Prologue: One of the most vexing challenges facing the U.S. health care system today is how to care for people who lack health insurance, a population that now numbers about thirty million people. As a variety of cost-control schemes take hold, hospitals may become ever more vulnerable financially to treat the uninsured without compensation. With the implementation of Medicare’s prospective payment system, many analysts believed that hospitals would compensate for government reductions in revenue by increasing their charges to privately insured patients. The following article by Jack Hadley and Judith Feder, codirectors of the Center for Health Policy Studies at Georgetown University, counters that commonly held view. The article suggests that hospitals do not increase their markups from privately insured patients when revenues are squeezed. Instead, they reduce personnel, postpone pay increases, and limit charity care. While the data gathered for this study do not reflect the effects of the DRG system, the findings do show that markups are not the safety valve for hospitals facing financial pressure. Hadley and Feder, both prominent social scientists who have pursued health policy both together and separately for more than ten years (together at the Urban Institute and at the National Center for Health Services Research), delineate some changes in public policy that they feel would help remedy the impact of hospital cutbacks on the uninsured. The authors do not contend that their solutions are panaceas, but they are convinced that several of the current proposals are an improvement over the status quo.
In the early 1980s hospitals faced a threat to their revenues. Under pressure to control government spending, Medicare and many Medicaid programs changed payment methods and paid hospitals less for serving their patients. At the same time, the recession reduced people’s insurance coverage, putting pressure on hospitals to increase their charity care. Even as the economy improved, Medicaid cutbacks and changes in private insurance reduced the proportion of the population with insurance and kept the need for charity care high.¹

Many believe that hospitals can compensate for government cutbacks and provide more charity care by raising charges to charge-paying patients. If so, government efforts to contain costs simply shift costs to others, imposing what some have called a “hidden tax.”² If hospitals cannot shift costs, however, cost containment may threaten hospitals’ capacity to serve people who cannot pay.

This article examines hospitals’ cost-shifting behavior and its implications for care to the uninsured. Using data from a national sample of 128 private hospitals for 1980 and 1982, we ask three broad questions: Do hospitals shift costs, that is, raise their markups to commercially insured patients if their need for revenues rises (because of greater free care, reduced government payment, or declines in other revenue sources)? If hospitals do not shift costs, can they maintain their activities, especially care to the indigent, or do they cut back? And, finally, do hospitals’ behavior patterns suggest the need for a change in government policy to preserve access to care for people unable to pay?

In brief, our findings suggest that hospitals’ markups do not vary systematically with pressure on revenues. Commercial insurers pay higher markups than other private as well as public insurers, and their markups rose from 25.1 percent above costs in 1980 to 26.7 percent in 1982. But this increased markup was not enough to offset the sample hospitals’ increases in bad debt and charity, declines in net revenues from other payers, and declines in net revenues from other sources between 1980 and 1982. Furthermore, hospitals that experienced the greatest changes in these factors (or the most substantial growth in the apparent need to markup) increased their markups to commercially insured patients by about the same amount as hospitals whose apparent need to markup fell.

These findings suggest that hospitals’ markups of revenues above costs are not unconstrained, governed by a simple pricing formula, or directly

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linked to changes in specific factors, such as charity care, bad debt, or government payments relative to costs. In other words, raising the markup to commercial insurers, and, by extension, to other charge-paying patients, may not be a safety valve for hospitals facing revenue declines or other financial pressures.

If markups are not a safety valve, what happens to the hospitals that experience financial pressure? Our evidence suggests that these hospitals take several actions to reduce costs, including reducing personnel, postponing pay increases, and limiting charity care. Although the first two of these actions may maintain service at lower costs, limits on charity mean less service to people unable to pay.

These findings imply that government or any other payer that wishes to pursue a more stringent payment policy can do so without having to be overly concerned about adverse effects on other payers’ rates. However, they may have to worry about adverse effects on access to care for the uninsured. Hospitals have financed care to people unable to pay from internally generated surpluses, including net revenues earned on paying patients. When those revenues are constrained, hospitals can be expected to limit the charity care they provide.

