

Mechanisms for Controlling Costs

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In Chapter 8, we discussed the general relationship between costs and health outcomes and explored the tension between "painful" and "painless" approaches to cost containment. In this chapter, we examine specific methods for controlling costs. Our emphasis is on distinguishing among the different types of cost control mechanisms and understanding their intent and rationale. We briefly cite evidence about how these mechanisms may affect cost and health outcomes.

Financial transactions under private or public health insurance (see Chapter 2, Figures 2-2, 2-3, and 2-4) may be divided into two components:

- (1) Financing, the flow of dollars (premiums or taxes) from individuals and employers to the health insurance plan (private health insurance or government programs), and
- (2) Reimbursement, the flow of dollars from insurance plans to physicians, hospitals, and other providers.

Cost control strategies can be divided into those that target the financing side versus those that impact the reimbursement side of the funding stream (Figure 9-1, Table 9-1).

FINANCING CONTROLS

Cost controls aimed at the financing of health insurance attempt to limit the flow of funds into health insurance plans, with the expectation that the plans will then be forced to modify the "outflow" of reimbursement. Financing controls come in two basic flavors—regulatory and competitive.

Regulatory Strategies

Dieter Arbeiter, a carpenter in Berlin, Germany, is enrolled in one of his nation's health insurance plans, the "sick fund" operated by the Carpenter's Guild. Each month, Dieter pays 7% of his wages to the sick fund and his employer contributes an equal 7%. The German federal government regulates these payroll tax rates. When the government proposes raising the rate to 8%, Dieter and his coworkers march to the parliament building to protest the increase. The

government backs down, and the rate remains at 7%. As a result, physician fees do not increase that year.

In nations with tax-financed health insurance, government regulation of taxes serves as a control over public expenditures for health care (Glaser, 1991). This regulatory control is most evident when certain tax funds are earmarked for health insurance, as in the case of the German health insurance plans (see Chapter 14) or Medicare Part A in the United States. Under these types of social insurance systems, an increase in expenditures for health care requires explicit legislation to raise the rate of earmarked health insurance taxes. Public antipathy to tax hikes may serve as a political anchor against health care inflation.

President Clinton's 1994 health care proposal (which never passed) called for government regulation of health care costs. Unlike the process in most nations, the President's plan would have attempted to control financing not by limiting tax rates but rather through government regulation of premiums paid to private health insurance plans (Starr and Zelman, 1993).

Competitive Strategies

An alternative United States proposal for containing health costs attempts to control the financing flow through a competitive strategy rather than through regulation. The basic premise of competitive financing strategies is to make employers more cost-conscious in their purchasing decisions. Health insurance plans would be encouraged to compete on the basis of price, with lower-cost plans being rewarded with a greater number of enrollees. Instead of having a government agency regulate financing by controlling tax rates for publicly financed insurance or by regulating the premiums charged by private insurance plans, the competitive market would pressure plans to restrain their premium prices and overall costs.

Giovanni Costa works for General Auto (GA). It is 1985, and he and his family have Blue Cross health insurance that covers most services provided by the health care provider of his choice, with no deductible. Giovanni does not know how much his health plan

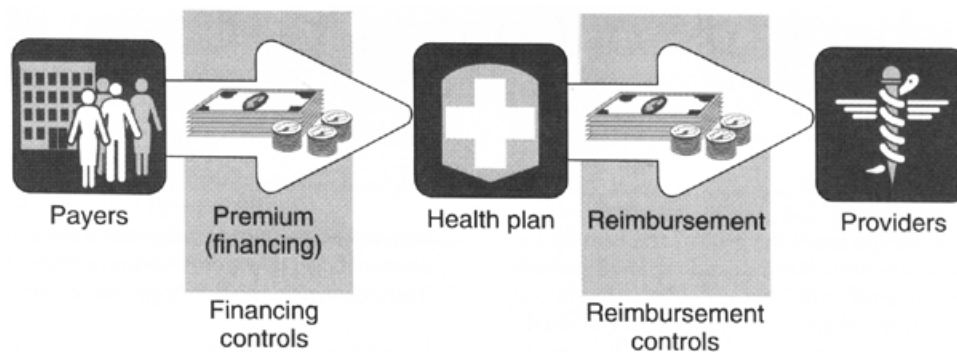


Figure 9-1. Cost control mechanisms may be applied to both the financing and reimbursement components of health care spending under a system of health insurance.

costs, because GA pays the premium. Once Giovanni asked his friend in the employee benefits department whether the company was worried about the costs of health insurance. "It's a problem," Giovanni was told, "but it's not too bad because our health insurance premiums are tax deductible for the company. Also, if we gave you higher wages you'd have to pay taxes on those wages, but if we give you better health care coverage, you don't pay taxes on the value of that coverage. So we're both better off by providing generous health care benefits. When it comes right down to it, the government's paying a portion of those premium"

When considering competitive strategies that attempt to make purchasers more price-sensitive, it is important to consider who the purchaser of health insurance really is. For employment-based health insurance, is the put-

premiums as an expense to the employer rather than as a cost borne by themselves. In fact, many employees might receive higher wages if the costs of health insurance were lower, but employees do not generally perceive health insurance benefits as foregone wages.

Moreover, the federal policy of treating health care benefits as nontaxable to both employee and employer makes it in the employee's financial interest to receive generous health care benefits and reduces the burden of paying for such benefits for the employer. A dollar contributed directly by the employer to a health plan goes farther toward the purchase of health insurance than a dollar in wages that is first taxed as income and then spent by the employee for health insurance. This dynamic has shielded employees from the real price of health insurance and given employees little incentive to be cost-conscious consumers when selecting an insurance plan.

For employers, inflation of health insurance premiums in the 1950s and 1960s was an acceptable part of doing business when the economy was booming and health insurance costs consumed only a small portion of overall business expenses. However, as health insurance costs continued to spiral upward and economic growth

slowed in the 1980s, employers became more active in their approach to health insurance (see Chapter 16).

Table 9-1. Categories of cost controls.

Financing controls
Regulatory: limits on taxes or premiums
Competitive
Reimbursement controls
Price controls
Regulatory
Competitive
Utilization (quantity) controls
Aggregate units of payment: capitation, DRGs, global budgets
Patient cost sharing
Utilization management
Supply limits
Mixed controls

chaser the employer selecting which health plans to offer employees, or is it the individual employee deciding to enroll in a specific plan? As in the case of Giovanni Costa and GA, the answer is often "both": GA selects which plans to offer employees and what portion of the premium to subsidize, and Giovanni chooses a particular plan from those offered by GA.

