

# The 33% Problem: Origins and Actions

## Committee on Economics 33% Workgroup Report

### ASA Economic Strategic Plan Initiative

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#### Executive Summary

The Resource-based Relative Value Scale (RBRVS) was established in 1992 to bring standardization and predictability across the country for Medicare payments. This transition resulted in a 29% decrease in Medicare payment for anesthesia services from the 1991 rate. The preliminary efforts to address this issue indicated that Medicare rates were approximately 33% of commercial rates and the matter became known as “The 33% Problem.” The disparity between Medicare’s undervaluation of anesthesia care and commercial payer rates has steadily increased during the intervening years, illustrating the unsustainable nature of the problem.

When Hsiao et al developed the RBRVS, anesthesia services did not receive the same level of review as other medical services and procedures. Hsiao’s work relied heavily on cross-specialty comparisons where services performed by one specialty were compared with services provided by other specialties. In most instances, 12-15 services were considered. However only three anesthesia services were included in the Hsiao analysis. The three services were not representative of the full range of anesthesia work and the cross-specialty comparison services do not seem equivalent. The fact that anesthesia payment is also based on actual anesthesia time – a marked difference from other medical services and procedures – further skewed the analysis.

ASA pursued three opportunities to correct this undervaluation via the Five-Year Review process – a requirement of the RBRVS. In 1995, the effort resulted in a 16% increase to the Medicare anesthesia conversion factor. The second effort in 2000 yielded just a 1.6% increase but it set the stage for our next effort in 2005. That 2005 effort resulted in a 23% increase to the conversion factor. While these successes are meaningful, Medicare’s undervaluation of anesthesia services compared to commercial payments, continues to this day. In addition to being applied to an inaccurately low starting point, those increases, even when combined with

regulatory and statutory updates, have not come close to keeping pace with inflation. The 2020 Medicare anesthesia conversion factor would have to be \$36.77 to be equivalent to the 1992 rate, based upon inflation alone. Instead the 2020 conversion factor is \$22.20.

The blend of market-driven commercial rates in addition to Medicaid and Medicare rates is a major aspect that determines salaries for anesthesia providers. Any potential disruption to that blend will lead to economic upheaval for the specialty. The historical changes that are documented in this report have not corrected the fundamental problems inherent in the Medicare payment approach as it relates to anesthesia care.

The health care economic environment has changed markedly since our last work. Medicare rates may become more prevalent via a possible public option, flawed balance billing restrictions, the increasing number of Medicare beneficiaries and other factors. Our next potential actions to improve the Medicare payment problem must be crafted to address those new challenges. Such actions could range from updating the Hsiao work to acknowledge the changes in the practice of anesthesiology that have occurred since 1992, all the way to the potential elimination of anesthesia time and the adoption of the RBRVS method used for all other physician payments.

#### Introduction

Medicare payments for anesthesia services have proportionately been undervalued when compared to other specialties since the introduction of the Resource-based Relative Value Scale (RBRVS) system in 1992. This document has been prepared to serve as a resource to the American Society of Anesthesiologists (ASA) both to explain the factors that led to the current Medicare anesthesia valuation and possible consideration of corrective actions. The Anesthesia Conversion Factor (CF), the dollar per unit figure used

by Medicare in determining payment for anesthesia services, was dramatically reduced with implementation of the RBRVS in 1992. ASA took three opportunities to correct the valuation in the five-year reviews that occurred in 1995, 2000, and 2005. Although the conversion factor was increased with each review, the overall problem was not corrected. Recent history has revealed an increasing dependency on hospital and commercial insurance support for anesthesia services to make up for poor Medicare reimbursement, and current events illustrate the unsustainable nature of this model.

**“As Medicare becomes a larger proportion of our population’s health care coverage, the shortfall in Medicare rates becomes more apparent and proves that the current values and payment methodology are no longer viable.”**

#### Transition to RBRVS

Prior to 1992 Medicare physician payments were based on three principles of valuation: customary, prevailing, and reasonable. The *customary* component meant that payment should be based on the median of individual physician’s charges. Whereas, the *prevailing* factor set the target for payment at the 90th percentile of customary charges in a geographic payment area. *Reasonable* established that payment would be set at the lowest of either the actual fee, the customary charge

or the prevailing charge. A predictable by-product of this policy was that there was tremendous variation in payments by specialty, geography, and individual practices. This led to uncontrolled program costs that forced Medicare to reconsider how payment rates are established.

