

A History of RBRVS As a Perspective on P4P

Part II of III: Anesthesia Time, Cross-Links, and the Derivation of the Initial Anesthesia Conversion Factor

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Part I, published in the last issue of the *CSA Bulletin*, details the history of how Medicare's RBRVS evolved. We elucidated early methods of billing for anesthesia services, painted the political landscape concerning payment for medical services in the 1980s, described the government's machinations to redistribute federal dollars to effect change, and examined ASA's role in shaping the Medicare Fee System, up to the adoption of the final rule on the Uniform Relative Value Guide (URVG), published by HCFA in 1990. In this article, Part II of III, we will illuminate a more sinister part of the story: the debate over anesthesia time, how cross-links were actually set, how the conversion factor was distorted, and what ASA did and did not do on our behalf. In Part III, we will draw an analogy to the current climate in Washington, explain how all this P4P business is informed by the history of RBRVS, and summarize what we might learn from what happened two decades ago.

Anesthesia Time

As described in Part I, during the evolution of Hsiao's process to develop the RBRVS as the new MFS, there was considerable discussion about what to do with anesthesia time. The ASA Relative Value Guide predated development of the new MFS, and it described a system of billing for anesthetic services that included base units, time units, and modifier units. Hsiao's group ultimately accepted the relative work values of these base units in comparing one anesthetic service with another, but he was never certain of how, or if, to incorporate the time units.

In the draft model fee schedule based upon RBRVS, HCFA continued to insist upon the elimination of a separately recognized anesthesia time, maintaining that its retention would be an "administrative burden," and positing that fairness could be achieved by using average anesthesia times. In fact, the General Accounting Office investigated anesthesia time, and it concluded that average or median time be used. The ASA vigorously disagreed, explaining that surgical time was defined as incision to skin closure, but that wide variability in the

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time required by diverse surgeons operating upon individual patients with unique complicating features, all beyond the control of the anesthesiologist, would, if time were not part of the work value, either greatly reward or sharply penalize some anesthesiologists in certain practice situations. Academic anesthesiology predictably would be devastated, unless some adjustment factors were applied to a “case rate” system in their setting. It is very important to note that, even at this stage of the evolution of the new MFS, the American Association of Nurse Anesthetists consistently opposed ASA efforts to support compensation for academic anesthesiologists by rejecting the preservation of actual time.

Other time variables such as that consumed with positioning, preparation, draping, surgeon availability, or similar factors after skin closure were, after input from the panel of anesthesiologists involved, separated from the surgical time itself, and, according to some mathematically mysterious and rationalized but nontransparent method, added to the work value. Effectively obfuscating matters a bit more, HCFA also announced its intention to use a “behavioral adjustment” in the development of the MFS conversion factor to account for gaming of the system, and this “fudge factor” was applied across all specialties.

Bait and Switch

The ASA was shocked in mid-1991 by the proposed conversion factor and at the level of the payment reduction proposed by HCFA, almost 35 percent versus an anticipated 18 to 20 percent, and strenuously objected to what now were clearly “bait and switch” tactics—HCFA’s transforming what was to be a realignment of payments between specialties into a harsh budget-cutting axe, seeking to save billions for the MFS. Moreover, HCFA used the institution of the RBRVS MFS to change payment rules for teaching anesthesiologists, essentially reducing payments by 50 percent by recognizing only 50 percent of the full MFS charge for each of two supervised residents. In doing so, HCFA arbitrarily singled out anesthesiologists from all other teaching physicians, citing “the current rules as an unfair incentive for anesthesiologists, using residents rather than CRNAs.” When anesthesiologists supervised two CRNAs concurrently, payments under the new MFS would be split between the M.D. and the R.N., but when anesthesiologists supervised two residents concurrently, payments would be reduced by 50 percent to the attending M.D., and the resident physician’s payment inexplicably would be retained by HCFA.

