CBO PAPERS

RESPONSES TO UNCOMPENSATED CARE AND PUBLIC-PROGRAM CONTROLS ON SPENDING: DO HOSPITALS "COST SHIFT"?

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NOTES

Unless otherwise indicated, all years referred to in this paper are calendar years.

Numbers in the text, tables, and figures may not add to totals because of rounding.

PREFACE

This Congressional Budget Office (CBO) paper examines the extent to which hospitals were able to cover their costs of uncompensated care and their unreimbursed costs of treating Medicare and Medicaid patients during the 1980s with subsidies from state and local governments, revenues from sources other than patient care, and higher charges to private payers. The paper was prepared in response to requests from the Senate Committee on Finance and the Subcommittee on Health of the House Committee on Ways and Means. In accordance with CBO's mandate to provide objective and impartial analysis, the paper contains no recommendations.

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The primary data used for the paper come from the American Hospital Association's (AHA's) Annual Survey of Hospitals. CBO gratefully acknowledges the assistance of the numerous hospitals that permitted CBO to use the financial data collected in the survey and the assistance of the AHA in making these data available to CBO.

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SUMMARY

During the 1980s, the revenues that hospitals received for treating Medicare and Medicaid patients declined, on average, relative to what it cost hospitals to treat those patients. For Medicare, the costs that hospitals incurred grew more rapidly than payments between 1985 and 1991. For Medicaid, the ratio of revenues to costs declined throughout the 1980s, but increased somewhat after 1989. In 1991, revenues from Medicare--which account for about one-third of hospitals' total revenues--were equal to 88 percent of the associated costs incurred by hospitals. Revenues from Medicaid were equal to approximately 82 percent of the associated costs.

Hospitals' costs of uncompensated care (charity care and bad debt) generally also increased during the 1980s. As a result of these trends, hospitals' total unreimbursed costs from uncompensated care and publicly insured patients rose from an average of about 7 percent of hospitals' total costs during the first half of the 1980s to 11 percent in 1989, and to nearly 13 percent in 1991.

During the 1980s, hospitals were able to cover most of their unreimbursed costs with revenues from three sources: subsidies from state and local governments; sources other than patient care, such as revenues from parking facilities and donations; and revenues from private patients. The portion of unreimbursed costs that hospitals recovered was relatively constant over the 1980-1989 period, averaging about 94 percent. (Since excess revenues at one hospital cannot offset losses at another, this amount is less than 100 percent, even though for the industry as a whole total revenues were greater than total costs throughout the period.)

The contributions of the different sources used to cover unreimbursed costs changed over time. The share of unreimbursed costs offset by private payers increased from 37 percent in 1980 to 55 percent in 1989, and the proportion offset by state and local subsidies decreased from 27 percent in 1980 to 10 percent in 1989.

Hospitals offset most of the rise in unreimbursed costs during the 1980s by generating higher revenues from private payers, a practice commonly known as "cost shifting." The revenues from private payers that were used to cover unreimbursed costs increased over the period--from a 6 percent average markup over the costs of treating private patients in 1980 to a 15 percent

markup in 1989. (These amounts are a conservative estimate of the contributions of private payers to covering hospitals' unreimbursed costs, because the analytic method that produced the estimates fully exhausted all other sources of revenues before applying those from private payers.)

These results suggest that, in the current multiple-payer health care system, actions taken by one payer to control health spending can have a significant impact on spending by other payers--and therefore a more limited effect on total spending. As a consequence, in the absence of other changes, further attempts to control public-sector spending would probably produce additional cost shifting to the private sector, although it is not known whether past rates of cost shifting could continue.

CHAPTER I

INTRODUCTION

The effectiveness of any health reform plan will depend on how hospitals and other health care providers respond to the new incentives the plan creates. Estimating future responses always involves considerable uncertainty. But examining how providers responded to major changes in their incentives in the past can shed some light on the possible effects of future reform. The modifications made during the 1980s in the way Medicare and Medicaid pay for hospital services represent a recent major change in providers' incentives.