#### RBRVS Implementation

The RBRVS system was developed by Hsiao et al. under contract with the federal government and was implemented in 1992. It sought to rationalize physician payments and eliminate historical geographic variation and specialty variations that led to rising costs for Medicare payments. At a high-level, Hsiao concluded that anesthesia payments were overvalued by 41%. During the development process for the RBRVS, there were concerns about the elimination of the time component of anesthesia payments. ASA argued successfully to preserve the time component. Academic practices, however, still suffered a large and specific payment reduction in that overlapping teaching cases had payments cut in half for anesthesiologists. This particular issue has been mitigated by ASA’s efforts to ensure that Medicare pay 100% of its allowed amount for teaching cases when the teaching anesthesiologist is involved in no more than two concurrent cases.

The details behind the Hsiao conclusion that anesthesia payments were overvalued reside in the formulas and comparisons used to determine the Medicare conversion factor in the Hsiao study. Three components were used in the calculations of the relative value of the units in RBRVS: work, practice expense (PE), and professional liability insurance (PLI). These values were established at that time by the Health Care Finance Administration (HCFA). The application of this formula to an anesthesiology practice resulted in a higher percent of costs reflected in the work component,

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since practice expense was less substantial relative to other specialties. The Hsiao group established linkages of comparable work effort across specialties using a panel of physicians. Hsiao established only three linkages for anesthesia with other specialties and surveyed the relative work effort for 19 anesthesia codes. That core group was then extrapolated to determine the Medicare conversion factor for all anesthesiology services.

The three cross links used for anesthesia services in the Hsiao study are shown in Table 1.

The final valuation for an anesthesia unit was set at \$13.68 for 1992, the first year of RBRVS. That was a 29% reduction from the Medicare conversion factor of \$19.27 in 1991. There are many factors leading to this valuation that can be faulted. First, anesthesiology was valued using significantly fewer cross links compared to other specialties (three cross links compared to the typical 12-15 for other services). Hsiao also struggled with determining how the time component would influence payment and thus the value of a unit of service. The inclusion of time units resulted in a decrease in the valuation of units overall, in essence diluting anesthesia payments across a larger pool of units. Finally, anesthesia's base unit values are much more dependent on the work component than other specialties, making the final valuation at greater risk of adjustment relative to comparisons of work. At the time, Anesthesiology was labeled in the Hsiao research to be an "insular" service as a justification for the overall analysis.

### Opportunities for Correction

The conversion to RBRVS also required a comprehensive review of the fee schedule at five-year intervals starting in 1995. These reviews would be conducted by the AMA/Specialty Society Relative Value Scale Update Committee (RUC). ASA pursued efforts at each of these reviews to correct the valuation. The starting point for each review was the fact that the anesthesia conversion factor had been reduced by 29% in 1992 and did not take into account the even greater disparity between the final 1992 conversion factor and commercial payments at the time. Each effort focused on a different method of evaluating the disparity and the assessment of anesthesia resources devoted to providing care.

### 1995 – The Abt Study of Anesthesiology Work Relative Values

#### Rationale:

In April 1995, ASA presented an analysis that was performed under contract by Abt Associates to CMS (which then was known as the Health Care Finance Administration (HCFA)) on payment of anesthesia services relative to the Medicare Physician Fee Schedule (MPFS). This resulted in further scrutiny of anesthesia payment and eventually led to an adjustment in the conversion factor ascribed to charges generated for anesthesia services. The approach taken by Abt was to expand on the Hsiao study by increasing the linkages between specialties and surveying more services.

#### Methodology:

Anesthesia services were evaluated at average time for the anesthesia service, based on data calculated by HCFA and published in the *Federal Register*, and valued relative to the work of non-anesthesia services on the multispecialty points of comparison (MPC) list. The subcomponents evaluated included: pre-anesthesia evaluation, induction, procedure, emergence, and post-anesthesia management. Abt chose to define the case mix for calculating the averages by selecting 15 services requiring anesthesia, which represented 45.6% of the total anesthesia payments under CMS at the time.

