Medicare Physician Reimbursement: Past, Present, and Future

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Recent proposals in the United States to cut Medicare physician-reimbursement rates for certain orthopaedic procedures, particularly in the field of hip and knee arthroplasty, have heightened the general orthopaedic community’s interest in Medicare physician-reimbursement policy. Familiarizing oneself with Medicare Physician Fee Schedule, its current status, and issues that are currently at the forefront of Medicare health policy agendas in the United States. We conclude with a discussion of the proposed changes to the sustained growth rate formula and the design and implementation of pay-for-performance programs.

The AAOS has led the charge in representing orthopaedic interests in Washington, DC, and in keeping its membership updated on issues through bulletins and legislative updates. However, for physicians and researchers interested in understanding the issues surrounding Medicare, the task of sifting through and integrating the myriad of academic, governmental, and organizational resources available is daunting. We aim to organize these sources into an accessible, unified format. We also present the orthopaedic surgeon with opportunities to become involved in shaping future policy at a range of commitment levels.

Basic Structure of Medicare
In 1965, President Lyndon B. Johnson signed the Title XVIII Amendment to the 1933 Social Security Act, creating Medicare as the first major federal health insurance entitlement program. The program’s original goal was to reduce the risk of financial disaster for the elderly and their families. It also provided access to medical services that had at that point been largely unaffordable for many elderly retired workers and their spouses. Medicare was to be administered by the Health Care Financing Administration, which was renamed the Centers for Medicare and Medicaid Services (CMS) in 2001. The Health Care Financing Administration (and now CMS) operated within the Department of Health and Human Services.

Medicare was originally a health insurance program for people who were sixty-five years of age or older. Since its passage, other beneficiaries have been added to the program and they include persons on disability payments from Social Security or the Railroad Retirement Board, persons with end-stage renal disease requiring continuing dialysis or kidney transplantation, and all state and local government employees not covered under Social Security. Medicare originally had two components: Part A (Hospital Insurance) and Part B (Supplemental Medical Insurance).

Part A covers hospital inpatient care, skilled nursing facilities, hospice care, and some home health care. It is funded by a 1.45% payroll tax on both employers and employers. The United States Department of the Treasury credits the Medicare Hospital Insurance Trust Fund with any annual excess Medicare tax revenues over the amount spent for current benefits. This surplus is invested in special securities that are spent by the government to ease fiscal pressures on other programs. When Medicare faces a negative cash flow (i.e., the benefit payment exceeds the income from payroll taxes and beneficiary charges), the Treasury, using the prior surplus, must cover the deficit. In 2004, Medicare began using interest earnings from its trust fund to cover...
Medicare expenditures in excess of its tax income.

Part B covers inpatient and outpatient physician services; emergency room care; outpatient clinic and surgical care; physical, occupational, and speech therapy; diagnostic tests (e.g., laboratory work and radiographs); durable medical equipment (e.g., prostheses and oxygen); and some home health care. Office-administered drugs such as chemotherapeutic agents, hyaluronic acid, and hematopoietin are also included in Part B. In cases in which physicians participate in Medicare, Medicare reimburses providers 80% of the service’s allowable (not actual) charge; the patient provides the remaining 20%.

Part B is partially funded by monthly premiums and a deductible paid by the recipients. Starting January 1, 2007, monthly Part-B premiums are based on the recipient’s income. For example, if a person earns ≤$80,000 or a couple earns ≤$160,000, the Part-B premium for each person is $93.50. If a person earns >$200,000 or a couple earns >$400,000, the Part-B premium for each person is $161.40. Incomes between these extremes have associated progressive premiums between these two rates. Approximately 75% of the funding for Part B comes from the general revenue of the United States Treasury. Patients may also purchase so-called Medigap private health insurance that pays for many health-care services not covered by Parts A and B.

The Balanced Budget Act of 1997 introduced Medicare Part C: Medicare+Choice (renamed Medicare Advantage in 2003). Part C subsidizes the health maintenance organization industry by allowing beneficiaries to select a managed care provider for comprehensive health-care services and paying that provider a predetermined per capita fee. Examples of such plans are health maintenance, provider-sponsored, and preferred provider organizations. In order to join one of these plans, enrollees have to have both Medicare Part A and Part B and they must continue to pay the Part-B premiums. Most Medicare Advantage plans have lower copayments than Medicare Parts A and B. The programs also cover additional services such as preventive care, eyeglasses, dental care, and hearing aids.

While Part C was originally touted as a cost-containing policy, a number of studies have shown that health maintenance organizations are being paid more than the average fee-for-service costs in their area. In fact, in 2005, Medicare paid Medicare Advantage health maintenance organizations 7.8% more than the average local fee-for-service costs, translating into an estimated national total of >$2.7 billion in additional spending. By 2006, to help curb spending, 75% of Medicare plan payments were adjusted on the basis of the enrollees’ risk profiles. By 2007, 100% of plans will receive risk-adjusted rates.

