%
CPT 2008	266	100%
CPT 2009	233	97%
CPT 2010	216	98%
CPT 2011	292	82%*
CPT 2012	328	87%
CPT 2013	363	90%
CPT 2014	265	76%
CPT 2015	350	86%
CPT 2016	278	78%
CPT 2017	200	85%
CPT 2018	275	100%
CPT 2019	182	80%
CPT 2020	301	79%
CPT 2021	154	77%
CPT 2022	185	77%

CPT 2023	206	80%
CPT 2024	87	97%
CPT 2025	127	91%
CPT 2026	179	91%
First 5-Year Review (1997)	1118	96%
Second 5-Year Review (2002)	870	98%
Third 5-Year Review (2007)	751	97%
Fourth 5-Year Review (2012)	290	75%

*CMS applied a budget-neutrality adjustment for services in a way contrary to RUC recommendations.

Five-Year Review

In addition to annual updates reflecting changes in CPT, Section 1848(C)(2)(B) of the Omnibus Budget Reconciliation Act of 1990 requires CMS to comprehensively review all relative values at least every five years and make any needed adjustments. In November 1993, CMS began preparation for this project by inviting organized medicine to develop a proposal to participate in the review process.

RUC sought a significant role in this comprehensive review of physician work relative values and appointed a subcommittee on the Five-Year Review to develop this concept. To further expand organized medicine's participation in the five-year review process, the AMA solicited comments from the executive vice presidents of all the national medical specialty societies.

Consensus emerged about how to conduct the five-year review and revolved around the following major points: (1) RUC should play a key role; (2) the refinement should focus on correcting errors and accounting for changes in medical practice, not the whole RVS; and (3) the methods should build upon the current RUC methodology for valuing codes. In March 1994, the AMA submitted a detailed plan to CMS, identifying medicine's preferred approach to dealing with organizational and conceptual issues in the five-year review. The proposed plan incorporated much of RUC's current methodology and built upon the cooperative approach to review and refinement that RUC and CMS had established. Furthermore, it was consistent with the AMA's policy goal that the medical profession should have the primary responsibility for long-term maintenance and refinement of the RBRVS.

The 1994 Final Rule described CMS' plans for conducting the five-year review. The agency indicated that RUC, based on its experience in developing relative values and its ability to involve a wide range of medical specialties in the refinement process, warranted a significant role in the five-year review.

All codes on the 1995 payment schedule were open for public comment as part of the first five-year review. Included was the development of relative values for pediatric services. The Social Security Amendments Act of 1994 required that RVUs be developed for the full range of pediatric services, as well as determining whether significant variations existed in the work required to furnish similar services to adult and pediatric patients.

In the 1999 Final Rule, CMS again invited the public to comment on the work relative value for any existing CPT code. RUC also proposed a major role in this second, five-year review of the RBRVS. The proposal and process were very similar to the first five-year review. CMS forwarded the public comments to RUC in March 2000.

In the November 15, 2004, Final Rule, CMS solicited comments from the public on misvalued codes. CMS also stated that the agency would also be identifying codes that were potentially misvalued. RUC Five-Year Review Compelling Evidence Standards were published in this Final Rule and CMS requested that those commenting considered these standards and reference them in their comment letters. As a result of these two processes, CMS identified 710 codes to be a part of the 2005 five-year review process and forwarded these comments to RUC in March 2005. RUC again used a similar process and procedure, as were utilized in the two previous five-year reviews. CMS and specialty societies identified 290 codes to be a part of the 2010 five-year review process.

In the 2012 Final Rule, CMS finalized a public nomination process for potentially misvalued codes. To allow for public input and to preserve the public's ability to identify and nominate potentially misvalued codes for review, CMS established a process by which the public can submit codes on an annual basis. This process has now replaced the traditional five-year review process.

Scope of the First Five-Year Review

The five-year review presented an unprecedented opportunity to improve the accuracy of the physician work component of the RBRVS, as well as a significant challenge to the medical community. During the public comment period, CMS received nearly 500 letters identifying about 1100 CPT codes for review. The Carrier Medical Directors, the American Academy of Pediatrics (AAP), and special studies conducted for three specialty societies identified additional codes for review. Following an initial review, in late February 1995, CMS referred to RUC comments on about 3500 codes. These comments fell into the following categories: public comments on 669 codes; Carrier Medical Director comments on 387 codes; the three special studies by Abt Associates, Inc; and comments submitted by the AAP.

