The "competition revolution" in health care

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Prologue  Medical care is widely regarded as a vital ingredient of a decent social minimum that any civilized society should provide to make available to its citizens. As a rule, western industrialized nations incorporate this element in their social contracts, in all cases doing so in ways that uniquely reflect the individual country's culture and economic status. The United States has moved partially down the road of providing equal access to medical care, but it has fallen well short of universal coverage. During the 1980s, the government in power sounded the rhetorical call to change not by broadening access, but through a belief that America's health sphere could position itself best for the future by employing market principles to allocate scarce resources. In this opening essay, Victor Fuchs, professor of economics at Stanford University, examines the role these principles have played in medical care during the 1980s.

Fuchs is best known as the author of a short book that still is must reading for anybody who is striving to understand the economics of medical care. Fuchs concluded in his 1974 tract entitled Who Shall Live? that America cannot have all the health and all the medical care it would like to have, but must make tough choices. Fuchs' recommended design of a system that provides "universal comprehensive insurance," and features decentralized delivery systems that are remunerated by capitation payments, "competition (wherever possible)," "elimination of many of the restrictions on use of health manpower," "rational physician supply," and "rational hospital utilization." Fuchs asserted "Implementation of these recommendations should have a significant impact on the problems of cost and access. They should not be expected, however, to produce a dramatic improvement in the overall health of the population . . . the greatest potential for improving health lies in what we do and don't do for and to ourselves. The choice is ours."
Any attempt to assess the effects of a revolution that is less than a decade old and still in progress is fraught with danger. The relevant data appear only with a lag and are subject to revision. Some of the most important effects necessarily occur slowly, and at this point any evaluation of recent changes in health care must contain large elements of forecast as well as measurement after the fact. My assignment poses an additional problem because the health care revolution has been widely advertised as one of "increasing competition." Is this characterization correct? To what extent have recent changes in organization and finance increased competition among health care providers? To answer these questions we first must consider what economists mean by competition and appraise the factors that limit competition in health care. The major portion of this article deals with the effects of the revolution regardless of whether related to competition or not. We will see that the cost-containment efforts of the 1980s did not result in a slowing of expenditures for health care. The reasons for this apparent failure and the implications for the future are discussed.

Health Care Competition In Context

Health care is, in many respects, similar to other goods and services. It is produced with resources that are scarce relative to human wants. Thus every society must have control mechanisms for determining how much health care to produce, how to produce it, and how to distribute it among the population. In principle, only three types of mechanisms are available: the market, central direction, and traditional norms. Kenneth Boulding has characterized these alternatives as the exchange system, the threat system, and the integrative system. All modern societies use a combination of the three, but the proportions vary greatly from country to country and from time to time within the same country.

For the market approach to succeed, competition must be present. Without competition, sellers with monopoly power or buyers with monopsony power can take advantage of their customers or their suppliers with results that are neither efficient nor equitable. Most health care markets depart substantially from competitive conditions, sometimes inevitably and sometimes as a result of deliberate public or private policy. One question of interest is the extent to which the changes in finance and reimbursement of recent years have moved health care markets toward a more competitive structure. Another, to be discussed at the end of the article, is whether the competitive market approach is the goal toward which health policy should strive.

The term competition has a long and complex history in economics.
To Adam Smith it was a powerful, beneficent instrument of change that would liberate the economy from the deadening influence of mercantilist restrictions. With extraordinary vision, he saw that if the anticompetitive influence of government were eliminated, the market system literally could create the “wealth of nations.” He also warned against private attempts to limit competition, especially the propensity of people of the same trade to meet together “even for merriment and diversion, but the conversation ends in a conspiracy against the public.”

Following the prescriptions of Smith, Ricardo, and other classical economists, nineteenth-century England developed the competitive market approach in full force, and the British economy prospered. Many noneconomists, however, railed against the evils of competition, and the term began to acquire an odious connotation.

In modern times, economic theorists have defined competition (and its many variants) with greater precision. Perfect competition means that the individual seller or buyer is so small relative to the total market that the actions of that seller or buyer have no effect on the market price. Each producer’s output is indistinguishable from competitors’, and there is perfect information on both sides of the market. Given certain assumptions about preferences, income distribution, and economies of scale, perfect competition constitutes an ideal in the sense that if it prevailed in every market, resources would be allocated in a socially optimal way.

A more practical approach to the question of competition emphasizes the following conditions: (1) A large number of buyers and sellers, no one of whom is so big as to have a significant influence on the market price; (2) no collusion among the buyers or sellers to fix prices or quantities; (3) relatively free and easy entry into the market by new buyers or sellers; (4) no governmentally imposed restraints on prices or quantities; and (5) reasonably good information about price and quality known to buyers and sellers.

In short, the structure of the market (number of firms and their size distribution), barriers to entry, and privately initiated or government-sanctioned collusion generally determine the extent of competition. In health care markets there is another consideration: Are the buyers of health care sensitive to costs? If they are not, the question of competition among suppliers is less relevant. One consequence of competition, in health care as well as other markets, is a reduction in profits.