In late 1991, HCFA published its final conversion factor. The anesthesia conversion factor was to be different from all of the rest of medicine, and a great deal of time and effort was expended by HCFA in explaining and justifying this. The reason for this difference was that the ASA RVG unit values were incorporated into the MFS as the intraspecialty relative values. Consequently,

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for the ASA RVG to link appropriately to relative value units from other specialties on the “common scale,” HCFA first positioned anesthesia services on the common scale, comparing via a cross-link process anesthesia services with those of other physicians. As an intermediary step, HCFA then created new “common scale” units for anesthesia services for 19 specific CPT codes, and calculated payments under the new MFS by multiplying these “common scale anesthesia units” by the 1992 common conversion factor, \$30.42, thereby “deriving” payments for 1992 under the new MFS. HCFA then examined Medicare payments for these 19 specific CPT codes, using the 1991 national average conversion factor of \$19.27, ASA base units, and an average time as determined from 1991 and 1992 Medicare data.

The average percent reduction in payment from the 1991 data under the old system to the new MFS derived payments under the new RBRVS for these 19 procedures generated a number that was to be applied to the 1991 anesthesia conversion factor to fit anesthesia services, using the ASA RVG, on the common scale. The CF of \$30.42 on the common scale translated to \$13.68 paid on the ASA RVG scale as the 1992 national MFS conversion factor for anesthesia services, adjusted geographically to an extent, and also subject to transition rules. Actual anesthesia time was retained for 1992, although average anesthesia times were used to calculate the reduction in the conversion factor, and in the setting of the cross-links themselves, it is unclear whether anesthesia time was used at all. This produced a reduction in the anesthesia conversion factor of 29 percent. Cuts under MFS were 22 percent for radiology and 20 percent for pathology.

Setting the Cross-Links

The new resourced-based Relative Value Units comprised three components: work intensity (generally 55 percent), practice expense (42 percent), and liability insurance (3 percent), each adjusted by a geographic cost factor. HCFA set these percentages by examining data for practice expenses and liability costs. The percentage of RVUs attributable to the work component was set higher for anesthesiologists, 69.5 percent, because of historically lower practice expenses. Hsiao et al. developed the relative intensity of work for any particular procedure by surveying different physician specialties to estimate intraspecialty work for descriptive vignettes of service. To create a common scale of work, cross-links between specialties were set by estimating relative differences in work for the same or similar vignettes across specialties, using a panel of physicians drawn from 26 specialties. There were three anesthesiologists who participated in the process: Jim Arens, Ketch Morell, and Jess Weiss. Pre-work and post-work estimates were added to the work estimate to produce a total work measure. The vignettes only then were mapped into CPT

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codes, and findings were extrapolated using “families of related services” from surveyed CPT codes to all nonsurveyed codes. Ultimately there were 275 links across all specialties, but only three cross-links to the common scale for services specific and unique to anesthesiology.

The Crux of the Flawed Cross-Links

Hsiao et al. developed work values for 19 anesthesia codes, using average times for those codes over the nine months ending on June 30, 1991. HCFA determined for each of these 19 procedures what then was the current payment (base plus average time, minus 10 percent to account for cases with multiple surgical procedures, in cases personally performed by the physician) using the 1991 national average conversion factor of \$19.27. Then HCFA calculated the average payment for each code by multiplying the Hsiao work value by the MFS general conversion factor (\$30.42) and added defined amounts for practice expenses and malpractice costs. Finally HCFA calculated the percentage payment reduction required to normalize each anesthesia code to the MFS common scale. This produced an astonishing 29 percent reduction, meaning that anesthesia work values, which were deemed to be 69.5 percent of anesthesiology payments, be reduced by 41.7 percent! Hence, the 1992 national anesthesia conversion factor became \$13.68. It is of interest that although the national average for the anesthesia conversion factor was \$19.27 in 1991, some anesthesiologists (myself included), because of the peculiarities of Medicare’s rules for newer physicians, at that time were paid with a conversion factor in the low to mid \$40s per unit.