In approaching its task, RUC determined that a high standard of proof would be required for all proposed changes in work values. For example, specialties were required to present a "compelling argument" to maintain current values for services that the comments had identified as overvalued. RUC's methodology for evaluating codes identified by public comment was similar to that used previously for the annual updates, with some innovations designed to require compelling arguments to support requested changes. The survey was modified to require additional information regarding comparisons with the key reference services selected, as well as the extent to which the service had changed over the previous five years.

RUC also established multidisciplinary work groups to help manage the large number of comments referred and to ensure objective review of potentially overvalued services. These workgroups evaluated the public and Carrier Medical Director comments and developed recommendations. The full RUC treated the recommendations as consent calendars, with other RUC members and specialty society representatives extracting for discussion any workgroup recommendations with which they disagreed.

RUC also considered comments on nearly 500 codes that the AAP submitted. The society believed that physician work differed, depending on whether children or adults were being treated. As a result, the AAP requested that appropriate new CPT codes be added to describe different age categories of patients and that relative values be assigned. RUC and the CPT Editorial Panel helped the AAP refine its proposal for new and revised codes, which became effective for CPT 1997.

Finally, RUC considered three studies Abt Associates conducted at the request of three medical specialty societies. RUC found that two of the studies correctly ranked ordered codes within the respective specialties but did not reach any conclusions about the third. Following these findings, however, the specialty societies each conducted further research on individually identified codes and submitted their recommendations to RUC.

Scope of the Second Five-Year Review

CMS received only 30 public comments in response to its solicitation of misvalued codes to be reviewed in the second five-year review. However, 870 codes were identified for review as several specialties (general surgery, vascular surgery, and cardiothoracic surgery) commented that nearly all of the services performed by their specialty were misvalued. In addition, RUC reviewed a number of codes performed by gastroenterology, obstetrics/gynecology, orthopaedic surgery, pediatric surgery, and radiology.

The process that RUC utilized in this five-year review was very similar to the process utilized in the first five-year review. Multidisciplinary workgroups were utilized to review the large number of codes. The full RUC then reviewed and discussed the reports of these work groups.

Scope of the Third Five-Year Review

In the November 15, 2004, Final Rule, CMS solicited comments from the public on misvalued codes. CMS also stated that the agency would also be identifying codes that they felt were potentially misvalued. RUC Five-Year Review Compelling Evidence Standards were published in this Final Rule and CMS requested that those commenting consider these standards and reference

them in their comment letters. As a result of these two processes, 723 codes were identified by specialties and CMS to be a part of the 2005 five-year review process. These codes include services such as, but not limited to, dermatology, cardiothoracic surgery, and orthopaedic surgery, as well as the evaluation and management codes. CMS forwarded the comments pertaining to these codes to RUC in March 2005. RUC agreed that many of these recommendations met the compelling evidence standards as being misvalued. RUC again used a similar process and procedure as was used in the previous two five-year reviews to critically assess specialties' recommendations. This assessment included consideration of the comment letters, specialty society data, and other evidence provided throughout 2005.

Scope of the Fourth Five-Year Review

In the October 30, 2008, Final Rule, CMS solicited comments from the public on misvalued codes. RUC Five-Year Review Compelling Evidence Standards were published in this Final Rule, however, CMS announced that it would no longer recognize anomalous relationships between codes as a primary reason for specialty societies to submit codes for review. As a result of this solicitation, 290 codes were identified by specialties and CMS to be reviewed in the 2010 five-year review process. In October 2010 and February 2011, all RUC recommendations were submitted to CMS for consideration, with resulting changes effective January 1, 2012.

