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The fundamental question is whether the public and private cost management strategies currently being employed and developed can slow the growth of health care costs in a pluralistic health care system.



Issues in Health Care Cost Management

- ◆ The United States now spends 12.4 percent of its Gross National Product on health care. For employers, health benefits have grown from 2.4 percent of total compensation and 23 percent of total benefits in 1970 to 5.8 percent of total compensation and 36 percent of benefits in 1989.
- ◆ Although the effects of changes in tax policy on national health care expenditures are uncertain, it is clear that removing the tax preference for employer-sponsored health insurance would reduce the incidence of this coverage and the breadth of services it includes.
- ◆ EBRI's study of employers in the Houston area found that plans with utilization review (UR) had significantly lower inpatient charges but higher outpatient charges. In a study of employers in the Los Angeles area, EBRI found that UR was associated with lower outpatient charges and total plan charges. These savings were achieved by decreasing total charges per admission.
- ◆ Systems have been developed to analyze hospitals' and physicians' medical records and measure outcomes using objective criteria that adjust for severity of illness. Health plans that use this information to selectively contract with providers are beginning for the first time to directly reward providers for low-cost, high quality health care.
- ◆ Cost containment efforts have not been uniformly adopted in local markets. One survey found that while 79 percent of employers in the Pacific region and 77 percent of those in the Mid-Atlantic region offered employees a health maintenance organization option, only 44 percent of employers in the South Central region and 51 percent of those in the Mountain region did so.

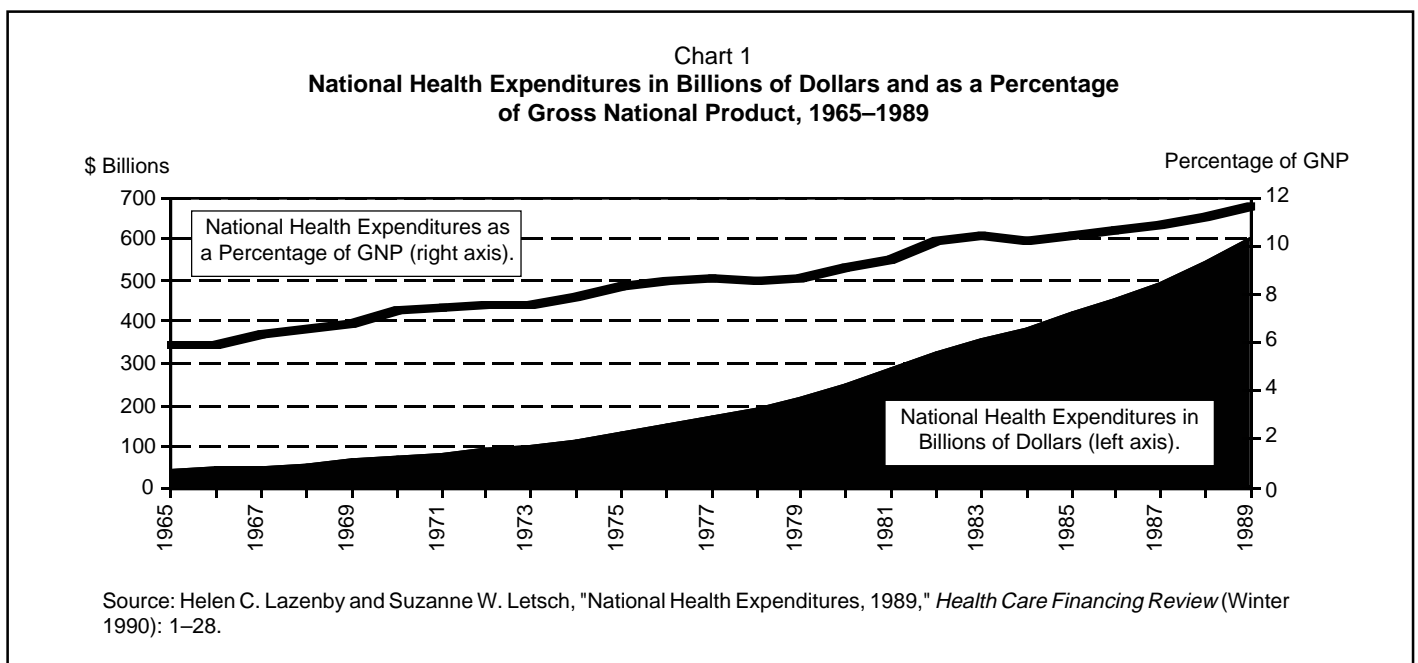
◆ Introduction

National health care expenditures have increased at twice the rate of general price inflation for almost the last 10 years. With medical expenses estimated at almost \$676 billion in 1990, the United States now spends 12.4 percent of its Gross National Product (GNP) on health care (chart 1).

For employers, health benefits have grown into a major component of labor costs. In 1970, health benefits represented 2.4 percent of total compensation and 23 percent of total benefits; by 1989, these figures increased to 5.8 percent and 36 percent, respectively. In aggregate, employers spent \$178 billion on health benefits in 1989, or \$1,722 per full-time employee. These are national averages that include employers who do not offer health benefits. One survey of employers that offer health benefits found that the average cost per employee in 1989 was \$2,600, which represented almost 11 percent of payroll (A. Foster Higgins, 1991). The same survey found that average costs per employer rose to \$3,217 in 1990.

Increased health expenditures have made health care services the fastest growing industry in the country: the health care delivery system generated 16 percent of the net new jobs between 1980 and 1990. Conversely, the meteoric rise in health care costs has caused or exacerbated many of the problems in the health care system. Increases in health services costs to public and private payers have raised the cost of private and public health insurance coverage, causing a reduction in coverage. Concurrently, public and private payers have introduced cost management techniques that have reduced providers' ability to subsidize uncompensated care. The result of these trends is that both the number of uninsured individuals and the consequences of noninsurance in terms of access to care have grown. Proposals to increase access to the health care system have generally included incentives for public and private payers to adopt cost-sharing or managed care provisions to contain health care costs (U.S. Bipartisan Commission on Health Care, 1990).

Health care cost inflation has made health care benefits the fastest growing component of total compensation for employees and the fastest growing



component of federal expenditures for taxpayers.

Federal, state, and local governments account for about 42 percent of national health expenditures, with the remaining 58 percent coming from direct out-of-pocket patient expenditures and insurance payments (Horkitz, 1991).