In 2006, the optional Medicare Part D (under the Medicare Prescription Drug Improvement and Modernization Act, also known as the Medicare Modernization Act) was implemented to cover outpatient prescription drugs. Beneficiary premium payments (which cover 25.5% of the total program cost), the United States Treasury general fund, and state governments provide the funding for Part D. Part D links enrollee spending to their income. In 2006, the average base beneficiary premium was $32.20 and the annual deductible was $250.

A major critique of Part D is the so-called doughnut hole. Part-D coverage is generally divided into three phases. Depending on the particular plan chosen by the enrollee, he or she pays, in the first phase (the initial coverage period), a deductible and approximately 25% of the drug costs. In 2006, this initial coverage period ended when total drug costs exceeded $2250. The third phase (catastrophic coverage) began when the enrollee had spent more than $3600 (excluding premiums) out of pocket in 2006. When catastrophic coverage begins, the enrollee pays about 5% of the drug costs. In between these two periods, there is a gap in coverage (i.e., the doughnut hole), in which most people must pay 100% of their drug costs out of pocket. At the beginning of each year, the enrollee goes back to the beginning of the first phase. An estimated 24% to 38% of all enrollees are projected to fall into this hole.

Medicare History

The architects of Medicare did not focus on controlling health-care costs but rather tried to appease health-care providers in order to ensure their cooperation in its implementation. They modeled the Medicare payment system on the existing health insurance market dominated by the modified fee-for-service model of Blue Cross-Blue Shield. Toward this end, Medicare initially reimbursed physicians using the customary, prevailing, and reasonable payment system.

The reasonable charge that would be reimbursed by Medicare was defined as the lowest of the following charges: (1) the physician’s actual charge, (2) the physician’s customary charge (i.e., the median of an individual physician’s charges for a specific service within a specific time interval), or (3) the prevailing charge (i.e., the fee in the 90th, and later the 75th, percentile charged by specialty-specific physicians within a Medicare payment area). Under the customary, prevailing, and reasonable system, physicians had incentives to raise charges, leading to a rapid increase in program payments. Furthermore, there arose wide geographic fee variations, disconnects between reimbursements and resources utilized, and different payments for the same service depending on the physician’s specialty.

The Omnibus Budget Reconciliation Act of 1989 established a Medicare fee schedule for physicians that decoupled Medicare’s payment rates from the physicians’ charges for services. Rather than continuing to pursue a charge-based payment system, a resource-based relative value system was developed. The Health Care Financing Administration awarded William Hsiao, PhD (Harvard School of Public Health), the contract for evalu-
Impact of Medicare

Medicare has a considerable impact on the American health-care system not just because it comprises a substantial portion of health-care provider payments but also because of the ripple effects of the program's policies on other health-care delivery systems. The Medicare fee schedule has become the de facto national health-care reimbursement schedule for all physician services.

Despite the particular payer-mix of one's patients, almost all physicians are affected by Medicare policies. A 2003 survey of thirty-three health plans serving approximately thirty-one million members found that the primary (largest enrollment) benefit plans of those health plans were influenced by Medicare's resource-based relative value system methodology. In fact, 39% of the plans consistently used the actual Medicare RVUs.

Beyond the Medicare fee schedule, non-Medicare payers often also adopt other features of Medicare policy that are in some cases highly unfavorable to physicians. For example, Medicare's global surgical periods were adopted in Medicaid (87%), Blue Cross-Blue Shield (80%), managed care organizations (69%), and other non-Medicare programs (26%). Under the Medicare global surgical payment policy, payment to the surgeon for a surgical procedure includes a standard package of preoperative, intraoperative, and postoperative services. The preoperative period included in the global fee for major surgery is one day. The postoperative period for major surgery is ninety days. Having the surgical fee include care for ninety days after the procedure is now accepted as the industry standard, but it was Medicare that introduced it and defined this global time-period as ninety days.

How Reimbursement Is Determined

Since the gradual implementation of the resource-based relative value system starting on January 1, 1992, a fee schedule has determined Medicare payments for physician services. Each CPT code (the common billing terminology that links each procedure with a numeric code) is assigned three types of RVU values: (1) an RVU value for physician work, (2) an RVU value for practice expense, and (3) an RVU value for professional liability (i.e., malpractice) insurance. Simply stated, Medicare reimbursement = physician work + practice expenses + malpractice insurance fees.

Originally, the formula for determining reimbursement rates was going to include a factor accounting for the opportunity cost of going into certain specialties, recognizing that additional training time is needed to provide certain services and that physicians should be rewarded for foregoing income during that training time. However, prior to the implementation of the resource-based relative value system, Congress dropped this opportunity cost component from the equation.

