Cost Containment in Medicare:
A Review of What Works and What Doesn’t

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The Urban Institute and Health Policy Alternatives Inc.
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AARP’s Public Policy Institute informs and stimulates public debate on the issues we face as we age. Through research, analysis and dialogue with the nation’s leading experts, PPI promotes development of sound, creative policies to address our common need for economic security, health care, and quality of life.

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FOREWORD

The growth in spending in Medicare, a critical program for the disabled and seniors, is keeping pace with other parts of the health care system. Finding ways of getting more value—both higher quality and lower costs—from the system is necessary to ensure Medicare’s future. To shed light on the cost part of the value equation, AARP’s Public Policy Institute commissioned a study to look at what has been tried in the Medicare laboratory to slow cost growth.

This report, Cost Containment in Medicare: A Review of What Works and What Doesn’t, is the result of several years of research and analysis by some of the most seasoned Medicare policy analysts in the business. They bring an unusual degree of combined wisdom to the task of reviewing the literature and talking with experts to fill information gaps. Clearly, there are no easy answers. But, the authors conclude that the greatest success has been in innovations in payment methods and in combating fraud and abuse.

In other areas, like benefit design, coverage policy, and chronic care management, there is potential for success, although in the case of benefit design and coverage policy, less has been tested so the savings potential is more theoretical. For chronic care management, a host of demonstrations have yielded limited success in reducing spending—we need to know more before we can say we have found the right mixture of models and incentives that succeed in improving value. In private plan contracting, the payment method itself has been a barrier to achieving program savings.

AARP does not necessarily agree with all the findings in the report. This caveat aside, this is a valuable and useful resource that provides a lucid analysis of what we know about what works.

Sarah Thomas
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EXECUTIVE SUMMARY

BACKGROUND
Almost from the very inception of the Medicare program in 1965, policymakers have been concerned about the escalating costs of the program and have explored various approaches to cost containment.

PURPOSE
This report reviews approaches and lessons learned from Medicare’s experience with various cost-containment strategies, including both legislative and administrative initiatives since the mid-1970s. It identifies and describes nine approaches to Medicare cost containment that represent the most prominent and extensively researched policies aimed at reducing the growth in program expenditures.

The report starts with a detailed review of payment initiatives by provider type: inpatient hospitals, skilled nursing facilities, home health agencies, and physicians. Next, it explores opportunities to restrain costs using changes in Medicare coverage for new technology, benefit design, and other innovative payment policies. It continues with a discussion of Medicare efforts to better manage patients with chronic conditions, also known as chronic care management and chronic care coordination. These sections are followed by a review and discussion of private plan participation in Medicare and initiatives to reduce fraud and abuse. The paper concludes with a discussion of broader effects of these cost-containment initiatives and implications for further cost-containment efforts.

The principal focus of this report is cost containment in the Medicare program. The paper's emphasis on cost containment reflects its central purpose rather than a preference for cost containment without regard to other issues. Clearly, any of the approaches discussed may have important effects on other dimensions of the program, such as quality of care and beneficiary access to care, to name just two. While the focus of the paper is Medicare, many of the initiatives discussed have implications for the private health care system and health care reform efforts.

This report raises many significant issues but does not attempt to provide definitive answers. On the other hand, it does not discuss a few topics that might have been included, such as payment for hospital capital spending, graduate medical education, and disproportionate share hospital payments related to care for the uninsured. Nor does it discuss Medicare's Part D prescription drug benefit, in part, because data on Part D have not been publicly released. Thus researchers have not produced studies or findings on Medicare spending growth in Part D, and cost-containment initiatives had not been evaluated as of 2007. Finally, this report does not discuss options for increasing program revenues or overall program financial status or sustainability.

METHODOLOGY
The findings in this report are based primarily on a review of the literature that was available prior to April, 2008. In each of the cost-containment areas reviewed, we surveyed the literature for evidence on intended/expected and unintended/actual effects on Medicare spending and beneficiaries, as well as on broader impacts on quality of care.
We reviewed published analyses in peer-reviewed journals, government reports (e.g., Government Accountability Office [GAO], Congressional Budget Office [CBO], Department of Health and Human Services Office of the Inspector General [OIG], and Agency for Healthcare Research and Quality [AHRQ]), and selected private analyses (e.g., Institute of Medicine [IOM]).

Availability of literature varies among the topics. In some areas, a rich literature exists on the effects of policy changes, such as the move from cost-based reimbursement to prospective payment for hospitals, nursing facilities, and home health services. In other areas, such as coverage of new technology, there is a paucity of formal studies on which to base conclusions about the potential effectiveness of specific approaches on reducing costs or, for that matter, on other important aspects of care, including beneficiary access and quality.

To fill gaps in available literature and assist with its interpretation, we conducted in-depth interviews with issue experts who have had significant experience with the Medicare program, such as former senior officials of the Centers for Medicare and Medicaid Services (CMS) and former staff of congressional committees with authority for Medicare program oversight. (See the appendix for a list of interviewees.)

Evidence of the impact of various cost-containment approaches is derived primarily from assessments of historical program initiatives, that is, innovations that have received the most attention from policymakers and researchers and have been implemented on a programwide basis. However, in some cases, the paper describes approaches that have not been fully developed or have been implemented on a pilot basis but are believed to have substantial potential—as yet unrealized—cost-containment impacts. Assessments of these secondary approaches have been derived from research and demonstrations conducted both inside and outside of Medicare. The enumeration of these approaches is not meant to be a comprehensive list of all cost-containment strategies that the program has actually implemented or could adopt in the future.

FINDINGS IN BRIEF

Key findings from the paper include the following:

Prospective payment for hospitals and post–acute care providers
Prospective payment rates for hospitals have been in place for more than 20 years. Findings from a number of studies confirm that changing the incentives from a cost-based system to an episode payment has resulted in measurable and ongoing savings to Medicare. While Medicare outlays for hospital care have increased at lower rates compared to the previously cost-based system, there is also evidence that some costs have been shifted to posthospital care and outpatient services, thereby somewhat reducing the cost-containing effect for the program overall. Ultimately, slower growth in Medicare hospital outlays is tied to the annual update framework. Future savings will depend on the generosity of these updates and the success of efforts to limit cost shifting to other covered sites of care. Whether hospitals “cost-shift” to other payers when they receive decreased annual updates remains a matter of active debate, based on conflicting research findings and varying stakeholder perceptions.

The introduction of prospective daily rates for Medicare skilled nursing facilities (SNFs) began in 1998. In the first two years following implementation, expenditures fell by 3
percent a year, but expenditures have returned to double-digit increases since 2000. These increases suggest that prospective payment for SNFs has not been successful in controlling Medicare outlays. However, much of the increase is the result of explicit decisions by Congress and various administrations to raise SNF payments through the annual update process. Importantly, a consistent finding from several studies following implementation of the new payment system shows a reduction in the amount of therapy services in SNFs without evidence of beneficiaries suffering adverse consequences such as increased hospital admissions, longer stays, or facility-acquired pressure sores. Prospects for sustained cost containment in this sector continue to be affected by industry efforts to increase annual updates and by special adjustments that increase payments beyond the growth in the number of beneficiaries and general medical care inflation.

Home health spending in Medicare grew at an annual rate of 30 percent between 1988 and 1996. Following enactment of the 1997 Balanced Budget Act, payments were initially limited on a per patient basis and later converted to a prospective payment system (PPS) based on an episode of care. At the same time, fraud initiatives and coverage changes also contributed to significant reductions in the growth of home health spending. In just two years, spending was cut in half. Since the PPS was implemented in 2000, the average annual increase in spending has been about 7 percent. Further, little evidence has been found showing increased expenditures related to rehospitalizations or emergency care. The literature suggests that home health agencies have responded to the PPS (and other changes in eligibility and more intense oversight) by increasing the efficiency of their operations and by shifting the mix of their patients to those needing skilled services for shorter periods.

Physician fee schedule
Although there has been no rigorous evaluation of Medicare savings achieved by the physician fee schedule and the formal spending targets that have been in place since 1992, studies and spending trends suggest that growth in Medicare physician expenditures is significantly lower, at least through 2003, than it otherwise would have been. Evidence shows that physicians may vary the volume and intensity of services in response to price changes but in multiple ways. In general, they are likely to provide more “overpriced” services and fewer “underpriced” services as payment rates are altered under the fee schedule. Responses, however, vary by such factors as type of service (surgical, primary care, etc.), magnitude of the reduction in the fee schedule, local market conditions, and prices paid by other payers. The concern that physicians would recoup price cuts by increasing volume and intensity did not materialize to the degree initially expected, leading researchers to conclude that the fee schedule itself can be an effective tool to reduce spending on physician services. Indeed, from 1992 to 2003, annual expenditures grew at a rate significantly lower than historic rates. We calculate an approximate 4 percent savings in the 12-year period following 1991. Importantly, beneficiary access to physicians as monitored by the Medicare Payment Advisory Commission (MedPAC) and others has remained high, and the slower growth in physician expenditures has led to slower increases in out-of-pocket spending in the form of lower beneficiary premiums and coinsurance amounts.

Since 2000, however, growth in the volume and intensity of physicians’ services has increased significantly, although remaining below the level experienced prior to 1992. For the years 1998–2005, total physician spending grew 7.4 percent annually, below the long-term average of 8.9 percent. Nevertheless, these growth patterns suggest that
expenditure targets have become less effective over time. Congress has repeatedly overridden negative updates to the fee schedule resulting from growth in program expenditures above annual targets, thus creating a long-term problem of negative updates through 2015.

Other provider payment policies
Medicare has attempted other payment approaches to achieving cost savings beyond prospective payment and fee schedules. Two approaches that have been applied on a demonstration basis are bundling fee-for-service payments across provider types and competitive bidding. In the 1990s, several hospitals were selected for a demonstration of bundled facility and physician payments for heart bypass surgery. Evaluations of seven sites identified savings of about 10 percent below what would have been paid. Similarly, two competitive bidding demonstration sites for durable medical equipment (DME) resulted in estimated savings of about 20 percent compared with traditional program payments without adversely affecting beneficiary access or the quality of services. While these approaches hold promise for cost containment, they require a significant administrative effort that is both time and resource intensive. Further, successful adoption of these methods will require Medicare to move from an “any willing provider” policy to more of a selective contracting model—or at least to one of selecting “preferred providers”—a change that would represent a new and controversial approach for the program.

Benefit design and coverage of new technology
Since its inception in 1965, Medicare benefits have remained largely unchanged except for the periodic addition of selected prevention benefits (and the drug benefit added by Congress in 2003). Three features of Medicare benefit design that have been examined from a cost-containment perspective are cost sharing in the form of deductibles and coinsurance, explicit limits on the quantity of particular services allowed, and the scope of Medicare benefits. A considerable literature reports that use of medical services declines as prices faced by patients increase. Recent studies of the effects of cost sharing have mixed results, including, in some instances, evidence of inappropriately low use of some important preventive services and maintenance drugs for chronic conditions. However, the CBO estimates that restructuring Medicare cost sharing to a single deductible, 20 percent coinsurance, and an annual out-of-pocket spending cap would generate substantial savings. Limiting the frequency or amount of certain benefits—like drugs or therapy services—has been shown to reduce use but may also be associated with increased expenditures elsewhere.

Cost containment also can focus on the process for managing coverage decisions for new technology, including equipment, drugs, and procedures. However, there is virtually no literature on the impact of Medicare coverage decisions on program expenditures. Coverage criteria in Medicare are broadly stated, with covered benefits described in categories—hospital services, physician services, etc.—and the standard for a particular service or item is only that it be “reasonable and necessary” for diagnosis and treatment. Although there is legal consensus that the “reasonable and necessary” language provides a basis for Medicare to formally consider costs and cost effectiveness in making coverage decisions, political opposition has prevented Medicare from issuing program regulations that would establish a formal role for considering cost effectiveness. Nevertheless, in recent years, Medicare has applied stronger evidence requirements for coverage and issued more narrow coverage decisions, usually limiting the application of new technology by establishing “coverage with conditions,” such as covering carotid stents.
only in approved centers and off-label use of colorectal cancer drugs only in approved clinical trials.

It seems safe to conclude that decisions to deny or limit coverage or impose conditions on coverage does produce savings, at least in the short run. Their longer-run effect is less clear, however, because it is impossible to know how use of a treatment would have evolved in the absence of the coverage decision or to deduce the long-run costs or savings of new treatments based on time-limited clinical trials.

Much of the literature examines the feasibility and potential of relying on evidence-based decisionmaking and the use of cost-effectiveness and comparative effectiveness analyses. However, these approaches can be controversial, and conclusions about their effectiveness are limited by the relatively small number of published studies meeting accepted review standards. Private payers and Medicare have tried other approaches to managing coverage through the use of prior authorization, claims reviews, and practice guidelines. The evidence for all of these approaches is mixed, and their use is not without controversy. Some of the literature also suggests that the use of evidence-based coverage criteria may lead to more appropriate care but not necessarily to a net reduction in spending. Another approach to limiting costs for technology, i.e., paying “the least costly alternative” for different treatments that are functionally equivalent, has had limited implementation in Medicare largely because of opposition by affected suppliers and consequent congressionally imposed limitations on CMS authority in this area.

Chronic care management
Expanding the scope of Medicare benefits has also been examined as a cost-containment strategy intended to address the lack of coordination and integration of care for frail, elderly patients with chronic conditions. Increasing evidence points to the highly disproportionate share of Medicare spending by beneficiaries with multiple chronic conditions, some of whom are also frail and exhibit limitations of activities of daily living. Although it is logical that providing focused professional support for these vulnerable patients would both improve patient well-being and reduce costs, usually by reducing avoidable hospitalizations, the evidence in the literature, including a number of randomized clinical trials, shows that numerous Medicare demonstrations conducted over two decades did not reduce Medicare costs. Many of these programs have not attempted to alter directly the provision of care by physician practices, preferring to bypass the core patient-physician relationships with supplemental programs that come with additional administrative costs.

Significantly, the Program of All-Inclusive Care for the Elderly (PACE) model of comprehensive, coordinated care has demonstrated some success in integrating care for frail enrollees, with modest cost containment, but efforts to replicate the model have proved difficult. Other capitated approaches to caring for vulnerable beneficiaries have not been as successful. Findings from other demonstrations of comprehensive care models for individuals with chronic conditions have generally cited more appropriate care, but not reduced program costs. In some cases, the demonstration programs have reduced costs, mostly from reduced hospitalizations, yet have been able to keep the excess rather than allowing Medicare to share in the savings from improved efficiency.

Despite the absence of demonstrable cost-containment success in various chronic care management models, and consistent with congressional intent to expand private plan
choices in Medicare, there has been a major increase in enrollment in “special needs plans,” a type of private health plan option that targets dual-eligible beneficiaries, nursing home patients, and those with particular chronic conditions. However, payments to these plans seem likely to increase Medicare costs compared with costs in the traditional program, even for these vulnerable groups.

Private plan contracts
Twenty-five years of experience with private plan contracts has not demonstrated significant cost savings. In fact, the literature reveals that Medicare has, on average, paid private plans more than their underlying costs; paid more than it would have paid for beneficiaries if they remained in the traditional Medicare program; and has failed to reap any savings that may be achievable as a result of efficiencies in private plan care delivery (e.g., management of care and provider discounts), largely because payment policies have failed to account for the favorable selection experienced by contracting plans. These findings have persisted even as Congress and CMS have adopted successive modifications to the payment and risk-adjustment methodologies and have expanded the program to include a much wider range of private plans than traditional health maintenance organizations (HMOs).

Where Medicare private plan contracting has succeeded is in delivering enhanced benefits and lower out-of-pocket costs for enrollees compared with what these beneficiaries would have experienced under traditional Medicare. These advantages, however, have been concentrated in those areas of the country where plan payment rates have been relatively high, a geographic inequity of concern to those in areas of the country that do not fare as well. By increasing Medicare payment rates to private plans even more and by establishing a range of private plan options—including private fee-for-service (FFS) plans, medical savings account plans, and regional preferred provider organizations (PPOs)—Congress has basically addressed such equity concerns by encouraging health plans to enter historically undesirable geographic areas, including rural counties. But in an effort to achieve more beneficiary access to private plans and extra benefits, lawmakers have made private plan contracting even more costly to the program. MedPAC currently estimates that Medicare spends 13 percent more in aggregate for beneficiaries to join a private plan in comparison with what the spending would be if they remained in traditional Medicare. Average excess payments vary with plan type. In 2008, these ranged from 112 percent of traditional Medicare costs for the local HMOS and regional PPOs to 119 percent for local PPOs.

Could private plan contracting achieve significant savings for Medicare? This question is widely debated in the literature. Many economists have argued that such savings could be achieved by shifting private plan contractors away from the administered pricing system to a market-based, competitive bidding system, whereby Medicare would pay plans based solely on their premium bids. Efforts to test competitive bidding approaches in selected areas of the country have been thwarted in the past by stakeholder opposition. Under a provision of the 2003 Medicare Modernization Act (MMA), Medicare Advantage plans each now bid a premium. However, the plan’s Medicare payment is based on how the plan’s premium compares with a formula-driven benchmark, which is itself tied to area per capita costs of traditional Medicare. The Comparative Cost Adjustment Program, required under the MMA to begin in 2010, will test a premium-support approach, in which private plans compete head-to-head with traditional Medicare for beneficiaries on the basis of bid premiums. Whether such an approach can achieve cost containment for
Medicare without adversely affecting beneficiaries electing traditional Medicare remains to be determined.

Prevention of fraud and abuse
Medicare has also substantially expanded initiatives to reduce program expenditures related to fraud and abuse. Annual reports from CMS, the Health and Human Services OIG, and the Department of Justice cite significant recoveries from settlements and judgments resulting from audits and prosecution of cases brought under the False Claims Act. The Medicare Integrity Program, operated by CMS, has reduced the claims error rate and increased recoveries from private insurers with primary liability. One published study shows that increasing funds for fraud prevention/detection initiatives can lower Medicare expenditures without adversely affecting health outcomes. Stepped-up program enforcement also creates a “sentinel effect” that is believed to be a significant deterrent, but its effects cannot be quantified. However, increasing these efforts markedly could undermine the political support necessary to sustain these initiatives. Further savings will require investment in information technology, a more rigorous process for the review of provider qualifications, and more oversight of program vulnerabilities arising from risk contracts with private health plans.
PROVIDER PAYMENT SYSTEMS

INPATIENT PROSPECTIVE PAYMENT SYSTEM (IPPS)

Medicare changed its approach to inpatient hospital payment in 1983, moving from a system under which hospitals were paid based on the costs they incurred to one under which they received a fixed, predetermined payment for each admission. These prospectively set rates initially allowed payments to vary only according to 467 (and now more than 700) patient diagnosis-related groups (DRGs) into which a particular admission may fall, with adjustments for local area cost differences and certain hospital characteristics (e.g., teaching status; treatment of a disproportionate share of low-income beneficiaries). Any hospital paid under this system that could treat a Medicare patient for less than the prospective rate could retain the difference. The approach provides a strong incentive for hospitals to lower the costs associated with the treatment of Medicare patients. It also raises a concern that patients might be denied needed care or be discharged in less-stable condition, what was initially labeled as “quicker and sicker” (Guterman, Eggers, and Riley 1988; Kahn et al. 1990a). In addition to attempting to lower hospital costs, it is also possible that hospitals may attempt to recoup any perceived shortfalls in Medicare payments from private payers—a phenomenon referred to as “cost-shifting.”

Research covering the period immediately following the implementation of the Inpatient Prospective Payment System (IPPS) showed that hospitals responded quickly; lowered their Medicare costs per patient, primarily by lowering length of stay; and earned profits (Hadley, Zuckerman, and Feder 1989). Coulam and Gaumer (1991) provided an excellent synthesis of the literature examining the impact of IPPS for the late 1980s. Despite expectations that per admission payments could provide incentives to increase those admissions for which payments exceeded costs, the evidence showed that overall admission rates actually declined through 1987. This admission decline occurred at the same time that advances in clinical management were permitting care to be shifted to outpatient settings, offsetting some of the potential savings from the IPPS. Although there was some evidence that hospitals reduced the number of services and the intensity of care provided during an admission (e.g., Fitzgerald et al. 1987; Sloan, Morrissey, and Valvona 1988), there was little evidence to suggest that Medicare patients received fewer appropriate tests and procedures than they needed (Kahn et al. 1990b). There was evidence, however, that patients were somewhat more likely to be discharged to their homes in a more unstable condition after the IPPS was implemented (Kosecoff et al. 1990).

Newhouse and Byrne (1988) provided an early cautionary note on the thrust of this evidence by showing that the observed drop in length of stay occurred among patients at short-stay, acute care hospitals, and when hospitals and hospital units exempt from the IPPS were included, the share of Medicare patients remaining hospitalized for more than 60 days actually increased between 1981 and 1985. They concluded that patients were being shifted from hospitals paid under the IPPS to other units or facilities. This finding foreshadows the growth in discharges to post-acute care that started by the early 1990s.