If society wishes to maintain or expand the poor’s access to hospital care (or to continue subsidizing hospitals’ education, research, or other community activities), then explicit means of financing socially desirable activities should be found. Although broader insurance may be the most effective means, resistance to government spending may inhibit its development. The alternative is for government to impose the cost shifting that hospitals cannot achieve on their own—through adjustments to Medicare or Medicaid rates, all-payer rate setting, or special pools for funding care to the uninsured.

**Evidence On Hospitals’ Cost Shifting**

Everyone recognizes that some purchasers pay more than others for the same hospital care. Commercially insured patients usually face hospitals’ full charges. Many Blue Cross plans contract with hospitals to pay rates below full charges. Before 1983, Medicare and most Medicaid programs paid cost-based rates that were usually lower than private insurers’. Recent federal legislation allows Medicare and Medicaid to move away from cost-based rates, but in most cases those programs still pay less than private insurers.

In recent years, these differences in payment have aroused bitter debate. Commercial insurers see the higher rates they pay as the direct result of others’ lower payments. They argue that when some payers do not pay their fair share of a hospital’s costs, the hospital compensates by raising charges to other payers. Hospital administrators describe this be-
behavior as "Robin Hood pricing," using the revenue from those who pay more to support care to people who can't pay at all, to compensate for short-falls from other payers, or to pay for nonpatient care activities such as research and education.

Government and Blue Cross plans that pay lower rates take a different view. They believe their lower rates reflect prudent purchasing. While they may make special and explicit payments for charity care or education (Medicare acknowledges only the latter), these payers do not consider themselves responsible for financing all activities hospitals wish to pursue.

**Key questions.** To determine whether, in fact, hospitals shift costs, we analyzed hospitals’ markup patterns for 1980 and 1982, asking three questions: (1) In 1980 and 1982, did different payers pay different markups? (2) Did differences in insurers’ markups change between 1980 and 1982? (3) Were changes in percentage markups to commercially insured patients related to changes in hospitals’ revenue needs?

Answers to these questions came from data from two national surveys of hospitals’ 1980 and 1982 fiscal years. These surveys requested information on inpatient days, gross patient care revenues (charges), and net patient care revenues (collections) by primary source of payment, as well as nonpatient care revenues, deductions from charges for charity and bad debt, and total costs, broken down into inpatient, outpatient, and all other operating and nonoperating costs. This analysis used data only from private nonprofit institutions which provided complete and internally consistent data in both 1980 and 1982. The final analysis file contained 128 private, nonprofit, short-term general hospitals, approximately 5 percent of the relevant universe. The hospitals examined were generally similar to the universe in size, occupancy, teaching status, type of community, and proportion of care provided to Medicare and Medicaid.

The percentage markup is defined as average revenue per inpatient day from commercially insured patients as a percentage of average cost per day for all inpatient days. We use average inpatient cost per inpatient day for all inpatients as the base for computing the percentage markup for each type of insurance. F. Sloan and E. Becker have shown that a hospital’s average cost per day is not affected by its mix of payer sources. Their finding supports the assumption that average cost per day (though not per case) is approximately the same for all payers.

**Commercial insurers pay the highest markups.** Exhibit 1 presents information on markups for commercial insurers, Blue Cross, Medicare, and Medicaid in 1980 and 1982. The results basically confirm the conventional wisdom as to the relative surplus provided by private and public purchasers of hospital care in a given year. In 1980, commercial insurers paid the most (25.1 percent) above costs, followed in descending order by Blue Cross (17.5 percent), Medicare (0.2 percent), and Medi-
Between 1980 and 1982, percentage markups changed little, except for Medicaid. In 1982, Blue Cross, Medicare, and Medicaid all paid hospitals lower revenues relative to costs than they did in 1980. The drops were small (less than 1 percent) for Blue Cross and Medicare, but quite large (almost 10 percent) for Medicaid. In contrast, commercial insurers paid hospitals a slightly higher surplus in 1982 than they did in 1980, that is, 26.7 percent above average costs. The commercial insurance payments’ apparent increase relative to government payments continued a trend from the mid-1970s.