The RVU value for physician work was resource-based from the beginning. Over time, the RVUs for practice expense and malpractice also shifted from charge-based to resource-based. These three RVU values are summed, geographically adjusted, and then multiplied by a dollar conversion factor to determine the physician reimbursement for that procedure:

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\text{Medicare reimbursement} = \left( (\text{work RVU} \times \text{work GPCI}) + (\text{PE RVU} \times \text{PE GPCI}) + (\text{PLI RVU} \times \text{PLI GPCI}) \right) \times \text{CF}
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Each component of this system is reviewed individually. It is important to emphasize that the RVU values are based on survey data collected from physicians, underscoring how crucial it is for physicians to complete these surveys consistently and accurately.

A. Physician Work RVU

This component accounts for an average of 54% of the total RVUs for a service. A resource-based physician work RVU is based on the time, technical skill, physical effort, mental effort
and judgment, and psychological stress (associated with concerns about adverse outcomes) required to perform that service. The original valuations of physician work RVUs were based on the research of Hsiao et al.13.

The American Medical Association (AMA)-Specialty Society Relative Value Scale Update Committee (RUC) develops physician work RVUs annually for new and revised CPT codes. The major national medical specialty societies (e.g., orthopaedic surgery, general surgery, anesthesiology, family medicine, and dermatology) appoint twenty-three of the twenty-nine members of the RUC. Three of these twenty-three seats rotate on a two-year basis, with two reserved for an internal medicine subspecialty (e.g., geriatric medicine and oncology) and one for any other specialty (e.g., spine care). The remaining six seats are occupied by the chair of the RUC, the cochair of the RUC Health Care Professionals Advisory Committee Review Board, the chair of the Practice Expense Review Committee, and representatives of the AMA, the American Osteopathic Association, and the CPT Editorial Panel. The AMA Board of Trustees selects both the RUC chair and the AMA representative to the RUC. Every five years, RUC reviews physician work RVUs for existing codes as part of the required Medicare Five-Year Review.

B. Practice Expense RVU
This component accounts for an average of 41% of the total RVUs for a service.14 There are two types of practice expenses: direct and indirect costs. Direct costs are equipment, supplies, and clinical and administrative staff needed to provide a particular service for a patient. Indirect costs are office rent, equipment, utilities, and administrative staff who are not directly involved in a particular individual patient service.

Prior to 1999, practice expense RVUs were based on so-called historic charges. Practice expense RVUs were calculated by multiplying the national average allowed charge for each procedure under the CPT system by the percentage of every specialty’s income used to cover practice expenses. The Social Security Amendments of 1994 mandated that CMS develop a methodology for resource-based valuation of practice expenses. The Balanced Budget Act of 1997 required that this resource-based system be phased in over four years beginning in 1999. The Balanced Budget Act also required CMS to reduce the 1998 practice expense RVUs for invasive services to fund an increase in practice expense RVUs for office visits.

In 1999, a resource-based approach to valuation was implemented on the basis of two factors: the AMA’s Socioeconomic Monitoring System survey and the Clinical Practice Expert Panel data.14 First, CMS estimates the specialty’s total practice expense pool (as determined from Socioeconomic Monitoring System data) for six different practice expense categories for each specialty. An aggregate specialty practice cost is thus determined, estimating the total practice expenses for that specialty. Then, CMS allocates each practice expense pool to specific services provided by that specialty according to estimates of the relative resources required to deliver each service (based on Clinical Practice Expert Panel data). For the services performed by multiple specialties, CMS averages the expenses of all of the specialties that provide that service. Finally, an adjustment is made so that total physician payments are budget neutral (i.e., the same as they would have been under previous payment systems). This is a top-down approach, which is based on a specialty’s aggregate practice expenses (the top) rather than the practice expenses associated with a particular procedure (the bottom) performed by that specialty.

Since 1999, rates also differ on the basis of the site of service. A non-facility value is assigned if the procedure is performed in a physician’s office or an independent neuroimaging or laboratory center. A facility expense is assigned to procedures performed in a hospital, surgical center, or nursing home. In general, this new resource-based system reimbursement is higher for services performed in a physician’s office and lower for those performed in a facility, reducing reimbursement for major surgical procedures.

The current top-down approach to calculating practice expense takes into account both indirect and direct costs by proportionately dividing total practice expense among procedures. In June 2006, CMS recommended switching to a bottom-up methodology for calculating practice expense RVUs. This approach uses procedure-level data for clinical staff times, supplies, and equipment needed to perform a particular service. It does not take into account indirect costs not associated with any one particular procedure, e.g., rent and utilities15. Starting in 2007, CMS is beginning a four-year transition to implementing the bottom-up methodology for direct costs and updated survey data for indirect costs. The upcoming changes in how practice expense RVUs are determined will be extremely important as practice expense RVUs account for approximately 41% of Medicare physician reimbursement.