Private health plans and public programs have evolved rapidly in the last decade in response to health care cost inflation. Employers' responses to increases in health care costs have varied, depending on their labor market, the amount of competition in their product market, and how much market power they have in their specific health care services markets. **In general, employers have adopted four cost management strategies: cost sharing, utilization review (UR), the packaging of provider services, and selective contracting with providers.** Many employers have combined these strategies in their managed care plans, and some have achieved lower rates of cost inflation. However, to date these strategies have had little impact on the rate of increase in national health expenditures.

Cost management strategies have affected the practice of medicine. Care has moved out of hospitals to a variety of sites, physicians' referral patterns have changed, the relationship between hospitals and their medical staffs has been altered, and providers market themselves in new ways as a result of changes in the way payers purchase health care services. A cost management industry has arisen composed of UR firms, provider networks, data analysis firms, and other vendors whose services track medical decision making.

The fundamental question is whether the public and private cost management strategies currently being employed and developed can slow the growth of health care costs in a pluralistic health care system. Some analysts have argued that health care cost inflation can be controlled only by capping national health expenditures, employing a single purchaser of health care services, and imposing an explicit rationing scheme. This *Issue Brief* examines the sources of health care cost inflation, efforts of private payers to manage their

health care costs, and the effect of health care cost management strategies on the health care system.

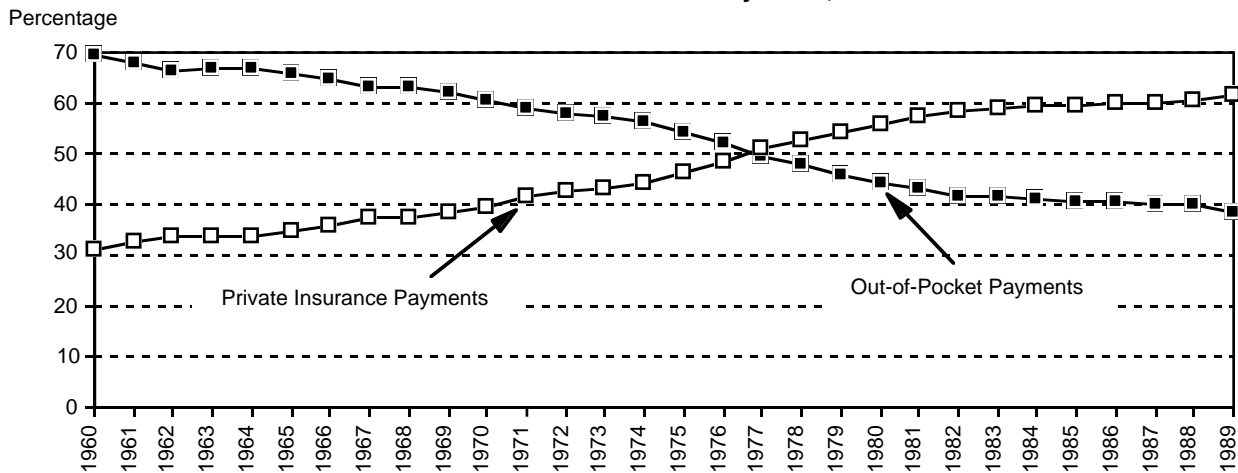
◆ Sources of Health Care Cost Inflation

The spread of health insurance during the period from the end of World War II through the early 1980s significantly contributed to health care cost inflation. Unlike other types of insurance, health insurance benefits are based on expenditures for services rather than for actual losses arising from particular events. As a result, health insurance lowers the relative price of medical services to insured individuals, increasing patient demand for health care services. This change in consumer behavior due to the presence of insurance is a form of moral hazard. The increased demand for health care services due to moral hazard is one source of health care cost inflation (chart 2).

The characteristics of public and private insurers' provider reimbursement policies have had important implications for health care cost inflation. Hospitals traditionally have been regarded as quasi-public institutions and were reimbursed on a cost-plus basis to ensure their ability to maintain high quality services. However, reimbursement under fee-for-service for physicians or cost-plus systems for hospitals gives providers little incentive to limit either the range of diagnostic and therapeutic services available to patients or the quantity of services provided. Increased health insurance coverage raises the demand for medical services. These features of the health care delivery system have been cited as contributing to increasing costs.

The increasing demand for health care services has led to a corollary increase in the demand for new medical technology. Medical researchers, with financial assistance from the government and other sources, have responded impressively. **The number of diagnostic tools a physician can bring to bear on a given set of symptoms and the number of potential therapeutic procedures for a given diagnosis have increased dramatically in the last 25 years.**

Chart 2
**Percentage of Private Health Care Expenditures That Are Out of Pocket
 and Private Health Insurance Payments, 1960–1989**



Source: Helen C. Lazenby and Suzanne W. Letsch, "National Health Expenditures, 1989," *Health Care Financing Review* (Winter 1990): 1–28, and unpublished data.

New technology lengthens the list of procedures physicians can perform for a given condition and increases the number of conditions they can treat, increasing the number of services purchased. Concurrently, as the supply of physicians increases, they tend to specialize, performing fewer types of procedures (Baumgardner, 1988). Researchers have projected that the supply of physicians will roughly equal demand until the year 2000 unless substantial rationing occurs (Schwartz, Sloan, and Mendelson, 1988).

The sensitivity of the demand for health care services to changes in price is reduced by the spread of health insurance, which lowers the effective price of health care services. Physicians have long considered price competition unethical. Providers have competed in quality or, more accurately, in quality signals. Lacking the information necessary to evaluate the technical quality of care, patients look for signals, such as office location attributes, as well as the physician's hospital affiliation, that they hope relate to technical quality. Hospitals compete with each other for physicians and

patients by offering the ability to perform more procedures and deliver more amenities (Custer, 1986). The cost of the more expensive new technology required to perform new procedures is often spread across all other procedures (Cohodes and Kinkead, 1984).

The result is that new technology is introduced with little or no evaluation of its benefits relative to costs. Providers adopt practices based on personal preferences, resulting in the well-documented variation in practice patterns among physicians in the same geographic area.¹ Patients and payers lack the information necessary to evaluate the quality of care they receive before, during, and after an episode of illness. Medical researchers have had little or no incentive to assess the relative benefits of the procedures they develop; to be adopted, new procedures have not needed to be more effective, or less expensive, than existing ones.

