

## High and Rising Health Care Costs. Part 3: The Role of Health Care Providers

Thomas Bodenheimer, MD

One commonly held explanation for high and rising health care costs in the United States points to the market power of health care providers. This third article of a 4-part series examines how the prices and quantities of health care services interact to influence health care expenditures. The article also reviews cost-containment strategies that are designed to reduce prices and quantities of services.

One major difference between the costs of care in the United States and those in other developed nations is the price per unit of care—physician fees, payments per hospital day, and pharmaceutical prices. Greater quantities of high-priced innovative technologies in the United States also contribute to higher expenditures in the United States compared with other nations. During the 1990s, payers were partially successful in slowing cost growth by

reducing the prices of physician and hospital payments, but more recently, hospitals increased their market power by consolidation and could demand higher prices. Quantities and costs of services for Medicare beneficiaries vary markedly among geographic regions, with research showing an association between health care costs and the supply of hospital beds and specialist physicians. These findings suggest that limiting the supply of resources may reduce the quantity, and thereby the costs, of health services. Shifting the financial risk of health care costs from insurers to providers, as has been done with the Medicare diagnosis-related-group payment and capitation reimbursement, can also be effective in containing costs.

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For author affiliation, see end of text.

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The first article in this series discussed whether the cost of health care is a serious problem, presented evidence that demographic factors do not explain rising costs, and summarized the debate over whether free-market principles would contain costs (1). The second article focused on technology as a cost driver and discussed whether costs could be contained through expenditure controls or global budgets (2). This third article explores whether health expenditures are high because of the market power of health care providers and reviews the mechanisms that might control the prices and quantities of health care.

### PERSPECTIVE 7: PROVIDER MARKET POWER EXPLAINS HIGH AND RISING COSTS

Market power is the degree of influence that an organization has over another organization (3). In economic terms, it is the ability of a seller to raise prices without losing business (4). Take the common example of health insurance plans buying hospital services: If the hospital (the seller) can negotiate a contract with the insurer that gives the hospital the reimbursement (price) it wants, the hospital has market power. If the insurer can prevent the hospital from raising its price by refusing to sign a contract with the hospital (causing the hospital to lose the patients enrolled in that insurance plan), the insurer has market power.

Some observers believe that provider market power explains much of the outlier status of U.S. health expenditures compared with those of other nations (5–7). According to this view, when payers have market power, costs rise more slowly; when providers or suppliers wield market clout, costs increase more rapidly. When health insurance developed in Canada, the market power of the sole payers of health services—provincial governments—enabled

those payers to restrict prices paid to hospitals and physicians. In contrast, the U.S. health insurance industry was initially dominated by Blue Cross and Blue Shield, institutions that were controlled by hospitals and physicians. This uncontested provider market power allowed lucrative reimbursement formulas for hospitals and physicians. These formulas were replicated in Medicare as a result of the influence of Blue Cross, Blue Shield, the American Hospital Association, and the American Medical Association over the writing of Medicare regulations (5, 7). In addition, the pharmaceutical industry has deterred most governmental regulation of drug prices by using its influence over legislators (8). The result of the historical domination of providers and suppliers over payers has been a price structure far different from that of health care in most developed nations.

Provider market power can be curbed in 2 ways: by the countervailing power of purchasers and payers (governmental and private) and by governmental regulation. Regulation of hospital and physician prices began to appear in the 1980s; the countervailing power of purchasers and payers grew in the late 1980s and early to mid-1990s, but then waned. However, the prices of health services preceding those developments were already high relative to prices in other nations, and this historical gap has persisted.

The following sections explore whether high health care expenditures are primarily a result of high provider prices or large quantities of services, what cost-containment

See also:

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mechanisms are available to control prices and quantities of services, and how effective these mechanisms are. The price control and quantity control measures explained here are closely related to the expenditure control measures described in the second article in this series (2) (Table 1).