C. Professional Liability Insurance RVU
This component accounts for an average of 5% of the total RVUs for a service. Initially, malpractice RVUs (like practice expense RVUs) were based on historic charges. In 2000, the malpractice RVU also shifted from being charge-based to resource-based. This component reflects the national average premium for malpractice insurance for a specialty and the specialty’s risk factor (determined by dividing the national average premium for each specialty by the national average premium for the specialty performing that service with the lowest average premium). This is a specialty-weighted approach in that malpractice RVUs are based on the weighted average of the risk factors for all specialties performing that particular service.

D. Geographic Practice Cost Index
The geographic practice cost index...
takes into account regional differences in the costs of practicing medicine, such as the cost of office rent and staff salaries, which vary widely by region across the United States. There is a separate regional geographic practice cost index published annually for each of the three RVU components. These are updated every three years for the eighty-nine Medicare payment localities (states, counties, or groups of counties). The Medicare Modernization Act of 2003 mandated that, for the next three years, work RVUs could not be decreased because of the work geographic practice cost index. This meant that if a physician lives in an area with a work geographic practice cost index of <1.0, the geographic practice cost index adjustment is frozen at 1.0. Fifty-eight of the eighty-nine physician payment areas have benefited from this exemption. This provision was extended for one more year and is due to expire on December 31, 2007.

E. Conversion Factor
Updated annually, the conversion factor is a multiplier that converts the geographically adjusted total RVUs for a particular service into a dollar payment. A discussion of the methodology for determining the annual conversion factor updates follows.

Establishing and Updating Work RVUs
The AMA Relative Value Scale Update Committee (RUC) annually evaluates and recommends work RVUs to CMS for new and revised CPT codes. Since 1993, CMS has accepted, on the average, >90% of the annual RVU recommendations made by the RUC. Since 2001, CMS has accepted >95% of the RUC’s recommendations for new and revised codes.

When a new or revised CPT code is brought forward by the AMA CPT Editorial Panel, RUC notifies the appropriate specialty societies. These physician groups then survey their membership regarding the operative duration, surgical intensity, and frequency and complexity of preoperative and postoperative visits through an RUC-approved survey. The specialties then present the results of their survey to the RUC. It should be emphasized that the primary data used by the RUC to assign or update work RVUs to a particular CPT code is a RUC-approved survey, and yet only thirty responses are required to make policy decisions. The results of these surveys, which are highly subjective and often associated with very low response rates, are the predominant factor in determining future Medicare reimbursement policy for physician services. Furthermore, the RUC is composed of a wide range of specialties that, because of the Medicare budget neutrality rule, each stand to lose reimbursement value of their own CPT codes if another specialty’s code is awarded an increased RVU. The RUC provides recommendations to CMS, and CMS can accept, reject, or modify these recommendations.

The Omnibus Budget Reconciliation Act of 1990 required that the Health Care Finance Administration comprehensively review all existing work RVUs at least every five years to determine whether they are overvalued, accurately valued, or undervalued. However, given the current multitude of CPT codes, the burden of reviewing each code every five years is impossible. Specialty groups and the public can submit codes for consideration. To have a code considered for review, they must offer the RUC compelling evidence that the established RVUs for the service are incorrect and explain why the recommended value is correct. Additionally, CMS can propose codes for review by the RUC. While CMS also must explain its rationale for reviewing certain codes, their explanations are often not as detailed and rigorously supported as those of other requesting parties. It is widely believed that CMS particularly requests reviews of high utilization codes. In the most recent five-year review in 2005, CMS requested reviews of CPT codes 27130 (primary total hip replacement), 27447 (primary total knee replacement), and 27236 (open treatment of femoral neck fracture). The primary joint arthroplasty RVUs had not been reviewed since the inception of the resource-based relative value system in 1992. Each service examined during this process may be judged undervalued or overvalued, and its RVUs are then adjusted accordingly.

To gather data to support a change or no change in work RVUs, the appropriate specialty society must send its membership an RUC-approved survey. The survey includes a case vignette of a so-called typical patient procedure, and asks physicians to determine the average amount of time spent on each portion of the case. The operating-room time encompasses preoperative evaluation and positioning, scrubbing, dressing, waiting time, “skin to skin” time, and the immediate postoperative time. The postoperative time encompasses hospital visits, discharge summary, and office visits for the entire global period, which includes the first ninety days after surgery for most surgical procedures. Physicians are also asked to compare the intensity and difficulty of two procedures.