¹For a review of the evidence, see John Wennberg and Alan Gittelson, "Variations in Medical Care among Small Areas," *Scientific American* (April 1982): 120–134.

Medical research has produced a rapid expansion of treatment options without concurrent research on the relative efficacy of each option.² Limited information on the efficacy of alternative treatments has prevented the formation of a medical consensus on the proper treatment for a given set of symptoms. The paucity of research on medical outcomes results in the practice of medicine as an art rather than a science. Malpractice proceedings, which are intended to punish incompetent providers, instead force lay juries to decide the appropriate medical practice for a given condition. The threat of malpractice suits may lead physicians to perform more procedures than they deem necessary or cost effective.

Tax Policy and Health Care Cost Inflation

Tax policy has spurred the spread of private health insurance and encouraged employers to accommodate health care cost inflation. The cost of employer-provided health benefits is deductible as a business expense for employers and is not included as personal income for employees. Although most researchers agree that this tax preference has affected the provision of health insurance benefits by employers, it is not clear how much of the increase in private health insurance coverage and consequently in health care costs can be attributed to tax policy. In general, the tax preference for health benefits has increased the number of individuals with health insurance and the breadth of coverage, although the effects differ by employee group.

Changes in tax policy will clearly affect health benefit costs and workers' incomes. Including the value of health benefits as taxable income reduces the total net (of taxes) compensation of workers who receive these benefits. The reduction in compensation will depend on a worker's taxable income, with high-income workers facing the largest dollar drop if health benefits become taxable. Some workers may feel that, absent the tax preference, they would rather have cash than health benefits. Employers trying to attract these

²*Ibid.*

workers may be less likely to offer health benefits (Pauly, 1986).

Removing the cost of health benefits as a tax deductible business expense for employers (but not including it as part of employees' taxable income) would increase employers' labor costs. Employers would respond to such a change by reducing or dropping health benefits and/or reducing other benefits, cash compensation, or employment. Since the cost of providing health benefits is the same for all employees in a group plan, changing the tax preference in this way would increase the costs of employing high- and low-wage employees by the same dollar amount, although the percentage increase in costs for high-income workers would be less. A \$3,000 dollar increase in the cost of employing a highly skilled (and therefore high-income) worker may not reduce the demand for those workers very much, whereas the same increase in the cost of employing a less skilled worker may have a large impact on the demand for these workers.



Small employers and employers with a large number of low-wage workers might respond to the elimination of favorable tax treatment for health benefits by not offering health insurance.



Most large employers who offer health insurance would likely continue to offer it in the absence of a tax preference. Group insurance is less expensive than individual policies because of the costs of administration and adverse selection. Adverse selection occurs when the people who are most likely to purchase insurance are also most likely to use health care services. Employers are thus able to provide more insurance per dollar than the employee could purchase

individually. Employer-sponsored health insurance may also decrease employee turnover and increase productivity.

Small employers and employers with a large number of low-wage workers might respond to the elimination of favorable tax treatment for health benefits by not offering health insurance. Moreover, changes in the tax treatment of employer-sponsored health benefits are likely to change the nature of these benefits. Employees may not want to pay for coverage of marginal health care services. Some coverages such as dental insurance may be dropped, and coverage for basic care may be reduced through higher deductibles and copayment rates. More employers may institute cafeteria plans to accommodate differences in the demand for health insurance among their employees.



Current tax policy encourages not only the spread of health insurance but also the accommodation of health care cost inflation.



The effects of tax policy changes on national health care expenditures is unclear. It is clear that removing the employers' tax preference would reduce the number of individuals with employer-sponsored health insurance and the breadth of services for those who are covered. The magnitude of this change is unknown. Research into the relationship between tax policy and the demand for health insurance and between the presence of insurance and the demand for health care services suggests that the magnitude may be small. However, the impact of insurance coverage on technological advances and the quality and intensity of care is not well understood (Pauly, 1986). Over time, changes in health insurance induced by changes in tax policy could have a profound impact on the health care system.

The sources of health care cost inflation are related to the allocation of risk. **Current tax policy encourages not only the spread of health insurance but also the accommodation of health care cost inflation.** Increased costs of health care coverage are offset by the greater value of the tax preference as employees are pushed by general price inflation into higher marginal tax brackets. The spread of health insurance and the nature of this insurance, which requires the insurer to bear the risks associated with uncertain treatment outcomes, increase the demand for health care services and stimulate the development of new procedures. Hospitals and physicians in competitive markets are quick to adopt new technology, driving up costs (Luft, Robinson, Garnick, et al., 1986). Providers, given a longer list of potential procedures that can be performed for a given condition, provide more intensive and specialized care. The increased cost of health care services increases consumer demand for health insurance. Constraints on the demand for health insurance because of its increasing cost are reduced by tax policy. Cost management strategies, to be considered successful, must intervene in some portion of this spiral without adversely affecting the quality and accessibility of care.

◆ Cost Management Strategies

Cost management strategies attempt to alter the incentives faced by patients and providers. There are four general cost management strategies: cost sharing, UR, packaging provider services, and selective contracting with providers (table 1). Cost sharing includes a health plan's deductibles, coinsurance rates, and limits on the insureds' out-of-pocket expenses (stop-loss). UR includes a number of strategies for intervening in the decision to purchase health care services, including second surgical opinion, preadmission certification, concurrent review, case management, and retrospective review. Packaging provider services alters providers' reimbursement from fee-for-service to some bundle of services ranging from an inpatient stay, as in Medicare's prospective payment

Table 1
**Percentage of Participants in Medium and Large Employer Plans
 with Selected Cost Management Methods, Selected Years, 1980–1989**

Cost Management Method	1980	1982	1984	1986	1988 ^a	1989 ^a
Deductible Greater than \$150	3	3	13	22	30	37
Coinsurance	55	63	75	81	82	97
No Stop-Loss	N/A	N/A	N/A	N/A	22	20
HMOs	2	4	5	13	19	17
PPOs	-	-	-	1	7	10
Prehospitalization Testing	N/A	N/A	N/A	47	43	42
Second Surgical Option	N/A	N/A	N/A	35	35	36
Higher Rate of Payment for Generic Drugs	N/A	N/A	N/A	7	10	14
Higher Rate of Payment for Mail Order Drugs	N/A	N/A	N/A	N/A	7	10
Audit Hospital Statement	N/A	N/A	N/A	2	7	5

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employee Benefits in Medium and Large Firms*, selected years (Washington, DC: U.S. Government Printing Office, selected years).

