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# AN ICONOCLASTIC VIEW OF HEALTH COST CONTAINMENT

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by Joseph P. Newhouse

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**Prologue:** *It is widely believed that American health care costs are spiraling upward at a rate that is unsustainable. Or are they? In this essay Joseph Newhouse, one of the country's leading health economists, argues that the health cost containment crisis may be overstated. One by one, he debunks widely held perceptions of why health costs are increasing: an aging population; wasteful administrative costs; the spread of health insurance; a surplus of physicians, which increase induced demand for health services; more defensive medicine; expensive care for the terminally ill; and so forth. Instead, Newhouse argues that the main cost driver is new technology and its ability to increase the capabilities of medicine. To date, the scant available evidence has shown that Americans have been willing to pay more for such increased capability. Assuming that Newhouse's premise is correct—that increased medical capability is the major cost driver—then managed competition alone (without global budgets) “will not, apart from a transitory period, slow the rate of increase in medical care costs,” he writes. Newhouse is John D. MacArthur Professor of Health Policy and Management at Harvard University and director of the Division of Health Policy and Research Education. He holds a doctorate in economics from Harvard and is founding editor of the *Journal of Health Economics*. Newhouse spent the first twenty years of his career at the RAND Corporation, where he designed and directed the RAND Health Insurance Experiment, a research venture that has had a profound impact on health insurance policy debates. Highly respected by his peers, Newhouse has received numerous awards, most recently the 1992 distinguished investigator award from the Association for Health Services Research.*

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**Abstract:** Calls for medical care cost containment are all around us. Although the evidence that costs are too high is strong, the evidence that they are rising too quickly is much weaker. The principal cause of increasing costs appears to be the increased capabilities of medicine; the scant evidence available suggests that to date the public has wanted to pay for most of these capabilities. Effective global budgets would address the rising opportunity costs of health care. However, they would threaten ongoing innovation and probably would increase distortions from pricing errors.

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The casual newspaper reader—or even the not-so-casual reader of this journal—could be forgiven for assuming that medical care cost containment is one of the most urgent tasks facing the nation. The belief in the importance of this task seems to rest on a few facts: (1) The level of spending on health care in the United States greatly exceeds that of any other country.<sup>1</sup> At the same time, U.S. mortality rates do not compare favorably with those of other countries, suggesting that the United States does not buy anything useful with its extra spending on health care. Some people believe that administrative waste is a prime source of the extra spending. Others believe that even if the United States is getting value for its health care dollar, high health expenditures damage the American competitive position.<sup>2</sup> (2) The growth rate of health spending exceeds the growth rate in the economy, resulting in an ever-larger share of gross domestic product (GDP) devoted to health care and, consequently, a smaller share of the pie available for other worthy activities.

A perhaps more subtle reason for the current push toward cost containment lies in the dynamics of Medicare and Medicaid spending. As the last row of Exhibit 1 shows, public spending on these two programs since their inception has grown even more rapidly than personal health care spending as a whole, and this is especially true of Medicaid after 1990. This leaves those in Congress and the executive branch with three choices: First, they could raise taxes to finance the increased expenditures, thereby risking the wrath of an antitax electorate, or finance them by adding to the deficit (although this is not possible for Part A of Medicare). Second; they could lower costs for only these programs. As has happened with Medicaid, however, this could reduce beneficiaries' access to services, thereby risking the wrath of beneficiaries and those concerned with their welfare. Alternatively or additionally, they could allow costs to be shifted to private payers, which might be considered a form of a tax, to finance the programs. Third, they could try to contain health care costs across the entire system. The historical response has been a combination of the first two options. Neither is palatable at the moment, so attention has begun to focus on the third.

In this paper I argue that the rhetoric about the urgency for cost containment may well be overstated. In so doing I concede that a nontrivial part of U.S. health spending supports inefficiency, waste, or worse, iatrogenic

**Exhibit 1****Real Spending Growth In Medicare, Medicaid, And Total Personal Health Care, 1967-1993**

	Medicare	Medicaid <sup>a</sup>	Personal health care spending
1967-1970 <sup>b</sup>	8.2%	13.5%	7.3%
1970-1975	9.2	12.5	4.8
1975-1980	9.7	5.7	5.3
1980-1985	8.0	4.0	5.1
1985-1990	5.3	8.5	5.8
1990-1993 <sup>c</sup>	3.2	23.5	<u>   </u> <sub>d</sub>
1967-1990	8.1	8.4	5.5

**Sources:** For Medicare and Medicaid spending through 1990, K. Levit et al., "National Health Expenditures, 1990," Health Care Financing Review (Fall 1991): Table 3 (deflated by GDP deflator). Spending figures for 1993 Medicare and Medicaid are from Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 1993*, 108, 144. Personal health spending figures are from various health expenditure reports in Health Care Financing Review, various years.

<sup>a</sup> State plus federal.

<sup>b</sup> Data for 1966 are not used because of half-year startup.

<sup>c</sup> Calendar year 1990 to fiscal year 1993. Fiscal year 1993 figures are budget estimates. Medicaid total is estimated assuming 57 percent federal share. Figures are averaged over 2.75 years to correct for calendar/fiscal year difference; assumes annual growth of 3.5 percent in gross domestic product (GDP) deflator.

<sup>d</sup> Not available.

illness. On an absolute scale the amount of this inefficiency is large and certainly worth trying to address. Nor do I contest the truisms that health care costs cannot grow forever at a rate faster than GDP and that the growth in health care costs comes at an ever-larger price in terms of forgone opportunities elsewhere, such as in education, infrastructure, and the like. Indeed, the strongest case for effective global cost containment in my view would rest on the following two arguments: (1) Current financing arrangements do not provide sufficient incentive to reduce costs, because insurance makes the budget constraint too soft, and nothing will provide such an incentive short of a regulatory intervention; and (2) we have reached the point at which the opportunity costs of putting another dollar in health care are simply too large (that is, social needs in other areas are simply too great).