Historically, several factors have blunted both employers' and employees' consideration of price in the purchase of health insurance (Enthoven, 1993). For employees, the fact that employers usually write the check to purchase employees' private health insurance has insulated insured employees from the costs of insurance. Employees view health insurance

It is 1995, and GA now offers Giovanni Costa three choices of health insurance plans: The health maintenance organization (HMO) plan costs \$200 per month, with GA paying 80% and Giovanni paying 20%; the preferred provider organization (PPO) plan is worth \$300 per month; and the fee-for-service plan runs \$400 a month. If Giovanni chooses the HMO plan, GA pays \$760 (80%) and Giovanni pays \$40 (20%). If Giovanni signs up for the \$300 PPO plan, GA still pay \$760 (80% of the lowest-cost plan) and Giovanni must pay \$740. If Giovanni wants to choose the fee-for-service plan, GA pays only \$760 and Giovanni pays \$240. GA has negotiated with all 3 of its health plans that premium levels will be frozen at their 1995 rates for the next 3 years. A fourth plan formerly offered by GA refused to agree to this stipulation, and GA dropped this plan from its portfolio of employee benefits.

The competitive approach to health insurance financing, increasingly unfolding in the United States, encourages price-sensitive purchasing by both employer and employee. For employers, the competitive strategy calls for businesses to become more aggressive in their negotiations with health plans over premium rates. Employers bargain more actively with health plans and offer employees only plans that keep their rates below a certain level. Moreover, employers make employees more cost-aware when selecting a health plan by limiting the amount of the insurance premium that the employer will pay. Rather than paying all or most of the premium, many employers offer a fixed amount of insurance subsidy often indexed to the cost of the cheapest health plan--and compel employees selecting more costly plans to pay the extra amount. Economist Alain Enthoven, one of the chief proponents of the competitive approach, has called this strategy managed competition" (Enthoven and Kronick, 1989). The strategy is also known as the "defined contribution" approach (Chapter 16).

Is the evolving competitive approach succeeding at controlling costs? As noted in Chapter 8, the rate of growth of overall United States health care costs slowed between 1992 and 1998 during a period when many employers (and some government agencies) were adopting a more competitive approach to financing health insurance. Growth in insurance premiums appears to have been slower in more competitive markets within the United States (Zwanziger and Melnick, 1996). Some large employers in states such as California extracted concessions from major HMOs to lower their premiums in the mid1990s (Enthoven and Singer, 1996). To be consistent with the spirit of making employees more "price-sensitive" by shouldering a greater portion of the premium cost, employers are subsidizing less of their employees' premiums. From 1990 to 1995, the percentage of the health insurance premium paid by employees for family coverage increased from 28% to 34% (Gabel et al, 2001).

Critics of competition argue that insurance companies will inevitably behave in ways that will defeat the market's ability to produce a more efficient and less costly health care system. These critics believe that insurance plans will continue to find it easier to compete by "gaming" the market through selection of low-cost enrollees rather than by disciplining providers to deliver a lower-cost, higher-quality "product." A marketplace dominated by a few large HMO conglomerates is viewed as creating a health insurance company oligopoly that will have the upper hand in price negotiations with employers and other purchasers and preclude true competition (Relman, 1993; Rice et al, 1993).

Two things can be said about managed competition in the 1990s: (1) It was never widely adopted in the U.S. In 1997, only 28% of employers required employees to pay the extra cost of higher-priced health plans. (2) It is not clear that managed

competition actually reduces costs (Marquis and Long, 1999). In 1998, health care costs resumed their upward trend demonstrating that the 1992 to 1998 cost slowdown was a temporary phenomenon. Much of the competition occurring in the United States is of the "unmanaged" variety, with little choice for employees, few ground rules for health plans, and scant data to help employers distinguish whether lower-cost plans are more efficient or are simply more successful at skimming off healthy enrollees.

If competition could succeed at containing costs, would the outcome be painful or painless cost control? A fundamental concern about market-oriented reforms is that whatever pain maybe produced in terms of compromised health status would be experienced most acutely by individuals with lower incomes. Under competition, individuals with higher incomes would be the ones most likely to pay the extra premium costs to enroll in more expensive health plans, while individuals of lesser means could not afford the extra premiums and would be relegated to the lower-cost plans. If the differential in premium prices across plans were large, enrollees in low-cost plans might experience inferior quality of care and health outcomes.

The Weaknesses of Financing Controls

For cost controls-whether regulatory or competitive on the financing side of the health care equation to be successful, these strategies ultimately must produce reductions in the flow of funds on the reimbursement side. A government may try to limit the level of taxes earmarked for health care. However, if payments to physicians, hospitals, and other providers continue to grow at a rapid clip, the imbalance between the level of financing and level of reimbursement will produce budget deficits and ultimately force the government to raise taxes. Similarly, under competition, health insurers will attempt to hold down premium increases in order to gain more customers, but if these health plans cannot successfully control what they pay to hospitals, physicians, pharmacies, and other providers, then insurers will be forced to raise their premiums and competitive relief from health care inflation will prove elusive, as evidenced by the resurgence of health cost inflation seen in the late 1990s. It is on the reimbursement side of the equation that the rubber meets the road in health care cost containment. Governments in nations with publicly financed insurance programs do not simply regulate health care financing but are actively involved in controlling provider reimbursement. Competition would place the onus on private health insurance plans-rather than a public agency-to regulate reimbursement costs. We now turn to an examination of the options available to private insurers or government for controlling the flow of funds in the reimbursement transaction.

REIMBURSEMENT CONTROLS

In Chapter 8, we distinguished between the "Ps" and "Qs" of health care costs: prices and quantities. Because cost equals price multiplied by quantity

$$C = P \times Q$$

strategies to control costs on the reimbursement side can primarily target either prices or quantities (see Table 9-1).

Price Controls

Under California's fee-for-service Medicaid program, Dr. Vincent Lo's reimbursement for a routine office visit has remained at \$76 for the past 5 years.

The Medicare program reduced Dr. Ernesto Ojo's fee for cataract surgery from \$1600 to \$900.

Instead of paying all hospitals in the area the going rate for MRI brain scans (\$7200), Apple a Day HMO contracts only with those hospitals who agree to perform scans for \$800, and will not allow its patients to receive MRIs at any other hospital.