Vignettes were created by a multispecialty panel, which included 12 physicians from surgical and non-surgical specialties (three anesthesiologists, three non-surgical specialists, and six surgical specialists). They then discussed each vignette in relation to the MPC list of activities with similar time and intensity utilization. After identifying "fair work" for each subcomponent in each vignette, the subcomponents were summed, presented, and each case was discussed separately. The summed values were evaluated for confidence within the panel of specialists to ensure no significant variability in opinions on "fair work" existed. Once all the values for "fair work" were finalized, they were compared to existing payment to establish a calculated adjustment to the CF in order to resolve the issue at hand.

When the ASA representatives presented Abt's work to the RUC, they were asked to explicitly demonstrate the justification of the analysis. In response, they offered numerous facts regarding the differences between the Abt evaluation and

**Table 1: Hsiao Study Specialty Cross Links for Anesthesiology**

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

the initial Hsiao work presented to HCFA. These are some of the most significant justifications cited.

- The evaluation by Abt was a result of a multidisciplinary team of physicians with comprehension and understanding of both the operating room and acute care evaluation environments.
- These evaluations consisted of a wider swath of codes than those previously examined in the Hsiao work presented to HCFA and looked at all five subcomponents of the anesthesia work performed for each case.
- By including more codes, there was some concern that lower-utilized anesthesia services might be overvalued, so a regression analysis was done to ensure the presented solution was capable of being extrapolated to the entire anesthesia code group.
- Finally, rather than revaluing each code, the decision was made to compare the payment results of their evaluation to the current state of payment to identify an appropriate multiplier. This multiplier could be applied to the CF to adjust payment without rewriting values for each billable code.

#### Proposal and Outcome:

After completing the current state analysis in early 1995 and identifying that anesthesia work was valued at 33.75% relative to the MPFS, the endeavor of finding a "fair work" value for anesthesia work was completed using the methodology above. An "Adjustment Factor" calculated by regression analysis of 24.29% was proposed, and ASA presented the work and the request to the RUC in April 1995.

The RUC asked ASA (via Abt) to validate the analysis using the RUC's survey methodology. This validation was completed and presented to the RUC in August 1995. The results were very sim-

ilar; however, to appease the RUC, ASA agreed to decrease the minimum procedure-period intensity (MPPI), a variable in the CF calculation, which decreased the overall requested CF increase. The RUC again refused to institute the increase due to continued reservations over the MPPI.

In February 1996, ASA asked the RUC's Facilitation Committee to review the proposal and offer a recommendation back to the RUC. The committee proposed a further significant reduction in the MPPI. This recommendation was accepted, the proposal was amended, and the RUC unanimously passed the proposal.

After two in-depth evaluations of anesthesia work and payment compared to the MPFS were completed by Abt and submitted to the RUC, a successful outcome of an increase in the CF was accomplished. However, due to concerns at the RUC regarding methodology and validation of a significant increase in the CF to allow for fair payment of work, the final increase in CF was less than required to accomplish the initial goal. The initial request based on validated evaluation of fair work was 24.29%, but ultimately an increase in CF of only 15.95% was approved. Although this was an improvement toward a more fair valuation, the increase in the CF did not sufficiently resolve the deficit in CMS payment for anesthesia services relative to other specialties.

### 2000 – The Building Block Analysis: Rationale:

In preparation for the 2000 Five-Year Review of Physician Work Values, a slide-show was prepared by the ASA Committee on Economics. The 1999 presentation centered around six lines of evidence regarding the undervaluation of anesthesia payment by Medicare, including comparison to Medicaid, other specialties

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and other health systems, and other payment models. These tools were used to argue for improved anesthesia payment strategies from Medicare to address the longstanding undervaluation of anesthesia services. This approach using a well-reasoned and argued line of reasoning did in fact lead to an improvement in the anesthesia conversion factor, albeit smaller in size than prior or subsequent “asks.” The “Building Block” analysis presented in the slideshow was expanded and used as the core for the actual five-year review.