The AAOS typically sends out >1000 twelve-page surveys for each code being evaluated. The surveys take approximately twenty-five to thirty minutes to complete. The RUC requires responses from at least thirty physicians for each code. The survey results are analyzed by the subspecialty group and are then presented to the AAOS to formulate a final recommendation to the RUC. While a random sampling of the AAOS membership receives these surveys, members may also volunteer to fill out the surveys. It is essential that orthopaedic surgeons fill out these surveys accurately. If the AAOS cannot collect sufficient data to present to the RUC, certain undervalued services will not receive an increase in RVUs and other procedures deemed overvalued by the CMS may face declining reimbursements.

Lavernia and Parsley raised concerns about the survey’s validity, identifying a number of potential biases. The surveys are not pretested to shed light on item ambiguities and other sources of bias and error. Furthermore,
they have shown that surgeons tend to underestimate the time spent in the operating room. The validity and accuracy of these survey results are crucial as the RVUs for both new and revised codes are assigned on the basis of the survey data.

In preparing its recommendations to CMS, the RUC decides whether to accept or to modify the specialty society’s recommendation. CMS can then accept or modify the recommendations of the RUC. For the five-year review in 2000, the RUC recommended that the RVUs be increased for 469 codes, maintained for 311 codes, and decreased for twenty-seven codes. CMS accepted 98% of these recommendations. The third five-year review commenced in November 2004. CMS’ final rule was published in the Federal Register in November 2006; on January 1, 2007, the new RVUs were implemented.

The RUC’s power has recently come under scrutiny by the Medicare Payment Advisory Commission (MedPAC) Chair Glenn Hackbarth, JD. In March 2006, Hackbarth commented that CMS has “relied too heavily on physician specialty societies to identify services that are misvalued” and has therefore not done a “good job of identifying services that may be overvalued.” He worried that overvalued surgical codes and the commensurate decrease in primary care service reimbursement have resulted in “a pretty precipitous drop-off” for those individuals choosing primary care as a specialty. He proposed the establishment of an outside panel, armed with resources needed to independently collect data and develop evidence, to identify overvalued surgical procedures.

### Orthopaedic Reimbursement Trends

Overall Medicare expenditures (in billions) for Part B have increased steadily, from $2.2 in 1970, to $11.2 in 1980, $44 in 1990, $90.7 in 2000, and $153.5 in 2005, primarily because of an increase in the volume and intensity of physician services. Plan B benefits as a percentage of the GDP has increased from 0.19% in 1970 to 1.20% in 2005. The resource-based relative value system slowed this growth. Spending on physician services grew at an average annual rate of 10.8% from 1985 to 1991. With the introduction of the resource-based relative value system, the growth slowed to an average annual rate of 4.7% from 1992 to 2000.

To estimate the change in orthopaedic physician reimbursement for surgical procedures since the resource-based relative value system was implemented, we identified the twenty-five most common inpatient orthopaedic procedures performed in United States hospitals, using the most recently available (2004) complete National Hospital Discharge Survey inpatient data from the National Center for Health Statistics. These twenty-five procedures encompassed roughly 66% of all orthopaedic inpatient procedures performed that year (see Appendix).

We focused on three points in time: 1992 (the year that the resource-based relative value system was implemented), 1998 (the year that the SGR [sustained growth rate] formula was implemented and the year before the practice expense RVUs became resource-based), and 2007 (the current value). Between 1992 and 1998, there was an average increase of 12% (range, −47% to +31%) in reimbursements for these services. Between 1998 and 2007, there was an average decline of 7% (range, −23% to +36%) in reimbursements for these services. Overall, between 1992 and 2007, there was an average increase of 4% (range, −46% to +63%) in reimbursements for these services (see Appendix).

Using the consumer price index, we factored in the rate of inflation to reflect more accurately the impact of reimbursement rate changes. The consumer price index, published by the United States Bureau of Labor Statistics, is a measure of the prices paid by urban consumers for a market basket of consumer goods and services (e.g., food and beverages, housing, apparel, and transportation). The average consumer price index was 140.3 in 1992 and is 202.416 in 2007. A consumer price index adjustment factor of 1.44 (202.416/140.3) was applied to 1992 rates to convert them into 2007 dollar amounts. With use of this inflation adjustment factor, the average reimbursement rates, since 1992, for the most frequently performed orthopaedic surgical procedures have declined 28% (range, −62% to +13%). Total joint arthroplasty faced the greatest decline during this period (Table I).