Metropolitan Hospital wants a contract with Apple a Day HMO at a per diem rate of \$1400. Because Apple a Day can hospitalize its patients at Crosstown Hospital for \$77000 day, Metropolitan has no choice but to reduce its per diem rate to Apple a Day to \$1100 in order to get the contract. In turn, to make up the \$300 per day shortfall, Metropolitan increases its charges to several other private insurers.

In Canada and most European nations, a public or quasipublic agency regulates a uniform fee schedule for physician and hospital payments. Often, negotiations occur between the payers ("payer" is a general term that includes both purchasers and insurers—see Chapter 16) and professional organizations in establishing these fee schedules (Glaser, 1991; Evans et al, 1989). Payer-determined fee schedules have been less common in the United States, although as discussed in Chapter 4, Medicare, Medicaid, and many private insurance plans have replaced "usual, customary, and reasonable" physician fee screens with predetermined prices for particular services. Competitive approaches to controlling prices have also been attempted in the United States. In the 1980s, California initiated competitive bidding among hospitals for Medicaid contracts, with contracts awarded to hospitals offering lower per diem charges. Many private insurance plans have also used competitive bidding to bargain for reductions in physician and hospital fees.

Controlling prices has produced some limited

success at restraining the growth of overall health care expenditures. The slower rate of increase in physician costs in Canada compared with that of the United States has been attributed to the regulation of physician fees in Canada (Evans et al, 1989; Hughes, 1991; Welch et al, 1996). In the U.S., states with either highly regulated or highly competitive approaches to controlling the prices of hospital services have experienced slower rates of overall hospital cost inflation than states with neither type of cost containment strategy (Robinson and Luft, 1988; Zwanziger and Melnick, 1996). Two major problems limit the potency of price controls for containing overall costs, however, particularly when prices are regulated at the fee-for-service level.

(1) The first problem occurs when price controls are implemented in a piecemeal fashion by different payers. Providers, like Metropolitan Hospital, often respond to price controls imposed by one payer by increasing charges to other payers with less restrictive policies on fees—a phenomenon known as "cost shifting." The cost-shifting problem may be avoided when a uniform fee schedule is used by all payers (as in Germany) or by a single payer (as in Canada). Cost shifting may also be attenuated by a highly competitive market in which payers are equally intent on negotiating lower prices, limiting the number of plans willing to absorb higher prices to offset discounts awarded to other payers.

(2) Even under uniform fee schedules, increases in quantities may continue to drive up costs. Moreover, there is evidence that the volume and intensity of services increase particularly rapidly when prices are strictly controlled, leading some analysts to conclude that providers respond to fee controls by "inducing" higher use of services in order to maintain earnings (Rice and Labelle, 1989).

Price controls have the appeal of being a relatively painless form of cost control insofar as they do not limit the quantity of services provided. However, lack of uniformity in the application of fee schedules may compromise access to care for certain populations; Medicaid fee-for-service rates to physicians are far below private insurance rates in most states, making it difficult for many Medicaid patients to find private physicians willing to care for them. In nations with uniform fee schedules, concerns have been voiced that unmitigated ratcheting down of fees may result in patient churning (high volumes of brief visits), with a consequent deterioration in quality of care and patient satisfaction.

Utilization (Quantity) Controls

Because the effectiveness of price controls is limited by inflationary pressures from increases in the

quantity of services, payers need to consider methods for containing the actual use of services. As indicated in Table 9-1, there are a variety of methods for attempting to control use. We begin by examining one strategy, changing the unit of payment, that we introduced in our review of physician and hospital reimbursement (Chapter 4). We then describe additional mechanisms that attempt to restrain the quantity of services.

CHANGING THE UNIT OF PAYMENT:

Dr. John Wiley is upset when the PPO reduces his fee from \$35 to \$30 per visit. In order to maintain his income, Dr. Wiley lengthens his day by half an hour so he can schedule more patient visits.

Dr. Jane Stuckey is angry when the HMO reduces her capitation payment from \$12 to \$10 per patient per month. She is unable to maintain her income by seeing more patients because more patient visits do not bring her any more money. She hopes that more HMO patients will enroll in her practice so that she can receive more capitation payments.

One simple way to get a handle on the quantity factor is by redefining the unit of payment. In Chapter 4, we discussed how services may be bundled into more aggregate units of payment, such as capitated physician payment and diagnosis-related group (DRG) "episode of care" hospital payment. The more bundled the unit of payment, the more predictable the quantity tends to be. For example, in the case of Dr. Wiley receiving fee-for-service payment, there is a great potential for costs to rise due to increases in the number of physician visits, surgical procedures, and diagnostic tests. When the unit of payment is capitation, as in the case of Dr. Stuckey, the quantity factor is not the number of visits but rather the number of individuals enrolled in a practice or plan. From a health plan's perspective, the $C = P \times Q$ formula still applies when paying physicians by capitation, but now the "P" is the capitation fee and the "Q" is the number of individuals covered. Other than by raising birth rates, physicians have little discretion in inducing a higher volume of "quantities" at the capitation level for the health care system as a whole. Similarly, under global budgeting of hospitals, P represents the average global budget per hospital and Q is the number of hospitals.

Shifting the unit of payment to a more aggregated unit has obvious appeal as a way for third-party payers to counter cost inflation due to the quantity factor. Life is never so simple, however. In Chapter 4, we discussed how more aggregate units of payment shift financial risk to providers of care. Another way of describing this shifting of risk is that one person's solution to the quantity problem becomes another person's new

quantity problem. A hospital paid by global budget instead of by fee-for-service now must monitor its own internal quantities of service lest these quantities drive hospital operating costs over budget. To the extent that providers are unsuccessful in managing resources under more global forms of payment, pressures mount to raise the prices paid at these more aggregated payment units.

Changes in policies for units of payment rarely occur independent of other reforms in cost control strategies, making it difficult to isolate the specific effects of changing the unit of payment. For example, physician capitation usually occurs in the context of other organizational and cost control features within a managed care plan. One large study of nearly 300 HMOs used statistical techniques to attempt to isolate the effects of different units of physician payment from the effects of other HMO characteristics (Hillman et al, 1989). The study found that compared with fee-for-service reimbursement, both capitation and salaried forms of payment were associated with lower HMO hospitalization rates. Most well-controlled studies of physician payment have tended to find that physicians practice a less costly style of medicine when paid by capitation rather than by fee-for-service (Hellinger, 1996).