This pattern of changes in markups is consistent with the argument that hospitals shift costs. But the analysis also suggests that the capacity to shift costs has limits. First, only the Medicaid change was statistically significant. The observed increase in markups to commercial insurers was not. Second, lower third-party payments relative to costs were not the only factors increasing hospitals’ financial needs, or need to shift costs, in this period. As shown in Exhibit 1, charity and bad debt increased and the surplus from nonpatient care sources declined. Thus, even if additional data showed that the increase in the commercial insurance markup was statistically significant, it would still be too small to offset changes in free care and nonpatient care net revenues.

The data in Exhibit 1 are for all hospitals in our analysis, whether or not they experienced reduced net revenues from noncommercial payers or other needs for increased revenues. To examine how hospitals’ markups actually relate to revenue needs, we asked a more specific question. Were increased markups generated primarily by hospitals that lost revenue from other sources between 1980 and 1982 or did all hospitals, regardless of financial need, similarly increase their markups?
To explore this question, we developed an index of a hospital’s need to cost shift and compared markups for hospitals whose need increased between 1980 and 1982 to markups for hospitals whose need declined. This index is based on a common theory of hospital pricing. Hospitals compare their expected total costs, including the costs of uncompensated care and nonpatient care activities, to expected revenues from other payers (Medicare, Medicaid, and Blue Cross) as well as nonpatient care revenues (including public and private grants and philanthropy). The difference between expected costs and expected revenues is then factored into the calculation of the hospital’s charges, which are the basis for payment by commercially insured and other charge-paying patients.

Markups are not related to revenue needs. To see how much hospitals’ markups to commercially insured patients actually reflect these revenue needs, the index of a hospital’s need to cost shift is based on the sum of three separate components: (1) uncompensated care (charity and bad debt); (2) the difference between the estimated cost of inpatient care provided to Medicare, Medicaid, and Blue Cross patients, and inpatient revenues from those sources; and (3) the difference between nonpatient care expenses and revenues.

To determine a hospital’s need to cost shift, the three separate components of financial need were summed and divided by the hospital’s reported number of commercially insured patient days in 1980 and 1982. To convert the index into the same units as the percentage markup, we divided by the hospital’s average cost per day, added 1.0 and multiplied by 100, as shown in the following formula:

\[
\text{Index} = \left( \frac{\text{financial need per commercial day}}{\text{average cost per day}} + 1 \right) \times 100
\]

This index simultaneously takes account of how much money a hospital might estimate it needs to raise from commercially insured patients and the number of such patients from whom to raise those extra funds. If the hospital breaks even on the sum of its care to noncommercially insured patients and all other activities, then its financial need is zero and the index value is 100. If the need to cost shift is high, then the index will be greater than 100. For example, a value of 125 would imply an expected percentage markup of revenues above costs of about 25 percent. It should be emphasized, however, that the index is not a precise pricing formula, but rather a means of identifying hospitals with apparently different need to cost shift.

Using this index, we divided the sample of 128 hospitals into two equal-size groups of sixty-four hospitals based on the change between 1980 and 1982 in each hospital’s need to cost shift. As Exhibit 2 shows, the two groups of hospitals experienced substantial differences in the
**Exhibit 2**
Change in Percentage Markups To Commercial Insurers By Change in The Index Of Need To Cost Shift, 1980-1982

<table>
<thead>
<tr>
<th>Hospital group</th>
<th>Absolute change in index of need to cost shift, 1980-1982</th>
<th>Change in percentage Markups, 1980-1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>All hospitals (n = 128)</td>
<td>11.86</td>
<td>1.60</td>
</tr>
<tr>
<td>Hospitals with a high need to cost shift (n=64)</td>
<td>37.37</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.39</td>
</tr>
<tr>
<td>Hospitals with a low need to cost shift (n=64)</td>
<td>-13.65</td>
<td>2.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.75</td>
</tr>
<tr>
<td>(t-statistic)</td>
<td>(0.55)</td>
<td>(1.56)</td>
</tr>
</tbody>
</table>

**Source:** American Hospital Association/Urban Institute. “Survey of Medical Care for the Poor and Hospitals’ Financial Status.”

The index of the need to cost shift can be interpreted as a measure of the hospital’s expected or target markup per commercially insured patient day.