Recommendations from the First Five-Year Review

In September 1995, RUC submitted to CMS relative value recommendations for more than 1,000 individual codes. These recommendations maintained values for about 60% of the codes reviewed, increased values for about one third, and decreased values for the remainder. CMS' proposed RVU changes were published in a May 1996 *Federal Register*. Overall, CMS accepted 93% of RUC's recommendations, including 100% acceptance for several specialties. Following a public comment period, final decisions were announced in the November 22, 1996, *Federal Register*. Summaries of the key results follow:

- **Evaluation and Management (E/M) Services.** CMS extended its review to include all 98 E/M codes that were assigned RVUs, although RUC submitted recommendations for only a portion of these codes. RUC asserted that the postservice work involved in E/M services had increased over the past five years and that the intraservice work was undervalued compared to other services on the RBRVS. CMS accepted the argument and increased work RVUs for most E/M services, including a 25% increase for *office visits* (CPT codes 99202–99215) and an average 16.6% increase for *emergency department services* (CPT codes 99281–99285). Work RVUs also were increased for *critical care, first hour* (CPT code 99291) and *office or other outpatient consultations* (CPT codes 99241–99245).
- **Anesthesia.** CMS accepted RUC's recommendation for a 22.76% increase to the work RVUs. CMS adopted the adjustment on an interim basis and opened it to public comment since it was not part of the proposed notice. RUC based its recommendation on results of a study conducted for the American Society of Anesthesiologists and on the expertise of RUC Research Subcommittee. There is no defined work RVU per code for anesthesia services, which required that the adjustment be made in the aggregate on the anesthesia CF.
- **Psychiatry.** CMS accepted RUC's recommendation that the work RVUs should be increased for five psychotherapy services. The agency rejected the CPT code descriptors, however, stating that they did not sufficiently define physician work. For Medicare reporting and payment purposes, the CPT codes were replaced with 24 temporary alpha-numeric codes. These codes were time-based and differentiated between office/outpatient psychotherapy and inpatient psychotherapy; insight-oriented, behavior modifying, and/or supportive psychotherapy and interactive psychotherapy; and psychotherapy furnished with and without medical evaluation and management. The 24 temporary codes were adopted by the CPT Editorial Panel for CPT 1998.
- **Routine Obstetric Care.** As part of the 1994 refinement process, CMS increased work values assigned to codes for routine obstetric care in response to a joint recommendation of the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Family Physicians (AAFP). The AMA had worked with ACOG and AAFP on this recommendation and urged CMS to adopt it. The ACOG-AAFP recommendation used a "building block" approach based on existing and RUC-proposed work values for the components of the obstetrical packages. The work values for CPT code 59400, *Routine obstetric care including antepartum care, vaginal delivery (with or without episiotomy, and/or forceps) and postpartum care*, were increased by 9% and for CPT code 59510, *Routine obstetric care including antepartum care, cesarean delivery, and postpartum care*, by 29%.

The work values assigned to these codes equal the midrange joint recommendation. The overall RBRVS increase for these two codes (including PE and professional liability values and after applying the 1.3% reduction for budget neutrality) is 8%

for 59400 and 27% for 59510. These increases enhanced the ability of non-Medicare RBRVS payment systems, such as state Medicaid programs, to ensure access to needed obstetrical services.

- **Global Surgical Services.** As part of the five-year review, RUC recommended that the relationship between E/M services and global surgical services be evaluated and that work RVUs for the latter services be increased consistent with the 1997 RVU increases for E/M services. CMS rejected RUC's views in its May 1996 *Proposed Rule*. The agency agreed, however, to reexamine the issue for the 1998 RVS in the November 1996 Final Rule.

Surgical specialty societies argued that E/M services related to a procedure were subject to the same increasing complexity as nonprocedural E/M services due to such factors as reduced inpatient lengths of stay and same-day admissions for major surgery. Another major contributing factor is the greater utilization of home health care services, requiring the surgeon to be more involved in postservice planning and management.

Following its evaluation, CMS concluded that the work RVUs associated with global surgical services should be increased to reflect the increased evaluation and management present in the preservice and postservice portions of these services. For 1998, CMS implemented an across-the-board increase to the work RVUs for global surgical services. The change produced an average increase of 4% in services with a 10-day global period and 7% for services with a 90-day global period. To maintain budget neutrality of physician payments under the payment schedule, CMS applied a -0.7% adjustment to the CF.