For hospital payment, there is some evidence that changing Medicare hospital payments from a fee-for-service to an episode-of-care unit under the DRG-based prospective payment system in 1983 resulted in a modest slowing of the rate of increase in Medicare Part A expenditures (Russell and Manning, 1989). Some of these savings were offset by a shifting of costs to the outpatient and nursing home sector, however, blunting the ultimate effectiveness of this strategy for overall cost control. Many analysts consider that the Canadian and European strategy of global hospital budgeting has been a key element of these nations' relative success at containing hospital costs or at least maintaining a slower rate of growth than that in the United States (Evans et al, 1989; U.S. General Accounting Office, 1991; Glaser, 1991).

The health care system in Germany and in some Canadian provinces has countered the open-ended dynamic of fee-for-service payment by introducing global budgeting, called expenditure caps, for physician payment (U.S. General Accounting Office, 1991; Barer et al, 1996). Under Canadian expenditure caps, a budget is established for all physician services in a province. Although individual physicians continue to bill the provincial health plan on a fee-for-service basis, if increases in the use of services cause overall physician costs to exceed the budget, fees are reduced (or fee increases for the following year are sacrificed) to stay within the expenditure cap. The intent is to create an incentive for physicians to cooperate in restraining the quantity of services provided, lest fees be reduced across the board to all physicians. In the United States, the Medicare program adopted a less stringent version of an expenditure cap for physician fees, known as the "volume performance standard."

The types of regional expenditure caps for physician payments used in Germany and some Canadian provinces in effect allow the payer to focus on the aggregate "C" part of the equation—in this case, the total regional physician budget. A large portion of the responsibility for "solving" the right side of the equation—balancing the Ps of physician fees and the Qs of volume of services to remain within the expenditure cap—falls to physicians and their professional associations. Evidence from Canada suggests that implementation of expenditure caps was associated with stabilization of physician costs in the mid-1990s (Barer et al, 1996).

No studies have measured the independent effect on health outcomes of changing the unit of payment to physicians. More scrutiny has been directed at the Medicare system of DRG hospital payment. A comprehensive study determined that quality of hospital care and health outcomes actually improved slightly from the pre-DRG to post-DRG period, although concerns remained that patients were being discharged in less stable condition in the post-DRG period (Rogers et al, 1990). One final aspect of cost containment bears mentioning in the context of changing the unit of payment. As discussed in Chapters 4 and 5, many managed care plans in the United States not only changed the unit of payment (eg, shifted from fee-for-service to capitation payment for physicians), but they also incorporated additional financial incentives into physician payment in the form of income bonuses indexed to performance in holding down costs for referral services, hospital care, and related items. There is little evidence about the degree to which these financial incentives actually reduce use of services, much less about how they affect patient outcomes (Hellinger, 1996). One recent study suggests that these incentives may be associated with lower costs (Kralewski et al, 2000).

PATIENT COST SHARING.

Randy Payton has an insurance policy with a \$7000 deductible and 20% copayment for all services; if he incurs medical expenses of \$6000, he pays the first \$7000 plus 20% of \$5000, for a total of \$2000.

Joseph Mednick's insurance does not cover prescription drugs; because he suffers from diabetes, hypertension, and coronary artery disease, his multiple medications cost him \$7200 per year.

Cost sharing refers to making patients pay directly out of pocket for some portion of their health care. In managed competition, cost sharing occurs as part of the financing transaction at the point of purchasing a health insurance plan. In this section, we discuss the more traditional notion of cost sharing—using deductibles, co-payments, and uncovered services as part of the reimbursement

transaction to make patients pay a share of costs at the point of receiving health care services. Cost sharing at the point of service reintroduces the process of out-of-pocket payments directly from the patient to the provider of care, bypassing the "third party" insurance plan (see Chapter 2).

The intent of cost sharing at the point of service is to discourage patients' demand for services. As discussed in Chapter 3, when individuals have insurance coverage, they are more likely to use services than when they have no insurance. While protection against individual financial risk is one of the essential benefits of insurance, insurance coverage removes the market restraint on costs that occurs in a system of out-of-pocket payment. The goal of cost sharing is to reintroduce a sufficient degree of out-of-pocket payment to make individuals more cost conscious in their use of services while preserving a role for insurance coverage to protect against major or catastrophic out-of-pocket expenses.

Cost sharing at the point of service has been one of the few cost containment devices subjected to the rigorous evaluation of a randomized, controlled experiment. In the Rand Health Insurance Experiment, individuals were randomly assigned to health insurance plans with varying degrees of cost sharing. Individuals with cost-sharing plans made about one-third fewer visits and were hospitalized one-third less often than individuals randomized to the plan with no cost sharing (Newhouse et al, 1981).

Although the randomized, controlled trial provides an excellent laboratory for scrutinizing the effect of a single cost containment mechanism, some observers have cautioned that these types of "in vitro" analyses may produce results that cannot be generalized to the "in vivo" world of health policy. For example, the United States has one of the highest levels of cost sharing of any nation and also the highest overall costs. Studies have found that when cost sharing begins to produce lower use of services for a large population of patients rather than for a small number of patients in an experiment, providers may adjust their practices to keep busy and increase the volume of services provided to patients more able to pay or with better Insurance coverage (Beck and Home, 1980; Fans, 1992).

The Rand experiment also evaluated the influence of cost sharing on appropriateness of care and health outcomes. Cost sharing did not reduce medically inappropriate use of services selectively, but equally discouraged use of appropriate and inappropriate services (Siu et al, 1986). The studies by Rand and others, cited in Chapter 3, demonstrate that people (especially those with low incomes) whose insurance plans require cost sharing receive less preventive services and have poorer hypertension control than people without cost sharing (Brook et al, 1983). Recent studies have shown that elderly patients are less likely to purchase needed medications under cost-sharing policies, and that failure to obtain these needed

medications leads to higher rates of serious adverse outcomes such as hospitalization and placement in a nursing home (Blustein, 2000; Tamblyn et al, 2001). These studies suggest that cost sharing is not a "painless" form of cost control.

Recent studies have examined cost sharing for emergency department care in two large HMOs (Selby et al, 1996; Magid et al, 1997); cost sharing reduced inappropriate use of emergency services without adversely affecting appropriate use or patients' health outcomes. The authors of these studies suggested that cost sharing maybe a painless form of cost control when it is used in modest amounts, not applied to low-income patients, and designed to encourage patients to use lower-cost alternative sources of care (eg, clinics instead of emergency departments) rather than to discourage use of services altogether.