Percentage markup of average revenue per commercially insured inpatient day above average cost per day.

Percentage markup of average charge per commercially insured inpatient day above average cost per day.

With 64 hospitals in each group, a t-statistic of 1.67 or greater implies rejection of the null hypothesis of no difference in the change in markup at the 90 percent confidence level.

change in the index. The high need group should have increased its markups by about 37 percentage points, while the low need group could have reduced markups by about 14 percentage points.

If hospitals had set markups to commercially insured patients to compensate for other revenue gaps, the two groups of hospitals should have had very different markups. In fact, however, Exhibit 2 shows that increases in markups were actually lower for the hospitals whose revenue needs increased. These hospitals increased their revenue markups by 0.93 percentage points and their charge markups by 0.39 percentage points between 1980 and 1982. Hospitals whose revenue needs declined increased their revenue markups more than twice as much (2.27 percentage points) and their charge markups more than ten times as much (4.75 points). These differences were not statistically significant, however, suggesting that individual hospitals’ markups bore no systematic relation to individual revenue losses or revenue needs.

These somewhat surprising conclusions raise another question. Did the hospitals that needed more revenues but did not raise their markups have some unusual features that might explain their behavior? Did they, for example, experience nonpatient care expenditures (a capital improvement) that reduced their nonpatient surpluses for a particular year? Did they receive grants that offset their charity and bad debt? Were their charges in 1980 particularly high, reducing their capacity to raise them further? Did their occupancy rates fail or were they relatively low, encouraging them to keep prices down to attract patients? Were their surpluses especially high, making them willing to use them up?
As shown in Exhibit 3, only the last question gets a potentially positive answer. Hospitals with large increases in the index of the need to cost shift were essentially the same as other hospitals in all respects, except for the change in their surpluses between 1980 and 1982, which fell by a full percentage point. Hospitals with small increases or decreases in the index had an average total margin 0.4 percentage points higher than in 1980.

It appears that hospitals that experienced large increases in the index had relatively high surpluses and used those surpluses, not higher markups, to meet their apparent financial needs. Was this done intentionally in order to spend down a healthy surplus? The data in Exhibit 4 suggest not. Rather than spending their surpluses willingly, these hospitals were aggressively trying to control spending by limiting free care, laying off personnel, or restricting pay increases. Hospitals with large increases in the index of the need to cost shift were more likely to take these actions than the other hospitals in the analysis.

Consistent with these actions, the hospitals with large increases in the index had slower growth in full-time-equivalent staff per 1,000 adjusted patient days (14.8 percent compared to 18.6 percent), the volume of outpatient visits (14.6 percent compared to 24.3 percent), and outpatient

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### Exhibit 3
Selected Hospital Characteristics In 1982, By Change In Index Of Need To Cost Shift, 1980-1982

<table>
<thead>
<tr>
<th></th>
<th>Hospitals with a large increase in index of need to cost shift</th>
<th>Hospitals with a small increase or decrease in index of need to cost shift</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge per day, commercially insured patients</td>
<td>$349 ($54)</td>
<td>$358 ($60)</td>
</tr>
<tr>
<td>Average cost per day</td>
<td>271 (42)</td>
<td>265 (35)</td>
</tr>
<tr>
<td>Mark-up per commercially insured day (%)</td>
<td>125.0 (0.9)</td>
<td>128.5 (2.3)</td>
</tr>
<tr>
<td>Occupancy rate (%)</td>
<td>79.1 (–0.6)</td>
<td>79.2 (–0.2)</td>
</tr>
<tr>
<td>Philanthropy (% of total revenues)</td>
<td>0.8 (0.2)</td>
<td>1.0 (–0.1)</td>
</tr>
<tr>
<td>Payer mix (% of days)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>44.2 (2.6)</td>
<td>43.7 (2.7)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>7.3 (0.3)</td>
<td>8.3 (–0.4)</td>
</tr>
<tr>
<td>Blue Cross</td>
<td>18.2 (–2.2)</td>
<td>17.9 (–2.2)</td>
</tr>
<tr>
<td>Commercial insurance</td>
<td>22.6 (–0.1)</td>
<td>22.7 (0.8)</td>
</tr>
<tr>
<td>Net value of plant and equipment ($ millions)</td>
<td>21.7 (4.4)</td>
<td>23.3 (4.3)</td>
</tr>
<tr>
<td>Operating margin (% of operating revenues)</td>
<td>1.60 (–1.03)</td>
<td>2.74 (–0.04)</td>
</tr>
<tr>
<td>Total margin (% of total revenues)</td>
<td>3.17 (–1.02)</td>
<td>5.00 (0.4)</td>
</tr>
</tbody>
</table>