### Prices of Services

One important difference between costs of care in the United States and those in other developed nations is the price per unit of care—physician fees, payments per hospital day, and pharmaceutical prices (10, 11). Even though the United States does not provide a greater quantity of physician visits per capita than other nations, physician income is 3 times higher in the United States than in the average nation that belongs to the Organisation for Economic Co-operation and Development. The ratio of average physician income to average employee compensation is 5.5 in the United States compared to 1.5 in the United Kingdom and Sweden (11). Physicians in the United States receive higher fees (prices) for similar services than do physicians in other nations (11, 12).

Each acute inpatient hospital day in the United States costs more than double that in Canada and almost 3 times the median of that in nations in the Organisation for Economic Co-operation and Development (11). Inpatients in the United States also receive more intensive treatment (quantity) per bed-day than do inpatients in other nations. What appears to be a price differential is in fact a mix of price and quantity differences.

To help tease out the influence of price and quantity, economists have calculated comparative prices of care for particular diseases and procedures. The average price of care for an acute myocardial infarction with angioplasty is 3 to 4 times greater in the United States than in 6 other developed nations. In 9 other nations, the prices of coronary artery bypass surgery were one fifth to one half that in the United States (10).

Many pharmaceutical products improve quality and prevent costly complications of chronic illness. However, the costs of these products has been increasing at a rapid pace—more than 15% each year from 1998 to 2002 (13). Comparing a similar “market basket” of medications, Canadian and French prices are about 60% and German and United Kingdom prices are about 85% of those in the United States. Differences are wider for brand-name than for generic products. Nations whose governments control pharmaceutical prices have reduced prices compared with the United States (14).

### Price Controls

Controlling prices has been an effective mechanism of cost containment, particularly in nations other than the United States. Two experiments with governmental price controls have taken place in the United States. In the 1970s, President Nixon responded to inflation in the economy by instituting general price controls. Hospitals were not allowed to raise prices, and hospital costs slowed mark-

**Table 1. Minding the Ps and Qs of Health Care Costs**

Because this article repeatedly refers to prices and quantities, it is worthwhile to review their meaning in the health care arena.

Health expenditures ( $E$ ) are made up of 2 components: price ( $P$ ) and quantity ( $Q$ ) (9). The relationship can be expressed as  $E = P \times Q$ . More accurately,  $E =$  the sum of the  $P_s \times Q_s$  for each service or product utilized.

For example, a patient might visit Dr. Primary 10 times (quantity), paying a fee of \$50 for each visit (price), for a total expenditure of \$500. The same patient might see Dr. Specialty 5 times, paying a fee of \$100 per visit, at the same \$500 expense.

$P_s$  and  $Q_s$  are not quite that simple. Assume that a hospital day in the United States costs \$1500 compared with a Canadian hospital day at \$800—an apparent price difference for the same quantity of service. However, if the U.S. hospital day includes a higher intensity of care than the Canadian day, the apparent price difference is actually a combination of a price and quantity difference.

It is not always possible to separate  $P_s$  from  $Q_s$ .

edly. When the program ended, hospital costs shot back up. In the 1970s, 4 states (Maryland, Massachusetts, New Jersey, and New York) legislated mandatory hospital rate setting, thereby limiting growth in hospital charges. The programs applied to all payers, so that hospitals could not shift costs from 1 payer to another. These states created savings of 10% to 15%, with hospital cost growth 3% less than that in states without such programs (5, 15). Over time, as political forces weakened the legislation, the power of the regulators gradually eroded and hospital prices again increased.