Recommendations from the Second Five-Year Review

RUC found that several specialties presented compelling evidence that their services were indeed misvalued. As a result, RUC submitted recommendations to CMS in October 2000 to change the work relative value for many services. These recommendations may be summarized, as follows:

- Increase the work relative value for 469 CPT codes
- Decrease the work relative value for 27 CPT codes
- Maintain the work relative value for 311 CPT codes
- Refer 63 codes to the CPT Editorial Panel to consider coding changes prior to consideration of the work relative value

CMS published a *Proposed Rule* on June 8, 2001, and a Final Rule on November 1, 2001, announcing the agency's intention to accept and implement more than 95% of RUC's recommendations on January 1, 2002. Some of the important changes are as follows:

- **Vascular Surgery.** The American Association for Vascular Surgery and the Society for Vascular Surgery argued that vascular surgery services were historically undervalued dating back to the original Harvard studies. RUC reviewed detailed survey data for 95 codes. RUC recommended that 91 vascular surgical procedures be increased. CMS implemented 100% of these recommendations.
- **General Surgery.** The American College of Surgeons and the American Society for General Surgeons submitted comments related to more than 300 services performed predominately by general surgeons. Several rank order anomalies and historical undervalued codes were identified. RUC recommended that 242 codes be increased, 22 be decreased, and 50 be maintained. However, CMS was convinced that further increases were warranted and implemented further changes to the general surgery relative values.
- **Cardiothoracic Surgery.** The Society for Thoracic Surgery also commented that 89 codes describing services performed by cardiothoracic surgeons were undervalued. RUC recommended, and CMS implemented increases to 41 of these services. For example, RUC was convinced that the physician work related to congenital cardiac procedures has increased over the past five years.
- **Diagnostic Mammography.** RUC reviewed data submitted by the American College of Radiology (ACR) that indicated an increase in physician work created by the implementation of the Mammography Quality Standards Act of 1992 (MQSA). RUC agreed that these regulations and ACR standards did require more physician time and work. CMS implemented these increases on January 1, 2002.

Recommendations from the Third Five-Year Review

In October 2005, February 2006, and May 2007, RUC submitted recommendations on the work relative values for 751 CPT codes. Of the 751 codes in this review, RUC recommended:

- Increases in work RVUs for 285 CPT codes
- Decreases in work RVUs for 33 CPT codes
- Maintenance of the work RVUs for 294 CPT codes
- Reevaluation of 139 CPT codes by the CPT Editorial Panel

CMS published a *Proposed Notice* on June 29, 2006, and a Final Rule on December 1, 2006, stating that 95% of the recommendations submitted in October 2005 and -February 2006 were accepted and would be implemented on -January 1, 2007. Subsequently, CMS published a *Proposed Notice* on July 12, 2007, and Final Rule on November 27, 2007, stating that, including RUC's May 2007 submission to CMS, 97% of the recommendations were accepted by CMS and the remaining recommendations from the May 2007 submission would be implemented January 1, 2008. The following details some of the key changes announced by CMS:

- *Evaluation and Management Services.* This Five-Year Review included 35 evaluation and management (E/M) services. RUC agreed that incorrect assumptions were made in the previous valuation of E/M services. RUC recommended and CMS approved an increase in work RVUs for 28 services and maintained work RVUs for seven services. Furthermore, RUC also recommended and CMS accepted that the full increase of the E/M service be incorporated into the surgical global periods for each CPT code with global periods of 010 and 090.
- *Dermatology and Plastic Surgery.* Three significant dermatological issues—the excision of lesions, the destruction of lesions, and Mohs surgery—were addressed by RUC during the Five-Year Review. For these three groups of services, various issues had to be addressed including new Medicare coverage policies, the difference in work between treating a malignant or benign lesion, and potential changes in descriptors to reflect accurately where the service is being performed. RUC reaffirmed the relativity in payment for the excision of lesion codes and persuaded CMS that there is a difference in postoperative work in the excision of a benign and malignant lesion. RUC recommended relative value changes for destruction of lesion codes to reflect the change in the modality used. The CPT Editorial Panel considered major revisions to the Mohs surgery section prior to RUC review and development of recommendations. RUC recommendations for 100% of these dermatology and plastic surgery codes were accepted by CMS.
- *Orthopaedic Surgery.* The orthopaedic surgery community presented recommendations on 108 services that were identified as misvalued due to changes in the patient population and rank order anomalies. Of these services, 86 were referred to the CPT Editorial Panel to address various issues, eg, the differentiation between benign and malignant tumors, assignment of modifier 51, and clarification of any subjective terms within the existing descriptors. RUC recommendations for the remaining procedures were all approved by CMS, which included RUC's recommendation to retain relativity within the total joint codes (27130, 27236, and 27447).