The core argument advocating the need for a reevaluation of the anesthesia codes was based on the following six reasons identified at the time:

1. *Medicare undervalues anesthesia when using an hourly rate comparison.* Using time-based RBRVS payments, anesthesia services were grossly undervalued compared to a wide variety of health care-related activities, from wheelchair training to critical care activity.
2. *Direct comparison between Medicaid and Medicare.* Anesthesia payment from 29 states demonstrated that Medicare undervalued anesthesia services when compared to Medicaid, which is considered the safety net program and is typically the lowest payer for other medical specialties.
3. *VA study on reasonable charges in anesthesia.* This study was undertaken to set reasonable charges for services at VA hospitals paid for by private insurers in 1998. Using the Health Insurance Association of America’s commercial insurance database, they determined “reasonable” anesthesia charges and then calculated a reasonable payment for anesthesia services. Using this number and the percent gap for Medicare payments for other specialties, it was concluded that Medicare payments for anesthesia services were valued at 42% of what other specialties were paid.
4. *Cross specialty comparison of common RBRVS multiples.* Using commercial rates compared to 125% of the Medicare payment rate as a speculated future commercial rate goal for the 11 largest volume surgical cases demonstrated how the conversion to Medicare-based payment would affect each specialty. Surgical fees decreased by an average of 9% while anesthesiology payments decreased by more than 50% for every procedure.

5. *Pure Medicare anesthesia practice model.* The 1995 McMenamin study used the Hsiao methodology to estimate annual salaries for physicians based on a practice using Medicare rates only. Using the Medicare conversion factors at that time, anesthesiology would receive an annual compensation that was one-fifth of that for a general surgeon and one-half of a psychiatrist working an equal amount of time.
6. *Building block analysis.* Expanded below.

#### Methodology:

The building block analysis built a model for anesthesia compensation by separating all of the perioperative activities required to provide an anesthetic and correlating them to the Medicare Physician Fee Schedule for all other specialties/physicians of similar work types. The total of the work values for all components was then compared to the existing payment for anesthesia services to demonstrate the shortfall in the anesthesia valuation. As part of this process ASA surveyed 85 (32% of 262) practicing anesthesiologists regarding 13 high-volume anesthesia codes (each leading to >\$10 million yearly billing). The surgeries included general, vascular, neurosurgical, urology, orthopedic, cardiac, and ophthalmologic surgery covering 54% of all Medicare billing. The survey broke anesthesia work into preop, induction, postinduction, and post-op parts similar to the RUC survey methodology. It found that anesthesia base units ranged from 3-30, and time units came from “intraservice” times from the HCFA database. The results were compared by a consensus panel of anesthesia experts to the CPT® codes for non-anesthesia

physicians doing work comparable to perioperative activities and are shown in Table 2.

#### Proposal and Outcome:

Using this model for the 13 anesthesia codes, the study found that anesthesia work was routinely underestimated (compared to all other physicians) by between 28.4% to 37.6% in work Relative Value Units (RVUw). Important conclusions included justifications for preop evaluation, intraoperative monitoring and care (prolonged physician service), overlap of monitoring, and the analysis of special procedures. The request made to the RUC was for an increase of 28%. The RUC questioned the validity of the analysis based on the assessment of the acuity of post-induction work. Consequently, the final outcome was that the RUC did not fully accept the valuations and recommended only a 1.6% increase in the conversion factor.

#### 2005 – Regression Model

##### Rationale:

The goal of the 2005 five-year review was to present a new model that offered a more sophisticated improvement on the prior methodology for valuing anesthesia work with attention paid to post-induction work intensity.

##### Methodology:

The 2005 model utilized a linear least-squared regression analysis to address two primary ASA concerns.

1. To test the hypothesis that detailed data for the 19 codes used in the 2000 analysis can be used to accurately calculate appropriate values for the other 252 anesthesia codes.

2. Concerns by ASA that the assigned intensities of the entire range of anesthesia codes are too low relative to other comparable physician services.

For the first part of the model that utilized regression analysis, the authors wanted to test the hypothesis that there is enough correlation between the different components of RVU calculations to allow some components to serve as effective predictors of the values of other components. They used commonly accepted statistical tools as their approach to test their hypothesis.

In developing an alternative estimate for the post-induction period procedure intensity (PIPPA) component of an anesthesia service, ASA wanted to build an accurate estimator utilizing more detailed information from the 19 studied codes to predict the PIPPA intensity for the other 252 codes that have less information. More importantly, ASA felt the results of the previous quintile model produced aggregate intensities that did not match other comparable services. Further, the results did not reflect the higher complexity and intensity of more challenging cases. In addition, changes in the value for Evaluation and Management (E/M) services that CMS implemented and other RUC recommendations that occurred during this time period required an adjustment – especially at the low end of anesthesia services to match the E/M services. The high end of the PIPPA intensity was set at the intensity of a critical care code, and the low end was anchored to the intensity of a moderate sedation service.