Although HCFA did not publish the precise methodology used to establish work values for these 19 codes, it was clear at the time that Hsiao did not know what to do with anesthesia time and, according to Dr. Jim Arens, he did not use actual time to place anesthesia work on the common scale. Moreover, Hsiao used only three highly questionable cross-links between anesthesiology and nonanesthesiology procedures:

- Anesthesia for D&C *link to:*
 - Office evaluation of head trauma in preschool child with episode of vomiting, established patient
- Anesthesia for Repair of AAA *link to:*
 - Protracted labor requiring pitocin augmentation and electronic monitoring, primigravida, only time spent with patient
- Anesthesia for C-section *link to:*
 - Management of patient in acute pulmonary edema in emergency room who is subsequently admitted to hospital, established patient

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To illustrate just how ridiculous the second link was (and is), consider that CPT 59410 (labor and vaginal delivery) is 27 units (for the obstetrician), multiplied by \$30.42 (the 1992 common scale), yielding a MFS amount of \$821.34, while CPT 00770 (repair AAA) is base 15 plus time (for the anesthesiologist), which HCFA said the average was 18 units, totaling 33 units, multiplied by \$13.68 (the 1992 anesthesia conversion factor), yielding \$451.44. If we ignored time units, using just 15 units base, and asked what the conversion factor would have been to yield a payment of \$451.44, the result is \$30.10 per unit, close to the \$30.42 per unit to be paid to the rest of medicine. Hence, the net effect is to pay as if anesthesia time units are not even to be considered, and perhaps this is exactly what did happen in setting the cross-links.

Hsiao's group used two other links, one for insertion of an invasive monitoring device, and another for a consultation relating to treatment, but these are done by many specialties and are not specific and unique to anesthetic care. Hence, three CPTs formed the basis for assigning work to 19 anesthesia codes, which were then extrapolated ultimately to 252 anesthesia codes.

The ASA representatives who participated in this process were given an absolute directive by the powers-that-be at the ASA that they were to try to preserve actual anesthesia time at all costs, as the highest priority. Although some appreciated at the time that such an approach might, at the end of the day, not produce the best overall deal for anesthesiologists with this new RBRVS, there was no mechanism for an alternative approach to be considered. Furthermore, had those "at the table" appreciated how poorly the specialty would fare by the use of the AAA cross-link (as only one of three specific to anesthesiology), they could have opposed it more vigorously and more stridently. As it was, all of the specialties were jockeying to improve their own positions. Anesthesiology was addressed at the last moment and there were only three meetings in a very short time frame. "Everyone was unhappy with the process, but it just blasted forward." There was no opportunity to revisit the flaws after the fact. Peter Braun, Dr. Hsiao's right-hand man, was completely unapproachable and was determined to forge ahead with this RBRVS no matter what, "the driving force behind getting a government contract done, damn the consequences."

Trying to Fix It

Using actual anesthesia times was particularly important to academic anesthesiologists who were "captive to the longer operating times of student surgeons," and the American College of Surgeons did voice some support when they appreciated that preserving actual time might help to ensure the availability of anesthesiologists for slower surgeons. In mid-1992, Senator Lloyd Bentsen (D-Texas) introduced S. 2643, a bill intended to prevent HCFA from using average anesthesia times. Congress passed this act in mid-1993 as part of the

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Omnibus Budget Reconciliation Act (OBRA of 1993), and it mandated the use of anesthesia time units in the MFS, hence effectively permanently enshrining in the law that anesthesiologists were to stand apart from—and hold a unique relationship to—RBRVS.

Budget laws in the late 1980s imposed reductions in Medicare payments to physicians in their first four years of practice. A Medicare Economic Index and Medicare Volume Performance Standard were used as a basis to determine yearly MFS updates, unless Congress intervened. Furthermore, the law required that adjustments to RVU and new codes could not cause the total MFS payments to increase by more than \$20 million from what would have occurred before the adjustments. The Relative Value Update Committee was established for medical specialties to make internal URVG adjustments in work values, mandated to review the URVG every five years. After the ASA successfully argued for a significant increase in 1997 (RUC recommendations were further reduced by HCFA—*vide infra*), it became obvious that this was a zero sum game, and that the other specialties were unwilling to understand our “complex system of billing,” such that increases to our undervalued work units would cause their own to be reduced. In 1997, the Sustainable Growth Rate Formula replaced the MEI and MPVS systems, further complicating the picture for all physicians paid by Medicare.