^aData for 1988 and 1989 represent participants in the Bureau of Labor Statistics' expanded survey.

N/A: no data available.

system, to payment per enrollee as in health maintenance organizations (HMOs). Finally, selective contracting creates a panel of providers who provide necessary health care services. Cost sharing is often used to steer patients toward providers on the panel. Ideally, providers are selected on the basis of their cost-effective practice patterns, and they agree to participate in UR and quality assurance processes.

Cost Sharing

Cost sharing effectively lowers health care expenditures by reducing the utilization of health care services. For example, the Rand Health Insurance Experiment, conducted for the U.S. Department of Health and Human Services between 1974 and 1977, found that individuals in plans with a 25 percent coinsurance rate had 15 percent lower per capita costs

than those in plans with a zero coinsurance rate.³ (The 15 percent may understate the response of individuals to increased coinsurance rates since the experiment compensated those who were in plans with greater cost sharing to induce them to accept these plans.) Cost sharing is most effective in reducing the use of outpatient care. However, some of the care forgone may include preventive care, the lack of which may result in greater inpatient costs. The Rand study found that low-income individuals with lower coinsurance rates experienced specific health gains for high blood pressure, myopia, and dental problems, three prevalent chronic conditions that are relatively inexpensive to diagnose and treat.

³For a description of the Rand Health Insurance Experiment, see Willard G. Manning, Joseph P. Newhouse, Naihua Duan, et al., "Health Insurance and the Demand for Medical Care," *American Economic Review* (June 1987): 251–76.

The Employee Benefit Research Institute (EBRI) has conducted three separate studies of the relationship between employer health plan characteristics and charges for health care services incurred by plan participants (table 2). These studies examined claims data supplied by MEDSTAT Systems, Inc. for employers in the Los Angeles area, by Corporate Cost Management, Inc. for employers in the Houston Area Health Care Coalition, and by Corporate Health Strategies for employers in the Rhode Island Business Group on Health.

The EBRI studies used three variables to measure a plan's cost-sharing effectiveness: the deductible, copayment rate, and stop-loss limit. Because all the plans in Houston had a 20 percent copayment rate, this variable was not included in that study, nor were the stop-loss limits. The deductible had no significant effect on plan charges in the Houston study. Higher deductibles were associated with higher plan charges in Rhode Island and lower plan charges in Los Angeles. Higher copayment rates were associated with lower

total charges in Rhode Island and Los Angeles. Increasing the stop-loss limit (i.e., preserving the copayment rate further into an episode of care) was associated with lower charges in Los Angeles but higher per employee charges in Rhode Island.

In the Los Angeles study, higher levels of cost sharing were associated with lower charges, especially outpatient charges. The positive relationship between the size of the deductible and plan charges in the Rhode Island study is consistent with the hypothesis that deductibles lead individuals to delay the purchase of health care services until they are more severely ill. Anecdotal evidence from Rhode Island suggests that many providers accept Blue Cross reimbursement as payment in full without billing patients for the copayments and deductibles the plan design suggests the patient is required to pay. If patients do not expect to pay the deductible or the copayment, these plan design elements will not affect the plan's costs.

Some proponents of cost sharing as a cost management tool have argued that it provides the patient an incentive to shop for the most cost-effective provider. Determining the cost effectiveness of any provider requires a good deal of costly information that may be prohibitively expensive to consumers but may be available to insurers. UR allows the introduction of an informed buyer into the health care services transaction.

Utilization Review

UR includes a number of strategies for intervening in the decision to purchase health care. These strategies may include preadmission certification, in which care is reviewed before it is given to determine its appropriateness; concurrent review, or case management, in which care is monitored as it is provided; and retrospective review, which reviews care after it is given.

In all cases, care is reviewed against criteria to determine if it is necessary and appropriate. These criteria

Table 2
Effects of Plan Design on Total Plan Charges:
Summary of EBRI Study Results

Plan Design Element	Houston	Rhode Island	Los Angeles
Employees' Share of Premium	a	b	NA
Deductible	a	c	b
Copayment Rate	NA	b	b
Stop-Loss Limit	NA	c	b
Utilization Review	c	a	b
Case Management	NA	NA	a
Mandatory Ambulatory Surgery	NA	b	NA
Drug Plan	c	b	NA
PPO	NA	NA	a
Restrictions on Mental Health Benefits	b	NA	NA
Hospital Bill Audit	NA	a	NA
HMO Enrollment	NA	c	NA

NA: not included in study.

^aNo statistically significant effect.

^bDecrease in total plan charges.

^cIncrease in total plan charges.

are either developed by UR firms internally or are licensed from outside sources and modified by the firms. Three of the criteria sets that have been licensed to UR firms were recently evaluated to assess their reliability and validity (Strumwasser, Paranjpe, Ronis, et al., 1990). The criteria's reliability was tested by comparing the conclusions of two different nurses using the criteria to evaluate a hospital record. The criteria's validity was evaluated by comparing the judgment of a nurse using the criteria to that of a panel of physicians for each hospital record. One of the criteria sets was found to have low reliability and validity. The other two were found to be moderately reliable and valid, although both scored better than individual physicians looking at the same record.

These results indicate that not all UR criteria will be equally effective at reducing unnecessary or inappropriate care. They also suggest that UR used to determine eligibility for payment under a health plan should consist of several steps, which may begin with a nurse review but should include a final decision by a panel of physicians.

In a survey of employers, UR was rated as the second most effective cost management measure, after cost sharing (MAPI, 1988). However, there have been few independent studies of UR's effectiveness in controlling costs. One study examined the experience of 263 groups insured by a major insurer over 12 quarters from 1984 to 1986. The authors were unable to differentiate between the different types of UR programs such as preadmission certification, concurrent review, or retrospective review in their comparisons. They found that UR reduced admissions by 13 percent, inpatient days by 11 percent, and total medical expenditures by 6 percent (Feldstein, Wickizer, and Wheeler, 1988).