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**Table 2: Building Block Example**

Clinical Activity	Unit Valuation for Comparable Activity
Preanesthesia eval (99201)	0.45 RVW
Equipment/Supplies/Prep (5 min@0.014)	0.07 RVW
Induction period/intubation (nonemergent) (31500) @50% x2.33	1.16 RVW
BMAD anes time = 95 min - 5 min (intubation)	
Prolonged physician service 60 min 99356 x 1	1.71 RVW
Prolonged physician service 30 min 99357 x 1	1.71 RVW
Post-anesthesia care 99211	0.17 RVW
<b>Total Building Block</b>	<b>5.27 RVW</b>
vs. Anesthesia Valuation in 2000	4.03 RVW

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#### Proposal and Outcome:

The regression model was able to use data from the 19 anesthesia codes to effectively predict the different components of the payment methodology and apply these values to the other anesthesia codes. A regression analysis was able to predict 60% to 61% of the variation in values among the 19 codes with more detailed data.

The model also showed what would occur by rebasing the range of anesthesia intensity values (related to PIPPA) using values from moderate sedation and critical care services as minimum and maximum benchmarks. This resulted in a substantial change in payments for anesthesia services under Medicare.

The model showed a 33% weighted average undervaluation of anesthesia work compared to the then-current RUC values, which resulted in a 23% increase in the conversion factor for anesthesia (the update was applied to the work component of anesthesia care). Consequently, the RUC agreed and approved the 23% increase in the conversion factor.

#### Conclusions from the Five-Year Reviews

The historical course of anesthesia payments from the creation of the RBRVS to the end of the three five-year reviews is of interest for multiple reasons (Table 3). Hsiao's assumptions created a change from Medicare payments that existed before RBRVS that were addressed over each of the RUC reviews. The relative success and failures of the arguments used at each review are indicative of what logic might work with future arguments. It is important to look at where values started and ended over the 13 years covered in this review. The efforts of the past cannot be applied directly to future efforts at correcting the Medicare valuation problem since the five-year review process no longer exists and we have moved on to an era dominated by Alternative Payment Models (APMs), pay for performance, and new regulatory systems that determine payment, including the Patient Protection and Affordable Care Act, commonly referred to as the ACA, and the Quality Payment Program (QPP) that is part of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).

At the end of the three cycles of review, it is apparent that both the RUC and CMS would consider the initial

Year	1995	2000	2005
<b>Rationale</b>	Conversion factor was 29% lower than prior valuation. Hsiao study only used 3 procedures	Medicare pays other specialties for similar activity with different valuation	Longstanding concern about miscalled codes. Prove post-induction work intensity is valid
<b>Methodology</b>	Surveyed more services. Services made up 45% of anesthesia charges. Multispecialty panel	Building block analysis: Compare pre-op, intra-op, post-op activity to similar E/M and other services	Statistical analysis to demonstrate validity of post-induction work and scalability of the values
<b>Request</b>	24% increase	28% increase	23% increase
<b>Result</b>	RUC asked for a resurvey and recommended a 16% increase	Analysis of post-induction work was questioned. 1.6% increase	23% increase

valuation change instituted by Hsiao to have been rectified. The first reason for this is that the final ASA petition to the 2005 RUC requested a 23% increase to correct the valuation problem, and the RUC approved that amount. It is hard to imagine that further arguments to the undervaluation of anesthesia services that depend on the changes instituted with RBRVS would be successful at this point. In addition, the mathematics of the course of unit values from 1992 to 2005 demonstrate that the increases granted in the three five-year reviews did successfully erase the 29% decrease in valuation from the Hsiao study. Excluding inflation and cost-of-living changes, the 2005 unit value restored the full deficit from 1992 (Table 4). Unfortunately, the initial valuation set a low starting point on which all other valuations were based from that point on, which resulted in all adjustments being applied to an already inaccurately low conversion factor. This point is clearly demonstrated in a communication from former ASA Vice President for Professional Affairs Norm Cohen, MD who said, "The combination of inaccurate valuation, updates applied to falsely low payment rates, and the overall failure of Medicare to match inflationary updates all contribute to Medicare anesthesia payment levels remaining at 33 percent of commercial payment rates." Using the website [www.usinflationcalculator.com](http://www.usinflationcalculator.com), we see that just to keep pace with inflation, the 1991 Medicare Anesthesia Conversion Factor of \$19.27 would have to be \$36.77 in 2020! Instead, the 2020 figure is \$22.20.