Let us look at each sector of the health care industry and ask whether recent changes have moved the sector in a more competitive direction. Health insurance has always been competitive, with hundreds of firms seeking business in most large markets. Nationally, over 1,200 firms sell health insurance, and the number has not changed materially in the
1980s. In some markets, Blue Cross and Blue Shield (the “Blues”) have a
dominant share, and they have been accused of competing “unfairly” by
getting discounts from hospitals. Health insurance company profits are
not known precisely and fluctuate markedly from year to year. The
conventional wisdom is that they were low in the early 1980s, rose sharply
in 1984 and 1985, and have been falling since then. Much of the recent
pressure on profits comes from insurance company ventures in health
maintenance organizations (HMOs) and preferred provider organizations
(PPOs).

The number of hospitals certainly has not increased in the 1980s;
development, it has decreased slightly, and this decrease has been widely
applauded. Many hospitals have no close competitors because they are
located in areas with small populations. Hospitals located close to one
another have always competed, but in the past the target was usually
physicians, and the bait was better equipment, bigger support staff, and
the like. Now the target is more likely to be patients, who are wooed with
amenities and services on the one hand, or with price discounts (to large
buyers) on the other. If the total amount of competition among hospitals
increased in the 1980s, profits should have fallen; however, there is no
evidence of that through 1985. In that year, profits from the prospective
payment system (PPS) were estimated at $5.1 billion or a profit/revenue
rate of 15.3 percent.\(^6\) In 1986, however, profits probably did fall as the
large buyers of care, both public and private, began to press harder on
price and utilization.

The number of physicians has increased in the 1980s but the rate of
increase has been no more rapid than in the 1970s, when competition was
rarely mentioned. Moreover, during the 1980s, there has been an effort
to get medical schools to reduce enrollment or to close altogether, and the
number of independent physicians has declined as a result of a trend
toward larger groups and organized practices.

There has been a large increase in the number of organized health
plans and a big increase in competition in that sector. Thus, an organiza-
tion such as Kaiser Permanente, which frequently was the only plan in an
area, undoubtedly has perceived a big increase in competition. At one
time Kaiser was the only organization offering managed care in many
markets, and their low costs relative to conventional insurance plans
insulated them from competitive pressures. All that has changed. Fur-
thermore, the increased emphasis on self-insurance by large firms and on
experience rating by health insurers threatens the survival of Kaiser’s
community-rating approach.

With respect to collusion, there probably has been some reduction
through the elimination of laws that prohibited selective contracting.
Price discounting is more widespread now than in the past, although until we have information on utilization and quality of care we will not know whether discounts truly lower the cost of care. It is ironic that selective price discounting by hospitals and physicians now is hailed as evidence of competition, when one of the most frequently cited articles in health economics, Reuben Kessel’s “Price Discrimination in Medicine,” concluded that the existence of sliding fees proved that physicians had monopoly power.  

Most of the barriers to entry into health care markets—licensure, accreditation, and certification—are about the same today as in 1980. The growth of for-profit firms, however, with their access to equity capital, may have encouraged entry in some areas. There certainly has not been any reduction in governmentally imposed prices; at the state level, especially, the trend has been toward more government intervention.

Finally, with respect to information available to buyers, there has been a small increase in the form of health plan evaluations and some primitive quality-of-care measures for hospitals. Yet, the fundamental problem remains: patients frequently have great difficulty determining how much and what kind of medical care they need, and they probably always will.

In short, except for the growth of organized health plans, I would not characterize the 1980s as a period of substantial increases in health care competition. I say this even though most physicians, hospital administrators, and other health professionals feel that they are under increased pressure, which they attribute to competition. Most of this pressure, however, really comes from another source, namely, more activist policies by the buyers of health care. The large buyers have decided to exert “countervailing power” against the sellers. This may be socially desirable, but it is not the same as competition. However, a shift away from open-ended, cost-unconscious third-party reimbursement is resulting in more emphasis on price as opposed to nonprice competition. Also, a shift from inpatient to ambulatory care has forced many hospitals to seek new sources of revenue.

What Really Happened?

In the three decades preceding 1980, demand for health care increased enormously, beginning with the rapid diffusion of private health insurance. The number of persons with hospital insurance jumped from 32 million at the end of World War II to 122 million by 1960, and coverage for physicians’ services soared from fewer than 5 million to over 83 million. Then, when the spread of private insurance ran out of steam, tens of millions of additional Americans obtained health insurance coverage
Changes on the demand side were accompanied by substantial shifts in supply. Between 1950 and 1980, the number of short-term hospital beds per 1,000 population rose from 3.3 to 4.4, hospital personnel per patient soared from 1.8 to 3.8, and physicians per 1,000 population jumped from 1.5 to 2.1. Generous funding from the National Institutes of Health (NIH), as well as heavy investment by drug companies and other private firms, contributed to a scientific and technologic transformation of medical practice.

For three decades, “highest-quality care for all” dominated the health policy agenda. Not surprisingly, spending for health care jumped from 4.6 percent to 9.1 percent of the gross national product (GNP). As 1980 approached, however, concern shifted from increasing access and raising quality to curbing the skyrocketing cost of health care.

