

THE ECONOMICS OF MANAGED CARE REIMBURSEMENT: A rationale for nonparticipation

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Physicians and patients have seen the reality that managed care has changed the landscape of medical practice both professionally and financially. Any surgeon who practiced in the era that preceded health maintenance organizations (HMO) can attest to this. Financial, clinical, and ethical problems that arose as a result of the managed care environment have wreaked havoc on the surgical community. Most physicians have let themselves be held hostage by the managed care companies because of fear—that is, fear of professional and financial ruin through the loss of market share. The perception that nonparticipation in these plans would lead to financial suicide became the mantra through which these companies have kept physicians in line. The subsequent demoralization of the profession has further lowered surgeons' self-esteem and self-confidence and taken away our self-respect collectively, allowing an even tighter control of physicians by the insurance industry.

As a practicing general and vascular surgeon for the last 20 years, I watched the development of a sad scenario that I never thought possible: A once proud, respected, trustworthy, and noble profession brought to its knees by those not trained in the honorable art and science of medicine and whose only motivation is profit.

Four years ago, my office manager informed my partners and me that there were not sufficient funds in the business checking account after all expenses to pay physician salaries. I was stunned, to say the least—we all were! I am part of a very busy general and vascular surgical practice (2,650 cases/year) in an affluent suburb in the New York metropolitan area. The vast majority of patients here have insurance and we participated in every major HMO at the time. Examination of the books revealed a cash flow problem because of payment denials, down-coding, and the insurers delaying payments. Does this sound familiar? It should, because the same thing has probably happened to you.

I became very angry and I quickly began educating myself in the business aspects of a surgical practice. I took a course sponsored by the Medical Society of New Jersey, which taught me how to use the resource-based relative value scale (RBRVS) to analyze our business and determine if a particular insurance contract was profitable as well as how to determine the profitability of specific procedures we performed. The results were utterly shocking and that analysis is the basis for this paper.

The main problem facing surgeons in dealing with managed care companies from a business perspective is that many surgeons do not know what are the costs to provide surgical services. These costs can vary widely by surgeon, depending on how high is his or her salary and by how well he or she can control practice expenses.

Furthermore, managed care companies do not provide physicians with a full fee schedule or, in many instances, any fee schedule. The surgeon does not know what are the costs and does not know what he or she will be paid. This is a recipe for certain financial suicide. Do you know of any business that would sell a product without knowing what it costs? The only business I know of that operates in this manner is medicine, and this is one of the main reasons that the profession is in financial jeopardy.

This analysis relies on the principle of converting all of our payments, expenses, and profits into unit values using the same relative value units (RVUs), which payors use to develop base procedural reimbursements. This allows us to compare apples to apples and to better

understand the expense relationship associated with a particular procedure, something I had never thought of doing before taking this course.

Each Current Procedural Terminology* code that is billed has a specific number of RVUs assigned to it. For example, in 2002, code 49505 (inguinal herniorrhaphy) had 12.38 RVUs assigned to it. Medicare and insurers use a conversion factor per RVU in dollars and then multiply the conversion factor by the RVUs to calculate the payments for a particular CPT code.¹ Each payor uses a different conversion factor, thereby yielding different reimbursements for the same procedure.

The first step in doing the analysis is to find the total number of RVUs of service provided over a given time period. The RVU becomes the basic unit of measure. All services rendered by our practice for 2002 were entered into the analysis. Each CPT code billed for that year was entered by the number of times the procedure was performed or the patient encounter occurred. This was then multiplied by the amount of RVUs specific to each CPT code. The total number of RVUs of service provided for that year was calculated. This was done as shown in the following abbreviated example:

CPT code	Procedure	Number performed	x	RVU/CPT code	=	RVU total
49505	Hernia	75	x	12.38	=	928.50
47562	Laparoscopic cholecystectomy	75	x	17.37	=	1,302.50
35301	Carotid	100	x	29.32	=	2,932.00
44140	Colon	50	x	32.36	=	<u>1,618.00</u>
				RVU total=		6,781.25

We then totaled the collections specific only for those services rendered during that year. This was done as shown in the following example:

49505	75 hernias paid	\$ 33,611.70
47562	75 laparoscopic cholecystectomies paid	47,159.55
35301	100 carotids paid	106,138.40
44140	50 colons paid	<u>58,571.60</u>
	Total reimbursement	\$245,481.25

*All specific references to CPT (Current Procedural Terminology) terminology and phraseology are © 2006 American Medical Association. All rights reserved.