	Change	Value Compared to Baseline	Actual Medicare Unit Values
<b>Starting Unit Valuation</b>		1.000	19.27 (1991)
<b>RBRVS</b>	-0.29	0.710	13.94 (1992)
<b>1995</b>	0.16	0.824	14.77
<b>2000</b>	0.016	0.837	17.77
<b>2005</b>	0.23	1.029	19.97 (2008) *

\*Year that 2005 RUC review was applied

#### Lessons Learned and Recommendations

Each five-year review was successful in its own right, which provides guidance on what arguments can be made to resolve the problem today. The 1995 effort demonstrated that expanding the linkages between anesthesia payments and other specialties proved that a disparity exists, which is still a valid argument and could be applied again on current data. This would be a repeat of the Hsiao analysis with a greater number of anesthesia codes and linkages that more accurately reflect the relationship of anesthesia clinical activity to other specialties.

The 2000 and 2005 reviews using a building block analysis eventually resulted in the most successful unit value increase when combined with the regression analysis to demonstrate the validity of the conclusions. The method demonstrated a logic and strength of argument that resulted in a completely successful petition to

increase the conversion factor. The building block analysis could serve as the basis for a re-evaluation of the work involved in clinical anesthesia activity adjusted for the new acuity levels of today's clinical care. The practice of anesthesiology has changed significantly in the interval between the Hsiao study, the 2005 review, and 2020. Those changes, and increases in work and complexity, could potentially be the source of successful reevaluation of the current unit conversion factor.

What is not represented in any of these analyses is how governmental payments for anesthesia services have diverged from the marketplace. Medicare rates are calculated using formulas that are determined by legislation and regulation without consideration of the market value of services. A compelling example of this is the proposed decreases to both the anesthesia and RBRVS conversion factors for CY 2021, a significant decrease based on a statutory requirement that Medicare spending be con-

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tained within a specified budget neutrality boundary. New and future efforts to address Medicare's undervaluation of anesthesia care must demonstrate that the growth in the disparity between CMS valuation and the marketplace or negotiated commercial valuation of anesthesia services is worthy of continued attention. In its March 2020 Report to Congress, the Medicare Payment Advisory Commission (MedPAC) reported that the average specialty is paid at 74% of Medicare rates; but in that same report, MedPAC specifically notes that their analysis does not include anesthesiology. The annual ASA Commercial Conversion Factor Survey has consistently shown a disparity of 27% to 40% for anesthesia services (Table 5). A report from the Government Accountability Office (GAO) is to be released this fall and may also reach a similar conclusion, thus providing independent support for this argument.

Finally, the structure of anesthesiology billing that relies on integer base unit values served as a barrier to the original Hsiao analysis and continues to create difficulties with the comparison of the value of anesthesia clinical activity to all other specialties. It also presents challenges in defending the current base unit value of anesthesia codes as surveys may support a value of 3.4 base units, but the code under review will be assigned a value of 3.0 base units. Changing the structure of the calculation of anesthesia units would force a re-evaluation of the value of anesthesia activity. Moving to fractional base units would allow greater precision of valuation and would place anesthesia billing calculation closer to the standard for RBRVS.

The most radical option for consideration would be to transition away from anesthesia base and time units toward a pure RBRVS system that would be in complete alignment with the rest of the house of medicine. These changes would eliminate the major factors that prevent the comparison of anesthesia values to other specialties and would force a new valuation of anesthesia activity in comparison to the rest of medicine.

Review of these potential actions needs to consider the current health care environment, which has changed markedly since our last work. Notable issues include government debt, possible federalization of health care, commercial contracting pressures, and the economic challenges that have resulted from the COVID-19 pandemic.