During the 1980s, Medicare and most state Medicaid programs replaced retrospective, cost-based reimbursement methods for inpatient care with prospective systems. Under retrospective reimbursement, hospitals are paid an amount based on the actual costs they incur in providing covered services, with the costs usually subject to certain tests of reasonableness. In contrast, prospective systems use predetermined reimbursement rates. For example, Medicare's prospective payment system (PPS), which started in 1983, pays a specified amount for each Medicare patient that varies according to the patient's diagnosis and treatment and certain characteristics of the hospital providing the care.

By October 1985, the Medicaid programs in more than 40 states were also using some form of prospective payment for hospitals, and by July 1991, all but four states' programs were doing so.[1] These systems vary. For example, some pay a fixed amount for each patient that is based on the hospital's actual costs in a past year and does not depend on the patient's diagnosis. Some others pay a specified amount that is based on the patient's diagnosis. Compared with retrospective, cost-based reimbursement, prospective systems give public programs more control over the rates they pay. Such systems also provide greater incentives for hospitals to control their costs and deliver care efficiently.

Evidence indicates that the growth in hospital costs slowed in 1984 and 1985 compared with earlier years, after adjusting for inflation. Since then, however, the rate of growth has increased to levels only slightly lower than those of the early 1980s. For Medicare, the growth in the costs that hospitals incurred in treating covered patients exceeded the growth in payments between

1. Prospective Payment Assessment Commission, *Medicaid Hospital Payment,* Congressional Report C-91-02 (October 1, 1991).

1986 and 1991 (the most recent year for which data are available). As a result, even though hospitals' Medicare revenues were greater than the associated costs during the early years of the PPS, by the end of the 1980s, Medicare revenues were less than those costs. Although generalizations about Medicaid are difficult to make because each state's program is different, Medicaid's payment rates also declined, on average, during the 1980s relative to what it cost hospitals to treat Medicaid patients. Since 1989, however, the rates have increased somewhat relative to the costs. Between 1987 and 1991, hospitals' total unreimbursed costs associated with treating publicly insured patients increased rapidly.

The uncompensated care that hospitals provide also increased during the 1980s. Between 1986 and 1988, the cost of uncompensated care (charity care plus bad debt) represented an average of 6.5 percent of the industry's total costs, compared with an average of 5.4 percent between 1980 and 1985. From 1989 through 1991, uncompensated care was about 6 percent of hospitals' total costs.

Despite these trends, the financial condition of hospitals has remained relatively stable. Between 1987 and 1991, the total revenue margin for community hospitals fluctuated between 3.3 percent and 4.3 percent, compared with a range of 5.1 percent to 6.0 percent between 1984 and 1986, and a range of 3.6 percent to 4.2 percent in the early 1980s.[2] Based on this pattern, many observers believe that one way hospitals responded to controls on reimbursements by Medicare and Medicaid was by increasing the prices they charged privately insured patients--a practice commonly known as "cost shifting."

BACKGROUND

In general, cost shifting refers to the supposed practice by hospitals or other health care providers of raising the amounts charged to some groups of patients in order to offset lower amounts paid by other groups.[3] Most hospitals, for example, provide some care free of charge to patients who are unable to pay for it, and hospitals generally use private contributions and

2. The total revenue margin is defined as the difference between total revenues and costs for all hospitals, expressed as a percentage of total revenues. See Appendix B, Figure B-1.

3. Throughout this paper, unless otherwise stated, "amounts charged" and "prices" refer to the effective prices after any discounts are applied.

subsidies from state and local governments to help finance this care. However, it is widely believed that, in order to subsidize charity care and bad debt, hospitals also set their prices higher than they otherwise would. In this way, some of the costs of uncompensated care are passed along (or shifted) to other patients--in particular, privately insured ones.

In addition to helping to cover the costs of uncompensated care, hospitals may also use some of the payments from privately insured patients to cover costs that are not fully reimbursed by Medicare and Medicaid. More generally, if a public program's payments are sufficient to cover its related costs but generate a lower "profit" than the hospital seeks, a hospital might charge private patients more than it otherwise would to achieve a desired overall revenue amount or profit margin.[4]

A key concern is that hospitals may link their prices to uncompensated care or government payment rates. In particular, if a hospital raises its rates because its volume of uncompensated care has increased or its revenues from government programs have fallen relative to the costs of treating those programs' patients, this response is described as cost shifting. It is actually pricing policy, however. For this reason, some analysts prefer the term "revenue management" to describe these practices. This paper uses "cost shifting," however, because it is the more common phrase.