*Source: American Hospital Association/Urban Institute, “Survey of Medical Care for the Poor and Hospitals’ Financial Status.”*

*Change from 1980 in parentheses.
costs as a share of total patient care costs (−4.4 percent compared to 1.2 percent). It may be true that hospitals with relatively good surpluses could not justify further markup increases in the face of their revenue losses. But spending their surplus does not seem to have been a matter of choice.

Although this analysis is limited to a two-year period and a sample of hospitals, it raises serious questions about hospitals’ capacity to cost shift. Insurers who pay on the basis of hospitals’ full charges seem to pay more for the same care than others. We find no evidence that the markups they pay bear any systematic relation to individual hospitals’ free care, the levels of other insurers’ payments relative to costs, or other revenue needs. On the contrary, our analysis suggests that even those hospitals with good payer mixes and relatively healthy margins face limits on their capacity to raise markups.

What constrained these hospitals’ rate increases? Two answers seem plausible. One assumes a price-sensitive market for hospital care and competition among hospitals. The other rests on the notion that community or trustee concerns constrain hospital behavior.

Despite extensive insurance, it can be argued that there are limits to purchasers’ willingness to pay for hospital care and that hospitals cannot attain any revenue level they desire by raising prices. Higher prices may lead people who pay all or part of their bills themselves to go elsewhere or to defer care, and insurers may refuse to pay prices that are noticeably out of line. Fear of reactions like these may prevent individual hospitals from setting rates that depart too far from similar institutions in their communities—behavior that may explain why hospitals with especially large proportions of Medicare and Medicaid patients and free care and small proportions of commercially insured patients tend to run deficits.13

Although there is some evidence that hospital use is affected by hospital prices, the notion of “shopping” for, hospital care is not widely accepted.14 Independent of the market, however, it is possible that community or hospital trustee concern about hospital prices constrains hos-
pital markups. Given concern about rising hospital costs, administrators of hospitals with growing revenue needs may not be able to justify exceptional rate increases to their trustees, or trustees to their communities. Lower costs and lower profits may be more acceptable responses in a highly cost conscious environment.

Our data do not allow us to distinguish between market or social constraints on hospital markups. Whatever the cause, however, it seems clear that the individual hospitals in this analysis did not have unlimited capacity to boost markups to commercially insured patients to offset revenue declines.

**Implications For Public Policy**

What do these findings mean for hospital financing and public policy? First, they suggest that cost shifting may not be hospitals’ primary response to government revenue constraints in the mid-1980s. Early evidence on hospitals’ responses to Medicare’s prospective payment system supports this conclusion. Although many analysts expected hospitals to offset Medicare payment constraints by increasing charges to private payers, anecdotal evidence suggests this is not the case. An actuary at Travelers expressed his surprise rather cogently to the Wall Street Journal (8 October 1984), “Most of us thought hospitals would make up whatever money they might lose from Medicare by increasing the cost of privately insured patients, but that just isn’t happening.”

In practice, hospitals appear to be cutting costs more than shifting them. For the first time in recent history, American Hospital Association data showed a decline of 3.2 percent in the number of full-time-equivalent employees from its peak in the second quarter of 1983 to the third quarter of 1984.15 This behavior is consistent with our finding that there are limits to markups, limits which might have become even tighter in this new era of private as well as public insurers’ heightened sensitivity to hospital costs.

A second lesson from the research is that if government paid hospitals more, markups to commercial insurers would probably not decline. Hospitals may rationalize markups on grounds of government cutbacks or the demand for charity care. But our findings challenge the notion that there is an inevitable connection between these factors.