These arguments raise the natural question, What benefits would we buy for another percentage point or two of GDP invested in health care, and is that how we want to spend our money? I argue here that what we are likely to buy is various types of medical advances and that, although at some point our ability to generate medical advance will probably outrun our desire to pay for it, the scant evidence available suggests that at least up to now, we have been willing to pay for those advances. We may no longer be so willing to pay, although I am somewhat skeptical of this.

Part of the difficulty in the debate over medical costs is a confusion

between the issues of the proper level of costs at a point in time and the proper rate of growth over time. As a result, the fairly strong evidence that the level of costs is too high is used to infer that the rate of growth in costs is also too high. More generally, I am returning to a distinction William Schwartz has repeatedly made—between the level of spending and its growth over time.<sup>3</sup>

**Level of spending versus rate of growth.** Why is growth in medical care spending cause for concern? After all, many sectors of the economy have grown over the years; the computer and telecommunications industries are two obvious examples. Indeed, just as we spend more on health care than any other country, we may well spend more per person on personal computers, fax machines, and cellular telephones as well. Yet no one I know is calling for cost containment for these industries. What makes medical care spending different?

I suspect that at least some of the taint on medical spending has been supplied by economists, who have been emphasizing for at least twenty-five years that the subsidy provided by health insurance induces excessive spending.<sup>4</sup> The impact of the insurance subsidy was quantified by the RAND Health Insurance Experiment, which showed that full insurance resulted in some 40 percent more spending than a large deductible (\$1,000 per family per year in late 1970s dollars), with negligible benefits for the health of the average person.<sup>5</sup> The argument that insurance induced too much spending was further refined in the 1970s to focus on the favorable tax treatment of employer-paid insurance premiums, which was said to induce excessive insurance, which in turn led to excessive spending.<sup>6</sup>

Importantly, however, all of these arguments pertain to the level of health care spending rather than to its rate of growth. In the past ten years economists have begun to consider whether health insurance might affect the rate of growth in spending as well, but empirical results are scant.<sup>7</sup>

It is the rate of growth in spending, however, rather than the level that most concerns the body politic and its leaders. In this essay I examine what drives the rate of growth in health spending and whether that increase has bought commensurate benefits.

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### Quantifying Possible Causes

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A high rate of increase in medical care spending is nothing new. If one starts in 1940 and proceeds decade by decade, the annual increase in real health spending has been roughly 4 percent per year in each decade, except in the 1960s, when it was 6 percent (Exhibit 2).<sup>8</sup> Thus, any effort to quantify the causes of higher medical spending must consider factors that have been operative for over fifty years.

**Exhibit 2****Growth In Real Health Spending, Gross Domestic Product (GDP), And Number Of Physicians Per Person, By Decade, 1929-1990**

	Growth in real health spending per person	Growth in real GDP per person	Growth in number of physicians per person	Health share of GDP at end of period
1929-1940	1.4%	0.0%	0.6% <sup>a</sup>	4.0% <sup>b</sup>
1940-1950	4.0	3.1	-0.1	4.5
1950-1960	3.6	1.5	-0.1	5.3
1960-1970	6.5	2.5	1.1	7.3
1970-1980	3.8	1.7	2.4	9.1
1980-1990	4.4	1.7	2.0	12.2

**Sources:** For health spending figures, various health expenditure reports from *Health Care Financing Review*, various years. Deflated by GDP Personal Consumption Expenditure Deflator from *Economic Report of the President*, 1991, Table B-3. Population figures are from *Statistical Abstract of the United States*, 1990. Table 2 (1929 figure interpolated geometrically between 1925 and 1930). Physicians per person are from *Health, United States*, 1989, Table 85; the figure for 1990 is a projection. Figures for 1930 and 1940 are from *Physicians for a Growing America: Report of the Surgeon General's Consultant Group on Medical Education*, Table 1.

<sup>a</sup> 1930-1940.

<sup>b</sup> For 1929, 3.5 percent.

Elsewhere I have tried to quantify the effects of a number of commonly mentioned causes of increased spending.<sup>9</sup> I conclude that the enhanced capabilities of medicine most likely account for the bulk of the increase, a conclusion reached by William Schwartz and Burton Weisbrod before me. Because the effect of these capabilities on costs cannot be measured directly, however, I arrive at this conclusion indirectly, by showing that the commonly mentioned causes of increased spending most likely do not account for very much of the increase if the capabilities of medicine (medical technology in the broad sense) had remained constant. Moving from the more to the less quantifiable, these commonly mentioned causes include the following.

**Aging of the population.** Of course, the elderly spend more on medical care than the non-elderly, and, as we all know, the proportion of the elderly in the population is rising. In fact, those over age sixty-five spend about three times as much per person on medical care as do those under age sixty-five, but their share of the population has only grown from about 8 percent in 1950 to 12 percent in 1987. If one works through the arithmetic, one finds that if nothing else changed, the increase in the elderly population could account for a 7 percent rise in medical spending—a trivial part of the total increase. Accounting for spending among the oldest old raises this figure only a small amount. Thus, aging has been a real but quantitatively unimportant factor in the overall rise in health spending.

**The spread of health insurance.** This is a favorite factor among economists, as already noted. The 40 percent increase in demand from the

BAND experiment cited above gives an indication of how much total spending would rise from more first-dollar insurance, absent any change in the capabilities of medicine. It turns out that the change in insurance coverage that induced this 40 percent increase in overall-spending within the BAND study sample was roughly of the same magnitude as the additional insurance coverage nationally over the postwar period. Thus, absent any change in medical capabilities induced by the spread of insurance, the spread of insurance can account for only a modest part of the spending increase, perhaps one-tenth.