In assessing the possible mechanisms to achieve cost containment, policymakers ruled out self-regulation by physicians and hospitals as ineffective. A so-called voluntary approach had been tried in the 1970s and been found wanting. Direct regulation by the federal government, as implied in the Carter-Califano proposals, also was rejected as inconsistent with the political-economic temper of the times. With air transportation, trucking, banking, and other industries being thrown open to the rigors of the unregulated marketplace, there was little support in Washington for close regulation of health care. A few states, however, did adopt a regulatory approach through hospital commissions charged with setting rates and controlling utilization.

Prospective payment. Probably the most important change in the 1980s was the introduction by the federal government of a prospective payment system (PPS) for Medicare beneficiaries, based on diagnosis-related groups (DRGs). Although this change has helped to slow the rate of growth of hospital expenditures, it has little to do with competition. To see this, imagine that all hospitals were owned by one giant corporation, HMA (Hospital Monopoly of America). The switch from a system of cost reimbursement to a prospectively set fixed fee could result in a slowing of expenditures and put great pressure on HMA even though its monopoly position was unchanged.

The impact of PPS on hospital length-of-stay has been substantial. Hospitals reimbursed under PPS had much smaller increases in costs per case than those still covered by the previous Tax Equity and Fiscal Responsibility Act (TEFRA) system (+7.6 percent versus +18.1 percent between 1982 and 1984). The most important factor was a more rapid decline in average length-of-stay in the hospitals paid by PPS (–14.6 percent versus –7.9 percent).
The role of competition in this decline is unclear. A recent study of California hospitals by Melnick and Zwanziger concluded that those located in highly competitive markets were more responsive to cost containment in 1983–1985 than were hospitals in areas with very little competition. In 1983, however, the hospitals in the highly competitive markets had almost 50 percent higher expenses per admission, so it is not surprising that they would be affected more by PPS and similar cost-containment efforts. In a national study, Robinson and Luft reported that costs actually are higher in hospitals located in competitive markets than in hospitals that have no close competitors (controlling for wage rates, patient case-mix, state regulatory programs, and teaching status of hospitals). In the past, competition between hospitals typically took cost-increasing, nonprice forms such as meeting physicians’ requests for new technologies. Currently, there probably is more emphasis on price competition, but extensive expenditures for advertising, community relations, and outreach programs show that nonprice competition is still significant. The new nonprice competition is focused more on patients and less on physicians.

Another aspect of cost containment in the 1980s is a reversal of the egalitarian ethos of the 1960s and 1970s. In recent years, we have seen reductions in health care programs for the poor, elimination of cross-subsidies by tying premiums more closely to experience, and attempts to reduce utilization via deductibles and copayment. Regardless of whether these changes are good or bad, they should not be mistaken for changes in competition among suppliers.

Consider the RAND health insurance experiment, which conclusively demonstrated that the “general law of demand” applies to medical care as well as to wheat and widgets. In a prospective, carefully controlled study, families with full insurance coverage used more care than those with cost sharing. Although this result often is cited in support of the competition argument, no such inference is warranted. Both the free-care families and the cost-sharing families received their care in the same markets, and the cost-sharing effect on utilization was as large in a site that had fewer than two dozen physicians as in a site that had several thousand.

From a theoretical perspective, it is not clear that more competition would enhance the cost-saving effects of deductibles and coinsurance. Given the inevitability of imperfect information, rival health plans faced with decreasing demand might increase marketing expenditures more than a monopoly would. At least some of these expenditures would be a dead-weight loss from the point of view of consumer welfare.

**How effective was cost containment?** The question of competition aside, did cost containment reduce the rate of growth of health care
expenditures? The answer is that it did not, at least so far. As shown in Exhibit 1, the overall growth of real expenditures per capita was more rapid after 1980 than in the previous decade. Disaggregation reveals that expenditures for hospital care did slow appreciably after 1983, but expenditures for physicians’ services accelerated rapidly throughout the 1980s. Indeed, spending for physicians grew at a faster rate from 1980 to 1986 than in the euphoric period following the introduction of Medicare and Medicaid in the late 1960s. Spending for dental care, other professional services, drugs and sundries, other personal care, and “program administration and net cost of private insurance” also accelerated in the 1980s. The increase in the last item was so great that one may suspect some accounting artifact. The growth of nursing home expenditures slowed somewhat after 1980, and government public health expenditures also grew less rapidly. The latter change reflects government policy and bears no relation to market structure.