Another study performed a similar analysis on Blue Cross-Blue Shield data for the years 1980–1986. It differentiated among the different types of UR and found that neither preadmission nor retrospective review had any significant effect on average plan cost. While concurrent review decreased inpatient payments, outpatient payments increased, yielding no significant

differences in average costs (Scheffler, Gibbs, and Gurnick, 1988).

EBRI's study of employers in the Houston area found that plans with UR had significantly lower inpatient charges. However, outpatient charges were significantly greater in plans with UR, consistent with the hypothesis that UR shifts care from the hospital to an outpatient setting. With one exception, all the plans in Rhode Island that had a preadmission certification program also had concurrent UR and mandatory second surgical opinion. Preadmission certification was therefore used as a proxy for UR; UR did not significantly affect total plan charges in Rhode Island. Mandatory ambulatory surgery was significantly related to lower plan costs in this study.

UR was associated with lower total plan charges in the Los Angeles study. These savings were achieved not by lowering the admission rate but by decreasing total charges per admission. In Los Angeles, UR was also associated with lower outpatient charges.

Health Maintenance Organizations

Another cost management strategy is to change provider reimbursement from fee-for-service or cost-plus to payment per diagnosis, by insured person, or some other bundle of services. For example, providers are paid a set fee for each particular diagnosis or plan participant. Provider income is the difference between the costs of providing care for that diagnosis, or that participant, and the fee. Packaging services alters provider incentives away from the provision of more care toward weighing the costs of care in their medical decision making.

HMOs, in some forms, are a type of provider service package. An HMO agrees to provide a prescribed set of benefits as needed by enrollees for a capitated payment: a fixed amount per enrollee. The HMO thus bears the risks associated with the delivery of care. HMOs may be the most studied of the cost management strategies. **Depending on the HMO, total costs for enrollees**

have been found to be from 10 percent to 40 percent lower than those for more traditional health insurance programs. This cost difference results from lower service rates, especially lower hospital admission rates (Luft, 1981).

HMO models generally fall into two categories: group or staff models and independent practice arrangements (IPAs) or network models. In group models, the physician is either an employee of the HMO or receives a majority of his or her patients from it. In an IPA model, the HMO contracts with physicians or physician groups, who also maintain a fee-for-service practice. Physicians in IPAs are typically reimbursed on a blended fee-for-service/capitation basis.



One study found that families selecting HMOs were younger, had lower income, and had lower claimed health care expenses prior to enrollment than families selecting a fee-for-service plan.



Although IPAs have been the fastest growing HMO model, the research literature has generally focused on the older, more established HMOs, which are more likely to be group or staff models. However, the few studies of IPAs that have been done suggest that these HMOs have more admissions per thousand members and thus are less effective in constraining costs (Langwell and Nelson, 1986).

There is some question as to whether HMO cost reductions stem from selection bias. Some employers offering an HMO option in addition to a comprehensive plan have claimed that employees who represent lower risk opt for the HMO while higher cost patients remain in the comprehensive plan, resulting in higher overall health care costs. **One study found that families selecting HMOs were younger, had lower income,**

and had lower claimed health care expenses prior to enrollment than families selecting a fee-for-service plan (Buchanan and Cretin, 1986).

Researchers investigating the impact of various benefit options on premiums found that a group health plan offering an HMO option had significantly higher premiums for its fee-for-service plan. They conclude, “our findings support the growing evidence that HMOs experience favorable selection when offered as an alternative to conventional coverage” (Jensen and Morrisey, 1988).

The Rand Health Experiment randomly assigned individuals to an HMO. These individuals had lower utilization rates than individuals in the indemnity plans, although their rates were not as low as those for individuals who chose the HMO. The Rand researchers found no differences in health outcomes between individuals enrolled in HMOs and those in indemnity plans with no cost sharing, except for low-income individuals who entered the experiment in poor health. The researchers concluded the cost differences resulted mainly from cost-effective practice styles rather than differences in enrollees.

Other researchers have found little or no evidence of selection bias. Some have found that, to the extent adverse selection exists, HMOs attract higher risk participants.⁴ EBRI’s study of Rhode Island employers, in which the relative number of employees enrolled in HMOs and indemnity plans was determined, found that increases in the ratio of employees enrolled in HMOs to those enrolled in the indemnity plans were related to increases in total indemnity plan charges.

Most studies have been unable to find any differences in the health outcomes between HMOs and indem-

⁴See, for example, W.P. Welch and Richard G. Frank, “The Predictors of HMO Enrollee Populations: Results for a National Sample,” *Inquiry* (Spring 1986): 116–122; and S.A. Garfinkel, W.E. Schlenger, K.R. McLerory, et al., “Choices of Payment Plan in the Medicare Capitation Demonstration,” *Medical Care* (July 1986): 628–640.

nity plans. However, both participants in the Rand experiment and Medicaid recipients in Wisconsin who were assigned to HMOs, as opposed to choosing to enroll, were dissatisfied with the care they received (Rowland and Lyons, 1987). This suggests that there are differences between individuals who prefer HMOs and those who prefer traditional indemnity plans. It is not clear how these differences affect utilization.

Finally, **two major studies have found that the inflation rate is the same for HMOs as it is for more traditional insurance plans** (Luft, 1980, and Newhouse et al., 1985). The authors of one study argue that this result indicates that HMOs adopt new technology at the same rate as fee-for-service plans (Newhouse et al., 1985). One possible explanation may be that the information necessary to evaluate a new procedure's cost effectiveness is not available even to providers with a clear financial incentive to adopt cost reducing techniques. Another possibility is that maintaining the HMOs' market share in competition with fee-for-service care requires the adoption of the same types of practices.

Conversely, recent surveys of employers have found that HMO premium increases have been about five percentage points lower than indemnity plan increases (A. Foster Higgins & Co., Inc., 1991, and Sullivan and Rice, 1991).

Preferred Provider Organizations

Initially, preferred provider organizations (PPOs) were simply panels of providers offering fee discounts in exchange for incentives for plan participants to use in-panel providers. While the major cost management strategy for many PPOs remains the fee discount, many others have also incorporated other cost management strategies. **Although actual PPO structures differ greatly, in theory they combine the three broad cost management strategies: a limited provider panel, negotiated fee schedules, and UR. In addition, some of the newer PPOs have a physician—paid on a capitated basis—as a gatekeeper to the system.**

The limited provider panel is a key PPO feature. Although in theory providers are selected on the basis of their cost-effective practice style, actually most plans choose physicians to fit geographic or specialty areas. These providers generally agree to discount their fees for services performed within the PPO. However, it is fairly well documented that price reductions do not necessarily lead to reduced expenditures. The third feature, UR, therefore becomes very important.