Of course, hospitals are not unique in providing their services at different prices to different customers. Various types of for-profit and not-for-profit firms--such as book shops, bus systems, and theaters--often give discounts to senior citizens, students, or frequent customers. In addition, sectors other than health care, such as higher education, often provide services at reduced rates, or for free, to some people. For example, because colleges offer various types of student aid, different students effectively pay different amounts for the same services.

Instead of--or in addition to--cost shifting, a hospital might respond to higher costs of uncompensated care or reduced government reimbursements in other ways. For example, a hospital might absorb the changes through a lower profit margin. Or it might alter the mix of patients it treats--for example, by treating fewer uninsured patients or expanding its more profitable types of

4. For convenience, this paper uses the term "profit" to refer to the excess of revenues over costs and "profit margin" to refer to that excess as a percentage of costs. Approximately 85 percent of community hospitals operate on a not-for-profit basis and therefore do not actually distribute profits to their owners. Regardless of ownership type, however, a hospital might seek an excess of revenues over costs--for example, to replace capital or make new capital purchases in the future.

services. Or, instead of raising prices, a hospital might reduce its costs of providing care by increasing efficiency or decreasing quality. In that case, however, cost shifting could also increase if, for example, the costs of treating all categories of patients were reduced but private prices were unchanged. Although evidence suggests that some hospitals have acted in these ways, the analysis in this paper indicates that hospitals also significantly expanded their use of cost shifting during the 1980s.

The practice of cost shifting from the public sector to the private sector does not imply that public-program payment rates are inappropriate or "too low," or that the costs hospitals incur are "too high." Those judgments are a separate issue and are beyond the scope of this paper. Nor does it mean that hospitals' incurred costs are not influenced by payment methods or by the mix of payers represented by differing populations of patients. Rather, evidence of cost shifting indicates that one important way hospitals have responded to public-program controls on spending has been to generate higher revenues from the private sector. Some observers argue that if this response were not possible, hospitals would lower their costs by providing care more efficiently. Others contend that if cost shifting were not possible, the quality of care would fall or access to care would be reduced because of hospital closures or because less care would be available to some uninsured and publicly insured patients.

DATA AND METHODS

This paper uses data from the 1980 through 1989 versions of the Annual Survey of Hospitals conducted by the American Hospital Association. The analysis was based on a sample of community hospitals that, in terms of size, location, and other characteristics, is generally representative of hospitals nationwide (see Appendix A for details).

The analysis relies on certain financial information collected in the annual survey, including each hospital's revenues from Medicare, Medicaid, private insurers, and other sources. An important limitation of the data is that the survey does not report the costs that hospitals actually incur in treating the patients in each group. Instead, the Congressional Budget Office estimated those amounts by using each hospital's ratio of costs to charges (RCC) to convert the full charges (based on list prices) for each patient group into an estimate of incurred costs for that group. The RCC is defined as the ratio of the hospital's total costs to the sum of its full charges for patient care and its operating revenues from sources other than patient care (excluding subsidies from state and local governments). This method apportions the hospital's expenses among the different patient groups according to their relevant shares

of total full charges. (See Appendix A for more details about the method used to estimate costs.)

Because the costs attributed to each source are estimated, specific numerical results in this paper--such as the estimated revenue-to-cost ratios for specific payers--are not as accurate as they would be if data on actual costs were available. Readers should therefore view specific numerical estimates with caution. However, because any distortions caused by using estimated costs are probably similar from year to year, they are unlikely to have much effect on the analysis of changes over time or on the paper's conclusion that cost shifting by hospitals increased during the 1980s.

CHAPTER II

SOURCES OF HOSPITALS' REVENUES AND COSTS

Nearly all hospitals treat a mix of publicly and privately insured patients. In 1991, community hospitals derived 33 percent of their revenues from the Medicare program, 10 percent from Medicaid, just over 1 percent from other publicly insured patients, and 49 percent from privately insured patients or those paying for their own care.[1] The remaining revenues came from sources other than patient care. On average, hospitals report that the payments they receive from Medicare and Medicaid do not fully cover the estimated costs of treating those programs' enrollees. In addition, most hospitals provide some free care to patients who cannot pay for it. Together, these unreimbursed costs totaled over $28 billion in 1991, or nearly 13 percent of hospitals' total costs. Most hospitals, however, earn enough income overall to more than cover their costs. For the hospital industry as a whole, revenues were 4 percent greater than costs in 1991.