Of these 86 codes that were referred to the CPT Editorial Panel, 64 fracture treatment procedures were reviewed by the Panel and subsequently RUC to clarify that external fixation should be an adjunctive procedure to these procedures. CMS has accepted all recommendations; however, CMS has applied a budget-neutrality adjustment for fracture treatment codes in a way contrary to RUC recommendations. In February 2009, the CPT Editorial Panel approved the coding proposal submitted by the Soft Tissue Tumor and Bone Workgroup which revised and expanded the soft tissue tumor and bone tumor sections to more accurately describe the services being provided and address the concerns raised by RUC during the Third Five-Year Review. CMS accepted these recommendations and agreed that RUC re-review these services in three years to determine the accuracy of the utilization assumptions.

- *Gynecology, Urology, and Neurosurgery.* RUC reviewed codes from gynecology, urology, and neurosurgery due to changes in the patient population, changes in technology, or an anomalous relationship between the code being valued and other codes. Of these 32 procedures, CMS implemented increases to 19 procedures. For example, RUC agreed that craniotomies with elevation of bone flap for lobectomy, temporal lobe with and without electrocorticography during surgery had, during the last five years, required additional physician work due to a change in the complexity of patient population.
- *Radiology, Pathology, and Other Miscellaneous Services.* RUC reviewed various procedures pertaining to radiology including maxillofacial X rays, radiation therapy, and general X rays. Of all the radiological procedures addressed by RUC during the Five-Year Review, 50 of these 80 procedures' work values were recommended by RUC and approved by CMS to be maintained.
- *Cardiothoracic Surgery.* RUC recommended increases to nine congenital cardiac surgery codes and 72 adult cardiac and general thoracic surgery codes, largely due to the increased complexity of the patient population to receive these services.

CMS accepted 100% of RUC's recommendations for cardiothoracic surgery.

- **General Surgery, Colorectal Surgery, and Vascular Surgery.** RUC reviewed 116 recommendations for procedures predominately performed by general, colorectal, and vascular surgeons. These codes were identified to be a part of the Five-Year Review based on flawed crosswalk assumptions, rank-order anomalies, and, in the case of vascular surgery, the services were historically undervalued dating back to the original Harvard Studies. RUC recommended and CMS will implement increases in work RVUs associated with 58 out of 86 of the general surgical and vascular surgical services. CMS requested that new survey data for the colorectal surgery codes be reviewed by RUC at its February 2007 RUC meeting. This review resulted in recommendations being forwarded to CMS as part of RUC's May 2007 submission. All of these recommendations were accepted by CMS.
- **Otolaryngology and Ophthalmology.** There were two major issues identified by RUC pertaining to otolaryngology and ophthalmology. For otolaryngology, CMS identified a procedure—removal impacted -cerumen—that had never been evaluated by RUC. RUC recommended and CMS implemented maintenance of the current value associated with this service as RUC felt the current value was justified based on a specialty society survey that indicated that 94% of respondents felt that the work in performing this service has not changed in the past five years. For ophthalmology, CMS identified cataract surgery as a procedure to be reviewed in the Five-Year Review because this procedure has experienced advances in technology that have likely resulted in a modification to the physician work. RUC recommended a slight decrease in physician work related to the intra-service portion of the procedure; however, the increase in the E/M component of the global period provided an overall increase to the physician work for this service.
- **Anesthesiology.** RUC convened a workgroup to consider the request from CMS to assign post-induction period procedure anesthesia (PIPPA) intensity. In addition, CMS referred to RUC the question of how and whether to apply the E/M Five-Year Review increases to the pre- and post-work of anesthesia services. (See *Federal Register*, Vol. 71, No. 231/December 1, 2006, page 69733.) Based on the extensive review of a building block approach that could be used to evaluate the work of all anesthesia service components other than the post-induction period time and validation of PIPPA work by the surgeons on RUC familiar with anesthesia services associated with their specialty, RUC reached agreement that anesthesia services are undervalued by 32%. CMS accepted these recommendations from RUC and will increase the work of anesthesia services by 32% on January 1, 2008.