UTILIZATION MANAGEMENT (U M):

Thelma Graves suffers from a severe hyperthyroid condition; she and her physician agree that she will undergo thyroid surgery. Before scheduling the surgery, the physician has to call Ms. Graves' insurance company to obtain preauthorization, without which the insurer will not pay for the surgery.

Fred Brady is hospitalized for an acute myocardial infarction. The hospital contacts the utilization management firm for Mr. Brady's insurer, which authorizes 5 hospital days. On the fourth day, Mr. Brady develops a heart rate of 36 beats/mm, requiring the insertion of a temporary pacemaker and prolonging the hospital stay for 10 extra days. After the fifth hospital day, Mr. Brady's physician has to call the UM firm every 2 days to justify why the insurer should continue to pay for the hospitalization.

Derek Jordan has juvenile onset diabetes and at age 42 becomes eligible for Medicare due to his permanent disability from complications of his diabetes. He is admitted to the hospital for treatment of a gangrenous toe. Under Medicare's DRG method of payment, the hospital receives the same payment for Derek's hospitalization regardless of whether it lasts 2 days or 72 days. Therefore, the hospital wants Derek's physician to discharge Derek as soon as possible. Each day, a hospital UM nurse reviews Derek's chart and suggests to the physician that Derek is no longer acutely ill and no longer requires acute hospitalization. The hospital keeps computerized profiles on physician practice patterns, and those doctors whose average patient length of stay exceeds the expected number of days are warned and placed under even tighter UM inspection.

Utilization management involves the surveillance of and intervention in the clinical activities of physicians for the purpose of controlling costs. long a feature of Medicare and Medicaid, in recent years UM has become one of the rapidly proliferating cost containment mechanisms used by private managed care insurance plans (Grumbach and Bodenheimer, 1990). In contrast to cost sharing, which attempts to restrict health care use by influencing patient behavior, UM seeks to influence physician behavior. The mechanism of influencing physician decisions is simple and direct: denial of payment for services deemed unnecessary.

UM is related to the unit of payment in the following way: Whoever is at financial risk (see Chapter 4) performs UM. Under fee-for-service reimbursement, insurance companies perform UM to reduce their payments to hospitals and physicians. The DRG system induces hospitals, at risk for losing money if their patients stay too long, to perform UM. Under an HMO capitation contract with a primary physician group, the physicians conduct UM such that more of the capitation fee goes to primary care physician incomes rather than to laboratory or specialist fees. If an HMO pays a hospital a per diem rate, the HMO may send a UM nurse to the hospital each day to review whether the patient is ready to go home. If an HMO pays a hospital by capitation, the hospital, rather than the HMO, is at risk and performs UM.

Micromanage, Inc., performs UM for several insurance companies. Each day, Rebecca Hasselbach reviews the charts of each patient hospitalized by these insurers to determine whether the patients might be ready for discharge. In some cases, Ms. Hasselbach discusses the case with her medical director and with the patient's attending physician. Usually, if the attending physician wants the patient to remain in the hospital, his or her opinion is honored. By pushing for early discharges, Ms. Hasselbach, her Micromanage colleagues around the country, and the medical director save their insurers about \$500,000 each year. The annual cost of the UM operation is \$495,000.

Although a few case studies of UM have shown some short-term reduction in rates of hospitalization and surgery, there is little evidence that this approach yields substantial savings overall on a long-term basis, particularly when the overhead of administering the UM program itself is taken into account (Wickizer, 1990). UM, if successful at containing costs, would appear to be a painless form of cost control because it intends to selectively reduce inappropriate or unnecessary care. However, studies have shown that authorization decisions are not reliably based on objective, standardized evaluations of the appropriateness of care. Reviewers often make decisions on a case-by-case basis without explicit guidelines or criteria, with the

result that decisions are frequently inconsistent both between different reviewers for the same case and among the same reviewer for different cases (Dippe et al, 1989; Light, 1994; Kerr et al, 1995).

UM has come under fire as a process of "micro-management" of clinical decisions that intrudes into the physician-patient relationship and places an unwelcome administrative hassle on physicians and other caregivers. Physicians in the United States have been called the most "second-guessed and paperwork4aden physicians in western industrialized democracies" (Lee and Etheredge, 1989). Substantial physician time goes into appealing denials and persuading insurers on the appropriateness of services delivered. Some physicians write long notes in the patient chart, not to document a medical condition and its treatment, but to justify reimbursement. Many physicians feel that UM has turned the U.S. health care system into a giant game of "Mother May I?"

Several approaches to UM have been developed that attempt to avoid some of the onerous features of case-by-case utilization review. Practice profiling, rather than focusing on individual cases, uses summary data on practice patterns to identify physicians whose overall use of services significantly deviates from the standards set by other physicians in the community (Welch et al, 1994). Physician outliers identified by practice profiling are then subject to various interventions. In Canada and Germany, these interventions consist of educational and monitoring activities performed by regional medical societies (Glaser, 1991). The difficulty with practice profiles is that the data from them are frequently inaccurate, leading physicians to distrust the profiles rather than learn from them (Bindman, 1999). In the United States, some managed care plans use practice profiling to "economically credential" physicians, offering contracts only to those whose practice patterns conform to the plan's cost control objectives.

Establishing a primary care "gatekeeper" may also be viewed as a different approach to UM (see Chapter 6). Under managed care, it is difficult to disentangle the effect of having a physician to coordinate care from the many financial incentives that are often associated with gate-keeping arrangements. Nevertheless, the coordination function in and of itself, even in a financially neutral environment, might reduce inappropriate self-referral for specialist services. However, in practice, gatekeeper systems only reduce costs by 1-2% (Bodenheimer et al, 1999).

The least intrusive forms of UM involve general educational activities and feedback on practice patterns without attendant disciplinary measures. In general, these voluntary approaches have not been shown to have a measurable impact on containing costs (Greco and Eisenberg, 1993). Because the provision of inappropriate quantities of care, whether too much or too little, often has quality-of-care implications (see Chapter 12), UM and quality improvement activities often overlap.

SUPPLY LIMITS:

Harry is a patient enrolled in the Kaiser Health Plan in Los Angeles. He develops back pain, has several visits to his family physician, but wants an MRI of his spine to rule out a herniated intervertebral disc. His physician refuses his request because, given the limited number of MRI scanners for Kaiser's enrolled population, Harry's physical findings are not sufficiently severe to warrant an MRI scan under Kaiser's criteria.

Larry sustains a football injury causing intense back pain with radiation to the leg. He goes to Kaiser's urgent care clinic and is found to have loss of sensation, strength, and the deep tendon reflex in his left leg. The Kaiser physician prescribes complete bed rest and arranges for an urgent MRI scan in 3 days.