From the start of the IPPS, policymakers were concerned that a purely admission-based payment system would give hospitals an incentive to transfer patients to a different hospital relatively early in the stay, if possible. To counteract this incentive, Medicare did not make the full DRG payment to the admitting hospital when a transfer to another acute
care hospital occurred. However, there was no payment penalty to the admitting hospital if the patient was discharged to post-acute care (i.e., a skilled nursing facility, home health agency, or a hospital exempt from the prospective payment system [PPS]). Not surprisingly, the share of admissions that resulted in a post-acute care transfer rose from 21 percent in 1991 to 30 percent by 1998 (Gilman et al. 2000). The increase was even greater for the 20 DRGs with the highest rates of post-acute care discharges, increasing from 38 percent to 54 percent during this same period. As a policy response, the 1997 Balanced Budget Act (BBA) extended some of the payment rules applied to hospital transfers to post-acute care transfers for 10 DRGs with very high post-acute care transfer rates. Although hospital transfers to post-acute care were sometimes inaccurately reported as discharges to home (Levinson 2005), evidence suggests that despite this “leakage” the BBA transfer policies that reduce payments to hospitals under the IPPS produced significant savings (Cromwell, Donaghue, and Gilman 2002).

**ANNUAL UPDATES**

On a year-to-year basis, the main cost control mechanism within the IPPS relates to the size of the annual update in payment rates (although average payments per case can increase for reasons other than the annual update, e.g., lags in DRG calibration). Each year the annual update factor results from recommendations made in the president’s budget and by the Medicare Payment Advisory Commission (MedPAC) and final decisions made ultimately by Congress as part of the budget process. MedPAC considers the adequacy of rates in March of each year. It assesses what a reasonable increase in costs would be for efficient hospitals before making a recommendation about the update for all hospitals (MedPAC 2006a). The adequacy of rates is determined by considering data on beneficiary access, service volume, quality of care, access to capital markets, and hospitals’ Medicare margins. When assessing the needs of efficient providers, MedPAC balances likely input price increases (measured by the hospital market basket index, which reflects changes in the prices hospitals pay for labor, equipment, and supplies) against the potential for technological changes to improve productivity and the need to encourage efficiency and quality of care. In many years, this mix of factors results in recommended updates to IPPS payment rates that are less than the increase in the hospital market basket index.

Indeed, the 1997 BBA used the update mechanism to achieve roughly one-half of the savings achieved from Medicare payments for inpatient hospital care, with the rest resulting from payment changes in other parts of the IPPS, such as capital and indirect medical education support (Guterman 1998). However, it should be emphasized that updates in the decade prior to the BBA had been, on average, 2.1 percent below the market basket (Guterman 1998). The law in place at the time of the BBA would have set the baseline update at the market basket for the period 1998–2002 (approximately 3 percent per year). Therefore, although the BBA reduced the update by 1.7 percentage points annually relative to this baseline, the projected BBA updates were really more generous than hospitals had received during the prior decade. Moreover, the updates were increased by legislation passed during the period before the BBA could be fully implemented. Data show that in the years since 2002, the IPPS update has been kept at or below the hospital market basket rate of increase, and, as a result, the annual changes in Medicare payments per case have been below the changes in costs per case (MedPAC 2007a).
As noted, the evidence on changes in hospital behavior and patterns of care resulting from the IPPS was strong, but these types of studies do not address the impact that the IPPS has had on overall Medicare spending. Russell and Manning (1989) began filling this void by analyzing data from the 1979 to 1988 Medicare trustees’ reports to assess how the IPPS affected projections of future spending from the Hospital Insurance (HI) Trust Fund. (During this period, Medicare inpatient hospital spending accounted for about 93 percent of the spending from this fund.) They concluded that projections of HI Trust Fund spending for 1990 had fallen from $54 billion just prior to the start of the IPPS to $42 billion in 1988, implying a savings of approximately 20 percent. Roughly one-third of these projected savings were due to the drop-off in admissions that occurred in the years following the introduction of the IPPS. This study also explored the possibility that savings could be offset by spending on outpatient services and found that the IPPS could have increased spending from the Supplementary Medical Insurance Trust Fund for such outpatient services by no more than $0.6 billion in 1990.

More recent analyses confirm that the early years of the IPPS were somewhat unique with respect to the growth in Medicare hospital spending. Foster (2000) showed that the IPPS was associated with an actual decline in Medicare HI expenditures between 1985 and 1987, holding constant general and medical price inflation and beneficiary growth. The only other period during which he detected a similar pattern was in the years immediately following the BBA cuts.

White (2006) provided a different set of analyses showing that the IPPS not only succeeded quickly, but also was able to sustain slow growth over time by keeping payment updates low. White defined “excess growth” in spending as nominal spending beyond that expected by the same factors that Foster held constant plus the change in the age composition of beneficiaries and real gross domestic product (GDP) per capita. He showed that, after a sustained period of excess growth in hospital spending at or above 4 percent during the 1970s, excess growth in the years following the IPPS has fluctuated around zero. Even in the years prior to the BBA, excess growth in hospital spending remained well below the levels of the 1970s.

Not surprisingly, White (2006) also showed that excess growth in spending on post-acute care was more than 20 percent annually between 1989 and 1995, offsetting some of the low excess growth in hospital spending, supporting other evidence showing that some of the lower program costs Medicare achieved under the IPPS have been shifted to other Medicare services (e.g., outpatient care and post-acute care). This means that, from the program’s standpoint, the success of the IPPS as a cost containment policy is not as great as would be attained by focusing solely on inpatient hospital payments.

In addition, from the health care system’s standpoint, private payers may have helped hospitals cope with lower Medicare payments under the IPPS if they increased payments for their enrollees’ services in response to hospitals’ revenue needs. If this cost shifting occurred extensively, then the incentive for hospitals to lower their overall expenses in response to the IPPS would have been weakened. However, the definition of cost shifting, the market and behavioral conditions under which it occurs, and the empirical evidence showing its impact all remain topics of active debate in the literature (e.g., Ginsburg 2003; Lee et al. 2003; Morrisey 2003).
CONCLUSION

The IPPS has been in place for almost 25 years and has given Medicare control over the price it pays for the service that continues to represent the largest share of program spending. Although the number of discharges per beneficiary increased during the second decade of the IPPS, the program’s ability to set payment updates has typically kept payment growth at or below the rates of increase in hospital input prices (Centers for Medicare and Medicaid Services [CMS] 2007e). In fact, the slow growth in input prices in recent years has resulted in annual payment growth that was well below the early years of the IPPS.

The body of research reviewed suggests that the IPPS has reduced Medicare’s spending on hospital inpatient care. However, a portion of the savings from the IPPS was offset by the shift of some services to hospital units exempt from the IPPS (e.g., outpatient departments) and the growth in post-acute care. Therefore, while the IPPS succeeded in containing the growth in inpatient hospital spending, it may have spurred spending growth for other services.

POST-ACUTE CARE: SKILLED NURSING FACILITY AND HOME HEALTH PAYMENT

Of the nearly $43 billion that Medicare spent on post-acute care in 2006, three-quarters went for care provided by skilled nursing facilities (SNFs) and home health agencies (HHAs) ($19.2 billion to SNFs, $13.1 billion to HHAs) (MedPAC 2008a). The remaining 25 percent of Medicare spending in 2005 on post-acute services supported inpatient rehabilitation facilities ($6.7 billion) and long-term acute care hospitals ($4.6 billion).

SNF PAYMENTS

Between 1990 and 1998—the year the SNF PPS (discussed below) was introduced—Medicare spending for SNF care grew about 25 percent annually (CMS 2006b).

Medicare’s SNF reimbursement policy at the time incorporated facility-specific limits on routine costs (i.e., room, board, and skilled nursing care), while capital costs and ancillary costs (e.g., therapy services, ventilator patient care, and prescription drugs) were reimbursed on a reasonable cost basis. This reimbursement system helped fuel increases in both utilization and payment amounts—over the eight-year period, the number of SNF days per 1,000 beneficiaries rose 11 percent a year and payments per day rose 14 percent a year (CMS 2006b). The lack of reimbursement limits on ancillary care permitted SNFs to care for patients with substantial ancillary needs. However, government agencies also found that under reasonable cost reimbursement, there was evidence of excessive charges for ancillary services—particularly therapy services, such as physical, occupational, and speech therapy—and evidence of medically unnecessary provision of such therapy services (General Accounting Office [GAO] 1994b, 1996, 1997a; Office of Inspector General [OIG] 1999a, 1999b).

As required by the 1997 BBA, a PPS was introduced to help control Medicare SNF spending, beginning in July 1998. The PPS pays a predetermined rate for a day of SNF patient care, adjusted for case mix, area wages, and inflation. The classification system, labeled Resource Utilization Groups, Version III (RUG-III), groups SNF patients into
one of 53 groups (originally 44 groups) based in large part on therapy time, as well as use of other selected services, presence of selected medical conditions, and level of impairment in activities of daily living (ADLs). This patient information is derived from a nursing home patient assessment instrument (the Minimum Data Set), which is completed at periodic intervals during a patient’s stay. Payment rates vary by RUG-III group; however, as Maxwell, Weiner, and Liu (2003) summarized, several studies have shown this payment variation does not correspond well to variation in SNF patient costs. As a result, the SNF PPS in particular provides incentives to both target patients in higher paying case-mix groups and to limit patient costs.

The chart below illustrates total and per beneficiary SNF spending in the years surrounding the introduction of the PPS. As the chart shows, in the first two years of the PPS, 1998–2000, total SNF spending actually fell 3 percent in real terms each year, producing a much larger spending reduction than what had been estimated by the Congressional Budget Office (CBO 1998). Following additional payments legislated for SNFs, annual payment updates, and renewed growth in rates of use of SNF care, spending has increased about 11 percent annually between 2000 and 2005 (MedPAC 2006b). Although still significant, the 11 percent compares favorably with the 25 percent annual rate of growth between 1990 and 1998 when SNF ancillaries were reimbursed on a cost basis, demonstrating that the SNF PPS has resulted in a slower rate of growth in Medicare spending.

Medicare Payments to Skilled Nursing Facilities 1994-2006

Some studies examined the impact of the PPS on the likelihood of SNF use, service utilization (particularly therapy use), and outcomes. In aggregate, the studies have yielded insight on the responsiveness of nursing homes, particularly freestanding ones, to the new financial incentives introduced under the PPS. Analyses of therapy use before and after the PPS indicated that SNF patients were more likely to receive some therapy after introduction of the PPS; however, the amount of therapy furnished to those receiving therapy declined after the PPS (White 2003; Wodchis, Fries, and Hirth 2005). Further, these two studies showed that SNFs largely target patients assigned to the most profitable PPS case-mix groups, in terms of Medicare payments relative to the therapy time required, suggesting the need to modify payments to address the role of favorable selection. The PPS overall, and the decline in therapy time among users, has not been associated with poorer SNF outcomes (Angelelli and Gifford 2002; Angelelli et al. 2002; Hutt et al. 2001; Kramer, Eilertsen, and Hutt 2000; Wodchis, Fries, and Hirth 2005).

Other studies focused on the impact of the PPS on nursing home staffing and the use of outside suppliers of ancillary services. The studies found that the PPS resulted in a decrease in the use of professional staff relative to aides in SNFs (Konetzka et al. 2004); a decrease in the use of licensed physical therapists, whether as salaried or contracted workers (Goldstein 2001); and a decrease in the use of outside suppliers of therapy services and an increase in the use of in-house, or salaried, therapy providers (Zinn et al. 2003).

Although initial spending cuts in 1999 and 2000 created turmoil in the SNF industry, producing a number of bankruptcies, financial performance analyses indicated that Medicare margins remained large and positive for two-thirds of all free-standing SNFs in 1999 and for 81 percent of them in 2000 (GAO 2002b), suggesting that most facilities were able to fairly quickly reduce the unit costs of their ancillary services.

However, in contrast to free-standing facilities, Medicare margins among hospital-based SNFs generally are negative (MedPAC 2006a). Part of the explanation is that hospital-based SNFs often treat a more medically complex patient mix (GAO 1999a). Further, although aggregate SNF payments are adequate (MedPAC 2006a), the ability of the SNF PPS to match payments with patient costs is limited, particularly for patients with high nontherapy ancillary service use (Maxwell, Weiner, and Liu 2003). Most hospitals and health systems with SNFs have continued to operate these units despite negative ratios of Medicare SNF payments to reported SNF costs, suggesting that these parent health systems have broader strategic reasons to maintain SNF units.

While the distribution of Medicare SNF payments across patients continues to be of concern, MedPAC (2006b; 2006a) generally has stated that overall Medicare SNF payments are more than adequate relative to Medicare SNF costs, and has recommended payment updates below the rate of inflation. As with acute care hospitals, MedPAC bases its recommendations on data about access to SNF care, SNF outcomes, industry access to capital, and Medicare margins. Although industry and consumer advocates argue against lower payment updates, in part because Medicare revenues help offset low Medicaid rates to nursing homes (American Health Care Association 2007), the literature suggests that SNFs, particularly freestanding ones, have been able to reduce their Medicare costs both in absolute terms and relative to PPS payments, without adversely affecting patient outcomes.
HOME HEALTH PAYMENTS

Medicare home health spending rose at an even faster rate than SNF spending, averaging 30 percent per year between 1988 and 1996, a peak spending year (MedPAC 1999).

Medicare Payments to Home Health Agencies 1994-2006

Policymakers had several concerns regarding this level of growth and responded by initiating a concentrated fraud and abuse effort, including imposing a six-month moratorium on certifying new agencies; reducing eligibility for home care services; and replacing the cost-based reimbursement for services with a temporary system known as the interim payment system (IPS) and, ultimately, an episode-based PPS.

The temporary system, the IPS, was phased in beginning October 1997. HHA payments were subject to agency-level, per-visit cost limits and agency-level, per-patient cost limits. Due to the IPS, fraud and abuse efforts, and eligibility changes, Medicare home health payments plummeted to $7.2 billion by 2000, as seen in the chart above. (CMS 2007e). Several studies have documented the substantial changes in home health use during these two years, including a roughly 20 percent drop in the share of home health users (GAO 2000c; McCall et al. 2003b); 40 percent decline in the number of visits per user (McCall et al. 2003b); and about a 25 percent reduction in the number of certified HHAs (Abt 1999; GAO 1999d).

The PPS was implemented in October 2000. This policy pays a pre-established amount for 60-day episodes of care, adjusted for clinical conditions, area wages, inflation, and service use. Further adjustments to payment amounts for outlier cases, significant
changes in patient condition, and partial episodes of care are recognized. CMS also slightly expanded eligibility criteria for the home health benefit. Since 2000, HHA spending has grown about 7 percent annually, to $12.5 billion in 2005 (MedPAC 2006a).

The combination of IPS and PPS payment changes, coverage and eligibility changes, and program integrity activities resulted in a substantial reduction in the growth rate of Medicare home health spending compared with the era of cost-based reimbursement. Studies have not been able to clearly isolate the impact of these three broad factors in order to attribute specific levels of spending reductions to each.

However, studies that have examined the impact of the spending reductions in terms of visit utilization, outcomes, and patient mix have yielded insight regarding agency cost efficiencies and the changing “home health product.” Numerous studies documented visit reductions. For example, MedPAC (2006a) found that between 1997 and 2002 the total number of visits per episode fell by about half, from an average of 36 to 19 visits. Adjusting for case mix, Schlenker, Powell, and Goodrich (2005) found that total visits fell by about 17 percent. Several studies found that greater reductions in visits occurred for patients who were older, female, dually eligible for Medicare and Medicaid, in proprietary agencies, and in states with historically high use rates (FitzGerald et al. 2006; McCall et al. 2003b; Murkofsky et al. 2003; Zhu 2004).

Despite such a substantial reduction in home health visits, recent studies have found little and sometimes no change in outcomes, such as rehospitalizations, emergent care rates, and wound outcomes (McCall et al. 2003b; MedPAC 2006a; Schlenker, Powell, and Goodrich 2005), suggesting that the incentives of the Medicare home health PPS have led to reductions in some unneeded services. Further, analyses of agency financial performance suggest that agency cost efficiencies also have occurred in the form of reductions in the cost of a unit of service (MedPAC 2006a).

At the same time, however, some of the spending reduction has been produced by a change to a less costly mix of home health patients. Both the payment system changes and the eligibility changes shifted the emphasis of the Medicare home health benefit away from patients with chronic care conditions and needs for longer term aide services, and toward patients with more acute conditions and needs for shorter term rehabilitation services. Correspondingly, studies found that while overall visits declined, the number and share of visits that were skilled visits, particularly for rehabilitation, grew (MedPAC 2006a; Murtaugh et al. 2003; Schlenker, Powell, and Goodrich 2005). For example, between 1997 and 2002, the share of home health visits that were therapy visits rose from 9 percent to 26 percent (MedPAC 2006a). Correspondingly, studies have found reductions in the number and share of visits by home health aides.

In sum, the literature suggests that home health agencies have responded to payment system changes, coverage and eligibility changes, and program integrity activities by increasing their cost efficiency and by shifting to a mix of patients needing skilled services for a shorter period. Medicare home health spending growth is lower as a result. In addition, use of home health aide services clearly has been reduced. Given the program’s benefit structure, these direct costs generally should not be borne by other portions of the program. Further, outcomes studies conducted to date generally suggest that the home health system changes do not seem to be resulting in higher “indirect” costs to the program (e.g., higher hospitalization rates or emergency room visits). However, the Medicare savings in terms of home health aide visits may have occurred at the expense of
Medicaid or other medical/social support systems, whether in the form of paid or unpaid caregiving. These larger impacts are beyond the realm of the Medicare program, but they are nonetheless important to Medicare beneficiaries, their families, and other payers.

Within the realm of Medicare, however, remains the question of the cumulative impact of all of the post-acute care settings system changes on Medicare utilization, spending, and patient outcomes. Several of the studies noted above have commented on this gap in the literature. In one of the very few recent cross-site studies, Buntin and colleagues (2005) examined post-acute care use between 1996 and 2003 among patients with hip fractures, stroke, and joint replacement; they found that the reductions in care in one post-acute care setting often were offset to some extent by increases in care in another setting. The study noted that over the seven years, an underlying trend of increasing SNF use across all conditions developed. Yet, over the same period, the study found that home health care use was decreasing for hip fracture and stroke and increasing for joint replacement, and that inpatient rehabilitation care was increasing for hip fracture and joint replacement.

Similarly, Fitzgerald and colleagues (2006) examined home health utilization between 1996 and 2001 among patients with hip fractures and hip replacements, and found that the nature of home health use shifted from most commonly occurring immediately after hospitalization to most commonly occurring following SNF or rehabilitation hospital care. The authors found that this shift occurred within an overall decline in home health use, from 61 percent of patients in 1996 to 54 percent in 2001. Buntin and colleagues (2005) found that the overall share of patients using any type of post-acute care remained fairly stable between 1996 and 2001; they were not able estimate the Medicare spending impacts of the changes they witnessed among settings. This will likely be a focus of future research in post-acute care, however, as policymakers and researchers look beyond the individual post-acute care setting payment reforms and turn toward assessing the impact of care and spending across post-acute care settings.

**CONCLUSION**

Although the PPSs that Medicare applies to post-acute care settings are relatively new policies, the evidence to date clearly suggests that they have reduced the level of Medicare post-acute care spending growth relative to the levels witnessed under the previous cost-based payment policies. Providers reacted to the new payment systems by reducing cost inefficiencies, particularly in their provision of ancillary services. Some also altered their mix of patients or their product. Most studies examining patient outcomes have found fairly little or no change in key indicators such as rehospitalizations or reduced function.

However, the introduction of PPSs to post-acute care settings has introduced an additional complicating factor to understanding and predicting the placement of a patient in a particular post-acute care setting. Physician preference, patient/family preference, geographic availability, health care market factors, and insurer coverage and payment rules—in addition to patient clinical status and care needs—all play a part in determining patient placement in a post-acute care setting. Thus, an important issue is to better understand these factors and the role and impact of Medicare’s payment systems on post-acute care patient placement and the implications of placement on quality and efficiency. Research and development of a cross-site patient assessment instrument is currently underway and should provide policymakers and researchers with a single, common
metric for characterizing patients’ clinical and functional characteristics and needs across post-acute care settings.

PHYSICIAN PAYMENT

In 2006, Medicare spent about $58 billion on services paid under the physician fee schedule, or about 15.7 percent of total Medicare spending of $379 billion (CBO 2007b). Physician spending in 2006 was nearly 70 percent higher than in 2000, a growth exceeding 9 percent annually over the six years, reviving long-time concerns about rapidly rising physician expenditures in Medicare. A June 2007 report of the CBO observed that average spending on physician services per beneficiary grew nearly three times faster than spending for all other Medicare services over the period 1997–2005. Increased physician spending also pushed the beneficiary Part B premium higher, from $50 in 2001 to $96.40 in 2008.

This is not a new issue for Medicare. Over the 37-year period 1968–2005, Medicare spending on physician services increased at an average annual rate of 8.9 percent, but with significant variation over different periods (see table below). Medicare’s original charge-based reimbursement system had a built-in incentive for physicians to increase their charges, and from 1968 to 1975 physician spending grew at an average annual rate of nearly 9 percent. Efforts to control these increases began in 1972 when Congress legislated a cap on annual inflation in allowed physician charges using a measure of input costs, the Medicare Economic Index (MEI). It failed. Following its implementation in 1975, spending soared at an average rate of 16 percent annually over the next 10 years, 1975 to 1984.