A third lesson from our research is that when hospitals face increased financial pressure which they cannot offset with higher markups, they cut back care to people unable to pay. Therefore, any payer’s success in cutting its markup raises another problem: Who’s to finance care to the uninsured?

The fact that the hospitals we analyzed cut their charity and bad debt is noteworthy, given the sizeable surpluses these hospitals earned in 1980. But the fact that such financially healthy hospitals responded so strongly
to revenue pressures raises serious questions about less healthy hospitals’ reactions to fiscal pressures. Hospitals facing deficits are more likely to be major providers of care to the poor. Lack of a cost-shifting safety valve may severely jeopardize these hospitals’ capacity to sustain free care.

Evidence from the recent recession (1980-1982) supports this conclusion.\textsuperscript{16} Between 1980 and 1982, the population with incomes below 150 percent of the poverty level increased more than 13 percent. The population in that income group with limited or no insurance increased 21 percent. The volume of free care to serve this population increased less than 4 percent.

This limited hospital response to increased poverty reflected not only most hospitals’ small role in serving the uninsured, but also the financial pressures on hospitals committed to a large role. Hospitals with relatively high proportions of charity and bad debt increased those proportions between 1980 and 1982, when their surpluses allowed. When these institutions faced deficits, however, they reduced the share of their resources devoted to free care.

In sum, care to people unable to pay may well be a casualty in the cost-containment battle. The simplest way to prevent this occurrence would be to see that more people are insured. In fact, task forces around the country, involving hospitals, public officials, and other interested parties, are advocating precisely this strategy to promote care to the indigent.\textsuperscript{17} But the current budget-conscious environment makes it doubtful that the public insurance strategy will go far enough to assure all the poor adequate access to hospital care.

An alternative route to promoting access is to have government impose the cost shift that hospitals seem unable to impose themselves, that is, require increases in payments from publicly or privately insured patients to cover hospitals’ care to people who cannot pay their hospital bills.

In various forms, this approach has been advocated by policymakers, hospitals, and advocates for the poor. The first type of formal cost shift, advocated by hospitals and representatives of the poor, involves Medicare and Medicaid. In recent years, Congress authorized (some say required) both these programs to pay higher rates to hospitals with “disproportionate shares” of care to the poor.\textsuperscript{18} Legislation appears to justify higher payments on the ground that poorer patients require more care and, therefore, impose higher costs. Whether or not this is true, the real purpose of higher rates would seem to be to mitigate the revenue pressures created by Medicare and Medicaid payment constraints in order to sustain providers of care to the poor. By early 1984, eleven Medicaid programs had adopted some type of rate adjustments for these higher proportion providers.\textsuperscript{19} A successful lawsuit and congressional concern are pushing the Medicare program to take similar action.
A second type of institutionalized cost shifting would go beyond public payers to all insurers of hospital care. This approach sets providers’ charges to all paying patients who pay at levels adequate to cover the costs of care provided to the indigent. Using different methods, rate-setting programs in Maryland, Massachusetts, and New Jersey adjust each hospital’s rates to cover some or all of the costs of charity care. This approach spreads the cost of indigent care across all payers, and, in that sense, is considered more equitable than the informal subsidies of the past, or the Medicare/Medicaid approach described above.

This rate-setting approach, however, has a serious disadvantage in an environment where private purchasers are seeking the lowest hospital prices: a hospital’s charges to paying patients rise with its volume of care to the indigent. While these higher charges can protect hospitals against losses due to free care alone, they may also drive away private-pay patients, creating a larger financial problem.

Therefore, it may be preferable to consider a third approach to formal cost shifting, either along with rate setting (as in New York) or without it (as in Florida). This approach uses a mechanism outside hospitals’ rate structures to create special pools for funding indigent care. New York taxes insurance premiums and distributes the funds among hospitals serving the poor. Florida taxes hospitals and uses the funds to better insure the poor by expanding Medicaid. In both cases, however, revenues from the insured population (directly or indirectly) are being used to finance care to the uninsured, just as informal cost shifting was expected to do.