Dividing the total collections by the total number of RVUs of service provided during that year left us with a global (that is, all payors) conversion factor specific to our practice. This figure was calculated as follows:

$$\begin{aligned}\text{Conversion factor} &= \text{Total reimbursement/RVU total} \\ &= \$245,481.25/6,781.25 \\ &= \$36.20 \text{ per RVU of service provided}\end{aligned}$$

The conversion factor for our practice was actually \$36.17 in the year 2002. The conversion factor for Medicare for that year was \$36.20. Since the Medicare conversion factor is uniform and applicable to all, and not really different from ours, we used \$36.20 as the global conversion factor for the calculations that ensued.

The next step in the analysis is to analyze our costs. This was done by totaling all practice expenses for 2002. Everything it cost to run our practice was included, including salaries but not bonuses (as this is an analysis of a business, not an analysis of personal income). The total expense dollar amount was divided by the number of RVUs of service we provided for that year. The resultant figure is the cost conversion factor for each RVU of service provided. This was calculated as follows:

$$\begin{aligned}\text{Total expenses for the practice} &= \$200,860.62 \\ \text{Total RVUs of service provided} &= 6,781.25 \\ \text{CCF} &= \text{Total expenses / RVU total} \\ &= \$200,860.62 / 6,781.25 \\ &= \$29.61\end{aligned}$$

This CCF (\$29.61) is what it cost our practice to perform one RVU of service in 2002.

The last step in the analysis was to analyze our profits for the year. By subtracting the CCF from the conversion factor, we are left with our profit per RVU of service provided. This was calculated as follows:

$$\begin{aligned}\text{Profit} &= \text{Revenue} - \text{Expense} \\ \text{Revenue for each RVU of service (conversion factor)} &= 36.20 \\ \text{Expense for each RVU of service provided (CCF)} &= \$29.61 \\ \text{Profit} &= \$36.20 - \$29.61 = \$6.59\end{aligned}$$

This amount of \$6.59 was the profit to our practice for providing one RVU of service to the patient. This profit was the global profit to our

practice encompassing all payors.

We then completed the same analysis individually for the three HMOs that composed the bulk of our managed care patient population: Aetna, United Health Care, and Oxford. These three separate analyses were compared to the global analysis, which essentially is Medicare. The profit from Aetna was \$4.89/RVU, Oxford was \$4.76, and United was \$5.63. Clearly, this total profit was far less than what was received for Medicare.

Tables 1 and 2 on page 31 show the figures from our practice analysis using the profit formula discussed in this article. Table 1 shows the global profits for our practice for some of the common CPT codes used in general surgery as well as for some of the more complex procedures performed for 2002. Table 2 compares the profits for these same procedures among different payors.

A Whipple operation is the single most complex operation in terms of RVUs that a general surgeon performs (73.72 RVUs for 2002). This translates into a profit of \$485.81 for a Medicare patient, \$360.49 for an Aetna patient, \$350.90 for an Oxford patient, and \$415.04 for a United patient. For a ruptured abdominal aortic aneurysm (66.66 RVUs), this translates into a \$439.28 profit for a Medicare patient, \$325.96 for an Aetna patient, \$317.30 for an Oxford patient, and \$375.29 for a United patient. For a three vessel coronary artery bypass graft (CABG), this translates into a \$343.66 profit for Medicare, \$255.01 for an Aetna patient, \$248.23 for an Oxford patient, and \$293.60 for a United patient. Do you know of any surgeon who would knowingly do a CABG with all its attendant morbidity and malpractice risk for such a cursory fee?

We found these results shocking. If my malpractice insurance increased by \$10,000 the next year (something that is very probable in New Jersey), I would need to perform 100 extra laparoscopic cholecystectomies (at approximately \$100 profit per laparoscopic cholecystectomy) just to be able to pay the increase alone without lowering my salary.