Bob is a patient in the Canadian province of Alberta. He develops back pain, and after several visits to his family physician requests an MRI of his spine to rule out disk disease. His physician, who does not suspect a disk herniation, agrees to place him on the waiting list for an MRI, which for non-urgent cases is 5 months long.

Rob lives in Alberta and, after lifting an 80-pound load at work, experiences severe lower back pain radiating down his right leg. Finding a positive straight-leg-raising test on the right with loss of the right ankle reflex, his family physician calls the radiologist and obtains an emergency MRI scan within 3 days.

Supply limits are controls on the number of physicians and other caregivers and on specific material resources such as the number of hospital beds or MRI scanners. Supply limits can take place within a specific institution such as an HMO in the United States (the example of Harry and Larry), or for an entire geographic region such as a Canadian province (the example of Bob and Rob).

There is evidence that the quantity of services provided correlates with the supply of physicians, a phenomenon known as "supplier-induced demand" (Evans, 1984; Rice and Labelle, 1989). A greater number of surgeons in a geographic area, for example, has been associated with more operations performed in that area (Bunker, 1970; Wennberg and Gittelsohn, 1973). Controlling physician supply may reduce use of physician services and thereby contribute to cost containment.

The principle of supplier-induced demand pertains to material capacity as well as to physician supply. Some studies have shown that hospital days per capita are higher in geographic areas with more per capita hospital beds; the maxim that "empty

beds tend to become filled" has been known as "Roemer's law" (Roemer and Shain, 1959). Conversely, strictly regulating the number of centers allowed to perform open heart surgery establishes a limit for the total number of cardiac operations that can be performed. In situations of limited supply, physicians must determine which patients are most in need of the limited supply of services. Ideally, those truly in need gain access to appropriate services, with physicians possessing the wisdom to distinguish those patients truly in need (Larry and Rob) from those not requiring the service (Harry and Bob). In less ideal circumstances, the supply of resources cannot accommodate all needy patients, and physicians and other caregivers are forced to prioritize patients based on degree of medical need (see Chapter 13).

Most of the evidence that limiting supply succeeds in controlling costs derives from observational studies that compare different geographic regions and demonstrate that use of services is related to the availability of physicians, hospital beds, and technologies (Wennberg and Gittelsohn, 1973; Fisher et al, 2000). In some cases, research has failed to detect a strong association between supply and costs (Folland and Stano, 1990). Although there may not always be a directly linear relationship between supply and use of services, there are clear instances in which limitations of capacity restrain use. For example, international comparisons demonstrate large variations in use of coronary artery bypass surgery, with a relatively low rate of surgery in the United Kingdom, an

intermediate rate in Canada, and the highest rate in the United States. These rates correspond to the degree to which these nations regulate (minimal in the case of the United States) the number of centers performing cardiac surgery (McPherson, 1989; Rublee, 1994). Studies in the United States have found that patients admitted with myocardial infarction (MI) receive different treatments, depending on whether they are admitted to hospitals with cardiac catheterization and surgery units. Those admitted to hospitals with such units are far more likely to receive coronary artery angiography or bypass surgery than MI patients who are admitted to hospitals without such units (that must transfer patients to other facilities to perform these procedures) (Blustein, 1993; Every et al, 1993).

A few studies have examined how supply constraints may affect health outcomes. One of the studies of MI patients mentioned above found that outcomes were as good for patients admitted to hospitals without cardiac catheterization units as for those admitted to hospitals with this capability, despite the lower use of cardiac procedures for the former group of patients (Every et al, 1993). A "natural experiment" in supply restriction took place in a hospital when a nursing shortage abruptly reduced the number of staffed intensive care unit beds from 18 to 8 (Singer et al, 1983). For patients admitted to the hospital for chest pain, physicians became more selective in admitting to the intensive

care unit only those patients who actually suffered MIs. Limiting use of ICU beds did not result in any adverse health outcomes for patients admitted to non-intensive care unit beds, including those few non-intensive care unit patients who actually sustained MIs. These studies suggest that physicians, when faced with supply limits, may be able to prioritize patients on clinical grounds in a manner that selectively reduces unnecessary services. Establishing supply limits that require physicians to prioritize services based on the appropriateness and urgency of patient need represents a very different (and less intrusive) approach to containing costs than UM, which relies on external parties to authorize or deny individual services in a setting of relatively unconstrained capacity.

CONTROLLING THE TYPE OF SUPPLY:

A specific form of supply control is regulation of the *types (rather than the total number)* of providers. Chapter 6 explored the balance between the number of generalist and specialist physicians in a health care system. Increasing the proportion of generalists may yield savings for two reasons (Grumbach and Lee, 1991). First, generalists earn lower incomes than specialists. Second, and of greater impact for overall costs, generalists appear to practice a less resource-intensive style of medicine and generate lower overall health care expenditures, including less use of hospital and laboratory services (Greenfield et al, 1992). Studies have also indicated that nurse practitioners and physician assistants can effectively perform many of the tasks of the primary care provider at a lower cost than physicians (Greenfield et al, 1978; Mundinger, 1994).

MIXED CONTROLS

In the real world, cost containment strategies are applied not as isolated phenomena in a static system but as an array of policies concerned with modes of financing, patterns of medical care delivery, and cost control all mixed together. We now turn to two case studies that exemplify a mixture of cost containment methods: United States managed care and the Canadian health care system.

Managed Care in the United States

"Managed care" refers to a heterogeneous array of health insurance plans that differ to greater or lesser degree from traditional health insurance. Previously (see Chapters 4, 5, and 7), we have discussed how managed care plans may be characterized in terms of their organizational structures and methods for reimbursing providers. Yet another vantage point from which to categorize managed care plans is their approach to cost containment (Table 9-2).

PPO plans differ the least from traditional "unman-aged" health insurance. To control costs,

PPOs rely on measures such as utilization management and price discounts for fee-for-service payments to physicians and hospitals. Individual practice association (IPA) and network forms of HMOs often alter the unit of payment to a more bundled level as an additional cost containment strategy, usually in association with the requirement that patients select a primary care gatekeeper who may practice an "economical" style of medicine.

Table 9-2. Managed care cost control strategies.