#### TABLE I Trends in Medicare Reimbursement for Total Joint Arthroplasty

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Budget Neutrality and the Sustained Growth Rate

The 1989 Omnibus Budget Reconciliation Act introduced the pivotal concept of so-called budget neutrality to Medicare Part B by requiring that increases or decreases in RVUs for a given year may not increase or decrease Medicare expenditures for that year by $20 million compared with expenditures without those changes. This means that upward revisions of existing codes or additions of new codes must be offset by reductions in reimbursement or deletion of other codes. There is therefore an inherent internal conflict among the RUC membership, as a gain for one subspecialty inevitably means a loss for another. Furthermore, evaluation-and-management billing counts toward annual Medicare budget targets. Drives to increase reimbursement for clinic visits (primarily benefiting primary care providers) are therefore balanced by decreasing reimbursement for invasive procedures.

The Balanced Budget Act of 1997 introduced the sustained growth rate formula to control the growth in Medicare physician spending by setting annual budget targets and adjusting the conversion factor accordingly. The sustained growth rate is based on four factors: (1) medical inflation (i.e., the estimated percentage change in fees for physicians’ services, including drugs delivered in physician offices); (2) changes in Medicare fee-for-service enrollment; (3) estimated inflation-adjusted ten-year average growth per capita in the United States gross domestic product; and (4) changes in physician spending resulting from law and regulation.

While payments for services are not withheld if the sustained growth rate target is exceeded, the next Medicare fee schedule update is decreased if actual expenditures outpace target expenditures the previous year. Volume controls are unique to Medicare physician services and do not limit growth of any other Medicare expenditure segment.

The annual update in the conversion factor for physician services is dependent on three factors: (1) the sustained growth rate, (2) the Medicare Economic Index, and (3) an adjustment factor to bring the Medicare Economic Index update in line with the sustained growth rate target. The Medicare Economic Index is a measure of inflation faced by physicians with respect to their practice costs and general wage levels. The Medicare economic index reflects annual changes in prices for such things as the physician’s own time, compensation of nonphysician employees, rent, and medical equipment. The adjustment factor is calculated on the basis of the estimated difference between the allowed and the actual expenditure for the preceding year, the actual expenditures during the preceding year, and the sustained growth rate for the past year. The annual conversion factor update cannot be >3% above or 7% below the Medicare Economic Index annually.

Budget neutrality has divided the physician community into those whose practice largely involves performing procedures and those whose practice is largely office based. The most recent five-year review brought this schism into the forefront. A coalition of medical specialties, led by the American College of Physicians, proposed that many evaluation-and-management codes be revalued. The medical community initially expected an overall work value increase of 20% for evaluation-and-management codes in 2007. In fact, CMS initially cited a 37% increase in work RVUs for intermediate office visits for an established patient. However, in 2006, CMS raised work RVUs for 227 services and lowered them for only twenty-six. To maintain budget neutrality in 2007, CMS reduced all work RVUs by approximately 10%, using a so-called work RVU adjuster factor. For surgeons, this will be somewhat offset by an overall increase in the evaluation-and-management reimbursement for evaluation-and-management codes built into the ninety-day global surgical payment. However, this adjustor has reduced the overall increase in evaluation-and-management work RVUs to just 8%. Nonsurgeons, who rely heavily on evaluation-and-management reimbursement, are therefore particularly interested in seeking ways to identify overvalued surgical procedures.

In late 2002, the estimated sustained growth rate for 2003 was –4.4%. However, in 2003, with the retrospective correction of 1998 and 1999 spending targets, physician fees increased at an average of 1.4%. The Medicare Modernization Act of 2003 temporarily averted future decreases with a requirement that the annual conversion factor update be no less than 1.5% for the years 2004 and 2005. This averted a projected 2004 decrease of 4.5% and a 2005 decrease of 3.3% in the conversion factor. In 2006, a 4.4% reduction in the conversion factor was seen initially; this cut was again averted. The Deficit Reduction Act of 2005, signed on February 8, 2006, retroverted the conversion factor back to 2005 levels, retroactively reimbursing physicians who had been paid under the reduced rate since January 2006. Again, a 2007 projected 5% decrease in the conversion factor was averted by another congressional freeze.

Looking Ahead: The Sustained Growth Rate

While annual congressional freezes have averted recent decreases in the conversion factor, in fact, when accounting for inflation, doctors actually experience a relative decrease in their income annually as the conversion factor fails to increase. None of these legislative actions made revisions to the sustained growth rate spending targets nor did they address the underlying flaws in the sustained growth rate formula. Future sustained growth rate targets will automatically offset this cumulative increased spending with even further decreased rates. Thus, decreases in physician reimbursements have only been postponed. Under the current sustained growth rate, physicians should expect an overall 37% decrease in reimbursements from 2007 to 2015 without congressional intervention.