Exhibit 1
Rates Of Change Of National Health Expenditures And Components, Adjusted For Population Growth And Inflation, Selected Periods, 1965-1986, Percent Per Year a

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National health expenditures</td>
<td>6.2%</td>
<td>3.8%</td>
<td>4.4%</td>
<td>4.8%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Health services and supplies</td>
<td>6.5</td>
<td>4.0</td>
<td>4.6</td>
<td>5.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Personal health care</td>
<td>6.6</td>
<td>3.9</td>
<td>4.4</td>
<td>4.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Hospital care</td>
<td>8.4</td>
<td>4.7</td>
<td>3.7</td>
<td>4.9</td>
<td>2.5</td>
</tr>
<tr>
<td>Physicians’ services</td>
<td>5.0</td>
<td>3.7</td>
<td>5.5</td>
<td>5.3</td>
<td>5.6</td>
</tr>
<tr>
<td>Dentists’ services</td>
<td>4.9</td>
<td>3.7</td>
<td></td>
<td>4.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Other professional services</td>
<td>4.0</td>
<td>9.3</td>
<td>9.0</td>
<td>9.6</td>
<td></td>
</tr>
<tr>
<td>Drugs and medical sundries</td>
<td>3.2</td>
<td>0.4</td>
<td>2.3</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>Eyeglasses and appliances</td>
<td>3.8</td>
<td>1.7</td>
<td>2.1</td>
<td>-0.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Nursing home care</td>
<td>10.7</td>
<td>6.5</td>
<td>4.6</td>
<td>4.8</td>
<td>4.4</td>
</tr>
<tr>
<td>Other personal health care</td>
<td>7.5</td>
<td>2.2</td>
<td>5.9</td>
<td>4.0</td>
<td>7.8</td>
</tr>
<tr>
<td>Program administration and net cost of private health insurance</td>
<td>4.6</td>
<td>3.7</td>
<td>10.5</td>
<td>13.3</td>
<td>7.8</td>
</tr>
<tr>
<td>Government public health activities</td>
<td>5.8</td>
<td>8.3</td>
<td>4.3</td>
<td>2.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Research and construction of medical facilities</td>
<td>3.2</td>
<td>-0.3</td>
<td>-0.6</td>
<td>1.2</td>
<td>-2.4</td>
</tr>
<tr>
<td>Noncommercial research</td>
<td>0.3</td>
<td>1.8</td>
<td>1.2</td>
<td>-2.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Construction</td>
<td>5.2</td>
<td>-1.7</td>
<td>-2.3</td>
<td>4.2</td>
<td>-8.9</td>
</tr>
</tbody>
</table>


a Deflated by the implicit gross national product (GNP) deflator.

Failure To Decrease Spending

To gain insights regarding the failure of the health care revolution to
slow spending in the 1980s, it is useful to begin with a cost-containment identity:

\[
\text{Expenditures} = \frac{\text{quantity of inputs per unit of service}}{\text{prices of inputs}} \times \text{quantity of services}
\]

By definition, expenditures depend upon the reciprocal of productivity (the first term) multiplied by the prices of the factors of production (including profits) multiplied by the quantity of services (including quality as one dimension of quantity). For cost containment to have had an effect, it would have had to have worked through one or more of these three terms.

**Productivity.** The first term, the reciprocal of productivity, is extremely difficult to measure, but in my judgment there was not much improvement. Moreover, the potential for change is not large. This term measures *production efficiency* in the narrow sense of the quantity of services delivered to patients, regardless of the value of those services. It does not purport to measure efficiency in the broad sense of changes in health outcomes or other aspects of patient satisfaction. Unfortunately, a good deal of the discussion of cost containment has blurred the distinction between these two concepts of efficiency. The elimination of “unnecessary care,” or care with-low value relative to costs (efficiency-enhancing in the broad sense), is possible and desirable but has little to do with making hospitals and physicians’ offices run more efficiently in the narrow sense.

In my view, there is only limited potential for increasing the quantity of services produced with a given quantity of resources or for producing the existing quantity of services with fewer resources. No doubt every organization runs with some slack, and most individuals could work harder than they do. However, the notion that there is large potential for cost containment through increases in production efficiency is misguided. To put the matter in simplest terms, how much additional nursing services can be obtained from a fixed number of nurses? In the short run, nurses probably can be pressed to work harder, but, in the long run, they will quit or demand higher pay for the harder work. One obvious way to increase productive efficiency would be to reduce the number of physicians in specialties with large excess capacity, but such reductions will come slowly, if at all.

The limited measures of productivity that are readily available, such as the number of hospital personnel per patient or number of physicians per 1,000 patient visits, show no improvement since 1980, and perhaps a deterioration. To be sure, the quantity of services per patient day and per
visit probably increased, but we do not know by how much. We do know that after 1980 there was a considerable increase in resources going into marketing, advertising, new computer systems, management consulting, and the like. Whether these additional inputs resulted in an equivalent increase in services to patients is unclear. Also unclear is whether the additional inputs required by hospitals and physicians to adapt to the changes in health care finance are “one-time” or whether they will continue. For the period 1980-1986, I would not be surprised if subsequent research shows that the productivity term made a negative contribution to cost containment.

*Input prices.* The second term on the right-hand side of the cost-containment identity refers to the prices of inputs (of given quality), including inputs of capital and entrepreneurial skill. Thus this term includes profit as a price. The most important input to health care is labor, and fortunately we have good data on wages in health and other industries. These data show that hourly earnings of health care workers grew faster than the earnings of other American workers between 1979 and 1985 (Exhibit 2).\(^\text{14}\)

The gap of over one percentage point per year cannot be explained by differences in employment growth. It is true that employment grew much more rapidly in health than in the goods sector (mining, manufacturing, and the like), but employment in other services (banking, finance, retail trade, personal services, education, and so on) grew almost as rapidly as in health.