**Increased income.** It is not surprising that wealthier citizens are more likely, to seek care than are poorer citizens. As nations become wealthier, therefore, medical spending can be expected to go up. By how much is difficult to pin down if medical technology does not change, but the range of estimates in the literature suggest that increased income could account for somewhere between 5 and 25 percent of the increase. I believe the appropriate number is closer to the smaller of these figures.<sup>10</sup>

**More physicians and physician-induced demand.** If increased insurance coverage is economists' favorite cause for increased health spending, more physicians is the favorite of many others. In this scenario, more physicians induce ever more demand for their services, thereby adding to medical bills. Sometimes it is even suggested that each physician adds a fixed amount to medical spending. Trying to pin down the role of additional physicians is difficult, because the growing number of physicians could, partially reflect any of the three causes that have already been discussed—more elderly, more insurance, and more income—rather than being an independent cause of increased spending.

Nonetheless, the increased number of physicians does not appear to be an important independent cause of increased spending. Exhibit 2 shows the decade-by-decade increase in physician numbers compared with the corresponding increase in medical care costs. Clearly there is no correlation. In particular, the substantial jump in the number of graduating medical students beginning in the 1970s is not reflected in any notable jump in the rate of increase in medical spending.

**More defensive medicine.** According to this view, a large increase in malpractice claims has induced physicians to perform a variety of tests and procedures that they would otherwise not perform, thereby increasing the cost of medical care. As in many of the other explanations, there is a grain of truth here, but as best as one can tell, defensive medicine is not an important factor in the overall health spending increase. It is admittedly difficult to estimate the cost of defensive medicine. The most widely cited estimate pegged it at around 1 percent of total spending in 1984—clearly a tiny fraction of increased medical care costs.<sup>11</sup>

**Administrative costs.** Administrative costs have received much comment in the past five years. The data, however, are sparse. Program administration and the net cost of health insurance grew from 4 percent of total spending in 1940 to 6 percent in 1990, so that is clearly not a major source of the increase.<sup>12</sup> We do not have a similar data series for administrative costs of hospitals and physicians. Even if we did, we could not know to what degree growth in administrative costs has reduced spending that did not justify its benefits—a major problem in health care.

Another piece of evidence regarding administrative costs is that the ratio of U.S. to Canadian (real) spending on health care was about the same in 1990 as it was in 1960. Because the Canadian health insurance plan took effect after 1960, Canada would have captured the savings from any reduction in administrative waste during those thirty years by moving to a single-payer system. I do not doubt that there are administrative efficiencies to be gained in our financing system, but those are effects on the level of costs, not their rate of increase.

**The terminally ill.** Spending on the terminally ill is another prime suspect in the medical care cost mystery. The grain of truth behind this suspicion is that these dollars account for a disproportionate share of the spending. Among the elderly, the 6 percent who die in any one year account for 28 percent of the expenditures in that year and the preceding one.<sup>13</sup> But three factors suggest that spending on the terminally ill is not a major factor in the cost increase.

First, the share spent on people who died, 28 percent, was stable between 1967 and 1979.<sup>14</sup> This factor thus did not contribute disproportionately to the cost increase. Second, of those who died in 1978, only 6 percent had more than \$15,000 of medical expenses, which does not fit the notion of a great deal of money being thrown at a great many terminally ill patients.

Third, and in many ways most importantly, it is not necessarily obvious before the fact that those who died were certain to die. To test whether many resources were devoted to hopelessly ill patients, a study was done in the late 1970s of patients admitted to an intensive care unit.<sup>15</sup> Physicians were asked to predict patients' short-term survival probabilities upon admission, and data on subsequent spending were collected. The researchers found that the people who were expensive were disproportionately the surprises: those who were expected to die but lived, and those who were expected to live but died. In other words, if a physician expected a patient to live and that patient started to deteriorate, more resources were expended than if that person were expected to die. Thus, of the 6 percent who died and who had more than \$15,000 in expenses, many may not have been expected to die, that is, may not have been terminally ill in the popular sense. Although there no doubt is waste in the treatment of the terminally

ill, these data do not suggest that this group is a major culprit behind rising medical care costs.

**Productivity in a service industry.** This is another favorite explanation of economists. If productivity in an industry lags behind that of the economy as a whole, the prices of its products tend to go up. An example is men's haircuts. A similar quality haircut probably takes about as much of a barber's time now as it did fifty years ago. But real wage rates have risen, reflecting the general increase in productivity in the economy. If wage rates do not keep up in industries where productivity lags, fewer workers will enter those industries. Hence, for products of those industries in which productivity lags (such as haircuts), relative prices must go up to keep attracting workers.

In general, productivity is thought to lag in service industries such as medical care. This implies increased prices, which in turn increase spending if demand does not commensurately fall, as in health care. But ascribing increased medical spending to lagging productivity assumes that productivity in medical care has not changed much over time.<sup>16</sup> This seems obviously true only for long-term and home care-about 10 percent of the health sector. Acute care has changed so much that it does not seem reasonable just to assume that its productivity lags behind the economywide rate of increase. To take the three most common causes of death, neither heart disease, cancer, nor stroke is treated today anything like it was fifty years ago. A direct test of this argument is seemingly at hand, however: What has happened to medical care prices relative to other prices?

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### The Medical Care Component Of The Consumer Price Index

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The best-known measure of medical care prices is the medical care component of the Consumer Price Index (CPI), which has risen more rapidly than almost any other, consistent with the argument that lagging productivity has caused-and presumably will continue to cause-medical care spending increases.<sup>17</sup> Indeed, the CPI for medical care has so many measurement problems associated with it that I do not think it can be used to decompose expenditure increases into price and quantity changes. In fact, it is not even intended to be so used. Because of the widespread view that above-average increases in the medical care component of the CPI demonstrate that there has been considerable price inflation in medical care, I digress in this section to sketch some of the problems with using the CPI in this fashion.