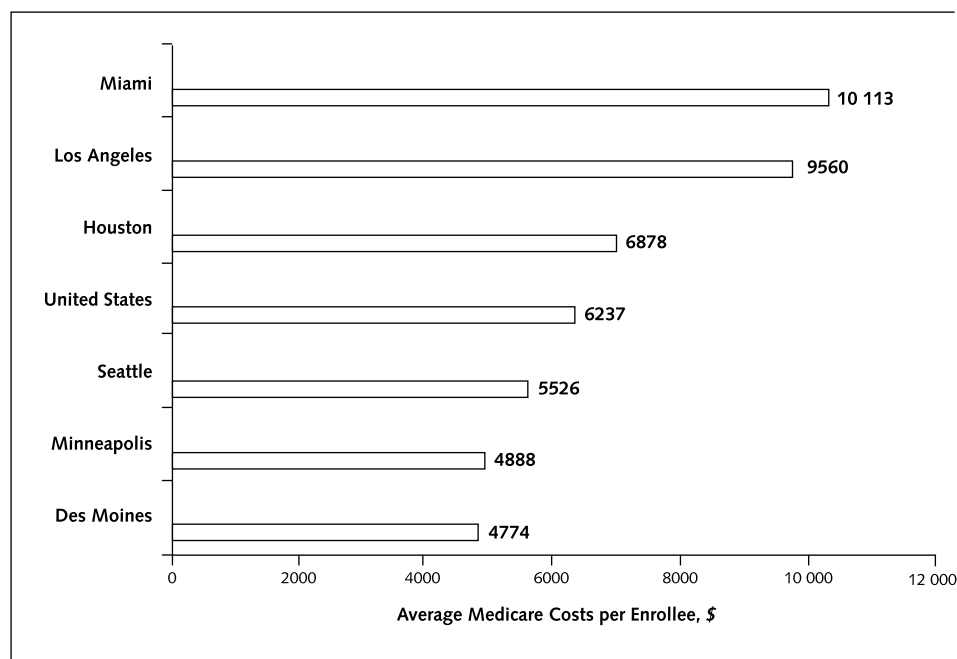
In the 1990s, price controls on physician fees and hospital payments were administered by private insurers and by the government through Medicare. These controls were a major factor in slowing health expenditure growth. When the market power of insurance plans eroded because of hospital consolidation, hospital prices increased again (16, 17). Physicians, particularly in primary care, have not achieved economic clout because they have seldom consolidated into strong organizations; they therefore continue to feel the impact of reduced prices for their services.

For physician services, the effect of price reductions are partially offset by increases in the quantity of services provided (18). For every 1% reduction in Medicare physician fees, the volume of physician services increases by 0.56% (19). If Medicare cuts the fee for coronary artery bypass surgery, thoracic surgeons recoup about 70% of their revenue loss by increasing the volume of surgeries for both Medicare and private patients (18).

### Quantity of Services

Nations that have more physicians and hospital beds or deliver higher quantities of physician visits and hospital days per capita might be expected to have higher health expenditures. The United States has fewer physicians, hospital beds, and acute care hospital bed days per capita than the median country in the Organisation for Economic Co-

Figure. Average Medicare costs per enrollee by hospital referral region, 2001.



operation and Development (11). But the United States has a higher ratio of specialist to primary care physicians (20), and it is specialists who perform high-cost innovative procedures (21).

Why does the United States have a lower supply of providers but higher costs? There are at least 3 reasons. First, nations in which a greater proportion of physicians practice primary care medicine tend to have lower per capita health expenditures than does the United States, in which a greater proportion of physicians practice specialty care (20). Second, the price of hospital care is far higher in the United States than in other nations. Finally, even though the United States has fewer physician visits and hospital beds than do other nations, it has a greater supply of expensive new technologies and uses them more intensively (2).

Another influence on the quantity of services is the method of physician payment, which is predominantly fee-for-service in the United States. Economists debate whether fee-for-service physicians generate more visits, diagnostic procedures, or surgeries to increase their incomes, known as supplier-induced demand (22). Regardless of whether one calls it supplier-induced demand or physician beliefs about how intensively to treat patients (23), the groundbreaking research of Wennberg and Cooper (24) and Fisher and colleagues (25, 26) uncovered large variations in the quantity of care delivered to Medicare patients between 1 geographic area and another (Figure). (See also part 2 of this series [2].)