The AMA and the Alliance of Specialty Medicine have called for an
end to these stopgap measures by fixing the formula itself to prevent further cuts. They are particularly opposed to the current practice of counting Medicare-covered outpatient drugs and incident-to services (i.e., services performed by ancillary personnel under the supervision of a qualified Medicare provider) toward the annual physician reimbursement expenditure targets. In fact, Medicare Part-B spending on drugs increased from $2.76 billion in 1997 to $10.87 billion in 2004. The sustained growth rate also inappropriately links the Medicare fee schedule to the gross domestic product, which does not accurately reflect increasing Medicare patient-care costs. While modifications to the current system would certainly be helpful, the Alliance is, in fact, calling for repeal and replacement of the sustained growth rate formula and proposing the Medicare Economic Index as an alternative.

MedPAC (Medicare Payment Advisory Commission), an independent federal body established by the Balanced Budget Act of 1997 to advise the United States Congress on issues affecting the Medicare program, has also been advocating for some fundamental Medicare changes. MedPAC does not support projected sustained physician fee cuts because they fear that such cuts may decrease access to services for Medicare beneficiaries. MedPAC studied the sustained growth rate approach to containing Medicare costs and identified four major flaws: payment is disconnected from the cost of producing services, the volume control mechanism functions as a national target without incentives for individual physicians to control volume, regional variations in volume-influencing behavior are not taken into account, and all volume increases are treated the same whether they are desirable or not.

While the sustained growth rate is perhaps not an acceptable way to control the growth in Medicare spending, CMS is looking for other methods of instilling financial discipline. It is for this reason that the new sustained growth rate reform and/or replacement bills are linked to pay-for-performance proposals to maximize the value of Medicare physician spending.

**Looking Ahead:**

**Pay for Performance**
The pay-for-performance program (also known as P4P or value-based purchasing) is a focal point of Medicare reform. Under a pay-for-performance system, the focus is on the quality, rather than on the volume and intensity, of the services delivered. The overriding goal of pay-for-performance programs is to improve quality and reduce costs by offering physicians meaningful incentives for achieving "standard, recognized and attainable measures." For example, identifying and treating osteoporosis in patients with fragility fractures has been proposed as a measure of quality care.

Given the high procedure volumes, high costs, substantial variation in practice patterns, and perceptions of overutilization and inappropriate utilization associated with orthopaedic surgical procedures, it is not surprising that both government-sponsored and commercial health plan pay-for-performance pilots have targeted orthopaedic surgery. Most notable is the CMS 2007 Physician Quality Reporting Initiative, mandated by the Tax Relief and Health Care Act of 2006. Under the Physician Quality Reporting Initiative, providers who participate in the Medicare and Medicaid programs will be eligible to receive up to a 1.5% bonus payment (subject to a cap) on their Medicare and Medicaid claims for reporting quality measures, in the form of Category-II CPT codes or G-codes, for services that have a designated corresponding quality measure. Of the seventy-four measures defined in the Physician Quality Reporting Initiative Program, ten are related to musculoskeletal care. Many policy experts view voluntary pay-for-reporting as the first step in a sequential process that will ultimately lead to mandatory pay-for-performance programs.

There are many concerns about pay-for-performance programs. In fields such as orthopaedic surgery, the evidence-based guidelines that govern many pay-for-performance initiatives are still in their developmental stages. There is concern that efficiency measures will be used as a proxy for quality, which may amount to little more than cost-profiling of providers. Furthermore, assessing surgical outcomes is complex as a patient’s comorbidities and compliance with postoperative treatment regimens may influence outcomes as much as, if not more than, the surgeon’s skill. To prevent physicians from “cherry-picking” the healthiest patients, it will be necessary to implement risk adjustment mechanisms that take into account the fact that certain patients are inherently more at risk for complications than are others. Without such an adjustment, it might be economically prohibitive to treat patients with multiple comorbidities, thus limiting patient access to care.

The Alliance of Specialty Medicine, which includes the AAOS, has voiced its goals and concerns regarding a pay-for-performance system. Any pay-for-performance program should not be subject to budget neutrality (i.e., a separate fund should be established to reward high-performing physicians rather than punitively taking money away from the rest). It should not be used as a mechanism to control the volume of services provided. Reporting of quality or efficiency indicators and health outcomes data should not be administratively prohibitive to physicians. Measures must be specialty-specific and developed by the physician community. Any pay-for-performance requirement should be first phased in and pilot-tested on a voluntary basis. While quality measures can be used as tools for learning and for improvement in quality and patient safety, physician groups want to make sure that the data remain confidential and not subject to legal proceedings. In response to the recent increase in pay-for-performance initiatives among both government and commercial payers, the AAOS has expanded its infrastructure and intensified its efforts in the area of
Opportunities for Involvement

Medicare reimbursement policies are rapidly evolving, and the orthopaedic community needs to make sure that it helps to shape the future of this program. For example, the American Orthopaedic Association has warned that, without decisive, proactive action, the federal government will impose a pay-for-performance model and establish outcome measures without consulting the orthopaedic community.