The major difference among PPOs is sponsorship. A survey found that PPOs sponsored by providers were more likely than those sponsored by insurers or investors to have less stringent UR programs and choose their provider panel on the basis of geographic distribution rather than lower costs (de Lissovoy, et al., 1986). In short, PPOs are a marketing device for these providers rather than an alternative delivery system. One directory of PPOs lists 185 provider-sponsored PPOs, or about 26 percent of all PPOs (Marion Merrell Dow, Inc., 1990). Investor- and insurer-sponsored PPOs are more likely to use cost studies to select providers and physician profiles to monitor utilization and costs.

PPOs are such a new phenomenon that there is very little literature on their effectiveness at controlling costs. However, one study found that PPOs are used most intensively for low-risk services and by patients who need relatively few medical services (Wouters and Hester, 1988). The incentive for patients to use PPO providers is lower deductibles and copayments. However, intense users are likely to meet an even higher deductible quickly and to have built a relationship with a provider, making them less likely to use PPOs. Thus adverse selection may be a problem in PPOs. The presence of a PPO did not significantly affect total indemnity plan charges in EBRI's study of Los Angeles area employers.

Selectively Contracted Networks

New health care plans have been developed that combine PPO and HMO attributes with UR and objective performance criteria for selecting providers.

CIGNA, United Healthcare, Prudential, and others have created plans that are similar to HMOs but allow enrollees to receive covered care from providers outside the panel. This arrangement provides employees a choice without increasing the number of plans the employer must have under contract. Several large employers, such as Allied-Signal and Southwestern Bell Corporation, have contracted with insurers to create nationwide provider networks for their employee health care plans.



Some employer plans are using objective information on the quality of care to identify providers for selective contracting.



Southwestern Bell has released the results of a study of the effects implementing their selectively contracted network on plan costs. Their managed care network, Custom Care, was implemented in 1987 in 13 urban areas in 5 states (Texas, Missouri, Arkansas, Oklahoma, and Kansas). They found that annual increases in total per employee claims costs within their network fell to 7 percent in 1989, contrasted with a national average of 17 percent. Outpatient costs increased as a percentage of total costs from 31 percent in 1985 to 51 percent in 1989. At the same time, their inpatient costs per admission increased by 40 percent in the two years before the network was introduced but only 8 percent in the two years following its introduction. Network costs were 10 percentage points lower than Southwestern Bell's nonnetwork costs.

One of the most important features of the selectively contracted networks is the criteria used to identify providers for inclusion in the network. Most networks require that providers agree to accept UR

procedures, refer patients only to other providers in the network, and accept the network's reimbursement procedures. The network also has quality standards, such as board certification, that the provider will need to meet in order to be considered for inclusion in the network. Finally, network providers' practice patterns may be monitored so that those with unjustifiably high costs can be identified. The network attempts to alter the practice patterns of these high cost providers through education and financial incentives.

Some employer plans are using objective information on the quality of care to identify providers for selective contracting. Employers are contracting with specific hospitals for high cost procedures such as open heart surgeries and transplants. These hospitals are selected according to a number of criteria, including mortality and morbidity rates. In selectively contracting on the basis of these criteria, employers are explicitly using outcome measures for determining reimbursement.

Providers have challenged the use of unadjusted outcome measures as criteria for selection because providers with sicker patients will appear to be of poorer quality. However, firms such as MedisQual and Iameter have developed systems to analyze medical records that adjust for the severity of illness. The outcomes achieved by hospitals and physicians can then be objectively compared to assess the quality and cost effectiveness of care. Selectively contracting with providers using objective criteria such as these begins for the first time to directly reward providers for low-cost, high quality health care.

Navistar International provides an example of how outcomes information is being used to selectively contract with providers. Looking at their claims data, Navistar discovered that a large portion of provider costs were incurred in the treatment of diseases and disorders of the circulatory system. Using hospital discharge data adjusted by Iameter, Navistar is able to compare both outcomes and cost effectiveness for competing hospitals against each other and a state

norm. They use this information, along with site visits, to select hospitals for contracting. The outcomes information is offered to the winning hospital to use in marketing its services to other selectively contracting employers and insurers.

◆ Cost Management and the Market for Health Care Services

The characteristics of the health care services market influence the effectiveness of cost management strategies. The national health care system is a network of local health care services markets. These local markets may have very different characteristics. Physician practice patterns have been shown to vary significantly among areas even within the same state (Mitchell et al., 1984). Competition among hospitals, physicians, insurance plans, and other providers such as independent laboratories differs significantly from one local market to another. The relative market power of private and public payers, the ownership and goals of hospitals, and the political strength of the local medical society all affect the level of competition among providers and insurers. Medicaid programs differ by state in both their eligibility requirements and reimbursements to providers. Public program reimbursements affect the pricing of their services to private payers. Finally, the health status of individuals and their attitudes toward health care delivery may differ from one area of the country to another. Southwestern Bell found that costs varied a great deal among local markets in which their network was established. They found that in 1989 their costs ranged from \$2,572 per employee in Austin, Texas, to \$4,443 in Houston.

Cost containment efforts have not been uniformly adopted in local markets. One survey found that, while 79 percent of employers in the Pacific region (California, Oregon, and Washington) and 77 percent of employers in the Mid-Atlantic region offered employees an HMO option, only 44 percent of the employers in the South Central region and 51 percent in the Mountain region offered this option. Conversely, only 11 percent of the

employers in the New England region and 14 percent of the employers in the South Atlantic region offered a PPO option, compared with 56 percent in the Pacific region (A. Foster Higgins & Co., Inc., 1991).

The lower percentage of total plan charges attributed to inpatient care in Los Angeles relative to Houston may indicate the differences in the markets for health care services and the effect of that market on practice patterns. During the period under study, Houston had low HMO penetration rates, no PPOs, and a relatively large number of for-profit hospitals. Los Angeles had a much higher HMO penetration rate, a number of provider networks, a Medicaid program that selectively contracted for hospital services, and three years more experience in developing UR programs. The results of these studies are consistent with other research on the relationship of market characteristics on UR effectiveness (Wheeler and Wickhizer, 1990).