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<tr>
<td>Average Annual Increase in Total Reimbursement per Enrollee</td>
<td>8.9%</td>
<td>16%</td>
<td>6.6%</td>
<td>11.4%</td>
<td>8.5%</td>
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<tr>
<td>Average Annual Increase in Prices</td>
<td>4.4%</td>
<td>8.6%</td>
<td>0.5%</td>
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<td>0.3%</td>
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<td>Average Annual Increase in Volume and Intensity</td>
<td>4.3%</td>
<td>6.8%</td>
<td>6.0%</td>
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<td>8.2%</td>
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1 A June 2007 CBO report (CBO 2007b) found that the volume and intensity of services grew an average of 4.2 percent annually during 1997–2005 and that prices fell an average of 0.6 percent annually. CBO adjusted spending for inflation using the MEI and applied a decomposition analysis to split out prices and the quantity of services. CBO used a nine-year sample of 2.7 million beneficiaries with an average of about 300,000 beneficiaries each year.
FREEZE ON PHYSICIAN CHARGES

Unable to control spending growth and facing rising federal deficits, Medicare froze both physicians’ charges and their reimbursement levels from July 1984 through December 1986—thereby protecting beneficiaries by freezing charges, not merely Medicare payments. During the freeze, price levels barely increased, but total payments to physicians still rose 6.6 percent annually due to increases in the volume of physician services provided and the complexity of those services, which increases their cost. (The complexity of services is often referred to as intensity. This report will refer to the combined sources of these increases as changes in volume and intensity). When the price freeze ended, Medicare payments to physicians rose dramatically at an annual rate of more than 11 percent (1986–1988).

In legislation enacted in 1987, 1989, and 1990, Congress reduced Medicare payments for several surgical and nonsurgical procedures considered to be “overpriced,” again protecting beneficiaries from physicians’ balanced billing. Still concerned with rising expenditures, in 1989 Congress directed implementation, beginning in 1992, of the current Medicare physician fee schedule setting payment rates for each of the more than 7,000 physician services. Each service’s rate is based on the relative amount of resources required for physicians to provide the service compared with other services. The legislation also included limits on how much physicians could balance bill beneficiaries. Perhaps most significant, because physician payment would remain fee-for-service, the new payment system set annual spending targets designed to slow the rate of growth in total spending on physician services.

Policymakers expected that the advent of more accurate prices for individual services would reduce the incentives to oversupply services whose rates were too high and to undersupply services that were underpaid, while the expenditure targets would address the problem of increased aggregate volume and intensity (McGuire and Pauly 1991; Physician Payment Review Commission [PPRC]1993). As envisioned, over the first seven years of the fee schedule, 1992–1998, spending for physician services grew only 2 percent a year, the lowest rate the Medicare program had experienced. Even growth in the volume and intensity of services subsided, actually declining at an annual rate of -0.7 percent, suggesting that the payment methodology was working as intended. Unfortunately, the effectiveness of the new controls declined after 1998; from 1998 through 2005, spending growth was 7.4 percent annually, although still below the long-term average of 8.9 percent. As discussed below, many policy experts believe the problem lies in the design of the system of spending targets.

FEE SCHEDULES AND PHYSICIANS’ RESPONSE TO PRICE CHANGES

Most of the PPSs discussed in this report pay for a bundle of services, thus encouraging efficiency and fundamentally changing the incentives providers face. In contrast, under a fee schedule, incentives for efficiency are absent. Indeed, how physicians respond to price changes in individual services is an important issue. Medicare’s new fee schedule reduced many rates substantially, mostly for surgery and other procedures; policymakers and researchers expected physicians to compensate for the cuts by increasing the volume and intensity of services they provide. Lower prices for services also would mean reduced beneficiary coinsurance and possibly greater consumer demand for services.
Numerous studies have investigated how spending on physician services responds to price changes and the extent to which the volume and intensity of services increase. The response to price changes is fundamental to the effectiveness of fee schedules as a policy tool. Many researchers had found that freezes or cuts in payment rates were associated with an increase in the volume and intensity of services, allowing physicians to partially recover otherwise lost income (Christensen 1992; Rice 1983, 1984; Rice and McCall 1982; Yip 1998). Consistent with this research, CMS applied a behavioral adjustment in setting payment rates under the fee schedule. CMS reduced payment rates based on an assumption that physicians would increase the volume and intensity of their services sufficiently to recover 50 percent of the income lost due to price reductions.

However, the Physician Payment Review Commission (PPRC), a predecessor to MedPAC, found that the behavioral response was an overall volume and intensity increase of 36 percent, which represented a net change of a 48 percent increase for procedures with fee reductions and an 18 percent decrease for services experiencing fee increases (PPRC 1993). The PPRC also found that surgeons’ behavioral response was smaller than that of nonsurgeons and that surgeons’ response diminished with successive rounds of payment reductions, with surgeons recouping only 17 percent of cuts in the third round of reductions compared with 60 percent for nonsurgeons. Across all physicians and over the three sets of reductions between 1987 and 1990, PPRC found an average behavioral response of 30 to 40 percent (PPRC 1993).

In contrast, other researchers have found opposite effects of price cuts. Escarce (1993a) found a substantial and consistent decrease in volume growth for the affected surgical procedures and a small, nonstatistically significant decrease in the total amount of services provided by five surgical specialties after the 1987 overpriced procedure reductions. He concluded that the results may indicate that decreases in Medicare prices had no effect on demand. A similar response was found by Gruber, Kim, and Mayzlin (1999) in their investigation of Medicaid fee differentials between cesarean and normal deliveries. They found a positive response to prices (i.e., more services at higher prices, fewer services at lower prices) rather than the inverse relationship of the previous volume offset studies.

Like Escarce, McGuire and Pauly (1991) criticized the earlier studies’ thesis that physicians respond to price cuts by increasing their volume and intensity to reach a “target income.” They argued that when a price is changed for a service representing a relatively small portion of a practice’s total income, the usual response would be to provide more of the service if the price increased and fewer services if it decreased. They also observed that responses to income changes occur at the practice level, not at the level of individual procedures, and that price changes should be evaluated with consideration of their combined impact on practice income. McGuire and Pauly also suggested that physicians might shift a portion of their volume to private payers, a phenomenon documented empirically by others researchers (Rice, Stearns, and Pathman 1999; Tai-Seale, Rice, and Stearns 1998).

In 1998, CMS actuaries revisited the issue of physician response to price changes. Based on their own analysis of Medicare claims from 1994 to 1996 and a review of other studies, they reduced the behavioral offset from one-half to one-third, beginning with rate setting for the 1999 fee schedule (Codespote, London, and Shatto 1998). Similarly, another government study of physicians’ response to price changes recently found that
physicians recover about 28 percent of lost revenue due to price changes through increases in volume and intensity (CBO 2007b). This finding, however, was not statistically significant.

In a 2006 study, Hadley and Reschovsky found that the volume and intensity of Medicare services increase when prices go up and fall when prices drop (a positive relationship, as was found by Escarce and Gruber) and that physicians seeking to increase revenue will tend to increase the intensity of the services they provide, rather than the volume. They also found that the level of physician services in Medicare is sensitive to factors other than the Medicare price, such as the number of people covered by private insurance, the generosity of private coverage, and the level of nonelderly people’s incomes. They noted that the recent increase in the volume of Medicare physician services may be due in part to the decreasing number of people covered by private insurance, cuts in the generosity of private coverage, and the slowdown in the growth of nonelderly people’s incomes (Hadley and Reschovsky 2006).

Because the literature is contradictory on key issues of concern, only general conclusions emerge. First, physicians’ responses to price changes are complex, dependent on multiple factors, and difficult to predict. Second, their responses may vary by type of service and by the size of the price change; large reductions affecting a substantial share of physicians’ practice income are more likely to lead to volume and intensity growth, perhaps due both to physician response and consumer demand. Reductions of this magnitude occurred in 1987–1993 and are the source of data for studies showing the greatest price response. Third, nonsurgical and primary care services exhibit greater price responses than surgical services, especially major surgical procedures. Finally, most researchers believe that physicians will provide more of a service if its price increases and less of a service if its price decreases, although the empirical evidence remains inconclusive.

Hadley and Reschovsky (2006) argue against the view that physician ability to respond to fee schedule reductions by increasing volume and intensity render the fee schedule ineffective as a tool to limit costs. They observed that the volume of physicians’ services delivered to Medicare patients is very sensitive to Medicare prices and that fee reductions will lower program costs, not increase them. The authors believe the fee schedule could be a more effective tool in controlling costs and guaranteeing access if fees could vary across geographic areas in response to differences in service volume or local market conditions, such as the supply of physicians.

**Expenditure Targets**

The Medicare Volume Performance Standard (VPS) under the original 1992 target system set annual spending targets based on four factors: increase in the number of fee-for-service beneficiaries enrolled in Medicare Part B; growth in the cost of providing services; changes in law or regulation; and the average increase in volume and intensity using a five-year historical moving average. To move away from the historical rates of growth incorporated by the fourth factor, Congress reduced the performance target under the VPS by 0.5 percentage point initially, then increased it by 2.0 percentage points (1992–1993), 3.5 percentage points (1994), and finally by 4.0 percentage points (1995).

Actual average volume and intensity growth, which had been about 7.6 percent during 1986–1991, fell substantially in the initial years of the fee schedule. This success, however, consequently caused future performance targets using the five-year moving
average to decrease significantly and unacceptably. As the VPS targets fell and became increasingly difficult to meet, Congress in the BBA addressed the problem and other flaws by replacing the VPS with the Sustainable Growth Rate (SGR), the system currently in effect. One of the most significant changes involved substituting real per capita growth of the GDP for the five-year moving average increase in volume and intensity, thereby limiting annual growth in the volume and intensity of services to the rate of economic growth.

According to GAO congressional testimony in 2002, “Since 1992, the growth in the volume and intensity of physicians’ services per Medicare beneficiary has moderated. Between 1992 and 2002, the average annual increase in Medicare spending due to changes in volume and intensity of services per beneficiary was about 2 percent. In contrast, between 1985 and 1991, immediately before the introduction of spending targets, volume and intensity of services per beneficiary increased at an average annual rate of about 8 percent” (GAO 2002c). In its view, spending targets create a feedback mechanism between physicians’ behavior and payment rate increases. Acknowledging the lack of any direct incentive for individual physicians, GAO believes the primary value of spending targets is the signal they send about the affordability of the program. GAO reached similar conclusions in 2004 but also observed that growth in volume and intensity had begun to rise since 2000, albeit at a rate below what had prevailed in the years before spending targets (GAO 2002c, 2004a).

While there is no rigorous evaluation of Medicare savings achieved by the fee schedule and spending targets, a rough approximation of possible savings can be posited by comparing actual physician spending in the period 1992–2003 with what that spending might have been had volume and intensity continued at the average annual rate during 1985–1991. Using this approach, estimated savings for the 12-year period are about $18 billion, or around 4 percent (authors’ calculation).

Considering the gradual return to higher rates of growth in volume and intensity since 2000, it appears that the expenditure targets have become significantly less effective over time. Perhaps individual physicians experienced some incentive to constrain utilization initially; this may have diminished, however, as they developed a fuller understanding of the hidden incentives. A physician who constrains utilization faces a double penalty: the loss of revenue from forgone services and a lower payment rate in the future due to reductions imposed when other physicians increase their volume and intensity (GAO 2002c, 2004a; MedPAC 2002a, 2006a; Newhouse 2002).

The table on page 23 shows volume and intensity growth since 1998 in comparison to growth in real GDP, clearly demonstrating the rising level of “excess” growth. Recent growth rates (2000–2005) vary significantly by type of service, from 7 to 10 percent annually for minor procedures, imaging services, and diagnostic tests, to less than 4 percent annually for evaluation and management (visits and consults) and major procedures (e.g., major surgery) (MedPAC 2007b).
Incentives toward restraint resulting from the SGR are further diminished because the extreme rigor of limiting volume and intensity growth to real GDP, about 2.1 percent per year on average, combined with the cumulative aspect of the SGR creates targets that are not achievable. The years immediately following implementation of the fee schedule are the only period during which growth in volume and intensity was at or below 2.1 percent.

Congress has repeatedly averted large negative updates of 4 percent or greater that would have occurred each year due to spending exceeding the targets. At the same time, Congress has exacerbated the problem by overriding the negative updates without changing the SGR allowance to reflect the higher updates. It is as if physicians were given a loan by Congress to be paid back in future years on top of each future year’s inevitable additional debt. The increment to the debt each year results from the built-in structural problem that the SGR’s allowance for volume and intensity growth is unrealistically low. Currently, physicians are facing the prospect of at least nine years of negative updates of about -5 percent annually. Under current law, physician fee schedule rates would fall nearly 40 percent over the next 10 years while the cost of providing care, as measured by the MEI, would increase about 20 percent over the same period, 2008–2017, for a real reduction equivalent to 60 percent (based on projections in the 2008 Trustees Report as modified by the updates provided in the recent MIPPA legislation)(CBO 2008, CMS 2008b).

MedPAC has identified three major issues in the SGR: It fails as a volume control mechanism because it is a national target with no incentive for individual physicians to control volume; it is inequitable because it treats all physicians and areas of the country the same regardless of their utilization behavior; and it treats all volume increases the same, whether or not they are desirable. After examining numerous alternative methods for measuring performance and setting targets (including defining spending pools geographically or by type of service), MedPAC recommended in March 2007 that Congress consider two alternative paths for reform. The first path would repeal the SGR and replace it with the update methodology used for other providers, while the second is a major reform that would expand the SGR to include physician, hospital, and other services in the spending targets and make them geographically based. Both paths would have high budget costs. In addition, to control spending, the first option would be accompanied by robust performance measures, including efficiency measures—measures that are still in the early stage of development. Similarly, the alternative path raises extremely difficult technical and political issues and lacks details (MedPAC 2007b).

**IMPACT ON BENEFICIARIES**

With downward pressure on prices created by the Medicare resource-based fee schedule and the SGR formula, policymakers have been concerned about beneficiaries’ access to
care. Despite increasing numbers of anecdotes about physicians’ preference for seeing privately insured patients rather than Medicare beneficiaries, MedPAC’s most recent report, based on data from several surveys it conducted from 2003 to 2005 as well as surveys conducted by other organizations, concludes that beneficiary access to physicians appears to be steady, with most beneficiaries reporting few or no access problems (MedPAC 2006a).

Reduced spending due to slower growth achieved as a result of the physician fee schedule and expenditure targets translates into beneficiary savings through lower Part B premiums and copayments. Building on the rough estimate of Medicare program savings for the first 12 years of the fee schedule, 1992–2003, beneficiaries saved about $9 billion in lower Part B premiums and reduced copayments over this period—a savings of more than 4 percent (authors’ calculations). When Congress acts to avert payment decreases associated with the SGR formula, an untoward effect is the increase in the Part B premium that beneficiaries face. AARP and other beneficiary groups have urged Congress to protect beneficiaries against premium increases, but the temporary increases enacted to date have not included such protection.

CONCLUSION

The 1992 physician fee schedule and companion expenditure targets were initially effective. Over the period 1992–2003, they reduced the growth rate of spending on physician services, with substantial savings to both the government and beneficiaries, without diminution of beneficiary access. Recently, however, growth rates have edged back toward the high historical levels that preceded the reforms, prompting widespread agreement that significant adjustments in the 1992 system are urgently needed. MedPAC has identified three areas for attention: (1) address overpriced and underpriced services to improve the accuracy of the fee schedule rates; (2) base payment amounts partly on a broad set of performance measures, including efficiency measures; and (3) reform the SGR to create a system of meaningful incentives to control aggregate spending growth.

OTHER PAYMENT APPROACHES

Additional provider payment strategies have been explored as alternatives to cost reimbursement, prospective payment, and fee schedules. Some of these strategies have shown promise as cost containment tools, but to date, they have not been adopted as Medicare payment policy. Most notable among them are bundling payments across sites of care and price setting through a competitive bidding process.

BUNDLING FEE-FOR-SERVICE PROVIDER PAYMENTS

Several advantages to bundling Medicare fee-for-service payments across sites of care have been identified. First, it would encourage efficiency by rewarding the provision of care in the least costly setting. In particular, movement of patients between sites—such as discharging patients from inpatient hospital treatment to care in a skilled nursing or rehabilitation unit of a hospital—to maximize total reimbursement would be discouraged. Second, bundling payments for an episode of illness could correct for incentives created when Medicare payments for the same service vary across sites of care, which can result in patients being treated in the site most profitable to the provider, whether or not it is the most clinically appropriate or convenient for the patient (Newhouse 2002; Welch 1998).
Third, bundling payments can align incentives across providers who might otherwise be insensitive to the total cost of care. For example, surgeons paid independently of hospitals have little incentive to manage their use of hospital resources efficiently (MedPAC 2003b).

A potential downside identified for beneficiaries is the possibility that under bundled payments, providers would withhold needed services to maximize profit (Lee, Ellis, and Merill 1996). The incentive to limit provision of services holds true for the separate prospective payment systems for inpatient hospital, rehabilitation hospital, home health, and skilled nursing facility care as well, as these systems bundle payment for all the individual services delivered during the patient stay episode (Newhouse 2002).

Models of bundling post-acute care services have been developed (Lee, Ellis, and Merill 1996; Neu et al.1986; Welch 1998), but they have not been implemented. Medicare is focused instead on instituting separate PPSs for post-acute care providers, as discussed earlier. Provider objections to bundling focus on the implications of which entity would receive the bundled payment, with freestanding post-acute care providers concerned about relying on hospitals for referrals and payment. In lieu of bundling, Medicare ultimately moved to lessen the incentive to shift inpatients into a post-acute care setting by lowering inpatient hospital payment for early discharges to these sites, a provision that was estimated at the time to generate five-year savings of $1.3 billion (CBO 1997a).

A 1990s demonstration program involved bundling physician and hospital payment for coronary-artery bypass graft surgery (CABG). Conducted at seven sites, the demonstration was found to be successful in reducing both Medicare expenditures and beneficiary cost sharing and in increasing the quality of care. Program savings for the five years of the demonstration were estimated at $42 million, or about 10 percent of what would otherwise have been paid, while reduced beneficiary cost sharing was estimated to total $8 million. Negotiated discounts in the bundled global payment accounted for the majority of the savings, but lower-than-expected postdischarge care and shifts in market share to lower cost demonstration facilities also accounted for savings (Cromwell et al. 1998).

Hospitals participating in the CABG demonstration had to meet quality and service criteria and were allowed to identify themselves as Medicare Participating Heart Bypass Centers. In exchange for potential increased market share, competitive pricing was expected. Effects on market share and volume varied among the participating hospitals, largely due to unique local circumstances, with some hospitals experiencing declines. The demonstration did not provide for a complete test of selective contracting, however, because Medicare beneficiaries were not restricted to using the designated providers (Cromwell et al. 1998; MedPAC 2003b). MedPAC concluded that because the demonstration tested several policy features simultaneously—namely, restructuring payments, competitive pricing, and designating “centers of excellence”—the results were difficult to interpret. Other hospital-physician payment bundling demonstrations were attempted but not implemented owing to a variety of operational factors, resource constraints, declining provider interest, and even overt provider opposition (MedPAC 2003b; Wynn 2006).

The physician-hospital “gainsharing” demonstration initiated in 2006 will examine some of the same issues by permitting hospitals to share with physicians any savings from collaborative efforts to improve efficiency and quality (CMS 2006d). Moreover, in May
2008 CMS began soliciting applications for a new Acute Care Episode demonstration, which will involve bundling hospital and physician payments for certain inpatient cardiac and joint replacement services (CMS 2008a).

The Medicare Physician Group Practice Demonstration, under way at ten sites since 2005, offers financial incentives to physician groups that succeed in meeting per capita expenditure and quality improvement targets for their Medicare patients relative to a comparison group. While payments are not bundled, all Medicare expenditures are included in the physician group targets, so physician financial rewards are tied to use of hospital care and other services (CMS 2005a). After the first year of the demonstration, which focused on diabetes care, two sites achieved high enough performance on quality and cost-efficiency measures sufficient to enable them to share in a total of $9.5 million in estimated program savings. Other sites also had expenditure growth rates for the demonstration populations in their areas that were lower than those of comparison group populations, but not low enough to earn financial bonuses under this “shared savings” approach. (Trisolini et al. 2008)

**COMPETITIVE BIDDING**

One advantage ascribed to competitive bidding as a means of setting payments is that it is more flexible than a purely administered price system. Adequate and timely information about the nature of the market for the service in question is not available to those determining administered prices. Market changes in response to technological change or movement in labor markets are not quickly recognized in such prices. By contrast, competitive bidding can adjust to market conditions and provide incentives to keep prices low and to promote an appropriate mix of services. Because competitive bidding can result in less provider choice and potentially lower quality services, implementation concerns include maintaining beneficiary access to quality care. In addition, some argue that Medicare, as a large payer, should consider the potential effects of policy changes on the available supply of service providers. Finally, the bidding process must be carefully designed and monitored to ensure competition and protect against bid rigging (Hoerger and Meadow 1997; MedPAC 2003b).