**Perils of pricing.** The first problem was described over twenty-five years ago by Anne Scitovsky.<sup>18</sup> What the patient really seeks when consulting a physician is the treatment of a medical problem. The price index, however,

does not price the treatment of a heart attack or breast cancer or lower back pain; rather, it prices certain services, such as the price of a day in the hospital, a visit to a physician, or a particular drug. Suppose for a given medical problem, such as normal delivery, cataract surgery, or peptic ulcer, the treatment protocol changes so that there is a decrease in length-of-stay, a shift to outpatient surgery, or a change from surgery to medical treatment. Suppose the changes in the mode of treatment reduce the cost of treating the problem, and the final outcome for the patient's health is the same as before. A true price index would register a fall in price.

Unfortunately, the CPI would not reflect this decrease. The direct impact on the index would be nil; none of these things in the first instance need change the price of a day, a visit, or a drug. Indeed, their indirect impact on the CPI could be perverse. If, for example, the decrease in length-of-stay or the shift to outpatient surgery means that the average patient in the hospital is sicker, the price per day might even rise, whereas the price for the stay might fall. Indeed, the large changes in the mode of treatment in the 1980s such as reduced stays and shifts to outpatient surgery might explain why the change in the medical care component of the CPI exceeded the change in the all-items CPI by a much larger margin in the 1980s than in the three previous decades (Exhibit 3).

**Discounting.** Second, the price index has historically been based on charges (list prices). In the 1980s, as discounting spread, fewer and fewer patients actually paid these list prices. One study of California hospitals found that from 1983 to 1988 list prices rose 70 percent, but transaction prices rose only 40 percent.<sup>19</sup> In other words, the price index overstated the actual increase by almost a factor of two. Because discounting in California was probably greater than elsewhere, this calculation may exaggerate the national picture, but it emphasizes that the bias could be large. Also, the index historically has not included prices paid by Medicare and Medicaid. Thus, to the degree that there has been cost shifting from these programs to private payers, the private prices included in the index would be rising faster than a proper deflator for the medical economy as a whole.

### Exhibit 3

#### Excess Of Increase In Medical Care Consumer Price Index (CPI) Over Increase In All-Items CPI, 1950-1990

	Medical care	All items	Difference
1950-1960	4.0%	2.1%	1.9%
1960-1970	4.3	2.7	1.6
1970-1980	8.2	7.8	0.4
1980-1990	8.1	4.7	3.4

Source: *Economic Report of the President*, 1992, Table B-56.

**Changes in quality.** Third, it is always difficult for a price index to incorporate quality enhancements. If a nurse is added to a hospital floor, thereby enhancing response times but adding to cost, this will likely register as a pure price increase, whereas a proper price index would net out the value of the quicker response times. Adjusting for quality change may be even more of a problem if one were to try to shift the index to the cost of treating an illness episode. Suppose a noninvasive test replaced an invasive test but at a higher cost. How much should be netted out to adjust for any reduction of pain or risk of side effects from the new test? Suppose a new drug increased the expected quality of life of someone with acquired immunodeficiency syndrome (AIDS) but at an added cost; how much should be netted out? Or say the quality of an artificial hip, pacemaker, or intraocular lens was improved; how should this be priced out? These questions should make it clear just how pervasive and difficult the necessary adjustments would be in arriving at a quality-adjusted price index, but ignoring them clearly biases the index up.

**Improper weighting.** Finally, the medical care price index, like any price index, is computed by attaching weights to the prices of each medical good or service included in the index and averaging. To accurately decompose increases in medical spending into price and quantity increases, the weight on each good or service must be proportional to spending on it. Hospital spending is roughly twice as large as physician spending. In the medical price index, however, the weights for hospital and physician services are approximately equal.

This weighting is not a mistake but reflects the underlying purpose of the CPI, which is to adjust consumers' disposable income for changes in the cost of living. The weights in the CPI therefore reflect how consumers spend their disposable income on various goods and services. Because hospital services are well insured, the amount spent on them out of pocket is low relative to their share of total medical spending, whereas physician services are not as well insured, so the weight is relatively higher.

Although the weighting problem is easily remedied, the other problems are not. The Bureau of Labor Statistics, working with tight budgets, is trying to improve the medical care component of the CPI, but in my judgment we do not have a meaningful measure of what has happened over time to medical care prices and therefore no adequate empirical basis for saying how much of the expenditure increase should be attributed to price increases (inflation) and how much to quantity increases. This argument also implies that a traditional decomposition of spending increases into population change, economywide inflation, excess medical-specific inflation, and intensity is only partially legitimate. In my view, the last two components cannot be reliably distinguished.

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**The Residual: The March Of Science?**

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The thrust of the foregoing argument is that the various factors listed above do not account for the bulk of the cost increase, leaving a large residual or unexplained cost increase. What does that residual represent? To me, the most plausible candidate is the enhanced capabilities of medicine. Some of the enhanced capabilities have reduced cost, the polio vaccine being the most prominent example, but almost surely, on balance, innovations such as noninvasive imaging, invasive cardiology, transplantation, monoclonal antibodies, and renal dialysis have increased cost. Readers should have little trouble coming up with their own list of technological advances that increase costs.

Although labeling a residual is inherently arbitrary, I can make at least three arguments to try to make it plausible that enhanced capabilities account for much of the cost increase. First, the factors mentioned earlier—more elderly, more insurance, more income—would raise demand for hospital days and office visits even if technology did not change. But it is striking that the rate of patient days and visits is now about where it was in 1960. The great increase in hospital cost has not occurred because more people have been going to the hospital but because they spend more when they arrive. This is consistent with the perception that more is being done to them or for them when they get to the hospital and not consistent with the notion that medical care costs are a simple tale of increased demand from more elderly or more insurance with no technology change.

A second argument is the roughly similar rate of increase in costs of HMOs or capitated systems as of medical care as a whole. Although it is difficult to adjust premium increases in HMOs and fee-for-service plans for changes in the risk mix insured, as well as for changes in cost sharing and benefits covered, as best we know, the costs of HMOs and fee-for-service medicine are rising at a similar rate (although group- and staff-model HMOs are at a lower level: of cost at each point in time).<sup>20</sup> Thus, whatever is driving up costs in fee-for-service medicine has been driving them up in HMOs as well. Technology is a factor that applies to both.