The Los Angeles health care services market might be characterized as a more mature market with respect to cost management than Houston. Inpatient charges accounted for over two-thirds of total plan charges for the employers in the Houston study but less than one-half of the total plan charges for the Los Angeles employers. For Los Angeles employers, the presence of a mandatory UR program did not shift inpatient care to outpatient settings. In fact, UR decreased both inpatient and outpatient charges per claim but did not affect the number of admissions or claims. The market penetration of HMOs, coupled with earlier implementation of UR programs, may have moved the Los Angeles market beyond the stage in which care is being shifted as a result of UR.

The maturity of the Los Angeles health care services market may also be reflected in the relationship between the cost-sharing variables and plan charges. Patients may rely on their physician agent less in an ambulatory setting. Physicians may recommend care but play less of a role in actually procuring it than they would if the patient were hospitalized. Moreover, patient compliance may be reduced in the outpatient

setting. Patients may feel more in control and be more likely to consider their insurance plan's economic incentives.

Finally, providers may compete more actively on the basis of costs in the Los Angeles area than in the other markets. The association of UR with both lower costs per admission and lower outpatient charges in Los Angeles suggests that providers may alter their practice patterns to reflect changes in the way payers are purchasing health care services.

Taken together, the findings of these studies are consistent with the idea that health care services markets are evolving as payers develop new mechanisms for evaluating and purchasing health care services. This evolution is unlikely to take the same path in every health care service market. Moreover, it may determine the effects of cost management strategies on plan costs. For example, in markets where UR shifts care to the outpatient sector, the net effect will be to increase costs unless there is some mechanism to control costs in that sector.

◆ Cost Management in Government Programs

The federal government's efforts at controlling costs in the Medicare program have differed greatly from those of private payers. The Medicare program instituted the prospective payment system (PPS) for reimbursing hospitals in 1983. Prior to the 1983 Social Security Amendments, Medicare paid hospitals retrospectively on a cost basis. That is, a hospital's reimbursement rate was determined by its historic costs. PPS represented a fundamentally different method for reimbursing hospitals than was commonly used by either public or private payers. Under PPS, per diem reimbursement based on a hospital's historic costs was changed to reimbursement per admission at a prospectively determined rate. Thus, the incentives that Medicare's reimbursement methodology presented hospitals changed in two distinct ways.

The change from a reimbursement rate based on the individual hospitals' historic costs meant that hospitals could no longer influence future reimbursement rates by incurring higher costs in the present. PPS thus removed one disincentive for hospitals to restrain their costs.

The second way in which PPS changed hospital incentives was the bundling of the services provided a patient during a single admission. Historically, cost based, per diem reimbursement provided hospitals with a financial incentive to increase Medicare patients' length of stay and provide more services per stay. Conversely, under PPS, hospitals have an incentive to reduce the length of stay and provide the minimum services necessary for care.

There has been some concern that hospitals would decrease the quality of care they provided to Medicare patients and increase the number of admissions in response to PPS. In fact, a number of studies have found that PPS has reduced both the average length of stay per admission and the number of admissions. **A recent study indicates that PPS may have reduced the average number of inpatient hospital days between 1981 and 1988 by 28.1 percent** (Schwartz and Mendelson, 1991).⁵ The study also found that PPS reduces the number of inpatient admissions. Between 1981 and 1988, the cumulative percentage decrease was 23.6 percent.⁶ Other studies indicate that there has been no concurrent reduction in the quality of care provided to Medicare patients (Kahn et al., 1990). However, while PPS reduced the rate of increase in hospital costs, it may have increased the rate of growth in physician costs.

⁵The actual reduction in the number of inpatient hospital days was 18.6 percent. The cumulative reduction in the average number of inpatient hospital days refers to the difference between current levels and the levels that would occur without PPS.

⁶The actual reduction in the number of inpatient hospital admissions was 13.4 percent. The cumulative reduction in the average number of inpatient hospital days refers to the difference between current levels and the levels that would occur without PPS.

Growing concern about increases in physician service expenditures, exacerbated by the shift from inpatient care to outpatient care due to the introduction of PPS, resulted in a provision in the Omnibus Budget Reconciliation Act of 1989 (OBRA '89) to change Medicare's methodology for reimbursing physicians. **In 1992, Medicare is scheduled to begin reimbursing physicians using a resource based relative value scale (RBRVS), an index of the resources necessary to provide a given medical service.** The relative value scale to be used in determining reimbursement is based on research performed at Harvard Medical School. Like PPS for hospitals, RBRVS makes physician reimbursement prospectively determined. It removes incentives for physicians to charge higher fees one year in the hope of achieving higher reimbursement levels the next. Unlike PPS, the new physician reimbursement methodology does not bundle services. Physicians are still reimbursed on a piecemeal basis. The financial incentive to provide as many services as possible for each episode of care remains.



It has often been stated that a decade of cost management has not slowed health care cost inflation. That proposition ignores the fact that cost management strategies have not been universally adopted.



Partly as a result of this incentive, OBRA' 89 also introduced a volume performance standard (VPS). The VPS attempts to reduce the incentive to increase utilization by tying increases in reimbursement rates to physicians in one year to the volume of services provided in the previous year. If the volume increases in a given year above a predetermined amount, the budgeted increase in fees will be reduced in the following fiscal year. The effect of such a collective incentive on individual physician behavior is unclear.

◆ Private Cost Management Strategies and National Health Care Cost Inflation

It has often been stated that a decade of cost management has not slowed health care cost inflation. That proposition ignores the fact that cost management strategies have not been universally adopted. Employers have been slow to implement cost management strategies for several reasons. First, employee benefits are provided to attract and retain a desired work force. Changes that make the benefit package less desirable affect employee morale in the short term and employers' labor market competitiveness in the longer term. Second, implementing such strategies as UR is administratively costly, and even evaluating cost management strategies' effectiveness increases administrative costs. Finally, local health care service markets and an employer's relative market power in that health care market vary widely. What works in one market may be ineffective in another. These considerations may lead employers to be conservative in changing their health plans to restrain health care cost inflation.

The question remains whether cost management strategies will ever restrain health care cost inflation. The aging population, labor cost within the market for health care services, and the continued introduction of new technology continue to drive up health care costs. It can be argued that cost management reduces unnecessary and inappropriate care and can achieve one-time savings, but it does not affect the underlying causes of health care cost increases (Schwartz and Mendelson, 1991).