SOURCES OF REVENUES AND COSTS

A look at the sources of hospitals' revenues and costs provides an overview of how hospitals finance their services. More than 90 percent of revenues are payments for patient care services, including inpatient and outpatient care. Sources other than patient care include subsidies from state and local governments, philanthropic contributions, and income from other hospital operations, such as cafeterias and parking facilities.

Medicare, Medicaid, and Other Government Payers

About three-quarters of all Medicare payments to hospitals are determined by the prospective payment system, which covers the operating costs related to inpatient care for beneficiaries.[2] Under the PPS, Medicare pays a

1. In this paper, Medicare payments, revenues, or reimbursements refer to the payments made for services provided to Medicare beneficiaries, including beneficiaries' deductible and copayment amounts--which might be made by a private "medigap" insurer--as well as payments by the federal government. Similar definitions apply to Medicaid, other government payers, and private payers.

2. The PPS for operating costs does not cover capital-related expenses, outpatient care, and certain other types of services. Beginning in October 1991, capital-related expenses have also been determined prospectively on a per-discharge basis; during a 10-year transition period, payments will be based on a combination of hospital-specific and national rates.

predetermined amount for each patient that varies according to the patient's diagnosis-related group (DRG) and certain characteristics of the hospital. For example, Medicare adjusts payments to compensate hospitals with teaching programs for their higher costs. The PPS payment rates are generally designed to reflect variations in costs among hospitals that result from factors considered to be beyond a hospital's control and not related to its efficiency. In addition, the PPS payments incorporate other goals. For example, the "disproportionate share" adjustment provides additional payments, beyond the levels justified by their higher costs of treating Medicare patients, to hospitals that treat relatively large shares of low-income and uninsured patients. Another example is the special provisions for "sole community hospitals." These are designed to help maintain access to hospital care in some rural areas by improving the financial condition of some facilities that are the sole hospitals in their geographic areas.

In 1991, for the industry as a whole, Medicare payments covered approximately 88 percent of the costs that hospitals incurred in treating covered patients (see Table 1). As noted above, the available data do not break down the hospital's actual costs of treating patients by payer groups; instead, those costs are estimated for each payer using data on the hospital's full (list price) charges. There is some limited evidence that the estimating method, combined with hospitals' accounting practices, may result in a small underestimate of the actual revenue-to-cost ratio for Medicare. The size of the underestimate, if any, is uncertain, however (see Appendix A).

Medicaid is a state-administered program, jointly funded by federal and state governments, that covers eligible low-income people. Until 1981, state Medicaid programs were required to pay for inpatient hospital care using Medicare's retrospective, cost-based reimbursement methods, unless they received a waiver. Since 1981, when the Congress permitted states to develop their own systems for paying hospitals without applying for waivers, the number of states with prospective systems has increased markedly. In July 1991, 46 states were using some type of prospective payment method, compared with 16 states in October 1981.[3]

Medicaid programs vary considerably in their specific payment methods. In a number of states, the systems base their rates on the patient's diagnosis. In some other states, Medicaid pays each hospital a fixed rate for each day of hospital care, or for each patient treated, that does not depend on the diagnosis; these rates are typically based on the hospital's actual costs in a

3. Prospective Payment Assessment Commission, *Medicaid Hospital Payment,* Congressional Report C-91-02 (October 1, 1991).

TABLE 1. HOSPITALS' REVENUES AND COSTS, BY PAYER OR OTHER SOURCE, 1991

Payer or Other Source	Revenues		Costs		Ratio of Revenues to Costs
	In Billions of Dollars	As a Percentage of Total	In Billions of Dollars	As a Percentage of Total	
Medicare	76.3	32.8	86.3	38.4	0.88
Medicaid	22.7	9.8	27.8	12.4	0.82
Other Government Payers	3.2	1.4	3.2	1.4	1.00
Private Payers	113.9	49.0	87.8	39.1	1.30
Uncompensated Care[a]	n.a.	n.a.	13.4	6.0	n.a
Nonpatient Sources					
State and local subsidies	2.6	1.1	n.a.	n.a.	n.a.
Other operating[b]	8.9	3.8	6.0	2.7	1.47
Nonoperating[c]	4.9	2.1	n.a.	n.a.	n.a.
Total	232.6	100.0	224.5	100.0	1.04

SOURCE: Congressional Budget Office based on analysis by the Prospective Payment Assessment Commission of data from the American Hospital Association's Annual Survey of Hospitals for 1991.