Finally, the rate of increase in the United States in real medical care costs (using a GDP deflator to convert to real dollars) is not so different from the rate of increase in other countries (Exhibit 4).<sup>21</sup> Thus, whatever is behind the rate of growth in health spending appears to be common across developed countries. Improvements in medical technology are, of course, common across these countries.

Suppose one accepts this conclusion. Then the key question becomes, Have consumers been willing to pay for the costs of these capabilities, or have they mainly been induced to purchase them by excessive health

**Exhibit 4**

**Real Per Capita Growth Rates In Health Spending, And Difference Between Growth Rates In Health Care And GDP, Seven Countries, 1960-1990**

	Annual growth in health spending per capita <sup>a</sup>			
	1960-1990	1960-1970	1970-1980	1980-1990
Canada	4.7%	6.1%(2.8)	3.7%(0.5)	4.3%(2.5)
France	5.5	7.8 (3.5)	5.3 (3.0)	3.3 (1.7)
Germany	4.4	5.6 (2.2)	6.3 (3.9)	1.4 (-0.4)
Italy	6.1	8.9 (4.1)	6.2 (3.4)	3.4 (1.3)
Japan	8.2	14.0 (5.1)	7.1 (4.2)	3.7 (0.1)
UnitedKingdom	3.7	3.7 (1.5)	4.4 (2.9)	3.1 (0.8)
UnitedStates	4.8	6.0 (3.6)	4.2 (2.5)	4.4 (2.9)

Source: Calculated from G.J. Schieber et al., "U.S. Health Expenditure Performance: An International Comparison and Data Update," *Health Care Financing Review* (Summer 1992): 1-88. Gross domestic product (GDP) deflator for country used to deflate.

a Difference between health and GDP growth rates, in percentage points, is shown in parentheses.

insurance, spawned by the favorable tax treatment of health insurance? And even if consumers were willing to pay in the past, are they still?

**Paying For Medical Advances**

Whether consumers would pay for the various enhanced capabilities of medicine is the economist's standard test of whether we would be better off without these advances and their attendant costs. Let me put aside one possible misunderstanding at the outset. It is not sufficient to say that most of these capabilities would not have been adopted without the subsidy from health insurance-and therefore consumers are not willing to pay for them. The true test is: Are consumers willing to pay the expected costs of these capabilities if they are covered by a health insurance policy? To take a concrete example, the question is not, Would I, an uninsured consumer, be willing to spend my life savings on a liver transplant if my liver failed? The question is, Would I, a healthy consumer, be willing to pay the premium for an insurance policy that would cover a liver transplant if my liver failed?<sup>22</sup> That question, and similar questions using other technologies, is exceedingly difficult to answer. But if I am right that much of the cost increase is attributable to the enhanced capabilities of medicine, that question lies at the core of the debate over medical care cost containment.

**The cost factor.** So suppose we had successfully contained costs and reduced the rate at which new capabilities were introduced. Would we have been better off? Although the notion of too much technological change may strike clinicians as strange, let me try to sketch the argument of why there might be too much medical technology, an argument Weisbrod has

spelled out in detail.<sup>23</sup> In the traditional American health care market of fully or near fully insured consumers, the test of any medical innovation is whether on average it promises any health benefits, not whether those benefits are commensurate with the cost of the innovation. By contrast, in most of the rest of the economy, cost is a factor in whether an innovation succeeds.<sup>24</sup> If high-definition television sets were to cost \$50,000 each, it is unlikely that they would have been developed for the household market, however much better their picture was than that offered by existing television technology. With high-definition medical imaging, however, the analogous question was typically not asked; the prime question in the past was whether the image was sharper. Because of the lack of the usual cost test, especially for technology used in the hospital, the presumption is that there might be too much technology and too much innovation.

But this is still a theoretical argument. We need empirical data to confirm it, because it is possible that consumers would have been willing to pay for much of this innovation even if the usual market test had been present. Unfortunately, but not surprisingly, the empirical data are thin. All I can provide are some indications that suggest that the public heretofore has been willing to pay for much of the increase in medical capabilities.

**International comparisons.** I think the most powerful data are the international comparisons shown in Exhibit 4. Suppose that the capabilities of medicine are behind a good bit of the cost increase everywhere, including in countries such as Canada that make an explicit budget decision on health spending. If countries with very different financing institutions than those in the United States show similar rates of cost increase, they are evidently willing to pay for the technology, albeit not to the same level of intensity.

The point about reduced intensity can be illustrated with a stylized example. Suppose two countries are otherwise alike but Country 1 spends \$1,000 per person and Country 2 spends \$500 per person on health care. Suppose a new machine or procedure is developed and marketed in both countries; each machine or procedure bought adds \$10 per person to medical care bills. If Country 1 buys ten procedures and Country 2 buys five because it is restraining technology, both countries' costs go up 10 percent. The same exercise may be replayed next year with another kind of procedure. In a nutshell, that describes what has happened around the world.

Another piece of evidence on willingness to pay for new capabilities is the similar rate of cost increase in HMOs. HMOs are the closest thing we have to a market test of willingness to pay. Yet in general we have not seen HMOs not offering recent medical advances in exchange for lower premiums.<sup>25</sup> To be sure, HMOs are constrained from doing so by malpractice law. But if the explosion in medical care capabilities vastly exceeded consumers'

willingness to pay, it seems a little surprising that we have not seen some organization seeking to enter the market without offering all of these capabilities.

Yet another piece of evidence is public opinion polls. When asked whether the nation should be spending more on health, 69 percent of the public said that we are spending too little on “improving and protecting the nation’s health.”<sup>26</sup>

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## Global Budgeting

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Medical care costs cannot grow forever at a 4 percent per person (real) rate when the economy grows at a 1 to 2 percent rate.<sup>27</sup> This truism, together with the sense that there is a distorted market test for medical innovation, has led to a sense that “something must be done” about medical care costs and financing arrangements.