The increases in health care costs that have led to the rapid evolution of the health care system over the last decade have not slowed. Private efforts to manage health care costs have been effective in lowering the costs of care but have not been universally adopted, partly because the most effective techniques are either financially burdensome to patients (cost sharing) or administratively expensive to employers, providers, and patients (UR).

Although still in an early stage of development, objective measures for evaluating the quality of care and comparing health outcomes with the cost of treatment are beginning to influence the health care services market. These measures will likely continue to be developed and improved. If they become widely employed in the marketing and purchasing of health care services, they will reduce the wide variation in treatment for similar diagnoses, the amount of inappropriate and unnecessary care, and the disparity in costs among competing health care providers.

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◆ References

- A. Foster Higgins & Company, Inc. *Foster Higgins Health Care Survey, Report 1, Indemnity Plans: Costs, Design and Funding*. New York, NY: A. Foster Higgins & Company, Inc., 1991.
- Baumgardner, James R. "Physicians' Services and the Division of Labor Across Local Markets." *Journal of Political Economy* (October 1988): 948-982.
- Buchanan, J.L., and S. Cretin. "Risk Selection of Families Electing HMO Membership." *Medical Care* (January 1986): 39-52.
- Cohodes, Donald R., and Brian M. Kinkead. *Hospital Capital Formation in the 1980s*. Baltimore, MD: The Johns Hopkins University Press, 1984.
- Custer, W.S. "Hospital Attributes and Physician Prices." *Southern Economic Journal* (April 1986): 1010-1027.
- de Lissovoy, Greg, Thomas Rice, Dan Ermann, and John Gabel. "Preferred Provider Organizations: Today's Models and Tomorrow's Prospects." *Inquiry* (Spring 1986): 7-15.
- Feldstein, Paul J., Thomas M. Wickizer, and John R.C. Wheeler. "Private Cost Containment: The Effects of Utilization Review Programs on Health Care Use and Expenditures." *New England Journal of Medicine* (19 May 1988): 1310-1314.
- Horkitz, Karen. "Health Care: What Role in the U.S. Economy?" *EBRI Issue Brief* no. 114 (Employee Benefit Research Institute, May 1991).
- Jensen, Gail A., and Michael A. Morrissey. "The Premium Consequences of Group Health Insurance Provisions." Paper presented at the American Public Health Association meetings, Boston, MA, November 14, 1988.
- Kahn, K.L., E.B. Keeler, M.J. Sherwood et al. "Comparing Outcomes of Care Before and After Implementation of the DRG-based Prospective Payment System." *Journal of the American Medical Association* (October 17, 1990): 1984-1988.
- Langwell, Kathren M., and Lyle M. Nelson. "Physician Payment Systems: A Review of History, Alternatives, and Evidence." *Medical Care Review* (Spring 1986): 5-58.
- Luft, Harold S. *Health Maintenance Organizations: Dimensions of Performance*. New York: John Wiley & Sons, 1981.
- Luft, Harold S. "Trends in Medical Care Costs" *Medical Care* (January 1980): 1-16.
- Luft, Harold S., James C. Robinson, Deborah W. Garnick, et al. "Hospital Behavior in a Local Market Context." *Medical Care Review* (Fall 1986) 217:251.
- MAPI. "Health Care Costs and Cost Containment—Getting Specific." *MAPI-Economic Report ER-108*. Washington DC: MAPI, 1988.
- Marion Merrell Dow, Inc. *Marion Merrell Dow Managed Care Digest: PPO Edition, 1990*. Kansas City, MO: Marion Merrell Dow Inc., 1990.
- Mitchell, J.B., K.A. Calore, J. Cromwell, et al. *Creating DRG-Based Physician Reimbursement Schemes: A Conceptual and Empirical Analysis: Year 1 Report*. Chestnut Hill, MA: Center for Health Economics Research, 1984.
- Newhouse, Joseph P., William B. Schwartz, Albert P. Williams, and Christina Witsberger. "Are Fee-for-Service Costs Increasing Faster Than HMO Costs?"

-
- Medical Care* (August 1985): 960–966.
- Pauly, Mark V. “Taxation, Health Insurance, and Market Failure in the Medical Economy.” *Journal of Economic Literature* (June 1986): 629–675.
- U.S. Bipartisan Commission on Long-Term Care. *A Call for Action: The Pepper Commission Final Report*. Washington, DC: U.S. Government Printing Office, 1990.
- Rowland, Diane, and Barbara Lyons. “Mandatory HMO Care for Milwaukee’s Poor.” *Health Affairs* (Spring 1987): 87–100.
- Scheffler, Richard M., James O. Gibbs, and Dolores A. Gurnick. “The Impact of Medicare’s Prospective Payment System and Private Sector Initiatives: Blue Cross Experience, 1980–1986.” Monograph. Berkeley, CA: Blue Cross and Blue Shield Association and the Research Program in Health Economics, University of California, 1988.
- Schwartz, William B., and Daniel Mendelson. “Hospital Cost Containment in the 1980’s: Hard Lessons Learned and Prospects for the 1990’s.” *New England Journal of Medicine* (11 April 1991): 1037–1042.
- Schwartz, William B., Frank A. Sloan, and Daniel N. Mendelson. “Why There Will Be Little or No Physician Surplus between Now and the Year 2000.” *New England Journal of Medicine* (7 April 1988): 892–897.
- Strumwasser, Ira, Nitin Paranjpe, David Ronis, David Share, and Larry Sell. “Reliability and Validity of Utilization Review Criteria: Appropriateness Evaluation Protocol, Standardized Medreview Instrument, and Intensity-Severity-Discharge Criteria.” *Medical Care* (February 1990): 95–111.
- Sullivan, Cynthia, and Thomas Rice. “The Health Insurance Picture in 1990.” *Health Affairs* (Summer 1991): 104–115.
- Wheeler, John R.C., and Thomas M. Wickhizer. “Relating Health Care Market Characteristics to the Effectiveness of Utilization Review Programs.” *Inquiry* (Winter 1990): 344–351.
- Wouters, Annemarie V., and James Hester. “Patient Choice in a Preferred Provider Organization.” *Medical Care* (March 1988): 240–255.