The use of competitive bidding to set Medicare payments has been considered and rejected on numerous occasions, although implementation appears closer than in the past. In particular, durable medical equipment (DME) and clinical laboratory services have been identified as services for which this approach might be appropriate, because their nature makes for relatively easy identification of standardized bidding units.

As required under the Medicare Modernization Act of 2003 (MMA), in April 2007, CMS issued a final rule on competitive bidding for DME, with phased-in implementation of the bidding process for specific product categories in ten urban locations beginning in 2007, with prices initially expected to take effect in April 2008. The bidding system was to be expanded to other locations and products in future years (CMS 2007d). The final rule reflected experience gained in an earlier Medicare demonstration project for competitive bidding of DME. Conducted at two sites, the demonstration yielded positive results with respect to cost containment, but it also identified a series of implementation issues key to the success of this approach. Estimated program savings of about 20 percent were achieved in each site, without changing beneficiary access to DME or quality of services received.
Due to concern about how the program was being implemented, Congress in the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA) terminated the contracts awarded to the ten urban locations in round one and instructed CMS to conduct a new round of competitive bidding to begin in 2009. The complexities of administering an ongoing competitive bidding process add to program costs, but potential savings from a national program were estimated to be twice the administrative costs. The demonstration evaluation included an estimate of the cost of operating a national competitive bidding program in urban areas like the ones tested in the demonstration project: $69 million, requiring 670 full-time equivalent employees. In general, beneficiary access and quality were maintained, although the evaluation identified the key role of hospital discharge planners and other referral agents in linking beneficiaries to appropriate, better quality suppliers. Concentration on high-volume services with a relatively large number of suppliers is seen as the most promising approach for program savings (GAO 2004b; Karon et al. 2003; MedPAC 2003b).

A demonstration program for competitive bidding for clinical laboratory services was designed by the Health Care Financing Administration (HCFA) in the mid-1980s (Mennemeyer et al. 1987). Although Congress blocked implementation of any such demonstration program for a decade, a demonstration was subsequently required under the MMA. CMS planned implementation of a newly designed demonstration project on competitive bidding for clinical laboratory services in 2007 (CMS 2006c). However, MIPPA repealed the demonstration program for clinical laboratory services.

**Inherent Reasonableness Authority**

Competitive bidding is not the only method of determining market prices. For example, surveys have been conducted of retail prices for medical equipment and supplies generally available in retail outlets. The Social Security Act and corresponding regulations have long allowed CMS to determine whether the standard method for determining payments results in amounts that are unreasonably high or low. Regulations promulgated in 1975 specifically provided for the use of “other factors that may be found necessary and appropriate with respect to a specific item or service to use in judging whether the charge is inherently reasonable” (GAO 2000b).

Following several reports that Medicare was overpaying for medical equipment and supplies, Congress, in the 1997 BBA, expanded CMS’s options for making inherent reasonableness adjustments. In particular, the law no longer required CMS to use formal rulemaking to make annual adjustments of no more than 15 percent. In 1998, HCFA described in regulations the process to be used in determining when payment amounts are not inherently reasonable, as well as those to be considered in establishing reasonable payment amounts.

In response to industry objections, however, use of this new authority was subsequently delayed, and Congress imposed further requirements on HCFA under the Balanced Budget Refinement Act, enacted in 1999. A final rule on the application of inherent reasonableness to payment policy was promulgated in December 2005, but this new methodology has not yet been applied (CMS 2005b).
CONCLUSION

Medicare has explored new payment approaches that show potential for achieving cost savings beyond the application of prospective payment and fee schedules. Results from the demonstration project testing bundling of hospital and physician payments for CABG surgery identified savings of about 10 percent below what would have been paid without bundling. Two competitive bidding demonstration sites for DME resulted in estimated savings of about 20 percent compared with traditional program payments without adversely affecting beneficiary access or the quality of services. Indeed, competitive bidding for selected DME items is currently being implemented in ten urban areas. While these approaches hold promise for cost containment, they require a significant administrative effort that is both time and resource intensive. They also change the relationship between the program and providers and, in the case of bundling, pose additional challenges associated with the level of cooperation required among providers sharing the payment amount. Additional demonstration projects under way that align hospital and physician incentives short of bundling may point the way toward other options for improving Medicare payment policy.

BENEFIT DESIGN AND COVERAGE POLICY

BENEFIT DESIGN

Medicare benefits are defined by categories such as inpatient hospital services, physician services, and durable medical equipment, and specific services within these categories are covered when they are determined to be reasonable and necessary. In addition, the design of Medicare benefits includes cost-sharing features intended to reduce federal expenditures for the program. For example, the indexing of the Medicare Part B deductible to annual Part B expenditure increases that began in 2004 was estimated to save $11.6 billion in federal expenditures over ten years (CBO 2003a). In addition to requiring beneficiaries to contribute to the cost of the medical care they receive, Medicare’s cost-sharing requirements also have the potential to lessen total health care spending by reducing beneficiary use of health care services.

COST SHARING AS COST CONTAINMENT

Research based on the 1970s RAND Health Insurance Experiment has demonstrated that patient cost sharing does effectively reduce use of health care services without affecting health outcomes for most people. The experiment found, however, that the use of fewer services by those facing higher cost sharing resulted in negative health outcomes for lower income, high medical risk individuals, particularly those with hypertension (Newhouse 2004; Newhouse and the Health Insurance Experiment Group 1993). Although not without critics, the RAND findings are well accepted because individuals were randomly assigned to health insurance plans with varying cost-sharing requirements, and health outcomes were monitored over several years (Rice and Morrison 1994). Other studies, less comprehensive but more recent, support the finding that use of medical services declines as prices faced by patients increase (Gruber 2006).

The RAND study excluded the elderly, however, and no similar experimental study of the effects of cost sharing on seniors exists. A 2004 literature review on this topic found mixed results, but noted that studies generally found that increased cost sharing for seniors lowers...
recommended use of services, such as antihypertensive drugs and screening mammography. Moreover, Medicare beneficiaries with supplemental coverage were more likely to use prescription drugs and other appropriate health care services than those without such coverage, while those affected by payment caps on prescription drugs had inappropriately low use rates (Rice and Matsuoka 2004). A theoretical and empirical analysis of the impact of health status on responsiveness to cost sharing supported the intuitive view that cost sharing has less effect on reducing use of health care services by those in poor health, concluding that the effects of cost sharing can be overestimated if differentials by health status are not properly taken into account (Remler and Atherly 2002).

A separate review of the literature specific to prescription drug coverage also found lower use associated with higher cost sharing. Studies particular to elderly and disabled Medicaid beneficiaries found that cost sharing led to lower drug use and may have reduced access to needed drug therapies. Moreover, a study of Medicaid patients found differential effects of copayments by class of drugs. Patients were more likely to reduce use of drugs where the effect of the treatment was less obvious to the patient, such as drugs for hypertension (Hoadley 2005).

**MEDICARE’S COST-SHARING STRUCTURE AND SUGGESTIONS FOR CHANGE**

Analysis of Medicare’s particular cost-sharing structure has highlighted several areas of weakness with respect to discouraging unnecessary use of services. As is often noted, the structure of Medicare cost sharing has been left unchanged since the program’s inception in 1965, and specific cost-sharing requirements are generally seen as poorly targeted. Identified weaknesses in Medicare’s cost-sharing structure include the relatively high deductible for inpatient hospital stays, which are generally less discretionary than physician visits and other outpatient care, where the deductible is much lower. In addition, variation in cost sharing for outpatient services by site of care is seen as leading to potentially inefficient choices by beneficiaries and providers. Cited in particular is the high coinsurance on services provided in hospital outpatient departments relative to other outpatient settings (GAO 2002a; MedPAC 2002b; Maxwell, Storeygard, and Moon 2002).

Most often noted as a benefit design weakness is the lack of a cap on out-of-pocket Medicare expenditures, which, when combined with the high inpatient deductible and other cost-sharing requirements, encourages beneficiaries to seek supplemental coverage for protection from catastrophic expenses (GAO 2002a; MedPAC 2002b; Moon 2006). While, as noted above, supplemental coverage improves beneficiary access to needed services, it may also limit the effectiveness of the program’s cost-sharing incentives. A literature review published in 2001 concluded that supplemental insurance leads to higher Medicare expenditures, with the extent of the estimated effects varying due to differences in methodology and data. Increased use of services in the most recent of the studies cited ranged from 13 to 34 percent (Atherly 2001). A more recent study estimated that the increase in total Medicare expenditures due to supplemental insurance is 6.7 percent (Atherly 2002). Moreover, from a beneficiary perspective, Medigap policies can be expensive and do not fully protect beneficiaries from catastrophic health expenses (GAO 2002a; Moon 2006).

The CBO has estimated that restructuring Medicare cost sharing in Parts A and B by instituting a single deductible, applying 20 percent cost sharing on all services, and creating an out-of-pocket cap of $4,500 would generate ten-year savings to the federal government of $87 billion. Making this change while restricting supplemental coverage
to 50 percent of cost sharing beyond the deductible would reduce program spending by an estimated $131 billion over ten years (CBO 2005). CBO notes that while beneficiaries with high medical expenses and no supplemental coverage would benefit from this type of restructuring and Medigap premiums would be lower for everyone, beneficiaries with first-dollar coverage would face increased costs for health care services.

Restructuring Medicare cost sharing by combining the Parts A and B deductibles with a stop-loss coverage has also been considered as a means of improving the program for beneficiaries at limited federal cost (Maxwell, Storeygard, and Moon 2002; Moon 2006). These two changes were expected to offer beneficiaries greater protection against large losses through Medicare, possibly allowing some beneficiaries to forgo supplemental coverage, which would in turn provide them with additional out-of-pocket savings. Taking into account the total burden of health care spending—including Part B premiums, cost sharing, premiums for supplemental insurance, and the cost of uncovered acute care services—the elderly paid an estimated 23 percent of income on acute health care services in 2004, a figure projected to increase over time (Moon 2006).

LIMITS ON MEDICARE BENEFITS

Medicare has imposed limits on coverage of some benefits as a cost containment device. Most notable is the “doughnut hole” in the prescription drug benefit. One recent study of Medicare Advantage enrollees predating Part D suggested that this type of limitation may increase other program expenses. It compared use of services by Medicare beneficiaries with and without caps on their prescription drug coverage. Savings from reduced drug expenditures under the cap were offset by increased expenditures for emergency room treatment and inpatient hospital stays (Hsu et al. 2006; Thorpe 2006).

Another benefit limitation involves outpatient therapy services. Two annual per-beneficiary spending caps were in place during calendar year 1999, one on physical therapy and speech-language pathology services and another on occupational therapy services. They were found to have reduced the use of services, although simultaneous changes to payment policy had a larger cost containment effect (Maxwell, Basseggio, and Storeygard 2001). Congress suspended the caps, and within four years, spending on all outpatient therapy services almost doubled. The caps were re-instituted for 2006 with an exceptions process aimed at protecting access to care for beneficiaries who need services beyond the capped level. MedPAC (2006b) has recommended consideration of alternative approaches that would ensure that beneficiaries receive needed care without encouraging medically unnecessary treatment.

POTENTIALLY COST-SAVING BENEFITS

Scope of benefits can also serve as a cost containment feature. In particular, coverage of certain services can be cost saving if their use means that other, more expensive services are avoided. For example, Medicare’s hospice benefit was added to the program in 1982 at least in part for its cost-saving potential. It provides palliative care services not otherwise covered under Medicare to terminally ill patients willing to forgo curative treatments. Early studies found that Medicare beneficiaries enrolled in hospice had lower average program expenditures than others (Kidder 1992; Mor and Kidder 1985). A more recent analysis concluded that while Medicare savings are achieved for cancer patients, those with other diagnoses add to program costs, as do all hospice patients over age 85, resulting in an overall net cost for this benefit (Campbell et al. 2004).
Although it originally limited coverage to items and services required in the diagnosis and treatment of acute illness, Medicare has in recent years expanded its coverage of preventive health services. These include a “welcome to Medicare” physical, various cancer screenings, and certain immunization services. Advocates often describe investment in preventive services as cost saving, yet evaluations support this claim for only a few preventive services, including pneumococcal and flu vaccines for the elderly, which are covered by Medicare. Cancer screenings and other preventive benefits have been found to be cost-effective as measured by the costs per life-year gained (Centers for Disease Control and Prevention 1999), but not cost saving to the Medicare program (CBO 2003a).

CONCLUSION

Beneficiary cost sharing has been a feature of Medicare since its inception and will always remain a tool for limiting the cost of the program. The literature both supports the role of cost sharing as a means of cost containment and admonishes policymakers to consider the potential for underuse of needed care. A considerable literature reports that use of medical services declines as prices faced by patients increase. Recent studies of the effects of cost sharing have mixed results, including, in some instances, evidence of inappropriately low use of some important preventive services and maintenance drugs for chronic conditions. Restructuring Medicare cost sharing to a single deductible, requiring 20 percent coinsurance, and imposing an annual out-of-pocket spending cap would generate substantial savings, especially if limits were placed on the scope of supplemental coverage, but would make some beneficiaries worse off. Beyond cost sharing, other features of benefit design offer opportunities for cost containment. In particular, limiting the frequency or amount of certain benefits—such as drugs or therapy services—has been shown to reduce use but may be associated with increased expenditures elsewhere.

COVERAGE POLICY

Decisions on what services are covered for payment matter greatly; without Medicare or other insurance coverage, most beneficiaries will not have access to some medical services, especially if they are costly. But coverage of new technology also drives health care spending. Economists suggest that medical advances account for most of the annual increase in health care spending after adjusting for inflation, about 2.5 percent a year. While many economists and the CBO assert that this rate is not sustainable in the long run, they also observe that technology-related increases in the United States are similar to experiences in other developed countries (Anderson et al. 2005; CBO 2007c; Newhouse 1993).

Arguing for incorporating cost as a criterion for making coverage decisions, researchers such as Muriel Gillick concluded that many coverage decisions not only have major cost implications, but that the resultant expenditures do not represent good value for the Medicare program. Gillick estimated the cost of Medicare decisions for lung volume reduction surgery (LVRS), implantable cardioverter-defibrillators (ICDs), and left ventricular assist devices (LVADs), finding that collectively the three interventions could ultimately affect more than 200,000 beneficiaries a year at a projected annual cost of $1.3 to $11.4 billion. She asserted that if a technology were required to demonstrate a cost-effectiveness ratio of not more than $50,000 to $100,000 per quality-adjusted life-year,
then neither LVRS nor LVADs would have been approved, and ICDs would have been a close call (Gillick 2004). Some analysts have suggested that even technological advances that are considered cost-effective today may not be economically sustainable in the future (Berenson and Holahan, 1992; Garber 2001; Goldman et al. 2005; Lubitz 2005; Shekelle et al. 2005).

While the initial decision to cover a major new technology often is based on rigorous clinical trials needed for marketing approval by the Food and Drug Administration (FDA) and occasionally is supplemented by cost-effectiveness studies, the cost and value in actual use may differ substantially from clinical trial experience. Once covered, the service will be performed in less controlled settings, including a broader group of facilities, and by clinicians who were not part of the clinical trial. Patient selection, rigidly controlled in a clinical trial, will vary, and application of the service or technology may expand to new indications that were not included in the studies that led to FDA approval. In addition, Medicare often covers a new technology or physician procedure without making any explicit coverage decision because an appropriate code may already exist for the service or may have been newly created by the American Medical Association, which owns and manages the coding system used by Medicare for reporting physician services.

Medicare and other payers constantly face the dual challenges of making appropriate coverage decisions for new services and managing dissemination after coverage is conferred, a difficulty accounting for Medicare’s history of sometimes delaying coverage of new treatments until there is sufficient real-world experience. Medicare initially issued national noncoverage decisions, for example, for services such as heart transplantation, LVRS, electrical stimulation for bone healing, carotid artery stents, and insulin pumps. Heart transplantation and carotid stent procedures now are covered by Medicare only at approved centers, and LVRS and electrical stimulation for bone healing are covered only for specific patient conditions. Similarly, recent coverage decisions for magnetic resonance angiography (MRA), insulin pumps, positron emission tomography (PET) scans, and ICDs offered restricted coverage or coverage only under particular circumstances, referred to as “coverage with conditions.” Actions such as these suggest the cost-savings potential of using various administrative tools in making coverage decisions (Carino et al. 2006; Keenan, Neumann, and Phillips 2006).

“REASONABLE AND NECESSARY”

Under section 1862(a) of the Social Security Act, no payment may be made for items and services that are not “reasonable and necessary” for diagnosis or treatment of an illness or injury. That language provides statutory authority for Medicare’s coverage decisions, including setting standards of effectiveness and, potentially, cost-effectiveness. Lacking regulations to support a more assertive use of its coverage authority, however, Medicare has not acted as effectively as it might to limit coverage of costly new technology and procedures or of services of marginal or questionable value. Its attempts in the 1980s and 1990s to promulgate regulatory coverage criteria failed for many reasons, most prominently the government’s desire to establish cost-effectiveness or comparative effectiveness as one of the criteria (Bergthold 1995; Blanchard 2004; Eddy 1996; Foote 2002, 2003; Foote et al. 2004; Keenan, Neumann, and Phillips 2006; Sage 2003; Tunis 2004).

Initially, Medicare covered whatever services treating physicians determined to be medically necessary, but in response to rising costs and perceived overutilization, the
program gradually has exploited its coverage authority and embraced evidence-based decisionmaking. Evidence-based decisionmaking relies on a systematic review of information from randomized controlled trials (RCTs), other clinical studies, formal technology assessments, and cost-effectiveness studies, among other sources, and weights the evidence, giving more weight to higher quality studies. Medicare now bases its coverage decisions on rigorous, objective evidence and deemphasizes physician specialty consensus panels and other “softer” information sources (Atkins, Siegel, and Slutsky 2005; Blanchard 2004; Claxton, Cohen, and Neumann 2005; Eddy 1996; Foote et al. 2004; Garber 2001; Mendelson and Carino 2005; Tunis and Pearson, 2006; Tunis, Styer, and Clancy 2003).

The case of high-dose chemotherapy plus autologous bone marrow transplant (HDC-ABMT) for breast cancer offers a classic example of the problem of extending coverage in the absence of clinical evidence. In the 1990s, more than 41,000 patients received this costly and taxing therapy despite a paucity of clinical evidence of its effectiveness. Most health plans reluctantly agreed to cover the treatment in response to intensive political lobbying and the threat of litigation. The results of five major randomized trials, however, subsequently showed that HDC-ABMT offered no advantage over standard-dose treatment for breast cancer (Atkins, Siegel, and Slutsky 2005; Mello and Brennan 2001).

In July 2006, CMS issued a guidance document establishing a new policy of “coverage with evidence development” (CED) to address coverage in situations involving uncertain evidence. CED links coverage with a requirement for prospective data collection or participation in a clinical study. Even before the policy was adopted, CMS implemented CED-type coverage decisions in 2004–2005 when it extended coverage to prophylactic use of ICDs and made the coverage dependent on participation in a patient registry. A similar decision was made for use of PET for Alzheimer’s disease and for colorectal cancer drugs, where coverage for off-label use was mostly limited to approved clinical trials or uses listed in one of the recognized national compendia.

CED can produce evidence complementary to that from clinical trials and provide a source of data on real-world use of the service—a type of practical clinical trial, as several policymakers have advocated (CMS 2006k; Tunis and Pearson, 2006). The more controlled dissemination of new technology under CED and the data it provides may help to promulgate coverage rules that limit the cost impact and enhance the value of new technology. Because CED is new, there are no evaluations in the literature (Carino et al. 2006; Keenan, Neumann, and Phillips 2006; Mendelson and Carino 2005).

**NATIONAL COVERAGE DECISIONS**

Medicare makes only 15 to 20 national coverage determinations each year, leaving the vast majority of coverage policies to the local Medicare contractors. Initially all decisions were left to the local contractors, but as more costly innovations emerged in the 1970s, local contractors sought more national direction. Heart transplantation presented a major challenge in the late 1970s, leading first to a national noncoverage decision and later, after the technology matured, to conditional coverage at approved centers. Medicare’s national role was established, but the local role remained preeminent.

Neumann, et al. (2005) analyzed 69 national coverage decisions (NCDs) made between January 1999 and August 2003 and found that CMS’s determinations generally were consistent with the strength of available evidence. According to Neumann and
colleagues, only 7 of the technologies supported with good evidence were felt to provide a substantial health benefit, whereas 31 provided only moderate health benefit. At the other end, for 27 coverage decisions the reviewed evidence was rated as fair or poor. In short, in many cases, CMS makes NCDs without a sufficient evidence base.

Further, CMS’s decisions in the 69 cases extended complete coverage for only 1 technology, provided “coverage with conditions” for 42, left coverage policy to local contractor discretion for 4, and established national noncoverage for 22. Conditions placed on the 42 conditional coverage decisions included restricted to patients with defined disease severity (32 decisions); diagnostic test restricted by specific test threshold (21 decisions); and restricted to patients who failed first-line therapy (16 decisions). Noting the gaps in the base of evidence, the authors recommended that Congress and federal officials fund more pragmatic clinical trials (Neumann, et al. 2005).