	<b>Medicare Anesthesia CF</b>	<b>ASA Commercial Survey Mean</b>	<b>Medicare as % of Commercial</b>	<b>1991 CF as Adjusted by CPI for Inflation*</b>
1991	\$19.27			
1992	\$13.68			\$19.85
1993	\$13.66			\$20.44
1994	\$14.20			\$20.97
1995	\$14.77			\$21.56
1996	\$15.28			\$22.20
1997	\$16.68	\$42.82	38.95%	\$22.71
1998	\$16.88			\$23.06
1999	\$17.24	\$43.10	40.00%	\$23.57
2000	\$17.77			\$24.36
2001	\$17.83	\$45.36	39.31%	\$25.04
2002	\$16.60			\$25.45
2003	\$17.05			\$26.03
2004	\$17.50			\$26.73
2005	\$17.76	\$52.73	33.68%	\$27.63
2006	\$17.76			\$28.52
2007	\$16.19	\$58.96	27.46%	\$29.34
2008	\$19.97			\$30.46
2009	\$20.92	\$64.28	32.54%	\$30.35
2010	\$21.57	\$72.05	29.94%	\$30.85
2011	\$21.05	\$70.39	29.91%	\$31.83
2012	\$21.41	\$67.94	31.51%	\$32.48
2013	\$21.92	\$71.69	30.58%	\$32.96
2014	\$22.62	\$70.00	32.31%	\$33.49
2015 Jan-Jun	\$22.50	\$71.92	31.28%	\$33.53
2015 Jul-Dec	\$22.61	\$71.92	31.44%	\$33.53
2016	\$21.99	\$71.02	30.97%	\$33.96
2017	\$22.05	\$78.57	28.06%	\$34.68
2018	\$22.19	\$76.32	29.07%	\$35.53
2019	\$22.28	\$77.01	28.93%	\$36.17
2020	\$22.20	\$82.14	27.03%	\$36.77

\* Per [www.usinflationcalculator.com](http://www.usinflationcalculator.com)  
CPI = Consumer Price Index

### Conclusion

The blend of market and Medicare rates is what has set the marketplace for anesthesiology salaries, and any disruption to that blend will be the source of economic upheaval for the specialty. When compared to other specialties, the historical changes that are documented here have not corrected the fundamental problems inherent in the Medicare payment approach as it

relates to anesthesia care. Unfortunately, this review shows that despite the apparent correction of the payment reductions with RBRVS that occurred between 1995 and 2005, a consistent degradation of Medicare payment has continued as compared to the rising costs of providing anesthesia services. Furthermore, Medicare unit values have continued to diverge from commercial

payments to the point that rates are now at 27% of average commercial payments.

As Medicare becomes a larger proportion of our population's health care coverage, the shortfall in Medicare rates becomes more apparent and proves that the current values and payment methodology are no longer viable.

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**Table 6: Potential Actions to Improve the Medicare Payment Problem**

Repeat the Hsiao study with a broader base of cross links and modern clinical activity comparisons
Update the building block approach to recognize the change in the practice of anesthesiology from Hsiao to 2005 to present day
Quantify the increasing gap between Medicare rates and commercial payments over time with special notation on how that impact has been more pronounced for anesthesiology than services paid under the RBRVS system
Change the formula for calculating anesthesia charges to better match with RBRVS used for other specialties. Potential solutions include: <ul style="list-style-type: none"> <li>• Creation of fractional base units</li> <li>• Elimination of anesthesia time</li> <li>• Incorporation of anesthesia services into RBRVS</li> </ul>

**Appendix – Author Affiliations**

	Position/Title	Hospital/Institution Affiliation	Current ASA involvements	City and state of practice or residence
Johnathan Pregler, MD	Clinical Professor, Department of Anesthesiology and Perioperative Medicine Medical Director of Operative Services	David Geffen School of Medicine & UCLA Health, University of California, Los Angeles	Member, Committee on Economics Member, Committee on Quality Management and Departmental Administration Member, Committee on Equipment and Facilities	Los Angeles, CA
Vijay Saluja, MD, MBA, FASA	Partner, US Anesthesia Partners Texas		Member, Committee on Economics	Frisco, TX
Mahesh Vaidyanathan, MD	Assistant Professor	Northwestern University	Member, Committee on Economics	Chicago, IL
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Sharon K. Merrick, MS, CCS-P	Director of Payment and Practice Management	American Society of Anesthesiologists		
Christopher A. Troianos, MD, FASE, FASA	Professor and Chair, Anesthesiology Institute	Cleveland Clinic Lerner College of Medicine of Case Western Reserve University	Chair, Committee on Economics Member, Committee on Practice Management Member, Committee on Cardiovascular and Thoracic Anesthesia	Cleveland, OH