According to some, that “something” should be managed competition; according to others, global budgeting. In what follows I discuss a reasonably strong version of global budgeting. This is not meant to slight managed competition with no global budget. Suppose, however, that managed competition functions exactly as its advocates foresee, a best-case scenario. If it continues to be true that much of the cost increase reflects enhanced medical capabilities that society is mostly willing to pay for, managed competition will not, apart from a transitory period, slow the rate of increase in medical care costs. In other words, if consumers do not now want to trade a reduction in the rate at which new medical procedures and technology are introduced in return for reduced costs, then in the long run managed competition will not necessarily “contain” costs at something like the rate of increase of GDP. Of course, if one believes in allowing consumer choice, this is not a problem. Nonetheless, if managed competition functions well—a large “if,” but properly the subject of another paper—it should reduce the amount of waste and inefficiency and provide a test of people’s willingness to pay for further medical advances.

What about global budgeting? To make headway, one needs to define terms. Although global budgets could take many forms, let us assume for the sake of being concrete that Medicare’s prospective payment system (PPS) and resource-based relative value scale (RBRVS) apply to all payers, and a National Health Board controls the dollar conversion factor with a mandate to keep expenditure increases, at least for hospital and physician services, at the rate of GDP growth.

Sufficiently hawkish cost containment to keep expenditure growth at the level of GDP growth will surely not be easy; with the exception of Germany in the 1980s) none of the countries listed in Exhibit 4 has managed to

achieve it in any of the past three decades. But let us assume for the sake of argument that such a global budget can be implemented and would keep growth in costs at the level of GDP growth. What existing problems would that not solve, what existing problems would that solve, and what new problems would be created?

Global budgets by themselves would not necessarily do much about the waste in the current health care system; examples include inappropriate procedures, overmedication, self-referral, and high loading charges in the small-business market.<sup>28</sup> Some hope that global budgets will induce physicians to triage patients, so that reductions are mainly among inappropriate procedures. This may not happen, however, for three reasons. (1) There is currently substantial variation in rates of procedures across areas, but the percentage that are inappropriate is reasonably constant.<sup>29</sup> This finding does not square with the notion that the additional procedures in the high-rate areas are done to patients who will benefit less. Outcomes research may help with this problem. (2) Even if the medical staff of a hospital could agree on who derived the most benefit, there is little reason to expect that the allocations of budgets to hospitals will not have errors, so that the incremental procedure done in one hospital will have a different benefit than in another. (3) The inevitable errors in setting fees will leave incentives in place to perform procedures that may have little patient benefit; alternatively, if fees are replaced by pure capitation, there will be a different set of distortions.

Even if global budgets would not do much to reduce waste, however, by freeing resources for other purposes, they would address the problem of the ever-increasing opportunity costs of medical spending. Moreover, one could keep access to care for Medicare beneficiaries (and maybe even Medicaid beneficiaries) on some kind of par with the nonelderly without a tax increase or expansion of the deficit.

These advantages are not to be taken lightly, but the argument assumes that because of the high opportunity costs, the public would rather see another billion dollars not spent on health care. The burden of my argument is that the public may well want to buy the fruits of medical progress as they come tumbling out onto the market in the next decade. Although these fruits could in theory be accommodated for a while at the expense of reducing waste in the existing system, it seems unlikely that this could be true in the long run and might not happen in practice even in the short run.

What new problems would global budgets create? One reasonably widely discussed issue is rationing, and I have focused on a subissue within the rationing debate: the continued enhancement of medical technology. There is, however, another potential problem from harder budget constraints that has received less attention: the increase in potential distortions

from administered price systems.

Much of the debate seems to proceed on the assumption that the regulator, whether it be government or a private insurer, knows the economic costs of a medical service (or in a capitation world knows the expected annual costs of a patient) as well as does the provider. This is simply not the case. That it is a trivial technical task—except for the politics—to set prices in line with costs is belied by the history of administered price systems in all industries, especially those characterized by rapid technological change, as is the case with medical care.

This is not to disparage past efforts to develop and continued efforts to refine the alphabet soup of pricing systems that Medicare now uses: PPS, RBRVS, and adjusted average per capita cost (AAPCC); they are very likely, better approximations to economic cost than what went before them. Nonetheless, there can be little doubt that both public and private administered price systems still contain important errors in estimating economic costs at the procedure or patient level. And even if they contained no errors today, they would contain them tomorrow, when the method of treating a disease had changed but the pricing system had not been updated.

There is, of course, no real alternative to administered prices; widespread insurance, which is surely desirable, makes their use inevitable. In my view, managed competition does not necessarily escape the problem of administered prices because the revenue a provider receives for a patient may not match that patient's expected cost as perceived by the provider.<sup>30</sup> Even negotiated budgets face this problem because they will have implicit prices for case-mix and volume that will differ from economic prices.

My fear is that harder budget constraints will cause the distortions in behavior induced by pricing errors to become more pronounced than they are now. We already see some effects from price distortions. Many hospitals and physicians, for example, try to keep down the number of uninsured patients they treat; many physicians do not accept new Medicaid patients. The most straightforward explanation of such behavior is that revenue does not match cost. On the other side of the ledger, providers seek out “profitable” services and “private paying patients.” And we have some evidence that organizations paid by capitation disproportionately attract healthy patients (or healthy patients within a category); another description of such patients is “profitable.”<sup>31</sup>

Up to this point, however, the effects of such pricing errors on actual behavior probably have been mitigated by the softness of the overall budget constraint and by medical ethics. With tighter budget constraints, I suspect that we may see discrimination against financially undesirable patients becoming finer and more sophisticated. In the past we have tended to equate access to care with being insured; in the future we may see problems

of access for those who are insured but for whom reimbursement falls short of cost. Chronically ill patients, for example, may find that organizations paid by capitation subtly encourage them not to enroll in the first place or, once enrolled, to disenroll.