The literature lacks good studies of the effect of more restrictive Medicare coverage policies on program spending. Inferences can be drawn, however, about the impact of Medicare’s coverage decisions involving specific services such as LVRS. Use of LVRS was expanding rapidly prior to Medicare’s controversial 1995 noncoverage decision and subsequent cooperative agreement with the National Institutes of Health (NIH) to sponsor a national clinical trial, with Medicare coverage available only for patients enrolled in the trial. Following the trial, Medicare issued a restricted NCD providing coverage only for certain patients, but use of the procedure has been minimal (Ramsey and Sullivan 2005).

Even without controlled studies, one might safely conclude that such policies to limit coverage reduce spending initially. Their longer run effect, however, is unknowable. For example, we cannot know how surgeons would have used LVRS in the long run as they gained experience with it. Perhaps its use would have centered on the type of patients identified in the restrictive Medicare policy. Experts, such as Garber (2001), have noted that evidence-based coverage policies may have limited effects on health spending but can help direct resources to the most effective care.

**LOCAL MEDICAL REVIEW POLICIES**

More than 95 percent of Medicare’s coverage decisions are local policies, and most of them were written to control misuse and overutilization. Foote and colleagues found considerable variation in the number of policies developed by any one contractor (from 4 to 291 policies) and in their use of cited evidence. More than 80 percent of local decisions limit coverage to address areas of misuse—termed “utilization management” policies by Foote. While the researchers found little variation in policies extending or expanding coverage for new technology, they found substantial variation in the utilization management policies (Foote 2003; Foote, Halpern, and Wholey 2005; Foote, Wholey, and Halpern 2006; Foote et al. 2004). The local coverage process also provides quicker coverage for new technology than would be possible in a purely national process, and this aspect is praised by manufacturers, physicians, and patient groups—and criticized by MedPAC, GAO, and some in Congress for its inefficiency, regional variation, and occasional lack of rigor.

With more rigorous and restrictive coverage determinations, beneficiary access and appeal rights become more important. Until recently, Medicare beneficiaries had only limited opportunities to challenge coverage determinations. This situation improved with Medicare legislation enacted in 2000 and 2003, giving beneficiaries the right to appeal
local and national coverage determination policies as well as the particular coverage decision made for a specific patient. The legislation also allows beneficiaries to request an advance coverage determination for certain services before deciding whether to receive the care (Blanchard 2004; Wachter and Pendleton 2004).

**COMPARATIVE EFFECTIVENESS AND COST-EFFECTIVENESS**

Cost-effectiveness analysis potentially could complement evidence-based coverage decisions and improve the efficiency of health care by limiting utilization of costly procedures having a relatively small benefit. The use of cost-effectiveness analysis, however, remains very controversial, and neither private plans nor Medicare openly embrace its formal use, although its actual influence is probably greater as payers weigh cost considerations “under the radar.” A 2001 national survey of 228 managed care plans found that only 40 percent of them used formal cost-effectiveness analyses, but 90 percent of them did consider cost in some way. Besides considering costs as one of the factors in setting coverage policies, plans incorporated costs in deciding when to require prior authorization, less costly interventions, or other techniques to control the use of services once covered. The literature does not, however, include studies of the savings (Garber 2004).

While Medicare failed repeatedly to establish regulations addressing whether and how costs should be considered in making coverage decisions, it did issue instructions to its local contractors promoting a concept called “least costly alternative.” Least costly alternative (LCA) is a policy that must be applied by Medicare contractors when determining payment for DME. Contractors also may apply the policy to payment for other services. Under LCA, “Where it is determined that there exists a medically appropriate and realistically feasible alternative pattern of care for which payment could be made, payment should be based on the reasonable charge for this alternative” (CMS 2003).

LCA potentially could produce significant savings, but it remains very controversial and, other than for DME, has rarely been used by Medicare contractors. The one notable exception is limiting payment for the drug Lupron to the amount paid for its alternative, Zoladex. Hesitancy to use LCA may be due to continuing strong opposition from physicians, manufacturers, and patients, as well as lingering questions over its legality, since the policy was established without notice and comment rulemaking. Also, some Medicare contractor medical directors believe that in the past, one or two directors were reassigned or forced out by their employers in retaliation for application of LCA or other restrictive coverage policies (anonymous interviews, 2006).

The 2003 MMA highlights the political difficulty of making greater use of comparative and cost-effectiveness. The legislation directs the Agency for Healthcare Research and Quality to develop comparative effectiveness studies, but it explicitly prohibits it from mandating national standards of clinical practice and bars CMS from using data obtained from the studies to withhold coverage of prescription drugs. Moreover, the program was given very limited funding (Neumann, Rosen, and Weinstein 2005). The MMA also prohibits Medicare from applying a policy to limit payment for “equivalent” drugs, termed “functional equivalence” by CMS, unless the specific action was initiated before enactment of the legislation. CMS had used the policy to set the payment based on the lowest-priced product in a class when products were determined to have similar effectiveness within a therapeutic class (Keenan, Neumann, and Phillips 2006; Neumann, Rosen, and Weinstein 2005).
The potential application of cost-effectiveness creates a tension between payers’ cost containment objectives and physician and patient preferences, as well as a conflict between the physician ethic to provide the best patient care and cost considerations (Asch and Hersey 2002; Nadler, Eckert, and Neumann 2006; Reichert, Simon, and Halm 2000; Sulmasy et al. 2000). Hlatky, Sanders, and Owens (2005) make the point clearly: “… an insured patient will want anything that may help his or her care, especially for a life-threatening condition. It is one thing for payers to deny a patient an ICD [implantable cardiac defibrillator] because it provides no benefit or carries too great a risk, but it is something very different to deny a patient an ICD that might extend life, on the grounds that it just costs too much…. This conflict is particularly acute for doctors who have a duty to do their best for individuals under their care.”

LIMITS ON USE OF EVIDENCE TO MAKE COVERAGE DECISIONS

Using coverage decisions to constrain health care spending could be a daunting cost-control strategy to implement. Innovation is highly dynamic, and the capacity to complete studies is limited. Only about 500 literature reviews meeting international quality standards are published and accessible each year, but experts recently estimated that about 10,000 reviews would be required to assess the current array of health care interventions (Gelijins et al. 2005). Impediments to expanding the number of systematic reviews include resource constraints as well as recurrent opposition from manufacturers, patient advocates, and some health professionals and providers.

In a recent paper, Wilensky (2006) explored options for the structure, placement, financing, and functions of an agency to handle and greatly expand comparative-effectiveness assessments. The focus of the new center would be to fund prospective trials on key questions for which comparative effectiveness evidence is lacking. The Wilensky vision encompasses a center ultimately with a multibillion-dollar annual budget, for which she considers various public and private funding sources, but her proposal would begin with lower funding. Congress is considering legislation to establish a center for cost-effectiveness research with modest funding initially.

Applying the results of studies is not straightforward or without controversy. Conclusions may differ among studies, and interpretation and application of findings to coverage decisions may involve conflicting value judgments. While medical technology is constantly changing, clinical studies are necessarily based on findings that are particular to a specific time and to the clinicians, patients, and settings involved in the study (Gelijins et al. 2005). Even the gold standard—randomized clinical trials—carries limitations concerning generalizability because RCTs are performed in specialized centers, they may exclude elderly patients (especially those with comorbidities), and their clinical follow-up is limited to a relatively short time period. Policymakers have cited the need for large-scale observational studies or “practical clinical trials” to complement RCTs with real-world findings over a longer time horizon (CMS 2005c; Gelijins et al. 2005; Steinberg and Luce 2005; Tunis, Styer, and Clancy 2003).

Medicare’s CED coverage decisions, such as requiring patient registry participation for ICDs, represent one initiative to bridge this gap, yet there is no guidance from CMS to describe how CED results might be applied to coverage decisions. Such decisions could limit beneficiary access to an effective, but costly, treatment. For example, ICDs are costly and may show decreasing cost-effectiveness for patients less seriously at risk. Information from the patient registry together with claims data might permit a more
targeted, evidence-based coverage policy in the future if the data suggest that the ICDs are less cost-effective for certain subpopulations. The dilemma would remain, however, that most patients at risk for sudden cardiac death will want an ICD because it has been proved to save lives.

Incorporating Medicare patient perspectives and value judgments into the assessment and application of studies also poses challenges. Clinicians and patients understandably may want new treatments even if the evidence is preliminary, while Medicare and other payers are reluctant to grant coverage prior to having quality studies that demonstrate a treatment’s effectiveness (Eddy 1996, 1997). Patients also may be willing to accept a higher level of risk of harm if given the choice to receive a treatment (Gelijins et al. 2005). And lack of evidence of effectiveness may not mean that a health care intervention is not safe or effective. In fact, most medical care interventions rest on a weak evidence base, yet are presumed to be effective. Consideration of the strength of evidence by itself does not account for the potential value of the technology, perhaps suggesting a need to weigh both the strength of evidence and the potential health benefit in making coverage decisions (Steinberg and Luce 2005).

Among the factors limiting the acceptance and use of cost-effectiveness studies by Medicare and other payers are study quality, sponsorship and objectivity, implicit value judgments, strength of the conclusions, and perceptions surrounding each of these. The literature shows methodological variation in published cost-effectiveness analyses and indicates that sponsorship can be a factor in the design of studies. A steady effort to improve the quality and consistency of cost-effectiveness studies, however, has led to generally accepted standards for studies and improved methods (Neumann, Rosen, and Weinstein 2005; Russell et al. 1996; Siegel et al. 1996; Weinstein et al. 1996).

Constrained practically and politically in making restrictive coverage decisions, Medicare and other payers can apply study findings in various ways to limit the use of services after a decision to cover them. Techniques might include prior authorization; use of practice guidelines; physician and provider profiling; establishing lower payment amounts (for example, LCA); or establishing a system of tiered copayments such as now is commonly done in prescription drug plans, where patients pay a higher portion of the cost of drugs found to be less cost-effective or nonpreferred.

Medicare generally does not use prior authorization, which involves case-by-case assessments of the appropriateness of care prior to its provision, although some creative local contractor medical directors are finding ways to use the approach in some circumstances. Prior authorization programs adopted by commercial insurers have generated physician and patient backlash. Such was the case in the late 1990s when prior authorization programs led to legislation that required managed care plans to have an external appeals process. More recently, the MMA limits Medicare administrative contractors’ ability to implement prepayment reviews. Carriers cannot subject claims to nonrandom prepayment utilization review based on prior problems unless there is a likelihood of a sustained or high level of payment error (Wachter and Pendleton 2004).

CONCLUSION

The authority to determine what services are reasonable and necessary and therefore coverable under Medicare could be a significant tool in the program’s cost containment arsenal. Although the literature does not include studies of the savings achieved through
coverage decisions, it seems safe to conclude that decisions to deny or limit coverage or impose conditions on the coverage have produced savings, at least in the short run. Their longer run effect is less clear, however, because we cannot know how use of a treatment would have evolved in the absence of the coverage decision, nor can we deduce the long-run costs or savings of new treatments based on time-limited clinical trials.

Looking ahead, Medicare could use its coverage authority more assertively by placing greater reliance on evidence-based decisions, as it has recently, and by using comparative and cost-effectiveness analyses. These actions might restrain growth in health care spending and enhance payer value, but the same powerful factors that account for their restricted use today will continue to pose difficulty in the future. Chief among these are the limited number of quality studies; rapid pace of innovation; ethical and practical considerations in using cost as a criterion; and strong preferences from patients, providers, and manufacturers to maintain access to all beneficial treatments.

**CHRONIC CARE MANAGEMENT**

Chronic illness and the conditions of the frail elderly are increasingly recognized as the main contributors to morbidity, mortality, and health-related costs in the United States (Anderson and Horvath 2002). Chronic illness and disability may interfere with daily functioning, require multiple physicians and treatment regimens, and often lead to expensive institutional stays.

Partly because of medical advances and earlier diagnosis of chronic illness for which secondary prevention treatments are now available, the number of medical conditions treated per Medicare beneficiary has risen sharply over time. In 1987, 31 percent of Medicare beneficiaries received treatment for five or more conditions (Thorpe and Howard 2006). This group accounted for about half of total spending. Ten years later, nearly 40 percent of beneficiaries were treated for five or more conditions, accounting for 65 percent of overall spending. And just five years later, more than half of all Medicare beneficiaries were treated for five or more conditions, accounting for three-fourths of total spending. Virtually all of the spending growth since 1987 can be traced to patients treated for five or more conditions. Further, by 2002, about 93 percent of Medicare spending was incurred by beneficiaries with three or more conditions during the year.

Examined another way, the most costly 5 percent of beneficiaries in each year account for 43 percent of total Medicare spending (Riley 2007). Although the percentage of Medicare spending attributable to the top 5 percent has declined from 54.2 percent in 1975 to 43 percent in 2004 (Riley 2007), the impact of disproportionate spending remains dramatic and suggests the need for strategies focused on reducing the costs for this relatively small population with high costs (Lieberman et al. 2003). Spending is not quite as concentrated over periods longer than a year. However, during the most recent four-year period examined, from 2001 to 2004, the most costly 5 percent still generated 29.8 percent of program spending, suggesting that many high-cost beneficiaries have persistently high costs over a period of many years (Riley 2007), providing impetus for programs to intervene in the care management of these beneficiaries, who typically have one or more chronic conditions. Chronic conditions often cluster. For example, 80 percent of congestive heart failure (CHF) patients and 56 percent of diabetics have four or more chronic diseases in addition to their index disease (Wolff and Boult 2005).
Yet clinical research, practice guidelines, and physician education rarely consider the complexity of clinical, social, and financial interactions among multiple comorbidities in this growing segment of the elderly and disabled population (Boyd et al. 2005). Physicians have been largely trying to care for these patients on their own; their training has oriented them to focus on the immediate condition within their expertise. Wagner, Austin, and Von Korff (1996) have incisively described how the culture and structure of medical practice often limit physicians’ ability to meet the complex needs of chronically ill patients, for example, by adopting an attitude of “find it and fix it” or responding to the “tyranny of the urgent.” These attitudes have for the most part not adapted to the change in the patient demography and the nature of the clinical challenges posed by the growing prevalence of chronic conditions in the Medicare beneficiary population.

**COST CONTAINMENT APPROACHES FOR BENEFICIARIES WITH CHRONIC CONDITIONS**

Most of the literature on discrete case management and related interventions targeted to high-risk patients derives from controlled trials in specific institutions under research conditions, often supported by grant funding to supplement often-inadequate third-party reimbursement. Many of the interventions have been modeled after the Chronic Care Model, developed by Wagner and colleagues at the MacColl Institute at Group Health Cooperative of Puget Sound (Wagner et al. 1996, 2001). Incompatibility between Medicare and private plan payer approaches has limited the expansion of these models to mainstream adoption at a significant scale in the Medicare program (Berenson and Horvath, 2003). It must be emphasized, however, that there are sound operational reasons why Medicare cannot simply extend fee-for-service reimbursement to the range of activities encompassed in the Chronic Care Model (Berenson and Horvath 2003). Despite a long-standing awareness of the need to restructure health care organization, financing, and delivery to better address the needs of individuals with multiple chronic conditions and who may be frail, there has been little systematic modification of Medicare policies to address care for this population (Wolff and Boult 2005).

Randomized, controlled trials of chronic care models (including geriatric evaluation and management, health enhancement, collaborative interdisciplinary care, transitional care, chronic disease self-management, and support for family caregivers) have demonstrated some ability to improve clinical outcomes, limit hospital and nursing home use, and reduce costs through health care delivery design (Boult et al. 2001; Leveille et al.1998; Lorig et al. 1999; Naylor et al. 1999; Phelan et al. 2002; Reuben et al. 1999; Rich et al. 1995). However, these programs generally have been introduced in specialized, “research” environments and not applied broadly in the delivery systems in which most Medicare beneficiaries seek care.

Similarly, an approach labeled “case management,” which involves identifying high-risk, often frail individuals with limitations in activities of daily living, regardless of their specific conditions, and customizing approaches to support these patients has been tried in numerous settings. Although there is some evidence that case management can be successful in better coordinating care for at-risk patients, the heterogeneity of interventions tested and outcomes evaluated complicates analysis of the literature (Ferguson and Weinberger 1998; Wolff and Boult 2005). RCTs of case management by nurses or social workers thus far do not substantiate its ability to lower health care costs,
much less consistently improve quality or functional ability (Boult et al. 2000; Gagnon et al. 1999; Windham, Bennett, and Gottlieb 2003).

Moreover, targeted demonstrations of case management and care coordination in Medicare have not produced cost savings. From 1993 to 1995, three demonstration projects were implemented to identify groups of traditional Medicare beneficiaries at risk of needing high-cost care and to design specific features of a case management intervention to reduce these costs. Case management services included assessment, service coordination, condition-specific self-care education, and informal caregivers. The evaluation of the projects found limited benefits from the interventions, and, in particular, they did not reduce Medicare spending (although the design provided no incentive for spending reductions) (Schore, Brown, and Cheh 1999).

The Community Nursing Organization (CNO) demonstration tested a capitated nurse-manager system of care to coordinate care and provide a more flexible array of services, including prevention, that are not normally available in Medicare. Program evaluations found that overall, the treatment and control groups did not differ in health status or service use, but the treatment group generated increased total expenditures, associated with the costs of the intervention (Frakt, Pizer, and Schmitz 2003). A Medicare Alzheimer’s disease demonstration involving a nurse or social worker case manager and a limited Medicare community service benefit concluded that there is no evidence that the high-resource program produced more savings relative to usual fee-for-service Medicare (Newcomer et al. 1999).

**DISEASE MANAGEMENT**

“Disease management” is an approach that private health plans have pioneered. Third-party disease management vendors typically focus on identifying chronically ill patients and communicating frequently with them (usually by phone) to help them self-manage their conditions and avert more serious problems that could result in unnecessary interventions and avoidable hospitalizations. Disease management companies and sophisticated health plans that offer disease management in house use predictive modeling, decision support software, and remote monitoring devices to complement the core nurse-patient communication approach. Often targeting different interventions to various subsets of the chronically ill population, these organizations primarily serve a surveillance function—to ensure that the patient’s treatment plan is being adhered to and to detect any deterioration in clinical status. Some programs also engage patients in self-management education by phone.

A recent review of 44 studies of disease management programs that met methodological criteria concluded that there was a positive return on investment from programs directed at congestive heart failure and patients with multiple conditions, and mixed results for asthma, diabetes, and depression (Goetzel et al. 2005). However, in addition to limitations in this analysis identified by the authors, this review also combined very different kinds of interventions, including interventions at the point of service delivery; community-based interventions; and telephonic disease management conducted by third-party vendors, thereby obscuring the impact of particular approaches.

Other recent literature reviews have found insufficient evidence that predominantly third-party administered disease management reduces health-related costs, even for patients whose medical needs are less complex than those of Medicare enrollees (CBO 2004c;
Ofman et al. 2004). The CBO found a number of problems with the existing research on
the impact of disease management programs. Most of the studies did not account for all
costs, falling short on capturing administrative costs of the intervention itself and health
care spending other than hospital and emergency department spending. Further, studies
usually failed to randomize individuals to the intervention group and to a reference group,
thus introducing a significant bias into any analysis. Perhaps the biggest methodological
problem was comparing costs of a disease management program with benchmark costs
for the same population in the prior year. Selecting patients based on high spending in a
year and then seeing a reduction in costs in subsequent years might simply reflect a
statistical phenomenon known as regression to the mean. For example, the CBO pointed
out that only 44 percent of the top quartile of spenders in Medicare’s traditional program

Researchers at the Permanente Medical Group in Northern California evaluated the cost
impact of their extensive portfolio of disease management programs. Examining quality
indicators, utilization, and costs for 1996–2002 for adults with four chronic conditions,
researchers found evidence of substantial quality improvement but not cost savings. They
concluded that the causal pathway—from improved care to reduced morbidity to cost
savings—did not produce sufficient savings to offset the rising costs of improved care
(Fireman, Bartlett, and Selby 2004).

As often invoked, “the absence of evidence is not proof of absence” of effect.
Accordingly, the MMA-authorized Medicare Health Support Program (formerly labeled
Voluntary Chronic Care Improvement Program) is piloting disease management for
Medicare beneficiaries with severe CHF and diabetes in a research design that includes
beneficiary randomization in an “intent to treat” design. As described earlier, this third-
party disease management approach is widely used by private plans, which either
perform it directly or contract with specialized vendors.

The initial evaluation of the pilot’s performance found that the negotiated Medicare
Health Support Organization (MHSO) monthly fees are a much higher percentage of the
comparison group’s per-beneficiary per-month costs than the percentage savings on
payments through the first six months of the pilot period. In short, vendor fees paid to
date far exceed any savings produced (McCall, Cromwell, and Bernard 2007). One of the
apparent problems was that the MHSOs were relatively unsuccessful recruiting either
dual-eligible or the more costly beneficiaries to participate in the program, thereby
forgoing the opportunity to change care patterns for those with presumably the largest
potential for cost reduction (McCall, Cromwell, and Bernard 2007). Based on their own
disappointing results, two of the eight contracted MHSOs have terminated their
involvement in the pilot program. Whether the pilot will be continued beyond the
programmed end dates remains uncertain.