We secured a copy of the 1992 Medicare fee schedule (the year Medicare enacted the RBRVS payment system) and compared the fee differences from the 2002 fee schedule. The results are shown in Table 3 on page 32. The fees in 1992 were already cut from the previous year. We did

TABLE 1: Global profits for general surgery CPT codes

CPT#	Procedure	RVU/CPT	x	Profit/RVU	=	Profit per Procedure
19160	Breast biopsy	11.22	x	\$6.59	=	\$73.93
27590	Amputation	26.05	x	6.59	=	171.66
33512	Coronary artery bypass graft	52.15	x	6.59	=	343.66
35092	Ruptured abdominal aortic aneurysm	66.66	x	6.59	=	439.28
35301	Carotid	29.32	x	6.59	=	193.21
35566	Femoral tibial bypass	41.71	x	6.59	=	274.86
44120	Small bowel resection	26.13	x	6.59	=	172.19
44005	Lysis adhesions	25.02	x	6.59	=	164.88
44140	Colon resection	32.36	x	6.59	=	220.04
44950	Appendectomy	16.19	x	6.59	=	106.69
47562	Laparoscopic cholecystectomy	17.37	x	6.59	=	114.46
48150	Whipple procedure	73.72	x	6.59	=	485.81
49505	Inguinal hernia	12.38	x	6.59	=	81.58
99213	Level 3 office visit	1.39	x	6.59	=	9.16
99254	Level 4 hospital consult	3.78	x	6.59	=	24.91

TABLE 2: Profits for procedures among different payors

CPT#	Procedure	Medicare	Aetna	Oxford	United
19160	Breast biopsy	\$ 73.93	\$ 54.86	\$ 53.40	\$ 63.16
27590	Amputation	171.66	127.38	123.99	146.66
33512	Coronary artery bypass graft	343.66	255.01	248.23	293.60
35301	Carotid	193.21	143.37	139.56	165.07
35092	Abdominal aortic aneurysm	439.28	325.96	317.30	375.29
35566	Femoral tibial bypass	274.86	203.96	198.53	234.82
44005	Lysis adhesions	164.88	122.34	119.09	140.86
44120	Small bowel resection	172.19	127.77	124.37	147.11
44140	Colon resection	220.04	158.24	154.03	182.18
44950	Appendectomy	106.69	79.16	77.06	91.14
47562	Laparoscopic cholecystectomy	114.46	84.93	82.68	97.79
48150	Whipple procedure	485.81	360.49	350.90	415.04
49505	Inguinal hernia	81.58	60.58	58.92	69.69
99213	Level 3 office visit	9.16	6.79	6.61	7.82
99254	Level 4 hospital consult	24.91	18.48	17.99	21.28

not have any Medicare fee schedules from previous years, but it is my recollection that the fees were cut by some 25 percent to 30 percent in 1992.

We then located a 1993 Usual and Customary Fee Schedule for the zip code 07601 (Hackensack, NJ) from McGraw Hill,² whose 50th percentile fees were as follows:

CPT	Procedure	50th percentile 1993 fee
19160	Partial mastectomy	\$ 731
33512	Three vessel CABG	6,109
35092	Ruptured abdominal aortic aneurysm	5,394
35301	Carotid endarterectomy	3,628
35566	Femoral tibial bypass	3,895
44005	Lysis of adhesions	1,914
44120	Small bowel resection	2,518
44140	Colon resection	2,647
44950	Appendectomy	1,448
48150	Whipple procedure	4,332
49505	Inguinal herniorrhaphy	1,184
99213	Level 3 office visit	63
99254	Level 4 hospital consult	230

The conversion factor calculated for the 50th percentile usual and customary fee in 1993 was \$86. The conversion factor for Aetna, Oxford, and United is 60 percent less than this. The consumer price index (CPI) for medical care services (taken from the U.S. Department of Labor) had risen 55 percent from 1993 to 2003. If we increased our usual and customary fees by this amount as any other business would, the conversion factor for our 1993 50th percentile usual and customary fee adjusted by the increase in CPI for medical care services would be \$133.30. Comparing the conversion factors for Aetna, Oxford, and United to the CPI adjusted usual and customary fee results in a decrease of 75 percent. The actual conversion factor comparison is as follows:

Payor	Conversion factor
Medicare (2002)	\$36.20
Aetna	34.50
Oxford	34.37
United	35.24
1993 usual/customary	86.00
1993 usual /customary (adjusted by CPI for health care services)	133.30

TABLE 3: Medicare fee changes

CPT#	1992	2002	% change
19160	\$415.76	\$406.16	-3
27590	1,033.80	943.01	-9
33512	3,427.48	1,887.83	-45
35092	3,566.24	2,413.09	-33
35301	1,491.32	1,061.38	-29
35566	2321.93	1509.90	-35
44005	1047.98	905.72	-14
44140	1212.92	1,171.43	-4
44950	519.70	586.07	12
48150	3087.78	2,668.66	-14
49505	474.13	448.15	-6
99213	38.14	50.31	31
99254	140.18	136.83	-3

Source: 1992 and 2002 Medicare fee schedules.