Thus, we face two nasty trade-offs. First, the ability of medicine to benefit patients and the attendant costs may be growing more rapidly than our willingness to pay, although the thin evidence suggests that to date this has not been the case. Second, we face a trade-off between the hardness of the budget constraint and the consequences of pricing errors. For that reason a strong cost containment initiative is not likely to be a “surgical strike” that affects only waste; any such strike is likely to generate collateral damage. Whether we wish to accept that damage is the question of the moment.

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### So What Is To Be Done?

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Although much of the focus of the debate will surely be on the merits and demerits of a global budget, I conclude by sketching four kinds of initiatives that might be desirable, irrespective of whether a global budget is imposed.

**A public or quasi-public plan for the small-business market.** The small-business market vividly illustrates problems of selection: preexisting condition clauses; certain firms or industries unable to purchase insurance; instances of extreme annual swings in premiums because of experience rating on a small group. Simple mandates on employers to provide insurance will not necessarily solve these problems. If comprehensive insurance is to be available to employees of small businesses, it may well be the case that there needs to be a public or quasi-public agency that pools risks in this market; that is, employment-based insurance may not be very practical for the self-employed or small firms.<sup>32</sup>

**Elimination of the federal match at the margin for Medicaid.** Medicaid spending is currently growing much faster than Medicare spending. This disparity suggests that something more than general increases in medical spending is driving the federal health budget upward. One possibility is that states have begun to exploit the federal match for Medicaid in ways that are not necessarily intended (for example, the gifts and donations regulations). If so, one can address the problem in two ways: the Medicaid program can be federalized; or, if decision-making authority continues with the states, the federal contribution can be capped, so that any additional dollars come from the states. (The federal contribution should continue to be more generous for poorer states; additionally, if the states continue to be responsible for chronic long-term care, I suggest that the contribution be more generous for states with more elderly citizens.) The general principle is that the decision-making authority should face full costs at the margin. Canada

made an analogous change in its health insurance program in the late 1970s) when the central government ended its fifty-fifty match with the provinces.

**A cap on employer-paid premiums that are tax free.** Some kind of universal entitlement undermines the rationale for favorable tax treatment of employer-paid premiums, which is to combat selection by offering an incentive for good risks to join a plan at the workplace. (The tax subsidy, however, still may be important if the universal entitlement is only to a narrow range of services and supplementary coverage is relied upon for other benefits.) Some believe that removing the subsidy to the marginal dollar would end a substantial distortion of consumer choice toward more expensive insurance plans that do not return value for money. Suppose that they are wrong, however, and that consumers are reasonably insensitive to premium differences. Then capping the premium that is tax free would make a healthy contribution toward reducing the deficit or financing new benefits such as care of the currently uninsured.

**A tax increase to help finance Medicare and Medicaid.** An important and value-laden concern is the degree to which the upper part of the income distribution wishes to purchase the costly advances of modern medicine for themselves but not pay for their similar availability for the bottom part of the income distribution. If the privately insured population under age sixty-five and the wealthier elderly want to buy the fruits of medical advances, it will be necessary to increase taxes if access for the beneficiaries of public programs is not to deteriorate further.

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NOTES

1. G.J. Schieber, J.P. Poullier, and L.M. Greenwald, "U.S. Health Expenditure Performance: An International Comparison and Data Update," *Health Care Financing Review* (Summer 1992): 1-87.
2. Both of these claims are controversial, and the competitiveness claim is particularly dubious. On administrative cost, see K.E. Thorpe, "Inside the Black Box of Administrative Costs," *Health Affairs* (Summer 1992): 41-55. On competitiveness, see U.E. Reinhardt, "Health Care Spending and American Competitiveness," *Health Affairs* (Winter 1989): 5-21. Reinhardt argues, in my view persuasively, that there is little or no excessive increase in American price levels because changes in health care costs will be offset by changes in other parts of the compensation package, especially cash wages. But suppose for the sake of argument that this conclusion were incorrect and that there were a not negligible effect of health care costs on price levels. Although specific industries could be adversely affected, there should still not be an effect on the overall American competitive position because such a change in prices would be compensated for in the aggregate by a change in exchange rates. In other words, although some industries would hurt, others would be favorably affected.
3. W.B. Schwartz, "The Inevitable Failure of Current Cost Containment Strategies: Why They Can Provide Only Temporary Relief," *Journal of the American Medical Association*