A more promising explanation is that health workers are disproportionately female, and women’s earnings rose more rapidly than men’s in the 1980s.\(^\text{15}\) Women constitute 74 percent of employment in health, but

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**Exhibit 2**

Rate Of Change Of Hourly Earnings In Health Relative To Other Sectors, 1979-1985. Percent Per Year

<table>
<thead>
<tr>
<th></th>
<th>Health relative to service sector (excluding health)</th>
<th>Health relative to goods sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unadjusted</td>
<td>Adjusted(^a)</td>
</tr>
<tr>
<td>All</td>
<td>1.4%</td>
<td>1.3%</td>
</tr>
<tr>
<td>White women</td>
<td>1.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Black women</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>White men</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Black men</td>
<td>3.4</td>
<td>3.0</td>
</tr>
</tbody>
</table>


\(^a\) Multiple regression analysis is used to control for changes between 1979 and 1985 in the sex, race, age, and education distributions of workers in each sector.
only 49 percent in the rest of the service sector and 26 percent in the goods sector. Given the differential change between women’s and men’s earnings of about one percentage point per year, the differences in gender proportions could produce a differential between health and the rest of the service sector of about 0.25 percentage point per year and between health and the goods sector of about 0.50 percentage point. But even if one looks only at women’s wages, those of health workers grew more rapidly. In the most thoroughly controlled comparisons, looking only at white women ages twenty-five to thirty-four and thirty-five to forty-four at three specific levels of education, the rate of growth of earnings in health was slightly greater than the rate in the rest of the service sector (Exhibit 3).\(^6\) Whatever else cost containment did, it did not noticeably depress the price of labor—the most important input. This is not surprising. The health industry must offer competitive wages if it is to be able to attract the quantity and quality of labor it needs.

### Exhibit 3
Hourly Earnings Of White Women In Health Sector And Service Sector (Excluding Health)

<table>
<thead>
<tr>
<th>Years of education</th>
<th>Hoursly earnings, 1985</th>
<th>Average rate of growth of real hourly earnings, 1979 to 1985 (percent per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 25-34</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>Service sector (excl. health)</td>
</tr>
<tr>
<td>12</td>
<td>$6.66</td>
<td>$6.33</td>
</tr>
<tr>
<td>13-15</td>
<td>8.55</td>
<td>7.55</td>
</tr>
<tr>
<td>16</td>
<td>10.36</td>
<td>8.90</td>
</tr>
<tr>
<td>Ages 35-44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>Service sector (excl. health)</td>
</tr>
<tr>
<td>12</td>
<td>$7.03</td>
<td>$6.59</td>
</tr>
<tr>
<td>13-15</td>
<td>8.97</td>
<td>8.27</td>
</tr>
<tr>
<td>16</td>
<td>11.28</td>
<td>9.66</td>
</tr>
<tr>
<td>Simple averages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>$6.84</td>
<td>$6.46</td>
</tr>
<tr>
<td>13-15</td>
<td>8.76</td>
<td>7.91</td>
</tr>
<tr>
<td>16</td>
<td>10.82</td>
<td>9.28</td>
</tr>
<tr>
<td>Three education groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ages 25-34</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$8.52</td>
<td>$7.59</td>
</tr>
<tr>
<td>Ages 35-44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.10</td>
<td>8.17</td>
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<tr>
<td>Six age-education groups</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>$8.81</td>
<td>$7.88</td>
</tr>
</tbody>
</table>


\(^a\) Deflated by the Consumer Price Index.
Quantity of services. If changes in productivity and input prices did not (and in my opinion cannot) contribute much to a slowing of health care expenditures, that leaves the third term, quantity of services, as the only significant mechanism through which costs can be contained. Sooner or later the only way to cut health care spending significantly is to reduce the quantity of services delivered to patients.

Exhibit 4 suggests that recent cost-containment efforts did have a major impact on the quantity of hospital care delivered to Medicare beneficiaries. The number of bills (a good index of number of admissions) declined in the 1980s instead of rising rapidly as in the late 1970s; average length-of-stay decreased more dramatically than before; and the number of days of care stopped rising and then fell rapidly.17 If the average rate of decline of 5.5 percent per year were to continue for eight more years, the number of days of care would fall to one-half the 1980 level! Total charges (deflated) continued to rise, but at a much lower rate than before 1980. The rate of increase in charges per bill was relatively unchanged, but reimbursement per bill rose 1 percent per year faster after 1980, contributing to better profit rates for hospitals under PPS.

With respect to the population under age sixty-five, the growth of participation in HMOs from 5 percent to 12 percent of the population (1980-1986) also must have had an appreciable effect on hospital use. HMO members typically use only about two-thirds as much hospital care as the rest of the population; thus the shift in proportions would explain a decrease in hospitalization of 0.4 percent per year even if everything else remained constant.