Recommendations from the Fourth Five-Year Review

In October 2010 and February 2011, RUC submitted recommendations on the work relative values for 290 CPT codes culminating in the results of the fourth Five-Year Review of the RBRVS. The recommendations may be summarized as follows:

- Decreases in work RVUs for 41 CPT codes
- Maintenance of the work RVUs for 144 CPT codes
- Increases in work RVUs for 83 CPT codes
- Reevaluation of 52 CPT codes by the CPT Editorial Panel

On November 28, 2011, CMS published a Final Rule in the *Federal Register* announcing that 75% of RUC recommendations were accepted and would be implemented January 1, 2012. The most significant improvement that developed from RUC's recommendations, and continued advocacy, is the recognition that physician work in hospital observation visits is equivalent to hospital inpatient visits.

The Relativity Assessment Workgroup

RUC is committed to improving and maintaining the validity of the RBRVS over time. The AMA, RUC, and the specialty societies have worked aggressively to identify and correct flaws and gaps in the RBRVS. RUC will continue to review all services considered to be inappropriately valued. CMS now calls for public comments on an annual basis, rather than in a five-year review, as part of the comment process on the MFS. Public nominations must be submitted to CMS no later than February 10 of each year.

In 2006, RUC formed the Relativity Assessment Workgroup (RAW), originally called the Five-Year Review Identification Workgroup, to identify potentially misvalued services using objective mechanisms for reevaluation during each Five-Year Review. The need for objective review of potential misvaluation has been a priority of RUC, CMS, and MedPAC.

RUC will rely on the recommendations of the RAW, based on established objective criteria, to identify codes that will be considered for reevaluation on an ongoing basis. RAW has implemented more than 20 screens to identify potentially misvalued codes, including site-of-service anomalies, high-intensity anomalies, high-volume growth, CMS-identified high-volume growth, services surveyed by one specialty and now performed by a different specialty, Harvard-valued codes, CMS/Other source codes, codes inherently performed together, services with low-work RVUs but are high volume based on Medicare claims data, services with low-work RVUs that are commonly billed with multiple units in a single encounter, services on the Multi-Specialty Points of Comparison List, high-expenditure procedural codes, PE services in which the PE times are not based on physician-time assumptions, services with more preservice time than the longest standardized preservice package, services with more than six postoperative visits, services with a high-level E/M service included in the global period, services with a 000-day global period but reported with an E/M service, services with a negative intensity work per unit of time (IWPUT), contractor-priced services with high volume, services on the CPT modifier 51 exempt list, Category III codes with Medicare utilization over 1000, services with more than one median unit of service reported and a direct PE supply item unit cost greater than \$100 based on Medicare utilization, and services that were reviewed by the RUC more than 20 years ago with Medicare utilization over 1 million.

The RAW also develops objective criteria to identify “new technology” services. The workgroup has established a review process and schedule for “new technology” services and will maintain the review process. In September 2010, the workgroup reviewed the first set of codes identified as “new technology.” RUC will continue to identify new technology services as well as review and forward recommendations to CMS for necessary adjustments to recognize efficiencies.

The work RVU, PE, and PLI changes resulting from RUC’s efforts have led to more than \$5 billion redistributed annually within the MFS from 2009–2026. In total, RAW has identified 2,957 codes for review, of which 2,774 have been reviewed by RUC.

As the trend continues toward adopting the Medicare RBRVS by non-Medicare payers, including state Medicaid programs, workers’ compensation plans, TRICARE, and state health system reform plans, it is critical that the physician work component be complete and appropriate for all patient populations.

The AMA strongly supports the RUC process as the principal method to provide recommendations to refine and maintain the Medicare RVS. RUC represents an important opportunity for the medical profession to retain input regarding the clinical practice of medicine. The AMA continues to support RUC in its efforts to secure CMS adoption of its relative value recommendations.

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