- 257 (1987): 220-224.
4. M.V. Pauly, "The Economics of Moral Hazard," *American Economic Review* 58 (1968): 231-237; and M.S. Feldstein, "The Welfare Loss of Excess Health Insurance," *Journal of Political Economy* 81 (1973): 251-280.
  5. W.G. Manning et al., "Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment," *American Economic Review* (June 1987): 251-277; and J.P. Newhouse, "Controlled Experimentation as Research Policy," in *Health Services Research: Key to Health Policy*, ed. E. Ginzberg (Cambridge, Mass.: Harvard University Press, 1991).
  6. For a review of the literature, see M.V. Pauly, "Taxation, Health Insurance, and Market Failure in the Medical Economy," *Journal of Economic Literature* 24 (1986): 629-675.
  7. See B.A. Weisbrod, "The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment," *Journal of Economic Literature* 29 (1991): 523-552. I found some evidence for excessive rate of growth, but the results depend on the validity of the CPI, which, for reasons described below, I now doubt. The tests in that paper compared price growth over time for hospital, physician, and dental services, as well as for drugs. In principle, the tests could be repeated using expenditure growth rather than price growth, but because exogenous factors affect expenditure growth in the sectors differently (for example, the decline in the decay of teeth, the growth of AIDS), I am not optimistic about that approach. J.P. Newhouse, "Has the Erosion of the Medical Marketplace Ended?" *Journal of Health Politics, Policy and Law* (Summer 1988): 263-278.
  8. The 1960s saw the introduction of Medicare and Medicaid, so it is not surprising that the rate of growth in spending was higher then.
  9. J.P. Newhouse, "Medical Care Costs: How Much Welfare Loss?" *Journal of Economic Perspectives* (Summer 1992): 3-21.
  10. The smaller figure results from using the observed income elasticity at the household level in the United States, the larger from using the elasticity internationally. The former is presumably smaller because of widespread insurance, which probably should be assumed for present purposes.
  11. R. Reynolds, J.A. Rizzo, and M.L. Gonzalez, "The Cost of Medical Professional Liability," *Journal of the American Medical Association* 257 (1987): 2776-2781.
  12. The 1940 figure is from R.M. Gibson, "National Health Expenditures, 1978," *Health Care Financing Review* (Summer 1979): 1-36. The 1990 figure is from K.R. Levit et al., "National Health Expenditures, 1990," *Health Care Financing Review* (Fall 1991): 29-54.
  13. J. Lubitz and R. Prihoda, "The Use and Cost of Medicare Services in the Last Two Years of Life," *Health Care Financing Review* 5 (1984): 117-131. We do not have comparable data for the nonelderly, but the elderly account for more than 70 percent of deaths, so it is unlikely that including the nonelderly would change the conclusions in any material way.
  14. Ibid.
  15. A.S. Detsky et al., "Prognosis, Survival, and the Expenditure of Hospital Resources for Patients in an Intensive Care Unit," *The New England Journal of Medicine* 305 (1981): 667-672.
  16. The lagging productivity concept is behind an argument made by Morris Barer and colleagues that the share of GDP rather than real health expenditure should be used to compare across countries. M.L. Barer, W.P. Welch, and L. Antioch, "Canadian/U.S. Health Care: Reflections on the HIAA's Analysis," *Health Affairs* (Fall 1991): 229-236. In addition to the argument in the text, the following empirical fact is not consistent with their argument: Wages for hospital workers in Canada are above those in the United States despite lower real incomes in Canada. S.G. Haber et al., "Hospital

- Expenditures in the United States and Canada: Do Hospital Worker Wages Explain the Differences?" *Journal of Health Economics* (forthcoming).
17. Notice that this argument, if correct, implies that health care costs could rise more rapidly than GDP and nothing would necessarily be amiss.
  18. A.A. Scitovsky, "Changes in the Costs of Treatment of selected Illnesses, 1951-1965," *American Economic Review* 57 (1967): 1182-1195; and A.A. Scitovsky, "Changes in the Costs of Treatment of Selected Illnesses, 1971-1981," *Medical Care* 23 (1985): 1345-1357. Scitovsky finds that the costs of treating the illnesses she studied increased faster than the medical care CPI, but she does not endeavor to adjust for quality.
  19. D. Dranove, M. Shanley, and W.D. White, "Does the Consumer Price Index Overstate Hospital Price Inflation?" *Medical Care* 29 (1991): 690-696.
  20. H.S. Luft, "Trends in Medical Care Costs: Do HMOs Lower the Rate of Growth?" *Medical Care* 18 (1980): 1-16; and J.P. Newhouse et al., "Are Fee-for-Service Costs Increasing Faster than HMO Costs?" *Medical Care* 23 (1985): 960-966.
  21. The similar rate of growth in U.S. and Canadian real (per capita) health costs implies that the ratio of those costs was not very different in 1990 than it was in 1960.
  22. Actually, the question is even more complicated, because one must take account of the fact that insurance may itself induce more consumption. See J.H. Goddeeris, "Insurance and Incentives for Innovation in Medical Care," *Southern Economic Journal* 51 (1984): 530-539; and J.H. Goddeeris, "Medical Insurance, Technological Change, and Welfare," *Economic Inquiry* 22 (1984): 56-67. Further, perhaps tastes change when one is sick or disabled; in the debate over the Oregon Medicaid proposal, for example, some argue that the preferences of people who are not disabled cannot be used to evaluate various states of disability.
  23. Weisbrod, "The Health Care Quadrilemma."
  24. Defense at times may have been an exception.
  25. Although I am not aware that this has occurred, I could imagine an HMO not offering the latest technology as a selection device; for example, not offering a costly advance in cancer therapy so that cancer patients will choose to go elsewhere.
  26. National Opinion Research Center, *General Social Survey, 1992*. Also see R.J. Blendon et al., "The Implications of the 1992 Presidential Election for Health Care Reform," *Journal of the American Medical Association* 268 (1992): 3371-3375.
  27. However, suppose 20 percent of the growth in the economy each year is spent on medical care. Then the share of GDP spent on medical care will stabilize at 20 percent.
  28. M. Chassin et al., "Does Inappropriate Use Explain Geographic Variations in the Use of Health Care Services?" *Journal of the American Medical Association* 258 (1987): 2533-2537; J. Avorn et al., "A Randomized Trial of a Program to Reduce the Use of Psychoactive Drugs in Nursing Homes," *The New England Journal of Medicine* 327 (1992): 168-173; and J.M. Mitchell and J.H. Sunshine, "Consequences of Physicians' Ownership of Health Care Facilities: Joint Ventures in Radiation Therapy," *The New England Journal of Medicine* 327 (1992): 1497-1501.
  29. Chassin et al., "Does Inappropriate Use Explain Geographic Variations?"
  30. The issue is how good risk adjustment can be. Perhaps a health insurance purchasing cooperative (HIPC) can keep selection problems at a tolerable level, but I am skeptical. Not insisting on pure capitation would help to mitigate selection.
  31. K. Langwell and J.P. Hadley, "Evaluation of the Medicare Competition Demonstrations," *Health Care Financing Review* (Winter 1989): 65-80.
  32. One may object that it is unfair to employees of firms who are on average good risks to subsidize employees of other firms who are bad risks. This ignores the possibility that a good risk today may be a bad risk tomorrow, and may want insurance against the increased premiums that bad risks would face.