It seems clear that the cost-containment efforts did have an impact on hospital services, not only for the Medicare population but for patients under sixty-five as well. For the total U.S. population, the 1985 discharge rate (short-term general hospitals) of 148 per 1,000 was the lowest since 1971, and represented a decline of over 10 percent since 1980. Virtually all

Exhibit 4
Rates Of Change Of Medicare Short-Stay Hospital Bills Approved For Payment, Percent Per Year

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Number of bills</td>
<td>5.1%</td>
<td>-1.9%</td>
</tr>
<tr>
<td>Average length-of-stay</td>
<td>-1.6</td>
<td>-3.5</td>
</tr>
<tr>
<td>Total days of care</td>
<td>3.4</td>
<td>-5.5</td>
</tr>
<tr>
<td>Total charges (deflated)</td>
<td>10.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Charges per bill (deflated)</td>
<td>5.6</td>
<td>5.3</td>
</tr>
<tr>
<td>Reimbursement per bill (deflated)</td>
<td>4.3</td>
<td>5.3</td>
</tr>
</tbody>
</table>

of the decline occurred after 1983. Average length-of-stay was dropping prior to 1980, but the rate of decline accelerated after that date. Hospital expenditures did respond to the shift to HMOs, the changes in reimbursement methods, the closer scrutiny of hospital admissions and lengths-of-stay by third-party payers, and a slight increase in the proportion of hospital bills paid directly by patients, from 7.4 percent to 9.4 percent.

Cost containment has yet to make an impact on physicians’ services. The number of bills for Medicare beneficiaries grew somewhat more slowly after 1980 than in the 1970s, but the growth rate for allowed charges continued at almost 8 percent per year, deflated (Exhibit 5). Reimbursement in relation to allowed charges was less favorable in 1980-1984 than in 1974-1980, especially for physicians providing medical as distinct from surgical care. This undoubtedly contributed to physicians’ sense of unease.

Exhibit 5
Rates Of Change Of Medicare Physician Bills Paid, Percent Per Year

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of bills</td>
<td>12.9%</td>
<td>9.7%</td>
<td>13.5%</td>
<td>9.8%</td>
<td>9.2%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Allowed charges (deflated)</td>
<td>8.7</td>
<td>7.6</td>
<td>9.2</td>
<td>7.0</td>
<td>8.1</td>
<td>8.6</td>
</tr>
<tr>
<td>Allowed charges per bill (deflated)</td>
<td>-4.2</td>
<td>-2.0</td>
<td>-4.3</td>
<td>-2.9</td>
<td>-1.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Reimbursement per bill (deflated)</td>
<td>-3.3</td>
<td>-1.8</td>
<td>-3.2</td>
<td>-2.9</td>
<td>-0.6</td>
<td>0.8</td>
</tr>
</tbody>
</table>


For the population as a whole, there is uncertainty about the trend in number of visits to physicians. The National Health Interview Survey shows an increase from 4.8 to 5.1 per person between 1980 and 1983, but the access surveys sponsored by The Robert Wood Johnson Foundation show a decline from 4.8 to 4.3 ambulatory visits per person between 1982 and 1986. At this point, the most reasonable conclusion is that number of visits probably did not change much one way or the other; the intensity of each visit probably increased. Some observers expected an increase in deductibles and coinsurance to slow spending for physicians’ services, but no slowing is evident. One likely explanation is that the proportion of physicians’ spending paid directly by patients did not increase between 1980 and 1986; it actually fell from 30 to 28 percent.
Other Explanations

The failure of cost-containment efforts in the 1980s to have much effect on expenditures does not come as much of a surprise to those who emphasize supply factors—hospitals, physicians, and technology—as major influences on costs. In 1980, a huge hospital capacity was already in place, and fewer patient days do not translate into equivalent reductions in costs until hospitals actually close. The data from Feder and colleagues indicate that costs per patient day (in current dollars) jumped 28.1 percent between 1982 and 1984 in the hospitals covered by TEFRA and almost as rapidly, 26.4 percent, in the hospitals reimbursed by PPS. Hospital closure comes slowly, but the pace is increasing: eighty-three in 1986 compared with sixty-one in 1985 and an average of fifty-four per year in 1980-1984.

Physician supply. A large physician supply also was in place in 1980, and continued to increase after that date. It takes at least a decade for changes in demand to affect the flow of new physicians into the market, and even longer for changes in the flow to have a significant effect on the size of the total stock and its distribution among specialties.

Fees for specialty care and the number of specialists have, as yet, been relatively untouched. Consider ophthalmological surgery, for example. My discussions with physicians in San Diego County led to the conclusion that there are at least four times as many ophthalmologists practicing there as are needed to meet the surgical needs of the community at current rates of utilization. Nevertheless, fees remain high (and new medical school graduates continue to flood into ophthalmology). An ophthalmologist with a reasonably full workload—say, ten cataract operations (or their equivalent) per week for forty weeks per year—would gross almost $1 million per year. Most of them, of course, do not make that much, but there is large excess capacity for surgery, for which the community pays a high cost. The failure of fees to fall to a level that would eliminate the excess capacity while still providing a fair return to physicians with reasonably full workloads indicates that this market is far from the one envisaged by economists when they talk about competition.