TABLE 4: Veterinary pet insurance (VPI) sample benefit schedule³

Condition	VPI Superior Plan
Gastritis	\$ 347
Gastric torsion	1,993
Intestinal foreign body	1,363
Pancreatitis	593
Neoplasia pancreas	2,265
Liver disease	409
Lacerations	501
Abscess	378
Neoplasia thorax	2,558
Pneumonia	588
Neoplasia prostate	2,022
Laminectomy	2,338
Fracture-plate	1,852
Diabetes mellitus	568

If we now use the profits/RVU from HMO revenues and compare them to the 1993 usual and customary fee profits adjusted by the CPI for medical care services, our profits are down 95 percent. The calculation is shown in the following:

TABLE 5: Reimbursement for procedures: Veterinary versus human⁶

Procedure	Medicare	Aetna	Oxford	United	Veterinary
Gastric torsion (Gastrectomy CPT 43631)	\$1,241	\$1,183	\$1,178	\$1,208	\$1,993
Intestinal foreign body (CPT 44010)	725	691	689	706	1,363
Neoplasia pancreas (CPT 48140)	1,297	1,236	1,231	1,263	2,265
Neoplasia thorax (CPT 32480)	1,403	1,337	1,332	1,366	2,558

CPI adjusted 1993 usual/customary conversion factor
= \$133.30/RVU
Cost conversion factor (CCF) = 29.61/RVU
CPI adjusted usual/customary profit/RVU = 103.69/RVU

Aetna profit = \$4.89/RVU (-95%)
Oxford profit = \$4.76/RVU (-95%)
United profit = \$5.63/RVU (-94%)

If we used the 1993 50th percentile fees and adjusted them by the 55 percent CPI increase in health care services, our profit would be \$103.69/RVU.

I don't know of any business whose profits could decrease by such a margin and still survive.

An operating nurse on our staff with veterinary insurance for her collies provided us with a veterinary fee schedule for canine medical and surgical services (Table 4, page 32).³ In Table 5 (this page), a comparison of veterinary surgical services with analogous surgical procedures in humans shows that this veterinary insurance plan pays providers almost twice what Medicare pays.

Table 6 on this page shows the hourly wages for health care professionals as published in the *AMA News*.⁴ Note that a nurse at my hospital working weekends (with no benefits) is paid more per hour than a family practitioner and almost as much as an internist. While I don't begrudge the nurses what they earn, it seems that physicians are being placed in an economic strata that in some cases is less than a registered nurse; it is the poor reimbursements from the insurers that are responsible for this scenario.

More significantly, the sum total of compensation for the 10 major managed care chief executive officers (CEOs) exceeds \$1 billion. That is 1/1,500 of the entire national expenditure for health care in 2001 (\$1.5 trillion). (See sidebar on page 34 for more specific information about

TABLE 6: Estimate of hourly wages for selected specialties and nonphysicians³

Family practice	\$47.28
Internal medicine	51.38
Neurology	63.00
Obstetrics/gynecology	79.58
General surgery	83.74
Otolaryngology	84.99
Cardiology	96.31
Managed care CEOs	1,423
Weekend nurse at HUMC	50

the profits and compensation levels of the managed care industry.)

As you can well imagine, the salary data presented here outraged my partners and me. As a result we began dropping managed care plans and had resigned from all of them as of January 2003. We were frightened but determined that we were no longer going to support a system that denies care to patients, that rewards middlemen with enormous sums of money for essentially no risk, that relies on fear of professional and financial ruin to keep doctors in line, and that reimburses physicians a pittance for the care that they render and the risks that they take. Our monthly collections (see Figure, page 35) show a significant increase beginning approximately eight months after resigning from managed care plans. Statistical analysis using analysis of variance (ANOVA) shows a highly significant difference between collections after dropping out of managed care ($P = .001$). Initially, our caseload decreased. That has since reversed itself. Our offices are no longer crammed with managed

Managed care profits and compensation

Please note the average hourly wage of a managed care chief executive officer (CEO). Table 1 at right shows the salaries, bonuses, and unexercised stock options of the 10 highest paid health care executives from for-profit health plans in 2001.⁵

Table 2, bottom right, shows the net income (profit) of some of the larger health plans for the year 2003.⁶ HMOs in the U.S. saw profits increase by 86 percent in 2003 according to a survey by Weiss Ratings Inc. Earnings for the 502 health plans soared from \$5.5 billion to \$10.2 billion in 2003. Blue Cross/Blue Shield plans taken together had a 63 percent increase in profits.⁷ In 2005, United Health Care reported a net profit of \$3.3 billion. The CEO of United Health Care had accumulated more than \$2 billion in stock options during his 14-year tenure, \$488 million of which has been exercised. He had \$1.7 billion in unexercised options remaining when his employment was terminated late this year. This is in addition to the \$124 million he received last year. The personal compensation in stock options alone for this one individual is 1/900 of the entire national expenditures for health care in 2004 (\$1.8 trillion).