Age-, sex-, and race-adjusted spending for fee-for-service Medicare in 1996 was \$8414 per enrollee in Miami compared with \$3341 in Minneapolis. This remarkable

difference is not explained by differences in prices, socioeconomic status, or degree of illness but is related to the quantity of services provided, which in turn is associated with the predominance of specialists in the higher-cost region (25). After controlling for socioeconomic characteristics and disease burden, residents of areas with a greater per capita supply of hospital beds are up to 30% more likely to be hospitalized than those in areas with fewer beds (27). Physicians appear to adapt their clinical decisions to the availability of resources: They admit more patients with less severe illnesses and extend their length of stay when hospital beds are available, seek more subspecialist consultation when more subspecialists are present, and order more computed tomographic and magnetic resonance imaging (MRI) scans when more of these facilities are at hand (25). Other researchers have confirmed these observations, finding that the number of surgical and orthopedic procedures performed per capita is associated with the supply of surgeons and orthopedists, respectively (22, 28) (Figure).

Differences in quantity of care do not necessarily directly correlate with differences in quality of care. A marked reduction in Veterans Health Administration hospital use was not associated with observed problems in quality among chronically ill beneficiaries (29, 30). Medicare enrollees in high-cost, high-quantity regions of the United States did not receive better quality of care for several conditions compared with a demographically similar population in low-quantity regions (25, 26, 30). States with high per capita Medicare spending—signifying increased quantity—had reduced quality according to several preventive and treatment indicators (30, 31).

If increased quantities of services result in increased

health expenditures, do strategies exist that can reduce the amount of services delivered, ideally reducing inappropriate rather than appropriate services?

### Quantity Controls

Strategies to reduce the quantity of care include utilization management, limitation of the supply of resources, and shifting of financial risk to providers so that providers will benefit by delivering fewer rather than more services.

### Utilization Management

In contrast to strategies to increase patient responsibility for costs, which try to reduce the quantity of services by influencing patient behavior, utilization management seeks to influence physician behavior. In the 1980s and 1990s, insurance plans denied payment for what they considered to be inappropriate services. These utilization management programs showed some cost savings (32) but angered physicians, who bristled at having to play “Mother, may I?” with insurers. Studies found that reviewers for the same case differed in their care decisions (33, 34) (Table 2).

### Supply Limits

Supply limits are controls on the number of physicians or the quantity of health facilities, such as hospital beds or MRI scanners. The research showing that the quantity of services is associated with the supply of resources suggests that supply limits could be effective in reducing quantities of health care. In the 1970s, Certificate of Need programs required hospitals to ask permission to invest in more beds and expensive equipment (5). The program failed, perhaps because the boards making the decisions were not at risk for increased costs and had strong hospital representation. In contrast, Canadian governments are at risk for increased spending, and they have controlled medical facility spread (15). Supply limits are an alternative to utilization management as a quantity-limiting strategy. Metaphorically speaking, utilization management puts reins on physicians, whereas supply limits are akin to building a fence around the entire medical commons (39). If an excess of MRI scanners exist, utilization management would reduce the quantity of MRI scans by requiring preauthorization of scans. A constrained supply of MRI scanners keeps the quantity of scans in check through a limited number of MRI appointments.

### Shifting of Risk to Providers

Under the fee-for-service system, the predominant method of provider payment in the United States, payers are at financial risk (that is, they pay out more money when more services are provided), and providers earn more money by providing more services. Changing the method of provider payment can shift the risk from payers to providers. Capitation payment shifts the risk from payers to providers: Payers spend a fixed amount of money regardless

of how many services are delivered, whereas providers do not receive additional money, but spend additional time, when they deliver more services. Capitation payment is a quantity control. Diagnosis-related-group payment to hospitals also shifts risk to providers and discourages them from providing a greater quantity of services. Shifting risk to providers, therefore, is a strategy used by payers to recruit providers to their cost-control agenda. Because money flowing into the health sector through fee-for-service reimbursement produces more medical care and higher provider incomes, providers paid by fee-for-service are generally opposed to cost control. Payment that places the provider at risk for increased costs may turn cost-increasing providers into cost-controlling providers.

### Diagnosis-Related Groups

Medicare’s hospital reimbursement method, the diagnosis-related group, encourages hospitals to control their own costs. Hospitals that receive fixed diagnosis-related-group payments earn more money by increasing the number of admissions but lose money by increasing the length of stay of each admission (5). When the diagnosis-related-group system began in 1983, the acute length of stay for Medicare patients immediately decreased. Diagnosis-related groups reduced the level and the growth of Medicare inpatient hospital expenditures (40).