Technologic change. In addition to numbers of physicians, a major factor affecting costs is the pace and character of technologic change. In our pluralistic, heavily insured, malpractice-sensitive system, once a new technology is in place it tends to be used. Over the long run, technology, more than anything else, drives the cost of care. The technologic innovations that were introduced during the first half of the 1980s were mostly developed prior to the cost-containment efforts. It takes a long time to slow the pace of innovation. Unless this happens, however, other cost-
containment efforts tend to have only a one-time effect. In the long run, changes in the rate, or at least the character, of technologic innovation must play a critical role in slowing the rate of growth of health care expenditures.

Technologic change depends in part on new scientific knowledge, but it also is affected by demand. The old cost-based reimbursement system tended to encourage any innovation that promised to improve the quality of care, regardless of cost. Manufacturers of drugs, equipment, and supplies contemplating investment in the development of such innovations did not have to worry about whether the prospective improvement was worth the increase in cost. Under the prospective, closed-ended reimbursement that has been growing since 1980, developers of new technology are concerned much more with prospective benefit/cost ratios. This pressure probably will slow the overall rate of innovation and will shift the emphasis away from improving quality regardless of cost to innovations that are valued primarily for their cost-saving potential.

Moreover, there is an important distinction between potential technology (that is, knowledge of available technology) and technology actually in place. Potential technology is presumably the same in Great Britain as it is in the United States, but British physicians practice medicine at lower cost than American physicians, in large part because many technologic innovations are not available to them.

Thus, it was unreasonable to expect the cost-containment efforts of the 1980s to have any marked effect on health care spending within just a few years. To slow spending, it is necessary to slow the rate of growth of services; there is little possibility for big savings either in productivity gains (in the narrow sense) or in depressing the prices of inputs. The demand for services by patients can be affected by deductibles and coinsurance, but it seems unlikely that third-party payment will not always predominate. The major constraints on services, therefore, must come from the supply side: the number of physicians, their specialty distribution, their training, the incentives they face, and, most importantly, the facilities and technology at their disposal. Changes in these factors can come only with a long lag, but they probably will come if the large buyers of health care maintain and extend their cost-conscious behavior.

**Distributional Effects**

The cost-containment efforts did not slow the overall rate of growth of spending for health care but probably did affect the distribution of care. Between 1981 and 1986, the days of hospital care per 1,000 population
declined more rapidly for the poor than for the nonpoor in both absolute and percentage terms. Similar disparities occurred in trends for blacks compared to whites, and females compared to males. The Johnson Foundation's national access surveys in 1982 and 1986 showed that access and utilization measures for the poor and minorities deteriorated relative to the nonpoor and whites. This reversed the trend of the 1960s and 1970s, when differentials were narrowing. National Health Interview Survey data show the percentage of persons without any health insurance coverage rising from 11 percent in 1978 to 13.3 percent in 1986. The trend in the late 1960s and early 1970s was toward increased coverage.

These distributional shifts should not be regarded as "unintended" effects of cost containment. They are inevitable if one seeks to eliminate cross-subsidization and to make patients more cost-conscious in their use of care. In the absence of third-party payment, each patient would make his or her own calculations of marginal benefit (versus marginal cost). The result would be different standards of care for different people because, other things equal, the trade-offs would depend on income. In the absence of cross-subsidies for insurance, the poor and the sick will decrease their purchases of insurance and use of medical care.

Critics of a single standard of care are correct in asserting that some people get more care than they want (in the sense that they would rather use the resources for something else) while some get less than they would want. However, the egalitarian approach can be justified for its symbolic value, or because it contributes to political stability, or because the wealthy do not want to redistribute money to the poor for them to use as they choose but are willing if the money is used for health care.

The Future Of The Health Care Market

Dissatisfaction with the cost-containment effort is mounting. Critics say that it is not stemming the growth of expenditures, it is leaving more individuals with little or no insurance, and it is making life difficult and uncertain for the manufacturers of drugs, equipment, and other health care supplies. Some critics allege a decline in the quality of care, but the evidence offered is largely anecdotal.

Physicians blame cost containment for forcing them into new modes of practice and for their loss of power to managers and administrators. Some reorganization and loss of power was inevitable, but where physicians have taken the leadership in efforts to control costs (as in the prepaid group practices) there is greater potential to retain professional satisfaction than when controls on utilization are imposed from the outside.

A counterrevolution in health care finance is brewing, based on dissat-
isfaction and fear among many different elements. At some point, a coalition of business interests, consumer advocates, and providers is likely to unite in a call for more federal involvement in health insurance and health care, although they will disagree on the form of that involvement.

Efforts to improve the current situation should be encouraged, but they should be based on realistic assessments of what has happened and what is possible. The failure of health spending to slow in the 1980s probably reflects the recency of the cost-containment efforts more than inherent ineffectiveness. Indeed, there has been a demonstrable impact on hospital utilization, which was the primary target.