It amazes me that these staggering profits continue to rise while the physicians' fees continue to fall. After all, it is the physicians whose services are sought and it is the physicians who are taking the responsibility for all that happens to the patient while the insurance industry is afforded certain protections under the law for any untoward events related to their decision making.

It also amazes me that health insurance premiums are rising by double-digit percentage increases annually when the health plans have so much profit to report. A possible reason was given recently by the *Wall Street Journal* in a discussion of United's acquisition of Oxford: "But much of the merger rationale happens behind the scenes, where the behemoths can use their mounting pricing power to force down rates charged by hospitals, doctors, and other health suppliers."⁸

These huge profits for insurers represent money that is being taken away from patient care, from hospitals, doctors, allied health care professionals, and graduate medical education. It is money that is not put back into the health care system. Medical care providers need to wake up to the economics of health care so we can correct this imbalance.

TABLE 1: Highest executive compensation packages, excluding stock options in for-profit health plans⁵

Name	Company	Compensation
W. McGuire	United	\$54,129,501
W. Taylor	Cigna	24,741,578
R. Williams	Wellpoint	13,205,631
W. Donaldson	Aetna	12,650,393
L. Schaeffer	Wellpoint	11,127,465
H. Hanway	Cigna	9,478,634
D. Weinberg	Wellpoint	8,957,410
R. Huber	Aetna	6,988,987
W. Pastore	Cigna	6,779,028
T. Jones	Cigna	6,055,314

Highest executive unexercised stock options in for-profit health plans⁵

Name	Company	Compensation
W. McGuire	United	\$357,865,646
S. Hemsley	United	144,928,886
N. Payson	Oxford	115,375,414
W. Taylor	Cigna	66,141,372
L. Schaeffer	Wellpoint	64,610,759
H. Hanway	Cigna	43,385,939
J. Stewart	Cigna	41,049,922
J. Rivet	United	39,450,395
R. Wheeler	United	32,506,870
J. Rowe	Aetna	25,026,549

TABLE 2: Health plans: Revenue gains in 2003⁶

Company	Net income	% change from 2002
Aetna	\$967,000,000	137
Anthem	774,000,000	41
Cigna	668,000,000	268
HealthNet	324,000,000	16.5
Humana	229,000,000	60
Oxford	352,000,000	58.5
PacifiCare	243,000,000	132
United	1,800,000,000	35
WellPoint	935,000,000	33