However, this system failed to slow the growth of total (as distinct from Medicare alone) national health care expenditures. According to the commission created by the U.S. Congress to study Medicare hospital payment, hospitals engineered shifts in costs to private payers—who did not adopt the diagnosis-related-group system—to make up for lower Medicare revenues. In 1990, private insurers were paying hospitals about 28% more for their patients’ care than the care actually cost (15). The failure of the diagnosis-related group system to affect total national health care expenditures indicates the weakness of cost-control measures implemented by only 1 payer (15). During the 1990s, when private insurers joined Medicare in placing controls on hospital payments, hospital cost increases leveled off (13).

**Table 2. Malpractice and Costs**

One proposed driver of health care spending growth is the medical malpractice system, which encourages physicians to practice “defensive medicine” by ordering unnecessary diagnostic tests or treatments to avoid malpractice suits (35).

Kessler and McClellan compared costs between states with and those without effective tort reform legislation and estimated that defensive medicine may account for 5% to 9% of health expenditures (36), an estimate echoed by the U.S. Office of Technology Assessment (37).

These percentages would have to increase over time to affect health spending growth.

Defensive medicine is difficult to define because some “defensive” decisions confer benefits to patients (35, 38).

### Capitation

By instituting capitation payment, payers try to involve physician organizations (medical groups and independent practice associations) in the payers' cost-control campaign. Because capitation payments are the same regardless of whether more or fewer services are provided, physician organizations seek to control the quantity of physician visits, specialty referrals, ancillary services, and pharmaceuticals. Studies show that the use of costly tests and procedures decreases in capitated environments (41, 42). Nations that use capitation payment tend to have lower health care expenditures per capita than do countries that rely on a fee-for-service system (10).

Studies in the 1970s came to the startling conclusion that capitated group- and staff-model health maintenance organizations, receiving capitation payments from purchasers and paying physicians by salary, achieved cost savings of 30% to 40% (43) relative to fee-for-service payment systems. A 1995 literature review found that these health maintenance organizations reduce services by 22% (44). In contrast, independent practice associations, which receive capitation payment from insurers but often pay physicians on a fee-for-service basis, had significantly more hospital days between 1985 and 1995 than did group- or staff-model health maintenance organizations and have not controlled costs (15, 45). Group- and staff-model health maintenance organizations institute supply limits to contain costs. In addition, their salaried physicians—in contrast with fee-for-service physicians—have no monetary incentive to increase services.

### Summary

The strong historical influence of provider interests on the structure of public and private health insurance in the United States created lucrative reimbursement formulas for hospitals and physicians. As a result, hospitals and physicians in the United States were able to obtain considerably higher prices for their services than did providers of similar services in other nations (10, 11). Moreover, even though the quantities of physician visits and hospital days per capita have been lower in the United States than the average developed nation (11), the use of expensive technologies—which is also influenced by provider market power—is higher in the United States (10, 11). Thus, according to this perspective on health care costs, the gap between health expenditures in the United States and those in other nations is explained by the higher prices of all services and the greater quantities of high-technology services in the United States. Measures to control both the prices and quantities of services have been only partially and temporarily effective.

## INTEGRATING THE 7 PERSPECTIVES ON HEALTH CARE COSTS

The first article of this series (1) posed 5 questions concerning health care expenditures: 1) Are high and rising

expenditures a serious problem? 2) Why are expenditures higher in the United States than in other countries? 3) Why are expenditures growing so fast? 4) What strategies are available to slow their rate of growth? and 5) Do strategies exist that enable physicians to reduce costs while improving or protecting quality?

The first article also listed 7 perspectives concerning health care costs: 1) High and rising costs are not such a serious problem. 2) High and rising costs are a problem, but they are created by factors external to the health care system. 3) High and rising costs are caused by the absence of a free market; the remedy is to give patients more responsibility for costs of care and to encourage competition among health insurers and providers. 4) High and rising costs are the result of medical technologies creating innovation in the diagnosis and treatment of illness. 5) High and rising costs are in part the result of excessive costs of administering the health care system. 6) High and rising costs are explained by the absence of strong cost-containment measures. 7) High and rising costs are the result of the market power of health care providers.