The Medicare Coordinated Care Demonstration, authorized by the 1997 BBA, tests
whether case management and disease management programs can lower costs and
improve outcomes and well-being in the traditional Medicare program. In January 2002,
CMS selected 15 demonstration programs in a competitive awards process. Each program
began enrolling patients in 2002 and was authorized to operate for four years, with
randomization on eligible beneficiaries into treatment and control groups (Brown et al.
2007). In return for providing the care coordination intervention described in the
approved protocol, each program receives a negotiated monthly payment for each beneficiary who chooses to enroll and is randomized to the treatment group.

The participating organizations include five commercial disease management vendors, three hospitals, three academic health centers, an integrated delivery system, a hospice, a long-term care facility, and a retirement community—representing a variety of interventions spanning the chronic care management continuum. The program evaluation of the first two years of the demonstration found in brief that patients and physicians were generally very satisfied with the program, but few programs had statistically detectable effects on patients’ behavior or use of Medicare services. Although a few programs reduced hospitalization rates and medical care costs, others saw significant increases in hospital rates and costs. Because the direct costs of program administration were significant, even the few programs that successfully reduced medical care spending did not save the program money (Brown et al. 2007).

INTEGRATED CARE MODELS

Although new models of chronic care management have achieved some success, the approaches used by private plans and group practices have focused on a single disease, single site, single transition, or single provider. Rarely have more than two of these innovations been integrated into comprehensive, coordinated systems of care. Moreover, these models commonly operate independently rather than in conjunction with primary care, functioning either on a referral basis (e.g., geriatric evaluation and management) or in parallel with primary care (e.g., disease management, case management) rather than integrated within provider practice (Wolff and Boult 2005).

However, such integrated programs have been targeted to Medicare and Medicaid dual-eligible beneficiaries, often supported by home- and community-based service (HCBS) programs that involved managing a mix of medical and social services under the incentives of capitation. Beginning with the first Medicaid HCBS programs in the 1970s (e.g., New York’s Nursing Home Without Walls Program) and the National Channeling Demonstration, and in the 1980s (e.g., the VNS CHOICE program in New York), federal and state governments have promoted efforts to de-institutionalize the delivery of health care to dual-eligible beneficiaries. These types of HCBS programs, however, did not demonstrate significant cost savings, even though their effects on patient clinical outcomes were often positive (Doty 2002; Feldman and Kane 2003; Kemper, Applebaum, and Harrigan 1987; Weissert, Cready, and Pawelak 1988).

Most of these programs functioned within the fee-for-service payment system. Roughly half provided a broad range of home services, including adult day care. Most purported to target seniors at risk of nursing home admission. The meta-analyses examined the extent to which the community-based projects were able to reduce both nursing home and hospital use and to meet their stated goals of achieving overall cost savings (Dowd et al. 1999). Although some demonstrations reduced hospital and nursing home use, only 7 showed cost savings, while 12 showed cost increases (Weissert, Cready, and Pawelak 1988). Only 4 of the 19 HCBS programs subject to cost analysis saved more than $1,000 per capita annually (in 1988 dollars). Twelve were more expensive than fee-for-service alternatives, with a median loss of about $2,400 per capita per year. In a review of five additional programs, Weissert and Hedrick (1994) concluded that integrated, community-based case management programs have little or no effect on survival, functional status, or use of nursing homes or hospitals. A subsequent meta-analysis exploring the impact of
home care on hospital use found a reduction in hospital costs from approximately $2,000 to $6,300 per patient per year but did not attempt to calculate overall expenditure savings (Hughes et al. 1997).

Subsequently, new demonstrations were built on a payment base of capitation—social health maintenance organizations (S/HMOs), On Lok/PACE, the Arizona Long-Term Care System program (ALTCs), and Evercare and have been subject to comprehensive reviews, with mixed findings. Most capitated programs that serve seniors have reduced hospitalization but have not consistently reduced the use of nursing homes and other long-term care service, even as they showed some benefit on quality and patient experience with care (Wiener and Skaggs 1995). Researchers concluded that this extensive body of research suggests that HCBS and capitated managed care programs targeting the frail elderly have seldom saved money, despite evidence that some interventions may reduce nursing home or hospital use. Instead, there have been offsetting cost increases from added layers of care management and enriched packages of home and community services (Chatterji et al. 1998).

Nevertheless, because of anecdotal reports of the success of the model, further analysis was performed on the Program of All-Inclusive Care for the Elderly (PACE). PACE sites serve a clientele of nursing-home eligible impaired and frail elderly, provide comprehensive medical and social services under management of an interdisciplinary team, include an adult day health center that provides a social and medical focus for services rendered, and operate at full financial risk for the dually eligible, under fixed Medicaid and Medicare capitation rates.

Full project evaluations published in 1998 concluded that PACE enrollees had much lower rates of nursing home use and inpatient hospitalization than comparison group members and higher use of ambulatory services (Chatterji et al. 1998). PACE programs in their initial year of operation experienced about the same costs as traditional Medicaid and Medicare fee for service, while producing improved health status and patient satisfaction (White, Abel, and Kidder 2000).

The early success of the PACE demonstration led to its designation as a permanent Medicare program in 1997. But growth in the number of programs and enrollment has lagged. As of November 2005, there were only 34 PACE sites nationwide, enrolling about 11,000 individuals (Schwartz et al. 2007). Interviews and surveys of senior management in PACE programs found numerous barriers to PACE expansion, including competition, PACE model characteristics, poor understanding of the program among potential referral sources, and a lack of financing (Gross et al. 2004). As with PACE, S/HMO plans received adjusted capitation rates from Medicare that were 15 to 20 percent higher than even the excessive payments that standard Medicare risk plans were receiving (USDHHS 2001). The second generation of demonstration (S/HMO II) was designed to address perceived weaknesses of the initial model, in particular to integrate care at earlier stages of disability by incorporating geriatric practices into the plans (MedPAC 2003b). However, although six plans were approved to participate, only one
plan became operational. CMS has performed two evaluations of S/HMO I plans and the single S/HMO II plan—in 2001 and 2003—and found very limited program benefits on issues including care coordination, service use, health and functional status, and care quality. It recommended that all existing S/HMOs be converted to standard Medicare Advantage plans (USDHHS 2001, 2003).

Finally, Medicare has sponsored Evercare, a new approach to providing medical services to long-stay nursing home patients, by offering a capitated package of Medicare-covered services with more intensive primary care provided by nurse practitioners to supplement, not supplant, the medical care provided by physicians (Kane et al. 2002). The model permitted the nursing homes to be paid extra to handle the patients who otherwise would have been hospitalized. The evaluation of this program concluded that Evercare met its objectives of reducing hospital admissions while providing high-quality, coordinated care to the nursing home resident, with greater patient and family satisfaction with care, such as being treated with more respect than control groups. The use of active primary care by nurse practitioners reduced the rate of untoward clinical events and changed the way such events were managed, allowing intensive nursing home care to replace hospital transfer in some cases.

Overall, however, the evaluation showed that the costs of the program to Medicare were substantially higher than what such care would have cost in the regular, fee-for-service program (Kane et al. 2002), primarily because under the capitation payment method used, Medicare paid the Evercare sites more than it would have if it were continuing to pay under fee-for-service payment rates. The Evercare demonstration results illustrate the difficulty of distinguishing the potential of programs to reduce costs from the ability of the Medicare program to capture the resultant savings. Even though the programs were able to reduce costs, largely by substituting nursing home care for hospital stays, under generous capitation, Medicare was not able to capture the efficiencies. The same issue appears more dramatically in the assessment of Medicare Advantage to follow.

Despite the mixed record of the capitated, integrated care models, building upon the logic that underlay the formation of these kinds of integrated care programs targeting the frail elderly, Congress greatly expanded this approach for caring for “special needs” beneficiaries. The MMA authorizes Medicare to contract with special needs plans (SNPs) for three types of beneficiaries: dual eligibles, institutionalized beneficiaries, and patients with severe chronic conditions. SNPs may limit their enrollment to their targeted special needs population or enroll a broader population while providing targeted care to the special needs population. Most have chosen to limit their enrollment to the targeted population. Although some organizations with experience partnering with Medicaid and serving special needs populations entered the SNP program, most were Medicare Advantage organizations with little or no experience serving these populations (MedPAC 2006c).

In 2004, there were just 11 SNPs. By 2006, there were 276 SNPs, and in early 2007, 476 SNPs had been approved to operate (MedPAC 2007a). Most SNPs (67 percent) are for dual eligibles, with the rest targeting beneficiaries residing in institutions and beneficiaries with particular chronic conditions (MedPAC 2007a). As of March 2007, there were 843,000 SNP enrollees (MedPAC 2007a), reflecting increases of more than 50,000 per month over the past year (Peterson and Gold 2006). Thus, in one month SNP plans added far more enrollees than exist in the entire PACE program nationwide. Yet SNPs are paid like regular MA plans, including the same risk-adjustment method. Thus,
the overpayments available to other MA plans are available to SNPs as well, perhaps explaining the rapid entry of SNPs into the Medicare market.

**CONCLUSION**

The logic of developing supplemental programs targeted to frail beneficiaries and those with multiple chronic illnesses remains compelling, not only to improve quality of care but also to find program savings attributable to Medicare beneficiaries with the highest per capita spending. Approaches used by private plans have offered the promise of program savings from disease management and case management, but even here there is less-than-robust evidence that widely prevalent approaches relying on third-party vendors actually produce substantial savings.

Because Medicare, in particular, has a large share of beneficiaries with multiple chronic conditions and dual-eligible beneficiaries with disabilities and limitations in ADLs, the program has supported many demonstrations and pilots over the years to try to improve care and restrain spending. Unfortunately, the logic of enhanced focus on the needs of high-cost beneficiaries has not yet produced replicable programs that can reliably constrain cost increases for this high-cost population. A variety of approaches and programs tested over nearly three decades have been disappointing: Although to some extent the capitated approaches have reduced spending, Medicare has not been able to reap the savings.

Most of these programs have not attempted to alter directly the provision of care provided in primary and principal physician practices, preferring to bypass the core patient-physician relationships with supplemental programs whose additional administrative costs become part of the cost-effectiveness calculation. There is growing perception that primary care physicians and their practice staffs may have to be part of any broad-based attempt to reorient the care provided to beneficiaries with chronic conditions—that is, most of the Medicare population. Popularized by advocates as the “patient-centered medical home,” which would be supported with new payment approaches in addition to traditional fee for service, this attempt to actually redesign how primary care practices deliver care awaits broad-based testing.

**PRIVATE PLAN CONTRACTING**

Since Medicare began, the legal authority has existed for Medicare to contract with private plans using payment methodologies other than fee-for-service reimbursement. Prior to the mid-1980s, most Medicare managed care payment was retrospective. Plans were paid on the basis of their costs to provide Medicare benefits (Glied 2000; Zarabozo and LeMasurier 1996). In 1982, encouraged by what many in Congress saw in the commercial market as the greater efficiencies of health maintenance organizations (HMOs) compared with fee-for-service, Congress authorized a risk-contracting program under the Tax Equity and Fiscal Responsibility Act (TEFRA), providing for a system that would capitalize on such efficiencies by paying HMOs rates 5 percent below the cost of care under traditional Medicare. Any savings remaining between Medicare’s payment and the plan’s cost of furnishing Medicare benefits would be shared between the HMO and its Medicare enrollees.
Achieving savings through contracting with HMOs and private plans more generally has endured as an overall objective of Medicare and its policymakers (Rossiter, Nelson, and Adamache 1988). Just as enduring, however, is the evidence that managed care contracting has cost rather than saved money for the Medicare program, and thus has failed as a cost containment strategy. Looking forward, significant changes to the way Medicare pays private plans would be needed to produce program savings.

Before we review the evidence from the literature, some caveats are in order. First, the rules of the game for Medicare private plan contracting (most critically the payment and risk adjustment methodologies) have changed repeatedly, complicating generalizations. Second, for most of the program’s history, HMOs were basically the only type of private insurance plan that contracted with Medicare. Preferred provider organizations (PPOs) and, more important, private fee-for-service (FFS) plans did not become major players until the late 1990s. (In August 2008, the private fee-for-service plans accounted for about 22.5 percent of all Medicare Advantage enrollees [Peterson, S. and M. Gold 2008]). Most of the literature, however, reflects the earlier periods when HMOs dominated and managed care more generally was the focus. Third, because the empirical studies are time bound, their conclusions apply only to Medicare managed care and the traditional program to which it was compared for that time. And researchers have adopted no consistent set of metrics to measure the effects of managed care (Glied 2000).

Fourth and related is the fact that the nature of managed care itself has changed, incorporating different combinations of mechanisms for cost and quality controls. Closed-panel HMOs with tight constraints on utilization achieved through gatekeeper, prior authorization, and other strategies have largely given way to looser network plans that rely primarily for any savings on negotiated discounts with selected providers. But despite their different approaches to and potential effectiveness at controlling costs, studies have often combined HMOs of various types with PPOs. Finally, many studies have not sufficiently accounted for the effects of favorable risk selection when comparing Medicare managed care and other private plans with the traditional program.

**DOES PRIVATE PLAN CONTRACTING SAVE MEDICARE MONEY?**

Government audits and most researchers have concluded to the contrary. In general, Medicare has paid private plans more than their underlying costs, paid more than it would have paid for beneficiaries if they remained in traditional Medicare, and failed to reap any savings achievable by private plans as a result of any efficiency in care delivery (management of care and provider discounts). These findings have persisted throughout the history of Medicare private plan contracting, from the pre-TEFRA risk-based demonstrations through TEFRA (when payments to plans were set at 95 percent of the costs of traditional Medicare) to today, when plan payments are benchmarked to amounts that remain linked to traditional program costs in a plan’s locality or region (MedPAC 2007e). And these findings have resulted from studies using different approaches to assess the effects of Medicare payment methodology.

One approach has been to compare the experience of traditional FFS program beneficiaries with those in Medicare HMOs, using Medicare claims or, more recently, self-reported information about beneficiaries’ health status. Beneficiaries enrolled in the early risk-based HMOs were found to use a lower level of services than similar beneficiaries in FFS programs. This meant that the program was paying the private plans more than they needed to cover the costs of providing Medicare benefits (Rossiter,
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Nelson, and Adamache 1988). The experience with the TEFRA HMOs was similar. HMO enrollees in the same risk category as FFS beneficiaries used a lower level of Part A services and about the same level of Part B services (CBO 1994, 1995; Glied 2000; Luft 1981; Miller and Luft, 1994). Some of the savings in reduced utilization experienced by the Medicare HMOs was offset by their higher administrative costs, including profit or surplus charges (CBO 1997b). Researchers who examined the relative experience of enrollees with commercial indemnity insurance (i.e., FFS coverage) compared with those in HMOs during the same period also found that HMO enrollees had the same or lower utilization of hospital services and lower total costs relative to those with indemnity insurance (Miller and Luft 1993).

Some studies found that Medicare managed care produced “spillover savings” in locations where HMOs had sufficient market penetration to pressure FFS providers to lower their costs through changes in pricing or practice patterns (Baker 1995, 1999). But evidence for substantial spillover savings (in both the commercial and Medicare managed care sectors) was weak and inconsistent (Glied 2000; Langwell and Esslinger 1997).

The most comprehensive study of Medicare’s early experience with risk-contract HMOs, conducted for HCFA, found that Medicare was spending 5.7 percent more for HMO enrollees than these beneficiaries would have cost had they remained in traditional Medicare (Brown and Hill 1993). A series of reviews by GAO (GAO 1994a, 1995, 1997c, 1999b) and the Physician Payment Review Commission (PPRC 1996b, 1997) followed, reaching similar conclusions: Medicare’s payments to private plans exceeded what Medicare’s costs would be otherwise, even with payment at 95 percent of the cost of care under traditional Medicare. A subsequent study, based on data for nonrural counties from 1990 to 1994, found that Medicare HMO enrollees were 20 percent to 30 percent less expensive than the average cost of FFS Medicare enrollees, with the differences associated with Part A expenditures (Batata 2004).

Another approach to assessing Medicare’s payments to private plans has been to compare those payments to the plans’ adjusted community rates (ACRs), which plans used to submit to the government prior to payment methodology changes implemented by the 2003 MMA. Medicare’s payment to a private plan is determined according to the methodology established by statute. The ACR is basically the plan’s estimate of the funds needed to cover the costs (both medical and administrative) of providing the Medicare package of covered services to any enrolled Medicare beneficiary. Although the ACR may not always represent the most accurate measure of plan costs, it is the best measure available to investigators (OIG 1998).

Despite successive statutory modifications to the payment methodology, plan payments, on average, exceeded plan costs for all years for which ACR data appear to be available. (See table on page 48.) For each of the plan contract years 1992 through 1996, the ACRs showed projected plan costs to average 80 percent to 88 percent of what Medicare would pay plans to furnish the basic benefit package to their enrollees (CBO 1997b). A subsequent analysis of ACR submissions for 2000 and 2001 found that Medicare continued to pay plans considerably more to furnish basic Medicare services than plan costs (75.5 percent and 81.5 percent, respectively) (Merlis 2001). CBO later looked at the ACR filings for 2002 and found that projected plan costs for that year were on average 87 percent of the Medicare+Choice payment rates (CBO 2004b). It is also the case that for all of the years of ACRs reported above, projected plan costs were, on average, less than
traditional program costs for comparable beneficiaries (i.e., the AAPCCs), and in some years, lower by significant amounts. It must be emphasized that plan sponsors tended to enter areas with relatively high payments, thus inflating the overall difference between Medicare payment rates and plan costs.


<table>
<thead>
<tr>
<th>Plan contract year</th>
<th>Projected share of Medicare payment spent on basic Medicare Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>87.5%</td>
</tr>
<tr>
<td>1993</td>
<td>88.4%</td>
</tr>
<tr>
<td>1994</td>
<td>86.2%</td>
</tr>
<tr>
<td>1995</td>
<td>84.3%</td>
</tr>
<tr>
<td>1996</td>
<td>80.0%</td>
</tr>
<tr>
<td>2000</td>
<td>75.5%</td>
</tr>
<tr>
<td>2001 (pre-Benefits Improvement and Protection Act of 2000)</td>
<td>81.5%</td>
</tr>
<tr>
<td>2002</td>
<td>87.0%</td>
</tr>
</tbody>
</table>


Payments in excess of traditional Medicare costs have continued through 2007. For 2004, MedPAC estimated that plan payments would have averaged 103 percent of traditional program spending pre-MMA. With the MMA payment methodology modifications, excess payments in 2004 were expected to average 107 percent for demographically comparable populations (MedPAC 2004a). In 2005, the estimate increased to 108 percent of FFS Medicare (MedPAC 2006c). While these “excess” payments helped to increase the availability of managed care plans to Medicare beneficiaries, they also represented significant yearly “losses” to the program (Berenson 2004; Biles et al. 2006b).

As noted, because of the changes to plan payments established by the MMA of 2003, ACRs were no longer used as of 2006. Medicare payments are now based on the difference between a plan’s bid and the relevant benchmark for the county, if a local plan, or the region, if a regional PPO. Under the MMA payment changes, benchmarks are at least 100 percent of FFS Medicare expenditures, and for many counties, they are considerably higher. For 2006, MedPAC found that the enrollment weighted benchmarks were at 116 percent of FFS expenditure levels across all plans; that 98 percent of the local plan bids came in below their respective benchmarks (meaning that almost all plans electing to bid estimated that their costs for providing basic benefits would fall below benchmark amounts); and that Medicare payments for MA plan enrollees were on average 112 percent of FFS Medicare expenditures, adjusted for both demographic and health status in 2006 (MedPAC 2006a, 2006d, 2007c) and projected to be 113 percent in 2008. Average excess payments vary with plan type. In 2006, they ranged from 110 percent of traditional Medicare costs for the local HMO coordinated care plans to 119 percent for the private FFS plans (MedPAC 2007e). By 2008, the range had narrowed from 112 percent for HMO coordinated care plans and regional PPOs to 117 percent for private FFS and 119 percent for local PPOs (MedPAC 2008b).
For 2007, a comparison of MA plan bids with the benchmarks led CBO to conclude that Medicare is continuing to pay, on average, more than it would pay if those enrollees were in traditional Medicare. Benchmarks are on average 17 percent higher than projected per capita FFS expenditures nationwide, and Medicare’s payments to plans average 112 percent of FFS Medicare. CMS has taken issue with MedPAC’s and CBO’s separate calculations reporting that there is only a 2.8 percent difference between MA plan payments and FFS Medicare (CMS 2007b). Insufficient information is provided, however, to support their conclusions.

As CBO notes, it is important to look at geographic differences in how MA plan payments compare with FFS Medicare experience. “In areas with the highest FFS spending, health plans’ bids for 2007 are about 9 percent below FFS spending; benchmark rates in those areas average about 4 percent above FFS costs. By contrast, in the lowest-cost FFS areas, health plan bids are about 16 percent above FFS spending, and benchmark rates are about 26 percent above FFS costs” (CBO 2007a).