Most importantly, any attempt to build a better system for providing health insurance and controlling health care must recognize certain fundamental problems. On the demand side, most people do not want to risk having to pay very large bills, so they seek health insurance, either privately or through government programs. Once individuals have insurance, however, they want to consume more medical care than they would consume without it—and more than is socially optimal.

Another difficult policy problem is deciding when the premiums people pay for health insurance should be based on their expected utilization and when they should not. Most Americans seem to feel comfortable about having cigarette smokers pay higher premiums than nonsmokers, but even enthusiastic advocates of experience rating are uneasy about requiring individuals born with genetic defects to pay above-normal premiums. Where to draw the line? Is alcoholism, for instance, to be regarded as similar to cigarette smoking, or is it more analogous to a genetic disease?

There also are fundamental problems on the supply side of health care. Competition often is impossible or undesirable because of economies of scale. For instance, how many hospitals are needed to serve a population of 100,000 efficiently? Probably only one; at most two. Similar constraints apply to competition in physicians' specialty care, especially if the physicians work full-time at their specialties. It is doubtful that a population of one million is large enough to justify enough independent maternity services or open-heart surgery teams to approximate competitive conditions. Thus, it is wrong to think that competition can serve as the only control mechanism for health care.

Even in markets large enough to sustain large numbers of hospitals and physicians, it is not clear that the public interest is best served by insisting that health professionals maintain rigorous arm's-length competition with one another. Patients can benefit from cooperation among physicians and hospitals, in both reduced costs and better service.

This article began by noting the similarity between health care and
other goods and services. The differences also are important. The patient/physician relationship often is highly personal and intimate, similar in many ways to relationships within families or between teachers and pupils or ministers and congregants. It is, in part, what Boulding calls an integrative relationship, one that depends on mutual recognition and acceptance of rights and responsibilities enforced by traditional norms as well as market pressures and government regulations.

The production function for health is a peculiar one; it usually requires patients and health professionals to work cooperatively rather than as adversarial buyers and sellers. Mutual trust and confidence contribute greatly to the efficiency of production. Thus the model of atomistic competition usually set as the ideal in economics textbooks often is not the right goal for health.

The necessity for dealing with dying and death also reveals the problematic nature of standard solutions based on fully informed consumers and competitive suppliers. There are, of course, many advantages to providing more information to the consumers of health care, but there also are potential disadvantages. If there is cost sharing, fully informed consumers will be forced to make painful decisions concerning limitations on care for loved ones, decisions that can leave a lifelong residue of guilt and regret. Not infrequently, families and society as a whole would prefer to have physicians take responsibility for these difficult decisions, keeping implicit rather than explicit the inevitable trade-offs between life and goods and services. If there is no cost sharing, patients and their families usually will want any care that could possibly help, regardless of cost. The rationing will have to come from the supply side, and full disclosure is unworkable.

The market is a subtle and powerful instrument of control, and competition is an important component in making markets work well. But Alain Enthoven has concluded that competition in health care must be managed, and that government must be one of the principal managers. Moreover, I believe we err in thinking that the only options are markets or government regulation. There is room for, indeed need for, a revitalization of professional norms as a third instrument of control in health care. As long as physicians continue to perform priestly functions, as long as they are our ambassadors to death, as long as they control the introduction of new technology, they must be endowed with certain privileges and held to certain standards of behavior different from those assumed by the market or regulation models.

In my view, we will never be able to introduce enough direct patient payment into the system to make that a significant instrument of cost containment. Thus, we inevitably will have to rely on physicians and
other health professionals to do much of the rationing. How equitably and how efficiently they do that, along with constraints on supply and on the quantity and character of technologic change, will determine the success of cost containment in the long run.

I am grateful to The Robert Wood Johnson Foundation for its support of my research in health economics. I also acknowledge the hospitality of the Rockefeller Foundation’s Bellagio Center, where I worked on this paper. Helpful comments were provided by Perry Beider, Alain Enthoven, Alan Garber, and Eli Ginérg, and thanks are also due Joyce Jacobsen and Rebecca Slupe for research assistance. This paper was presented at a national invitational conference entitled “Assessing Competition in Health Care” sponsored by Kaiser Permanente, October 29-30, 1987, in San Francisco, California.

NOTES

1. “The integrative system. . . involves such things as status, identity, love, hate, benevolence, malevolence, legitimacy—the whole raft of social institutions which defines roles in such a way that you do things because of what you are and because of what I am, that is, because of some kind of status or respect.” Kenneth Boulding, “Economic Libertarianism,” in Beyond Economics (Ann Arbor, Mich.: University of Michigan Press, 1968), 44.


5. Mathematically, it means that the demand curve facing each seller (or supply curve facing each buyer) is completely horizontal.


13. Deflated by the implicit gross national product (GNP) deflator.

14. These calculations were made from computer tapes of the Current Population Surveys of March 1980 and March 1986. Overall, real earnings of American workers declined
between 1979 and 1985; this analysis focuses on differential rate of change by sector.
16. These are the groups with the largest number of workers in health care.
17. The number of persons covered increased at the same rate after 1980 as in the 1970s, a bit less than 2 percent per year.
19. Feder et al., “How Did Medicare’s PPS Affect Hospitals?”