How much aid any of these measures will bring to institutions or the population in need depends on how generously hospitals are paid. In theory, rate adjustments or special aid could be adequate to make hospitals indifferent to the insurance status of their patients. In practice, however, few arrangements come even close to that effect. Hence, they fall far short of the protection that better health insurance would provide. Nevertheless, by assigning explicit responsibility for financing care to the indigent and assuring some dollars to support that care, these arrangements represent a needed improvement over the status quo.
NOTES

1. B. Katherine Swartz, statement before the U.S. Senate, Committee on Finance, Subcommittee on Health, 27 April 1984.


3. Although some Blue Cross plans pay charges, it was not possible to identify these plans in our analysis. Our analysis of cost shifting, therefore, focused on the payers known to pay charges—commercial insurers.


5. Eight of these hospitals are located in Maryland and New Jersey, the two states that regulated all payers’ rates in 1980 and 1982. Excluding these hospitals from the analysis does not change any of the substantive results reported below.

6. Our definition of the percentage markup to commercially insured patients should be distinguished from two other common measures of price differentials among payers. One measure compares charges to commercially insured patients to average cost per day and, in fact, is what markup is commonly understood to mean. Since charges may not be paid in full, however, this variable is not a good measure of extra revenues hospitals actually collect from commercial insurers. The other common way to measure price differentials is to compare the ratio of revenues collected to charges made to each payer. (See, for example, P. Ginsburg and F. Sloan, “Hospital Cost Shifting,” The New England Journal of Medicine 310 (15 April 1984): 893-898.) But this variable is really a measure of discount rather than markup, and provides no information about surplus or shortfall relative to costs.


8. These differences in markups are similar to those reported by J. Meyer, Passing the Health care Buck: Who Pays the Hidden Cost? (Washington, D.C.: American Enterprise Institute, 1983).


10. Component 1: hospitals reported their charity and bad debt at full-established charges, which were converted to dollars of expense by multiplying by each hospital’s cost-to-charge ratio for all patient care. Component 2: one factor not included in the index is a hospital’s target surplus or financial margin, which might also affect hospitals’ markup patterns. Unfortunately, it is difficult to identify a target surplus directly. We explored two variations in the definition of the index of the need to cost shift that include estimates of hospitals’ target operating margin. One estimate assumes a target equal to 3 percent of operating revenues. The other estimate assumes that the target is equal to the actual operating margin reported by the hospital. However, neither of these variations produced results substantively different from those reported below. (For details see J. Hadley and J. Feder, “Hospital Cost Shifting: An Analysis of Hospitals’ Markups and Financial Needs,” unpublished paper, Center for Health Policy Studies, Georgetown University, October 1984.)
11. Using alternative definitions of the index of the need to cost shift, incorporating a target percentage margin as described in footnote 10, produced substantively identical results. We also grouped hospitals on the basis of the value of the index in 1980. Did hospitals with a large index value in 1980 increase their markups more than hospitals with low index values? The changes in markups were similar to those reported in Exhibit 2. (For details, see Hadley and Feder, “Hospital Cost Shifting.”)

12. Limiting the t-test to hospitals in the upper and lower thirds of the distribution of the change in the index produced the same result, as did expanding the sample of hospitals by relaxing the criteria used to select the hospitals in the analysis. We also used a multivariate regression model which had the change in the percentage markup as the dependent variable. The advantage of the regression approach is that it makes it possible to control for factors other than the change in the index of the need to cost shift. In particular, a hospital’s ability to change its percentage markup may be affected by factors such as insurance coverage and unemployment in its area, competition from proprietary hospitals and health maintenance organizations, the presence of a public hospital, whether it is subject to state rate regulation, average wage rates for hospital employees, its teaching status and average case complexity, its occupancy rate, and its location in terms of census region and community size.

The main result of the regression analyses was the same as implied by Exhibit 2. The change in individual hospitals’ percentage markups is not systematically related to the change in the index of the need to cost-shift. Although the coefficient of the change in the index was positive, suggesting that the change in the markup is higher where the change in the index is higher, the coefficient was not significantly different from 0. See Hadley and Feder, “Hospital Cost Shifting.”