Even with better risk adjustment for the relative differences in utilization of MA versus traditional program enrollees (as discussed next), the payment methodology, with benchmarks fixed at 100 percent FFS or higher, is unlikely to capture savings that might result from any greater efficiencies of managed care (CBO 2007a). Medicare “captures” only 25 percent of any savings that results from a plan bid coming in below its relevant benchmark. The other 75 percent is paid to the plan to provide extra benefits to its enrollees. (Very few plans bid above the benchmark. In such cases, the entire difference is charged to the enrollees.) Because benchmarks are, on average, 17 percent higher than projected per capita FFS expenditures nationwide, CBO estimates that “a plan in an area with the ‘average’ benchmark (relative to FFS costs) would have to bid an amount 51 percent below FFS costs in order for the government’s payments to that plan to equal average FFS costs” (CBO 2007c).

**Favorable Selection**

If the ACRs or bids for many plans are below FFS costs for their areas, does that mean these plans are more efficient than traditional Medicare? Most researchers have concluded that this is not the case. Historically, plans in general have not been more efficient but instead have benefited from favorable selection. The problem for Medicare is that for a long time its payment system failed to adequately adjust for such selection, and, in the view of some, still may not be doing so.

In the early years of Medicare private plan contracting, program officials assumed that favorable selection would occur and that contracting with HMOs would initially cost more than providing the same benefits through traditional Medicare. But they also thought that the selection bias would diminish either as HMO enrollment increased to be more representative of the Medicare population as a whole or because earlier HMO enrollees would become more expensive as they aged in place (Rossiter, Friedlob, and Langwell 1985). By almost all independent accounts, this has not occurred.

Compared with traditional program beneficiaries in the same risk categories, studies of the first risk demonstration projects, the TEFRA plans, and the Medicare+Choice plans found that (1) beneficiaries in Medicare HMOs used fewer services before enrolling and had lower mortality rates and lower imputed FFS costs while in the plans; and (2) beneficiaries who disenrolled from the managed care plans had higher use and higher
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mortality rates than either people who stayed in the plans or those in traditional Medicare (Brown 1987; CBO 1997b; GAO 1997c, 1999a; Greenwald 2000; Greenwald, Levy, and Ingber 2000; Hellinger 1995; Hellinger and Wong 2000; Brown and Hill 1993; PPRC 1996b; Riley 2000; Riley, Lubitz, and Rabey 1991; Riley Rabey, and Kasper 1989; Rossiter, Nelson, and Adamache 1988). Consistent with these individual studies, reviews of the overall literature produced similar conclusions (Glied 2000; Hellinger and Wong 2000; Langwell and Esslinger 1997; Newhouse 2002). Mello et al. (2003), however, suggested that conflicting findings related to favorable selection by HMOs may be due to differing methodological choices, including the choice of health status measure and sample composition.

These studies date to a period when CMS attempted to control payments for biased selection by adjusting them for basic demographic characteristics of plan enrollees (age and sex), Medicaid enrollment, and institutional status. Although this “risk adjustment” was designed to level the playing field so that health plans would compete on the basis of efficiency and not their ability to attract healthier enrollees (Weissman et al. 2005), it accounted for only about 1 percent of variation of expenditures among individuals, well below the predictive ability thought necessary to discourage plans from “cherry picking” the best risks (Greenwald, Levy, and Ingber 2000; Newhouse 2002). Inclusion of a better indicator of beneficiary health status was thought to be needed.

Under the 1997 BBA, Congress required the secretary of Health and Human Services to develop a health status risk adjustment method by 1999 and to implement it by 2000. HCFA began to phase in the health status adjuster beginning in 2000. Health status was measured first by inpatient diagnoses (PIP-DCGs). Eventually this version was replaced by the CMS-HCC model, which incorporates inpatient and outpatient encounters with demographic factors. This model, in effect today, improved the ability of the risk adjuster to account for an increased (albeit still modest) amount of variation in individual health care costs, and made it a more robust tool for predicting variation in spending for groups of enrollees (Greenwald, Levy, and Ingber 2000). Nonetheless, according to MedPAC (2005b), it over predicts the costliness of beneficiaries who are in good health and under predicts for those who are in poor health. Accordingly, some analysts argue that while the HCC model is an improvement over the past risk-adjustment methodology, it is still inadequate to eliminate all of the financial incentive for plans to engage in favorable selection (Buntin et al. 2004). Others believe that the HCC is adequate but may need fine tuning (Pope et al. 2004).

To the extent that plans do not have confidence in the ability of the risk adjuster to fully measure varying risk, they are likely to be wary of adverse selection and behave accordingly. Other analyses suggest that plans continue to benefit from favorable selection, although this may be changing. Murgolo (2002) found beneficiaries in Medicare private plans to be disproportionately healthier than those in the traditional program, as measured by self-reported health status. A more recent comparative analysis of health and functional status of beneficiaries enrolled in private plans and those in traditional Medicare found a narrowing of health differences between 1991 and 2004 (Riley and Zarabozo, 2006–07).

In 2003, CMS decided to forgo Medicare program savings that would have otherwise accrued as a result of phasing in the health status risk adjuster and instead to redistribute those savings to the plan payment rates (Berenson 2004). Medicare continues to lose
money as a result of this risk adjustment “budget neutrality policy,” although the policy is being phased out under a provision of the Deficit Reduction Act (DRA) of 2005 (Berenson 2004; Weissman et al. 2005). Benchmarks for 2007 are still 3.9 percent higher than they would be if the budget neutrality adjustment were not used (CMS 2006b).

More recent are concerns that rising risk scores reported by MA plans may indicate that plans are not enrolling sicker beneficiaries so much as “upcoding” enrollee diagnoses to maximize their risk scores and thus their risk-adjusted payments (CBO 2006b). CMS could seek to correct this response by adjusting MA payments (CBO 2006b) under authority given to it in the DRA. In its announcement of MA payment rates for 2008, CMS indicated that while the risk scores for MA plans have increased more than those for FFS enrollees, it is unable to attribute the difference to underlying coding pattern differences; thus no coding intensity adjustment was made to MA payment for 2008 (CMS 2007a).

**ADDITIONAL PAYMENT ISSUES**

As reflected in the above discussion, CMS and Congress have made a number of decisions that have resulted in raising plan payments above where they might otherwise need to be to cover plan costs or to be equal to FFS Medicare expenditures on a per-beneficiary basis. Some of these changes were quite fundamental; others highly technical, but still of some consequence. For example, the BBA shifted payment based on 95 percent of the AAPCC to the higher of a floor, minimum percentage increase, or blended payment rates. Congress also built into the new rates a forecasting error that resulted in excess payments of $1.3 billion in 1998 and more in successive years as enrollment increased (Berenson 2004; GAO 1999a). In the MMA, Congress again modified the payment rules for private plans, ensuring that county-based (“local plans”) are paid no less than 100 percent of their county’s per capita traditional program spending (Berenson 2004). This decision has played a significant role in producing excess payments, especially because beneficiary enrollment in MA plans has tended to be highest in those counties with the highest benchmarks (CBO 2007a).

The MMA also made available $10 billion (2007–2013) for a regional PPO stabilization fund (funds that have not been spent) along with some additional financial incentives. Although these changes were intended to encourage private plans to enter previously underserved areas, they also helped to make Medicare Advantage more expensive than traditional Medicare (CBO 2007a).

**EFFECTS ON BENEFICIARIES**

Saving money for Medicare may not be the most important goal or result of Medicare private plan contracting. A more compelling rationale—and the one that has intermittently dominated the policy debate—may be its ability to deliver enhanced benefits and lower out-of-pocket costs for enrollees. In those areas of the country where Medicare’s plan payments have exceeded traditional program costs, plan enrollees have, in effect, traded private plan efficiencies assumed to result from restricted provider networks and utilization controls for extra benefits (especially outpatient prescription drugs) and lower cost sharing. (In 2007, for example, enrollees received, on average, additional benefits with a value of $86 per month [CMS 2007b]). These additional benefits, often provided at no premium over and above the Part B premium (and sometimes including a reduction in the Part B premium), have made Medicare private
plans attractive to many low-income beneficiaries who are ineligible for Medicaid subsidies and do not have supplemental coverage from a former employer (Atherly and Thorpe 2005; CMS 2007b; Gold 2003; Thorpe et al. 2002). However, the inequity of payment effects that result in richer benefits for beneficiaries fortunate enough to live in certain areas has long been of concern to many policymakers (Merlis 2001). Moreover, some evidence suggests that beneficiaries who are sicker and use more services may incur greater out-of-pocket costs as enrollees in MA plans than if they were in traditional Medicare (Biles, Nicholas, and Guterman 2006).

Another consideration is whether beneficiaries receive better care and experience better health outcomes under Medicare private plans than under FFS Medicare. In general, the quality of care has not been found to be appreciably different overall, although important differences have been demonstrated on some measures. Much of the early literature focused on comparisons of measures of quality of care between HMOs and FFS health care in the commercial market. An analysis of the findings from 15 peer-reviewed studies published between 1993 and 1996 found an equal number of significantly better and worse results for HMOs compared with FFS plans. In several instances, HMO enrollees with chronic conditions experienced apparently worse quality of care (Glied 2000; Langwell and Esslinger 1997; Miller 1993; Miller and Luft, 1997). More recently, a comparison of beneficiaries’ ratings of satisfaction for MA and traditional Medicare shows generally similar and stable satisfaction over time (MedPAC 2006b). Quality comparisons are more problematic because of the lack of comparable quality measures for the FFS program (CBO 2007a; MedPAC 2005a). One study of stroke patients found, however, that FFS Medicare patients experienced better outcomes than comparable patients in Medicare HMOs (Kramer, Kowalsky, et al. 2000). Another study of stroke patients found no consistent differences in health outcomes, although the mix of services varied (Smith et al. 2005).

**COULD PRIVATE PLAN CONTRACTING SAVE MEDICARE MONEY?**

Given the right program design, could private plan contracting achieve significant savings for Medicare? Many have contended that moving entirely from administered pricing to competitive bidding (i.e., sealed bids without reference to benchmarks) as the basis for determining plan payments would be the best way to achieve savings. Efforts to test competitive bidding have been initiated through demonstration projects. All have been thwarted, however, by stakeholder opposition (Jones 2000). Others have suggested more fundamental program restructuring, with approaches ranging from a pure voucher program, whereby Medicare would be effectively privatized, to those in which private plans play no or only a modest role (Dowd et al. 2005–06).

In 1989, CMS began a series of studies that led to four demonstration attempts in the second half of the 1990s to test whether a market-based system of competitive bidding as opposed to administered pricing would achieve program savings (Jones 2000). In 1996 and 1997, CMS launched demonstrations of competitive pricing in Baltimore and Denver. In response to local opposition, Congress halted both projects before final implementation, but not before CMS had conducted an initial round of plan bidding in Denver. For Medicare’s benefit package, plan bids were 24 percent to 38 percent below the prevailing payment (i.e., the AAPCC) (Dowd et al. 2005–2006), leading some observers to conclude that a competitive pricing payment system in 1997 “could have
resulted in substantial savings to the federal government with no reduction in benefits” (Feldman and Kane 2003).

The 1997 BBA authorized another effort at launching a demonstration of competitive pricing. Called the Competitive Pricing Demonstration Program, it too was suspended by Congress (permanently, it turned out) before beneficiaries were actually enrolled, although site selection had occurred (Phoenix and Kansas City) and program details had largely been worked out (Dowd, Coulam, and Feldman 2000). This “not in my backyard” response by stakeholders and their political representatives presents formidable challenges to area-specific, competitive pricing demonstrations and could prevent the scheduled Comparative Cost Adjustment Program from occurring. This demonstration, required by the MMA to operate for six years in up to six localities beginning in 2010, is intended to test head-to-head competition between traditional Medicare and Medicare Advantage plans (§241 of the MMA, 2003). More specifically, the competition will be tested by making payments to private plans and beneficiary premiums for traditional Medicare a function of MA plan premium bids.

Short of moving to a competitive pricing model, changes could be made to the current MA program that would reduce excess plan payments. One option is to set the local and regional benchmarks at 100 percent of traditional program costs and redirect Medicare’s share of savings from bids below the benchmarks to a fund that would “redistribute the savings back to MA plans based on quality measures” (MedPAC 2005b, MedPAC 2006c). Alternatively, the savings could be used to improve trust fund solvency or fund other priorities. CBO has estimated that paying on average the same amount for a beneficiary enrolled in MA plans as in FFS Medicare would result in $54 billion in savings over five years and $149 billion over ten years (CBO 2007b). However, beneficiaries in areas with low traditional program costs might find the number of plan options greatly reduced, an effect that makes such an approach politically problematic.

Still another option would be to pay plans based on plan costs in an area, regardless of underlying FFS Medicare costs, since the local FFS program costs bear a poor relationship to actual plan costs (Berenson 2004; CBO 2004b). Then the challenge is determining the appropriate basis for such payments. Various approaches are possible, including evaluating the variation in local plan costs to determine a budget neutral blend of national and local rates to determine benchmarks (Berenson 2008), holding successive rounds of negotiation with CMS on plan bids or linking payments more closely to appropriate levels of spending as informed by clinical evidence.

A more sweeping change would be to move to a market-based system where traditional Medicare is treated as simply another competing health plan. The most radical form of this approach is a defined contribution model, whereby the government would give beneficiaries a fixed dollar amount to buy coverage either from traditional Medicare or from private plans. A less radical version, known as premium support, would pay a predetermined amount toward beneficiaries’ premiums for either traditional Medicare or a private plan, which would compete head-to-head for enrollment. The effects of premium support on beneficiaries and the program as a whole depend on design decisions relating to the benefit package(s), types of eligible plans and marketing rules, definition of the market area in which the competition is to occur, the method for determining the government’s contribution to the plan payment (and the residual beneficiary premium), and the flexibility
given to traditional Medicare to manage costs effectively (e.g., restricted provider networks and value-based purchasing) (CBO 2006b; Fuchs and Potetz 2000).

One critical view of premium support is that, in the absence of a better risk adjustment methodology than currently exists, the premium for FFS Medicare would likely spiral ever higher to cover the higher costs of its relatively sicker enrollees, jeopardizing the program’s long-term sustainability (Competitive Pricing Advisory Committee [CPAC] 2001; CBO 2006b). A more optimistic perspective is that the competition under premium support could be structured so that plans—private and traditional Medicare—would bid on the same “entitlement” benefit. The government would then pay on the basis of some metric, such as a risk-adjusted, enrollment-weighted average bid amount. Beneficiaries electing plans above that amount would pay the difference in an out-of-pocket premium. Traditional Medicare could be paid an additional “subsidy” to cover the costs not borne by private plans, such as graduate medical education and disproportionate share hospital payments (Dowd et al. 2005–2006).

Whether such an approach could work without adverse effects on beneficiaries (especially in the traditional program) in terms of access, quality, and out-of-pocket liabilities is much debated (CBO 2006b). Some argue that as traditional Medicare becomes a value-based purchaser of services though pay for performance and is better able to manage care as a result of better data systems and chronic care management programs, it may be better positioned to compete with private plans. Its competitive position would be further enhanced by offering additional benefits and altered cost-sharing requirements, as discussed in the section on benefit design. Others argue that traditional Medicare already enjoys an unfair competitive edge as a result of its ability to control provider payments, impose regulations on private plans, and so on. For example, PPOs typically pay providers more than the payment rates established by the traditional program (Pizer, Feldman, and Frakt 2005). More generally, MedPAC (2005a) has tracked a trend of higher payments by private plans to providers in the aggregate than by traditional Medicare.

Concurrently, should the MA program become more dominated by PPOs and private FFS plans, its ability to constrain costs will increasingly be linked not to care management but to provider discounts (Dowd et al. 2005–2006). The effects of such a possible convergence between traditional Medicare and Medicare Advantage have yet to be fully explored in the literature.

**CONCLUSION**

As currently structured, Medicare Advantage and its predecessors have not achieved cost containment for Medicare. Instead, they have consistently and increasingly paid private plans more than what the same beneficiaries would cost the traditional program. If private plans are to become a cost-effective option for Medicare beneficiaries in general and the program as a whole, the findings from the literature suggest that a different approach to payment policy is needed. As CBO and MedPAC have argued, the greatest potential for private plans to deliver efficiencies is in high-cost FFS areas of the country. In such areas, some private plans (most likely the HMOs that comprise a declining share of the Medicare market) might be able to achieve greater efficiencies than traditional Medicare through lower utilization or lower payments to providers.
Such savings would, however, have to offset the higher administrative costs incurred by private plans, now averaging about 11 percent compared with traditional Medicare’s 2 percent (CBO 2006a). And sufficient political support for such a change is problematic, especially since many plans are likely to respond by withdrawing from the program, with the associated disruptions for beneficiaries. More fundamental changes in payment methodology, such as envisioned under premium support proposals, raise a different and more complex set of issues that would need full examination.

FRAUD AND ABUSE

There is a broad public perception that Medicare fraud is widespread and contributes to the rapid escalation of program expenditures. A public opinion survey commissioned by AARP in 1999 on health care fraud found that 83 percent of respondents believed fraud is either “extremely widespread or somewhat widespread.” Further, 72 percent of respondents believed that the Hospital Insurance Trust Fund would not be facing insolvency if fraud and abuse were eliminated (Smith 1998).

Concern about Medicare’s vulnerability to fraud and abuse has led to a succession of statutory and administrative enforcement initiatives designed to help prevent, detect, and mitigate fraud. While stepped-up efforts by CMS, the OIG of the Department of Health and Human Services (DHHS), and the Department of Justice (DOJ) have produced significant, measurable results, perhaps more important has been the “sentinel effect” of these activities on Medicare providers. Although more aggressive policing of Medicare providers is not the key to sustained, long-term control of rising expenditures, close observers of these efforts whom we interviewed believe it is a critical component of a multifaceted strategy to moderate spending growth in Medicare.

Medicare contractors process more than 1 billion claims in the traditional FFS program. Monthly capitation payments are also made to more than 700 contracting Medicare Advantage and prescription drug plans. Most of these transactions are carried out electronically with little review by CMS or its agents. Because of the scope of the Medicare program, the complexity of its coverage and payment rules, and the need to maximize the efficiency of the claims-processing system, there is ongoing tension between ensuring prompt payment and controlling fraud and abuse.

LEGISLATIVE TOOLS

Legislation to address the problem of fraud and abuse was first enacted in 1978—the so-called “antikickback” law. This statute prohibits the payment or receipt of anything of value to induce referrals of Medicare beneficiaries for covered services or to induce the purchase of covered services. It was followed in 1986 by the adoption of amendments to the federal False Claims Act (FCA), which dates back to the Civil War, making it a much more powerful tool for the health care sector by greatly increasing the penalties for submitting false claims. With these amendments, the number of health care-related false claims cases (qui tam) grew rapidly (see figure 1). These “whistleblower” cases have resulted in very large settlements in part because losses in court can result in treble damages.
In 1987, Congress passed legislation stiffening the penalties for fraud and abuse and expanding the grounds for exclusion from program participation. In 1989 and 1993, Congress adopted other provisions (“Stark I and II” laws) that bar physicians from having a financial interest in entities providing certain services to which they refer Medicare patients. Studies comparing the frequency and cost of services ordered by physicians who directly provide services (self-referral) and those who refer to independent providers show significantly higher use rates and costs for self-referring physicians. Two of these studies (Hillman et al. 1990; Swedlow et al. 1992) focused on use rates of imaging services for self-referrers and those who use independent providers. Findings from these studies and a 1989 DHHS OIG report (OIG 1989) comparing the use of laboratory services by physicians with and without an ownership interest in independent labs helped provide the basis for the Stark self-referral legislation. However, studies such as these cannot identify whether the use of particular services is inappropriate or whether a pattern of inappropriate care constitutes fraud.

With the enactment of the Health Insurance Portability and Accountability Act (HIPAA) in 1996, a more comprehensive Health Care Fraud and Abuse Control (HCFAC) program—supporting OIG and DOJ activities and the CMS Medicare Integrity Program (MIP)—was authorized and funded by an automatic annual allotment from the HI Trust Fund. This legislation also strengthened the penalties for health care fraud by ratcheting up sanctions for violating program requirements and enabled the OIG to expand staff and maintain a presence in every state. The DOJ and the Federal Bureau of Investigation have also significantly increased the number of personnel devoted to health care fraud investigation and prosecution. HCFAC funds for fiscal year (FY) 2005 totaled $240 million. The CMS MIP now receives more than $800 million annually (still less than 1 percent of total Medicare outlays) from these HIPAA funds.
CLAIMS ERROR RATE

Since 1996, the OIG and CMS have conducted annual audits of Medicare-paid claims to estimate the program payment error rate. These audits involve matching a statistically valid sample of claims to associated medical records obtained from providers. A payment error is recorded if the claim is for a noncovered service, improperly coded, not supported by appropriate documentation, or found to be medically unnecessary. By applying this error rate to Medicare outlays for a year, a dollar estimate of the cost of inappropriate, although not necessarily fraudulent, payments is determined. An error rate of 14 percent in the first year of the audits was cut in half the second year and has generally declined further in subsequent years (OIG Reports, 1997–2002). However, CMS assumed responsibility for these audits in 2003 and modified the criteria for payment errors, thereby limiting comparisons with the previous OIG results.