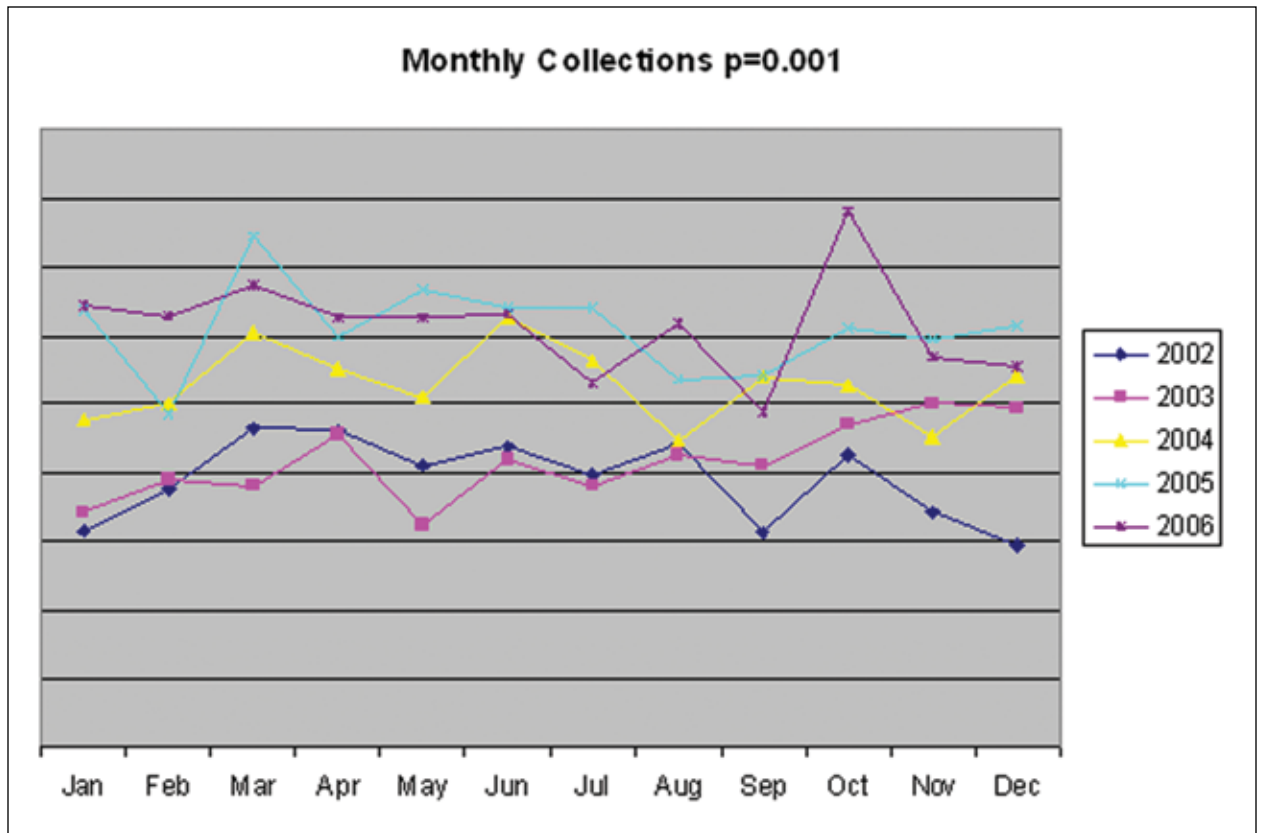
care patients demanding immediate appointments and wanting the latest tests that they have seen on television. We have more time to spend with patients and no longer feel that we are on an ever-speeding treadmill that is impossible to dismount. Our fixed office overhead is less as there is no longer a need for extra staff in dealing with managed care plans and there is much less time spent arguing with insurance clerks. However, because of increased malpractice premiums, which affected all physicians in New Jersey, our overall costs have risen slightly. We see all patients, whether they are insured or not, whether they have Medicaid or they are from the clinic.

We feel like physicians again and are happy to go to work doing what we love, unencumbered by the managed care bureaucracy. Our fear at initially resigning from these plans has turned to

joy now that we can practice surgery the way we were trained to. As of this writing, many general surgeons practicing at hospitals in our area decided on their own to take similar steps and have dropped major managed care plans because of restrictive patient care algorithms and insulting reimbursement rates. We are aggressively taking back our profession, regaining our self-respect, and we are better off for it!

We have evaluated our practice yearly since 2002. As some HMOs required up to one year before our resignations took effect, 2003 was a hybrid year of collections, a mixture of HMO and non-HMO reimbursements. The first year of purely out-of-network reimbursements was 2004. There was no statistical difference between the collections from 2002 compared to collections from 2003.

FIGURE



The subsequent collections from 2004, 2005, and 2006, however, were compared using ANOVA and found to be highly significant when compared to 2002 ($P=.001$). A yearly reevaluation of our practice revealed the following:

	<u>2002</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Conversion factor =	\$36.20	\$45.51	\$54.41	\$57.53
CCF =	29.61	29.71	30.56	33.45
Profit =	6.59	15.80	23.85	24.08

As shown in the preceding paragraph, our profit per RVU has increased more than 360 percent since 2002.

It is my hope that after reading this, you will analyze your practices and see what we have seen. Just looking at our figures isn't enough. Our analysis is based on a \$200,000 yearly salary per surgeon and a total overhead of 38 percent of gross receipts exclusive of salary and bonuses. Fiscal prudence is a cornerstone of our practice and neither the salaries nor the expenses are excessive for our area. There are many practices that I believe will not be able to match our numbers. Performing these calculations on your own practice may have a gut-wrenching impact on you.

Do these numbers make you angry? They should. They reflect just how little self-respect we have for ourselves in allowing those not trained in the art and science of medicine to literally hijack an entire profession and control it. The outrageous compensation packages were paid to managed care executives with our hard-earned dollars and thanks to the denials of care to those who need it. If you do the analyses of your practices, there is only one conclusion you can come to in order to survive. I hope all have the courage to do so. Q

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