Drawing on the discussions of these 7 perspectives, we will address the first 4 questions; the fifth question is the subject of the fourth article in the series.

### Are High and Rising Expenditures a Serious Problem?

High and rising health care expenditures may not threaten the vitality of the U.S. economy, but they are a serious concern for groups within the economy: employers, employees, governments, taxpayers, and patients. For individuals and organizations who earn their income by providing or supplying health services—hospitals, pharmaceutical companies, and physicians—high costs may be beneficial.

### Why Are Expenditures Higher in the United States Than in Other Countries?

Per capita health expenditures are far higher in the United States than in any other nation. The explanation for this fact varies with different historical periods. The gap between health care expenditures in the United States and those of other nations began more than 40 years ago (46) and was associated with hegemonic market power of hospitals and physicians, who were able to garner high prices for their services. While this price gap persists, a more recent development contributing to the widening difference between costs in the United States and those of other nations (47) is the more rapid diffusion of innovative technologies in the United States. The cost of administering the health care system is another reason why the United States is an outlier in its health care expenditures.

### Why Are Health Care Expenditures in the United States Growing So Fast?

It is one thing to explain why costs of health care are high in the United States compared with the rest of the world. Understanding the growth of costs within the United States is a different matter. Provider prices and

administrative costs do not explain why costs increase so fast. An aging population has only a small influence on cost growth. Two interrelated factors appear to explain much of the rapid rise in health care expenditures: the spread of innovative technologies and a health system in which providers dominate the market. When payers curbed prices and quantities of medical services in the early 1990s, hospitals consolidated into systems that could command higher prices and fewer restrictions on quantities of services. Because most facilities for new technologies were located at hospitals, hospital market power enabled these technologies to proliferate. These technologies, if used appropriately for patients who would benefit the most, promise improved quality of care, but the increasing quantities of these high-priced services fuel health expenditure growth.

### What Strategies Are Available To Control the Growth of Health Expenditures?

Making patients responsible for the costs of their care can reduce expenditures for patients with low levels of expenditures; however, there is no convincing evidence that patient cost-sharing reduces expenditures for the 10% of the population that incurs 70% of health care costs. During the early 1990s, competition showed some promise of reducing costs for purchasers seeking health insurance and for health insurers contracting with hospitals. However, consolidation of health plans and hospitals thwarted efforts to develop markets in which competition could occur. The absence of a competitive free market for health care services reflects the market power of providers.

Because technologic innovation in the environment of strong provider market power is associated with increasing expenditures, cost-containment efforts directed at these 2 factors may hold promise for slowing health expenditure growth. An example would be technology assessment programs that set standards of appropriate care, which are in turn linked to a system of provider payment that reimburses diagnostic testing and medical procedures only if they have been used appropriately.

Global budgeting and strict expenditures caps—a strategy to limit the total amount of money that flows into the health care economy—are potentially the strongest cost-control measures. Whether such a strategy can (or should) withstand the imperative for technologic innovation is doubtful. Although most medical advances diffuse more rapidly in the United States than in nations with expenditure limits, per capita use of new technologies in other nations is catching up to U.S. rates.

High and rising health care costs require a multifactorial explanation. How should physicians, who are major participants in the rising cost drama, think about this topic? Is expenditure growth a reasonable price to pay for improved quality? Or will costs rise so high that employers and individuals become unable to afford health care, thereby reducing access and—because quality requires ac-

cess—also reducing quality? The final article of this series examines some cost-control strategies related to medical practice that may reduce costs while protecting or improving quality.

From the University of California, San Francisco, San Francisco, California.

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**Requests for Single Reprints:** Thomas Bodenheimer, MD, Department of Family and Community Medicine, University of California, San Francisco, Building 80-83, San Francisco General Hospital, 1001 Potrero Avenue, San Francisco, CA 94110; e-mail, [tbodenheimer@medsch.ucsf.edu](mailto:tbodenheimer@medsch.ucsf.edu).

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