While pursuing business training (e.g., an MBA) and/or becoming a public servant (e.g., running for Congress) is obviously not practical for most orthopaedic surgeons, there are a variety of ways to help shape the future of Medicare with much lower levels of commitment. For example, the AAOS is continuously trying to identify undervalued musculoskeletal services and is calling for members to help in collecting data to defend reimbursement rates. When you receive a survey to assess resources needed to perform a service, it is essential that you take the time to complete it honestly and accurately and return it promptly. The politics of the current five-year review underscores the importance of these surveys. Furthermore, orthopaedists can engage in economic studies quantifying the impact of present and future Medicare changes on the practice of orthopaedic surgery. Studies examining the costs of providing certain services are useful in identifying undervalued codes for future review. Concerted orthopaedic political activity is therefore essential to effect change.

There is a noteworthy example of orthopaedic surgeons identifying flaws in the Medicare payment system, validating their claims through research, presenting their findings to the CMS, and consequently effecting real change. In March 2003, a team of orthopaedic surgeons formed a multicenter research group to collect and analyze data on resource utilization in primary and revision total joint arthroplasty. They found that revision total joint replacements consumed substantially more resources than primary total joint replacements, yet hospitals were paid the same for both primary and revision procedures. In October 2004, the team presented their findings to CMS, highlighting the impact this payment discrepancy had on quality and patient access to care. Subsequently, CMS announced that they would delete DRG (Diagnosis-Related Group) 209 (major joint and limb reattachment procedures of lower extremity) and replace it with new separate DRGs for primary and revision total joint arthroplasties. In their final rule, CMS specifically acknowledged the efforts of these orthopaedic surgeons and cited their research findings. Additionally, CMS acknowledged the impact these changes would have on improving quality and access to care for patients who need a total joint replacement by minimizing payment disincentives for providing high-quality care.

Orthopaedists joined for another successful political mission in 2006. In June 2006, as part of the current five-year review, CMS proposed to cut work RVUs for total hip arthroplasty by 21%, work RVUs for total knee arthroplasty by 10%, and work RVUs for hip fracture treatment by 18%. The orthopaedic community unified under the leadership of the nonpartisan Orthopaedic Political Action Committee, worked together, and presented data-driven arguments to CMS. On November 1, 2006, CMS announced that it would not implement these reimbursement cuts. This victory underscores the importance of an orthopaedic political presence in Washington.

Overview

Medicare has a broad impact on physician reimbursement regardless of the particular demographic data of the patients seen by an individual physician. Therefore, an understanding of the basic evolution and structure of Medicare is important. In 1992, Medicare instituted a physician fee schedule and transitioned from a charge-based to a resource-based reimbursement system. The Medicare physician reimbursement for a given procedure equals the sum of three geographically adjusted relative value units (work, practice expense, and malpractice) multiplied by a conversion factor.

Physician reimbursement for the most commonly performed orthopaedic surgical procedures has increased an average of 4% since the introduction of this Medicare resource-based relative value scale. However, when adjusted for inflation with use of the consumer price index, the rates have declined an average of 28% since 1992.

Medicare’s unique principle of budget neutrality for physician reimbursement dictates that increases in reimbursement for one procedure must be balanced by a decreased reimbursement for another. The current sustained growth rate formula, implemented to achieve budget neutrality, is flawed and is calling for annual decreases in the conversion factor.

Large-scale Medicare changes loom on the horizon, particularly in relation to the reform or replacement of the sustained growth rate formula and the institution of value-based purchasing (e.g., pay-for-performance) programs. Although pay-for-performance programs offer the promise that quality will be recognized in the budget-neutral Medicare environment, a pay-for-performance program could decrease physician reimbursements across the board and give bonuses to those meeting certain performance goals defined by the government. Any pay-for-performance program should be clinically relevant, evidence-based, valid, not overly burdensome, pilot-tested, phased in, and risk adjusted.

These policies are being created right now, and there are many opportunities at a range of commitment levels for orthopaedic surgeons to become in-
involved in shaping Medicare’s future. The need for orthopaedic involvement in the formation of government policies is particularly crucial in the case of the proposed pay-for-performance program. Government definitions of so-called quality-care benchmarks as determinants of payment could be inaccurate and unreasonable without the input of the orthopaedic community. More economic studies quantifying the cost of providing orthopaedic services and identifying undervalued codes are also needed.

Appendix

Tables presenting common Medicare health policy abbreviations, the twenty-five most commonly performed orthopaedic procedures in 2004, and changes in Medicare reimbursement rates for these twenty-five procedures from 1992 to the present are available with the electronic versions of this article, on our web site at jbjs.org (go to the article citation and click on “Supplementary Material”) and on our quarterly CD-ROM (call our subscription department, at 781-449-9780, to order the CD-ROM).

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