Preferred Provider Organization
Price controls
Utilization management
Patient cost sharing
Independent Practice Association- Network HMOs
Price controls
Utilization management
Gatekeeping
Changing unit of payment to capitation
Regulating supply via selective contracting
Group and staff model HMOs
Changing unit of payment to salary and global budgets
Supply controls
Administrative simplicity

Group and staff model HMOs, by dint of their more fundamental reorganization of the delivery system, wield additional cost control weapons. Because of their more integrated relationship with physicians and hospitals, these plans tend to pay providers using the most aggregated units of payment possible (ie, salaries for physicians and global budgets for hospitals). These HMOs also introduce supply controls as a major cost containment device. Most group and staff model HMOs plan their hospital bed and physician supply on the basis of explicit targets for bed-to-enrollee and physician-to-enrollee ratios. They may also limit the number of costly resources such as MRI scanners.

EFFECT ON COSTS:

One of the most contentious issues in contemporary health policy in the United States is whether managed care health plans truly control costs more effectively than do non-managed care plans. Research on this topic is beset with methodological

problems, including difficulties in measuring differences in underlying medical risk among plan enrollees; accounting fully for all spending, including administrative overhead and out-of-pocket expenses by patients; standardizing benefits covered by different plans; and tracking costs over time. There is general agreement that, compared with traditional non-managed insurance plans, HMOs use fewer resources for hospital care, because of lower hospitalization rates. Although many studies have found that outpatient services are used more frequently in HMOs, this higher rate of use does not appear to fully offset reductions in inpatient care (Luft, 1978; Miller and Luft, 1994).

Attempting to avoid some of the methodologic problems, the Rand Health Insurance Experiment randomly assigned individuals to an HMO or a traditional insurance plan. The Rand study found that overall costs were about 25% lower for individuals enrolled in the HMO (Manning et al, 1984). Many analysts caution against generalizing from the Rand study because the experiment included only a single HMO plan, Group Health Cooperative of Puget Sound. A staff model HMO founded in 1947 as a consumer cooperative, Group Health is not representative of most of the managed care plans that proliferated during the 1980s.

A comprehensive review of managed care performance concluded that the research "does not provide policy makers with adequate bottom-line estimates of expenditure differences per enrollee compared with indemnity [traditional insurance] plans," but only suggests possible cost savings among managed care plans (Miller and Luft, 1994). A U.S. General Accounting Office (1993) analysis similarly determined that "empirical evidence of employers' cost savings from managed care is inconclusive." The possible reductions in overall costs in managed care plans resulting from lower use of hospital services may produce only a "one time" savings, and these savings may be offset by rising HMO administrative costs and providers shifting costs from HMOs to other payers (Sullivan, 2000). Even for hospital utilization, non-managed care plans now demonstrate a rate of hospital days per enrollee similar to that of managed care plans (Weinick and Cohen, 2000). Although premiums for HMOs have tended to increase at about the same rate as those for non-HMO plans (Gabel, 1992), some analysts have argued that the presence of managed care plans in a health care market may create a competitive environment that suppresses inflation for all plans in the area, including non-managed care plans (Wickizer and Feldstein, 1995). Similarly, in more competitive hospital markets, HMOs may dampen area-wide inflation in hospital costs (Bamezai et al, 1999).

EFFECT ON OUTCOMES:

The results of the Rand Health Insurance Experiment are emblematic of the ambiguous findings that often occur in studies of costs and

outcomes. Health outcomes such as reduction in cholesterol levels were better for higher-income people without health problems at the start of the study if they received care from the Group Health Cooperative of Puget Sound HMO. For low-income people with initial health problems, however, the health status of HMO patients ended up worse than that of patients in fee-for-service practice (Ware et al, 1986).

More recent studies have tended to find results similar to the Rand Health Insurance Experiment. The most rigorously conducted studies indicate that for the general population, outcomes are comparable in managed care and non-managed care plans. However, among the elderly with chronic disease, those in HMOs are about twice as likely (54% vs. 28%) than those in fee-for-service care to suffer a decline in health over a four-year period (Ware et al, 1996). These latter findings have caused concern that managed care may perform less well for patients with the greatest medical needs. Enrollees in managed care plans also tend to be less satisfied with the perceived quality of care and patient-physician interactions but more satisfied with the financial protection offered by the managed care plans, suggesting a potential trade-off between the values of quality and affordability (Miller and Luft, 1994; Miller and Luft, 1997).

The Canadian Health Care System

Canada has a single-payer system of national health insurance administered by the provincial governments (see Chapter 14). The Canadian approach to cost containment emphasizes regulation of prices, payment by global budgets, and supply limits (Evans et al, 1989) (Table 9-3). Patient cost sharing and utilization management have not featured prominently in the Canadian cost control strategy. Fee-for-service is the dominant method of paying physicians, with provincial plans using fee controls as a

Table 9-3. Canadian cost control strategies.

Price controls
Changing the unit of payment Hospitals: global budgets
Physicians: expenditure caps Supply controls
Administrative simplicity

strategy for containing growth in physician expenditures. Workforce policies have not (until recently) strictly limited the overall number of physicians, but have regulated residency training positions in order to achieve close to a 50:50 balance in specialist and generalist physician supply. Payments to hospitals occur by global budgeting of operating costs. Provincial plans also regulate all new capital projects as a means of controlling the supply of major technologies, resulting in lower per capita supply of cardiac surgery centers, lithotripsy machines, and CT scanners, compared with levels in

the United States.

EFFECT ON COSTS:

From 1970, about the time that Canadian national health insurance became fully implemented, to 1998, overall health care costs as a proportion of the gross domestic product (GDP) grew by a little over a third in Canada while nearly doubling in the United States (see Chapter 14). (GDP is the total output of goods and services produced within a country, valued at market prices.) Between 1960 and 1998, inflation-adjusted per capita health care spending (known as "real expenditures") increased at an average annual rate of 3.6% in Canada and 4.4% in the United States (Anderson and Hussey, 2001).

A number of studies have compared trends in health care costs in the United States and Canada in greater detail. One of the most dramatic differences between the two nations is the level of administrative expenses, which is as high as 25% of total health care costs in the United States and only 11% in Canada (Woolhandler and Himmelsrein, 1991). This difference in administrative costs accounts for almost half of the difference in overall health care expenditures in the two nations. The single-payer approach to health insurance yields administrative savings on both the financing and reimbursement sides of the cost equation. On the financing side, a unitary, tax-financed government insurance plan obviates the need for insurer marketing expenses, permits simplification of the eligibility and enrollment process, collects insurance revenues using existing tax collection agencies, and eliminates the profits of investor-owned private insurance intermediaries. On the reimbursement side, claims processing becomes streamlined for fee-for-service physician services and is eliminated for payment

of hospitals under global budgets. Avoidance of case-by case utilization management also keeps overhead costs lean for both provincial insurance plans and providers.