Critics of these error rate projections point out that they likely underestimate significantly the total errors because they do not usually identify fabricated medical records or verify the actual delivery of services through patient interviews. Indeed, these limitations in the annual error rate methodology could result in a failure to identify cases of intentional fraud. For example, a study by Psaty et. Al (1999) extended the traditional error rate audit approach by matching claims to both medical records and patient interviews. In a sample of congestive heart failure cases, they found that 37.5 percent of diagnoses were incorrectly reported. Based on these data, they estimated that inaccurate coding for this diagnosis alone cost Medicare up to $933 million in 1993. Sparrow (2000), who believes error rate estimates are a lower bound, speculated that losses to fraud could total from 10 to 40 percent of Medicare outlays. At current annual spending levels of $325 billion, this would amount to $30 to $130 billion a year.

OTHER FRAUD INITIATIVES

Beginning in the mid-1990s, CMS launched Operation Restore Trust (ORT)—a targeted initiative in five states—in cooperation with law enforcement agencies to aggressively pursue suspected fraud and to assess the reasonableness of Medicare claims more carefully. The then-administrator of CMS announced his intention “to exercise its longstanding authority to suspend payments to suppliers or providers when there is tangible evidence of fraud” (Vladeck 1995). At about the same time, the OIG began to impose corporate integrity agreements in lieu of exclusion from the program in civil fraud settlement agreements. Voluntary corporate compliance programs are now in place in most institutional providers that participate in Medicare, leading OIG officials to believe that these programs have reduced fraudulent behavior. “Perhaps the best indication of the sentinel effect is the explosion of interest in corporate compliance programs by health care providers” (Thornton 1999). This sentinel effect is hard to quantify, but is believed to account for much of the reduction in Medicare payment error rates and an unknown amount of program fraud.

ORT also sought to enlist Medicare beneficiaries directly in the fight against fraud. A toll-free consumer hotline was included on all Medicare benefit statements to encourage beneficiaries to report suspicious billing patterns. In addition, grants provided by the Administration on Aging (AOA) helped to support Senior Medicare Patrols (SMPs), groups of retired professionals trained to educate and assist beneficiaries in identifying and reporting fraud. However, these efforts were not without costs in terms of relationships with the provider community—especially physicians, who thought that
Medicare was undermining the patient-physician relationship by sowing seeds of suspicion about the motives and behaviors of all physicians, not just the minority who might be abusing the system.

Another component of early efforts to combat fraud has been the national Correct Coding Initiative (CCI). Also launched in 1996, the CCI identifies pairs of physician services billing codes that generally should not be billed and paid for separately when performed concurrently. Medicare contractors incorporate these edits into the electronic programs used for claims processing, resulting in automatic denials for one of the excluded codes. The principal purpose of the CCI is to improve payment accuracy, but it may also deter fraudulent billing. Its impact is currently limited to a relatively small percentage of claims dollars.

More recently, CMS has implemented a three-state demonstration program involving recovery audit contractors (RACs). The primary purpose of the demonstration is to determine the effectiveness of specialized contractors in identifying underpayments and overpayments. While fraud detection is not the primary purpose of this initiative, suspected fraud cases are required to be referred to the OIG for investigation. The contractors are paid on a contingency basis related to the net amount of overpayment collections. Recent legislation (P.L. 109–432) has permanently expanded this program to all states.

Finally, CMS is moving to reduce the number of contractors responsible for reviewing and paying Medicare claims and to contract with special program safeguard contractors (PSCs) that focus solely on fraud prevention and detection. Currently, CMS has contracted with 12 PSCs. By July 2008, CMS intends to have only 15 contractors for the administration of Part A and B benefits plus 8 specialized DME and home health/hospice contractors (CMS 2005c). Consolidation of the claims processing systems is expected to bring greater consistency and facilitate the integration of data across the program. These changes could allow fraud prevention and detection resources to be targeted more effectively and efficiently.

It is impossible to determine precisely the magnitude of total program savings resulting from all these efforts. Summarized below are the actual dollar recoveries reported by OIG/DOJ and CMS and several published studies assessing the impact of these initiatives.

**HCFAC/MIP RESULTS**

The most robust empirical findings related to the impact of fraud activities on Medicare expenditures are found in HCFAC and MIP reports. These reports summarize the amount of recoveries, settlements, and judgments obtained from Medicare providers and suppliers. A recent oversight report from the GAO on the results of the CMS-MIP estimated savings in 2005 of nearly $9 billion for just two activities—medical review and secondary payer collections—or about 3 percent of total Medicare spending for the year (GAO 2006b). The table below shows the amount of dollars returned to Medicare for every MIP dollar spent for these two activities since 1997—one measure of the value of these investments.
DHHS/OIG and DOJ also report to Congress annually the amount of funds from fraud-related recoveries returned to the HI Trust Fund. Since 1997, the combined efforts of DHHS/OIG and DOJ have returned more than $8.9 billion to the Medicare Trust Funds while spending just $1.5 billion (HCFAC annual reports, FY 1998–2005). Thus, for every dollar spent, DHHS and DOJ report that nearly $6 is returned to Medicare, although these recoveries represent less than 1 percent of total Medicare spending during this period. In addition, CMS released a preliminary report of results in FY 2006 from the RAC demonstration, identifying more than $300 million in improper payments in just three states (CMS 2006i).

The OIG has released a large number of targeted studies identifying Medicare program vulnerabilities to fraud and abuse and making recommendations for policy and operational changes to CMS. While these studies are too numerous to review here, they may be viewed on the OIG Web site (http://oig.hhs.gov/reports.html).

**IMPACT OF THE FALSE CLAIMS ACT**

FCA recoveries are aggregated in a series of reports prepared for Taxpayers Against Fraud (TAF), a nonprofit organization that promotes use of the False Claims Act. The most recent report (Meyer 2006) shows that Medicare recoveries from civil fraud cases from 2000 through 2004 totaled approximately $7.3 billion, while expenses over the same period were about $444 million (see figure 2).

**Figure 2. Recoveries and Costs of FCA Cases, FY2000-2004**

Thus, for every dollar spent on the investigation and prosecution of these cases, TAF estimates that the government received $15 in return. However, these recoveries are still less than 1 percent of the more than $1.1 trillion Medicare outlays during this period. TAF also
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reports that more than 400 cases were filed in 2005 (Meyer 2006). Because of increased resources at the OIG and DOJ and the very large recoveries from settlements and prosecutions, the FCA is undoubtedly an effective deterrent whose impact cannot be quantified.

**IMPROPER PAYMENTS AND BENEFICIARY INVOLVEMENT**

As noted earlier, the annual Medicare payment error rate is based on a sample of claims applied to total Medicare outlays. Audits required to determine the error rate result in the recovery of a relatively modest amount of money—only those claims in a sample that are found to be improper. The annual dollar value of the extrapolated estimate of improper payments over the last ten years totals more than $150 billion. CMS reported a payment error rate of 5.2 percent and 4.4 percent in 2005 and 2006, respectively, resulting in an estimated total reduction of $11 billion in improper Medicare payments in those two years (CMS 2006h). However, payment errors estimated in this process cannot be equated to fraud, as the complexity of billing and other Medicare policies result in numerous billing errors. A 2003 evaluation of the CCI by the OIG concluded that nearly all of the services targeted by the CCI edits were paid appropriately in 2001, suggesting that virtually all claims that should have been denied were, in fact, not paid. However, of those claims denied under the CCI, the portion representing intentional fraud has not been estimated (OIG 2003).

The involvement of Medicare beneficiaries in efforts to prevent and identify fraud has had mixed results. The AOA/SMP program is credited with savings of “approximately $104.3 million … since its inception” (HCFAC 2006). This estimate is based on recoveries from referrals made by SMP participants to Medicare contractors. Experience with the involvement of beneficiaries, however, has been mixed, in large part because of the complexity of Medicare coverage and payment policies and difficulty of distinguishing innocent billing errors from intentional fraud. Several former government officials among our interviewees expressed the view that efforts to enlist beneficiaries’ help in identifying fraud have not been successful and would require a much more substantial educational effort than is likely to be affordable and sustainable.

**OTHER REPORTED STUDIES**

Some additional empirical work in published literature has examined the impact of fraud and abuse enforcement. A notable study by Becker and colleagues (2005) analyzed the impact of increased support for fraud enforcement activities on the costs and quality of care provided to Medicare patients. This study matched longitudinal data on Medicare outlays, inpatient days, and adverse outcomes (e.g., readmissions, mortality) for six diagnoses that are associated with fraudulent activity. The authors concluded that increased fraud enforcement resources result in greater declines in expenditures (both acute and postacute) without evidence of an increase in adverse health outcomes. There were, however, significant differences in the effects of increased enforcement across different types of patients (e.g., age, gender, and race) and hospitals (e.g., ownership type, size, and location).

In an assessment of the impact of HIPAA on Medicare fraud, Hyman (2002) observed that there has been insufficient attention to effective fraud control efforts in the private insurance sector. He also suggested that Medicare has underinvested in prepayment claims review and has compensated for this by imposing very severe sanctions on fraudulent
claims through the FCA and other legal tools. He concluded that the approach to fraud control is largely driven by perceptions about the motives of providers—that is, whether one assumes that most providers seek to do the right thing, or most are looking for opportunities to cheat the system. He asserted that the design of a fraud control program will necessarily reflect the perceptions of those who are responsible for adopting it.

Sparrow’s (2002) book argued that fraud in insurance programs and in Medicare specifically goes largely undetected and results from “massive underinvestment in controls.” Without systematic measurement of fraud losses, it is not surprising that insufficient resources are allocated to control the problem. He concluded that fraud “has not been brought under control because the health care industry has underestimated the complexity of the fraud control business and has never developed reasonable defenses against fraud.”

CONCLUSION

Findings from the literature along with interviews with several individuals formerly in key leadership roles with the relevant government agencies suggest a number of conclusions. First, medical review of selected claims and pursuit of other liable third-party insurers by contractors have proved to be the most cost-effective functions within MIP operations, returning $20 to $37, respectively, for every dollar invested by CMS in FY 2005. Second, very large settlements and judgments from qui tam or whistleblower cases under the federal False Claims Act are cost-effective. The cost/benefit ratio from the resolution of these cases continues to rise—currently at about $15 for every $1 of expense. The threat of FCA prosecution is viewed as a significant deterrent to Medicare fraud.

Third, annual reductions in contractor payment error rates have significantly improved the accuracy of Medicare payments, reducing by more than half the initial rate determined in 1996, and avoiding $11 billion in improper payments in just 2005 and 2006. Fourth, use of corporate integrity agreements by the OIG in settlements of civil fraud cases along with widespread voluntary adoption of corporate compliance programs by providers is likely to have had a significant deterrent effect that cannot be quantified.

Finally, the limited literature focused on fraud and abuse prevention suggests in one case that increasing the investment would return larger savings without adversely affecting quality. However, there is a risk in demanding more resources and imposing additional compliance costs. While recoveries from fraud and abuse enforcement strategies have been significant, they remain relatively small in comparison to overall program spending. That said, it is widely accepted that a significant deterrent strategy has limited the losses to fraud, improved claims payment accuracy, and heightened attention to compliance by Medicare providers. However, more aggressive initiatives—either through program safeguards or law enforcement—could threaten the long-term political support that is essential to sustaining these efforts and might upset the balance between effective fraud control and the burden of compliance.

CONCLUDING OBSERVATIONS

Since the mid-1980s, Medicare payment approaches have evolved from cost based for providers (e.g., reimbursement based on actual costs for hospitals and other institutions) and charge based (e.g., reimbursement based on charges or list price) for physicians and
suppliers to various prospective payment models. These new models are specific to the type of provider (e.g., hospital, SNF, HHA) and make uniform payments across providers based on the average cost of care in a prior period. Prospective payment approaches, generally, have given Medicare greater control over program spending and have given providers new incentives to become more efficient because the providers bear some risk for excess spending.

The relative impact of Medicare's cost containment efforts can be seen in comparison to growth in health care spending for the private sector, especially in the 1990s, when many of Medicare’s new payment systems were introduced.

![Annual Growth Rates of Health Insurance Premiums](image)


For almost 25 years, Medicare's episode-based prospective payment system for hospital inpatient stays has restrained cost increases for this sector, which continues to claim the largest share of Medicare program spending (32 percent of total program outlays in 2006), although some of the cost containment may be exaggerated, as what was inpatient hospital care has shifted to post-acute or ambulatory care. Similar prospective payment approaches have encouraged post-acute care providers, such as SNFs and HHAs, to contain costs, especially in the area of ancillary services that formerly were separately billed.

The Medicare physician fee schedule stands out as a major payment system that remains FFS based. Owing to a combination of technical and political challenges, Medicare has not adopted an episode-based prospective payment approach for physician payment. Instead, Medicare has adopted an evolving system of expenditure targets that theoretically constrain overall spending by reducing future fee schedule payments if utilization increases faster than a target rate. Starting in 1992, spending targets worked to control physician spending for about ten years, providing substantial savings to Medicare and its beneficiaries without reducing beneficiary access to physician services. Since 2000, annual growth rates in physician spending have returned to near historically high levels. Concerned that physicians would reduce their commitment to seeing beneficiaries or the quality of their services, Congress generally has not allowed across-the-board spending cuts to take effect. Modifying the current physician payment approach constitutes a high priority for policymakers.

In addition to the application of PPSs and fee schedules with spending limits, Medicare has explored other payment approaches that offer potential savings. Medicare demonstration
programs have shown cost savings by combining prospective payments for all hospital and physician services into larger bundles for a single episode of care (e.g., CABG surgery). Combining prospective payments for an episode across acute hospital and post-acute care settings is under consideration. Competitive bidding by suppliers of DME and private Medicare Advantage plans could offer additional opportunities for savings.

While bundled payments and competitive bidding hold promise for substantial cost containment, these approaches would require greater administrative effort by the Medicare program than simply paying claims using national payment formulas under PPSs and fee schedules. Larger payment bundles and competitive bidding approaches would also change the relationship between the Medicare program and providers and suppliers by demanding a much higher level of cooperation among different provider types. The prospects for broader application of market-oriented competitive bidding approaches remain uncertain. Much will depend on whether Congress is willing to provide adequate authority and resources to CMS to support a larger administrative infrastructure.

Aside from PPSs, Medicare’s record of programwide cost containment has been spotty. Although research and demonstrations have shown promise in some areas, sufficient support has not been forthcoming from Congress or the administration to expand potentially effective approaches. A prominent example of the lack of political will was the attempt to test a competitive bidding model for private health plan payment. Four competitive bidding demonstrations were discontinued prior to implementation due to political opposition, even though the last two had been specifically authorized in legislation. In other areas as well, CMS has had authority to act more decisively to restrain costs, but such efforts have been restrained by provider and beneficiary concerns about access and quality.

Fraud and abuse enforcement and oversight have proven to be effective sources of program savings. For example, medical claims review and recoveries from third-party insurers have resulted in net Medicare savings that exceed the costs of these activities by 20 to 30 times in some cases. The FCA has also proven to be a cost-effective tool against providers and suppliers submitting questionable, possibly fraudulent, claims, as measured by recoveries from settlements and judgments. In addition to recoveries, these enforcement and oversight activities have a substantial deterrent effect on fraud and abuse. However, the amount of savings from these activities is modest compared with total Medicare spending. In addition, maintaining political support for these activities involves a delicate balance between effective control of fraud and abuse and political opposition from providers that rises with government enforcement and compliance burden.

Many economists consider that new health technology and new uses of established technology are major drivers of cost inflation for the health care system generally and Medicare specifically. In this report, we identify examples of CMS using its statutory authority to make technology coverage decisions that limit new coverage, with presumed cost savings. However, Medicare could use its coverage authority more aggressively by increasing reliance on evidence-based decisions and using comparative and cost-effectiveness analyses to guide decisionmaking. Although there have been some moves in this direction, altering the bases for making coverage decisions faces formidable obstacles, both political and technical, in the face of concerns about limiting beneficiary access to cutting-edge technology.
Redesign of Medicare’s standard benefits package could promote more efficient, less costly use of services. In particular, restructuring the level of beneficiary cost sharing and establishing an annual out-of-pocket spending cap could, theoretically, reduce Medicare spending, especially if, in addition, Congress were to place limits on the scope of private (Medigap) supplemental coverage that Medicare beneficiaries are permitted to purchase. However, such an approach would impose higher out-of-pocket costs on some beneficiaries who currently have first-dollar supplemental coverage, and the increases might be a heavy burden on other beneficiaries with lower incomes.

A series of Medicare demonstrations targeted to the relatively small number of beneficiaries who experience high health care spending on an ongoing basis has attempted to show that redundant and fragmented care and complications could be reduced by providing supplemental care coordination and care management services. Enhanced focus on the coordination and education needs of high-cost beneficiaries, however, has not yet produced replicable and scalable programs than can reliably constrain costs. Most such programs have not attempted to directly alter the care provided by physicians primarily responsible for patients’ care. Care coordination approaches that make better use of primary care physicians in a model characterized as a “patient-centered medical home” hold promise and will soon be tested.

Overall, then, Medicare has a mixed record with managing costs, with much greater success in limiting the unit payments it makes to providers than on limiting the utilization of services or reasonably restricting the services it pays for. Accordingly, there has been long-standing interest in seeing whether private health insurance plans can do a better job at cost containment than the traditional Medicare program.

Efforts to demonstrate that private health insurance plans could contribute to Medicare’s cost containment efforts began in the mid-1980s. Medicare began contracting with private plans—initially HMOs and more recently including PPOs and private FFS plans, together referred to as Medicare Advantage plans—with an explicit objective of reducing overall Medicare program spending. However, after two decades, evidence indicates that private plan contracting has consistently cost Medicare more, rather than less, than the traditional program. If private plans are to become an effective cost containment strategy, a different approach to paying them will be needed, such as enrolling high-cost Medicare beneficiaries in high-cost geographic areas, as suggested by MedPAC and CBO. However, political consensus to support changing the incentives and payments to Medicare Advantage plans has not been achieved.

In sum, there is considerable evidence that modest cost containment has been achieved in Medicare using various approaches, especially when growth in Medicare expenditures is compared to growth in private health care spending. At the same time, some approaches have shown potential for real cost containment but have failed to achieve that potential. These mixed results strongly suggest the need for an ongoing assessment and, where appropriate, revision of current and future strategies.

To develop, test, and refine strategies that effectively contain costs without unduly affecting beneficiary access to and quality of care, Medicare may need to relax stringent budget neutrality constraints that have routinely been imposed on demonstrations, as well as broader program changes. Instead, net investment of resources may be necessary, at least in the demonstration stage, to achieve long-term efficiencies and alter the slope of Medicare spending growth. Funding for such investments could be derived by redirecting savings from
successful Medicare cost containment efforts, such as fraud and abuse control. Of course, funding for demonstrations could also be derived from other sectors of the Medicare program, as well as from outside the Medicare program. In light of Medicare's track record on cost containment, as well as evidence from the private sector, new approaches to developing, testing, and funding innovative strategies deserve serious consideration.
REFERENCES


Cost Containment in Medicare: A Review of What Works and What Doesn’t


Cost Containment in Medicare: A Review of What Works and What Doesn’t


Cost Containment in Medicare: A Review of What Works and What Doesn’t


Cost Containment in Medicare: A Review of What Works and What Doesn’t


———. 1995. Memorandum to Health Staff, Managed Care and the Medicare Program.


———. 2003b. Cost Estimate: H.R. 1 and S. 1, (July 22), 38, fn.8


———. 2004b. CBO’s Analysis of Regional Preferred Provider Organizations under the Medicare Modernization Act. Washington, DC: CBO.


———. 2007e. Estimated Effect on Direct Spending and Revenues on H.R. 3162, the Children's Health and Medicare Protection Act, for the Rules Committee. Washington, DC: CBO.


Cutler, D., and M. McClellan. 2001. Is Technological Change in Medicine Worth It? Health Affairs 20:3.


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APPENDIX

INTERVIEWEES

Aubry, Wade (former carrier medical director and former chair of the Technology Advisory Committee)

Buto, Kathy (former CMS – Policy)

Cooper, Barbara (former CMS – Research and Demonstration)

DeParle Nancy-Ann (former CMS administrator)

Dowd, Bryan (director, Graduate Programs in Health Services Research, Policy and Administration, University of Minnesota)

Harrison, Scott (MedPAC staff)

Moon, Marilyn (health economist, former Medicare Trustee)

Mutti, Anne (MedPAC staff)

Newhouse, Joe (health economist, former MedPAC commissioner)

Scanlon, Bill (former GAO, current MedPAC commissioner)

Thomas, Sarah (MedPAC staff)

Thompson, Penny (former program integrity chief, CMS)

Thornton, D. McCarty (former general counsel, DHHS/OIG)

Tunis, Sean (former head of coverage policy, CMS)

Wynn, Mark (CMS demonstrations)

Zarabozo, Carlos (consultant to MedPAC)