Since 1992, the ASA has unsuccessfully lobbied both Congress and HCFA/CMS to fix payments for anesthetic services and the anesthesia teaching rule. It has prepared several excellent resources to show exactly why the MFS is flawed for anesthesia services. Recently, the ASA engaged Curt D. Mueller, Ph.D., a former employee of CMS, as a consultant to study whether numerical errors were made at the time of the 29 percent reduction in 1992. In 2004, he filed a formal report entitled “Implementation of the Medicare Fee Schedule and Payment for Anesthesiology Services.” This analysis has not been widely disseminated, but it might be appropriate if it were placed as a resource on the ASA Web Site. It is interesting to note that all of the underlying data used by HCFA to make these mathematical decisions was not available to this consultant, nor to the ASA, and that no inquiries were made under the Freedom of Information Act. Apparently much of the data was on old floppy disks, and no one took the time and energy to locate this data and to port this information to other more accessible sources, such as CDs. The judgment was made that reasonable estimates could be made from what was available, but precisely what did occur continues to elude transparency. Moreover, there is no mention in this report that intraoperative anesthesia time apparently was not used in establishing the cross-links.

What is interesting about the report is its conclusion that anesthesia work had been “over-valued” in the original derivation of the 1992 anesthesia conversion

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factor by (using the terminology and methodology ostensibly used by HCFA), instead of the 41.7 percent according to HCFA, 34.5 percent (as calculated by the consultant's retrospective review in 2004). Had this recalculated number been used when RBRVS was first used as the MFS, this would have produced a 1992 conversion factor of \$14.65, a reduction of 24 percent instead of the 29 percent that did occur. Moreover, the report contains a sensitivity analysis of estimates used in the derivation of the conversion factor, including the effects of increased or decreased average times (if the average times for the 19 codes were less, the percent reduction in conversion factor for 1992 would have been less), increased or decreased practice expenses, increased or decreased values for the work components, and the flaw of using the average reduction in payment based upon the straight numerical averaging of the reductions for the 19 codes, instead of more properly taking into account the relative frequencies for these codes and others. Each of these factors by itself, at least if we examine differences of only plus or minus 10 percent, does not make a huge difference. However, if multiple errors are compounded, even in just the 10 percent range, my calculations suggest that the correct percent reduction could be closer to 21 percent, which translates to a conversion factor in 1992 of \$15.22. The Medicare anesthesia conversion factor for 2006 in California ranges from \$17.58 to \$19.50, and by this analysis would be by now \$19.56 to \$21.70. Larger errors, compounded, would have a bigger effect. Recall that reductions in 1992 under MFS were 22 percent for radiology and 20 percent for pathology.

Furthermore, the ASA had commissioned a previous analysis by Abt Associates in 1995, and that report concluded that "the final rule undervalues actual physician work by 34.76 percent, the volume weighted average extrapolated to all anesthesia procedures." This translates into a recalculated conversion factor in 1992 of \$16.39. The Medicare anesthesia conversion factor for 2006 in California would have been \$21.06 to \$23.37.

In 1995, as part of the mandated five-year review of the URVG, the ASA presented this Abt report to the RUC, and received a 22.76 percent increase in the work component of RVUs for anesthesia. This was reflected in a suggested 15.75 percent increase in the Medicare anesthesia conversion factor, which, after federally mandated adjustments, was reduced to a 9.2 percent increase, effective in 1997.

CMS has appeared to be convinced by many of our arguments, but it has been unmovable. The AMA supports our efforts, but it has other constituencies in this zero sum game. The ASA has studied the notion of eliminating anesthesia time units and converting to flat fees, as was envisioned originally by HCFA when RBRVS was instituted in 1992, but there seems to be no consensus on this matter in the ASA HOD.

In Part III, we will examine lessons learned and attempt to draw analogies to the current political climate concerning P4P.