In addition to minimizing administrative expenses, Canada has adopted specific measures to contain physician costs. Government regulation in Canada has slowed growth in physician fees relative to trends in the United States (Hughes, 1991). A lower proportion of Canadian physicians practice in higher-income specialty fields. Because of the differences in fee levels and specialty mix, overall Canadian expenditures per capita on physician services are almost 40% lower than those in the United States, even though Canadians use 20% more physician services (Fuchs and Hahn, 1990; Welch et al, 1996). Although physician costs are lower in Canada than in the United States, Canadian physicians retain a higher share of their total earnings as net income, because of lower overhead expenses.

Although the Canadian system has had relative success at controlling expenditures for physician services, the rate of growth of physician costs

remains a concern in Canada. As discussed earlier in this chapter, several provinces have begun to counter the open-ended dynamic of fee-for-service payment through the imposition of global expenditure caps on physician costs (Barer et al, 1996). Global expenditure caps in Canada appear to have slowed the rate of growth in the volume of some types of physician services, in addition to maintaining control of physician fees (Katz et al, 1997a). The Canadian system has also begun to focus on the growing physician-to-population ratio as an impediment to cost containment and has adopted new measures to control the overall supply of physicians (Barer et al, 1996).

Analyses of hospital costs in the United States and Canada reveal that the combination of global budgeting and regulation of new technology has kept per capita hospital expenditures 20% lower in Canada. Unlike the case of physician expenditures, price differences do not explain the difference in costs. Wages for nurses and other hospital labor and costs of supplies are comparable in the two nations. Nor does there appear to be a major difference in the quantity of clinical services in most instances. Hospitalization rates and length of stay are higher in Canada, overall rates of surgery are similar for most procedures (including transplantation), and general patterns of use of in-patient diagnostic tests appear comparable in both nations (Redelmeier and Fuchs, 1993; Anderson et al, 1989).

Coronary artery disease is one of the few clinical conditions for which studies have documented less intensive use of major procedures in Canada. Overall rates of coronary artery bypass surgery are much higher in the United States than in Canada, largely due to greater use among the elderly in the United States (Anderson et al, 1993). Several comparative studies of patients with MI have shown that patients in the United States are up to three times more likely to have coronary angiography performed and about five times as likely to have coronary angioplasty or bypass surgery following their infarction, with relative differences even larger among the elderly (Rouleau et al, 1993; Mark et al, 1994; Tu et al, 1997).

Finally, federal and provincial governments regulate the price of pharmaceutical products in Canada. As a result, the cost of identical medications is much lower in Canada than in the United States and inflation of drug costs has been lower in Canada than in the U.S. (Menon, 2001).

EFFECT ON OUTCOMES:

Data comparing health outcomes among different nations are scarce. Public health indices, such as infant mortality and life expectancy rates, are significantly better in Canada than in the United States (Anderson and Hussey, 2001). However, as discussed in Chapter 3, these indices are influenced by many socioeconomic factors, not just medical care, and therefore may not accurately reflect the relative performances of the health care systems.

Few studies have carefully evaluated the outcomes of care in the United States and Canada for similar types of patients. One study comparing patients with kidney failure in the two nations found that patients in Canada with a similar severity of disease were much more likely than those in the U.S. to receive kidney transplants rather than remaining on long-term dialysis. Moreover, the mortality rate for the Canadian patients with kidney failure was lower than the rate for U.S. patients (Homburger et al, 1997). A study of patients with mental illness showed that patients with the greatest need—those with low incomes and moderate-to-severe mental illness—were much more likely to receive mental health services in Canada than in the United States (Katz et al, 1997b). Comparisons of patients in Canada and the United States with MI have failed to detect significant differences in survival and rates of reinfarction despite more aggressive treatment in the United States; however, patients in the United States were less likely to experience activity-limiting angina following their infarctions (Rouleau et al, 1993; Mark et al, 1994; Tu et al, 1997).

Although it is difficult to draw firm conclusions from limited data, these studies may be reasonably representative of the ways in which health care differs between Canada and the United States. The Canadian system is geared more toward improving population health outcomes affected by primary care. To a greater degree than the United States, the Canadian system prioritizes services according to greatest need under a system of universal coverage, as suggested by the comparative studies of patients with kidney failure and mental illness in the two nations. On the other hand, no nation can match the United States for availability of high technology cardiac care. While the more widespread use of cardiac services may not offer a major improvement in mortality rates, these services may enhance functional status and quality of life.

CONCLUSION

There is no perfect mechanism for controlling health care costs. Strategies must be judged by their relative success at containing costs and doing so in as "painless" a manner as possible—without compromising health outcomes. In the view of Dr. John Wennberg, the key to cost control in the United States

is not in the micromanagement of the doctor-patient relationship but the management of capacity and budgets. The American problem is to find the will to set the supply thermostat somewhere within reason. (Wennberg JE: Outcomes research, cost containment, and the fear of health care rationing. N Engl J Med 1990;323: 1202.)

Although United States managed care plans and Canadian provincial health plans are often viewed as diametrically opposed paradigms for health care

reform, both the Canadian plans and United States group and staff model HMOs base their cost control approaches on what Wennberg terms "the management of capacity and budgets." In Canada, this management is under public control through regulation of physician supply, physician and hospital budgets, and technology. In the United States, privately administered HMOs adjust their own "thermostats" by setting their own budgets and numbers of physicians, hospital beds, and high-cost equipment.

If there is a lesson to be learned from attempts to control health care costs in the United States over the past decades, it is that cost containment policies affecting provider reimbursement need to focus more on macro-management and less on micromanagement (Luft and Grumbach, 1994). Trying to manage costs at the level of individual patient encounters (ie, regulating fees for each

service, reviewing daily practice decisions, or imposing cost sharing for every prescription and visit to the physician) is a cumbersome and largely ineffectual strategy for containing overall expenditures. Moreover, one payer lowering its costs by shifting expenses to another payer does not produce system-wide cost savings. Payers in the future must increasingly emphasize more global cost containment tools (ie, paying by capitation or other aggregate units, limiting the size and specialty mix of the physician workforce, and concentrating high-technology services in regional centers). The future debate over cost containment in the United States will center on whether these cost containment tools are best wielded by private managed care plans operating in a price competitive market or by public regulation of health care providers.

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