NOTES: The data are based on all community hospitals. n.a. = not applicable.

a. Uncompensated care is defined as charity care plus bad debt.

b. Includes operating revenues and costs for sources other than patient care, such as cafeterias and gift shops.

c. Includes revenues from donations, grants, earnings on endowments, and other sources. Nonoperating revenues are assumed to have no associated costs.

previous year or those of a group of similar hospitals. In a few states, Medicaid payments are based on costs, but they are subject to prospectively determined limits.

In 1991, the total payments that hospitals received for treating Medicaid patients equaled about 82 percent of the costs hospitals incurred in treating those patients. The revenue-to-cost ratio for Medicaid varies among states--for example, the Prospective Payment Assessment Commission found that, in 1989, Medicaid revenue-to-cost ratios by state ranged from less than 0.60 to more than 1.[4]

Based on revenue-to-cost ratios of less than 1, some observers have argued that the Medicare and Medicaid programs are not paying their "fair share." Other observers have justified the payment rates of the public programs, however, on several grounds. First, the costs attributed to each payer come from estimates of the hospital's average costs for treating covered patients. They may include some costs that would not meet the criteria for allowable costs established by Medicare or Medicaid. In fact, in the early 1980s, under cost-based reimbursement, hospitals' revenue-to-cost ratio for Medicare averaged about 0.96, approximately the same as in 1988 under the PPS.

Second, some observers argue that Medicare's payment rates are intended to create incentives for efficient provision of care.[5] If a hospital's costs are above the standard incorporated in the rates, then it will--by definition--have unreimbursed costs. For example, average costs can be driven up by costly equipment that is not fully used or by other types of excess capacity.

Third, for Medicare's PPS, total payments exceeded total costs during the first several years of the system. Through 1991, the industry's cumulative surpluses from the first several years under the PPS were greater than its cumulative losses from more recent years.[6]

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4. Ibid.

5. This justification might be applied to some Medicaid programs as well, but it is difficult to generalize about Medicaid since the states' programs vary widely.

6. This estimate is based on data for PPS margins and growth in PPS payments taken from Prospective Payment Assessment Commission, *Medicare and the American Health Care System: Report to the Congress* (June 1992). The underlying data are from the Medicare cost reports.

Other publicly insured patients include those covered by workers' compensation, the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), and state and local governments (other than by Medicaid). In all, this category accounted for less than 2 percent of hospitals' costs in 1991. It reflects a mixture of payment methods, including cost-based and charge-based ones. In 1991, total payments from these other government payers were approximately equal to the associated costs.

Private Payers

The private-payer category combines private insurers and individuals who pay for their own care. In 1991, hospitals' total revenues from private payers exceeded the associated costs by 30 percent.[7]

In contrast to public programs, the amounts paid by private payers are generally determined by hospitals, subject to market forces, although some states have regulated private-payer rates at different times. In particular, competition for patients may affect hospitals' prices or discounts. The presence of health maintenance organizations, large employers, or excess capacity among several hospitals, for example, might increase price competition in one location more than in others, enabling some payers to negotiate discounts.

Uncompensated Care

Uncompensated care is care for which no payment is received. It is measured in the data as the sum of charity care and bad debt. Charity care refers to services for which the hospital did not expect to be paid, based on its determination that the patient could not afford to pay. In contrast, bad debt occurs when the hospital expected to be paid but was not. In practice, charity care and bad debt cannot be separated accurately using the available data because hospitals vary in the methods they use to determine a patient's ability to pay.[8] Thus, charity care and bad debt are not consistently defined among hospitals. Most uncompensated care probably consists of services to patients

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7. An implication of the possibility that Medicare's revenue-to-cost ratio may be understated in the data is that, based on the method used to break down costs by payers, the revenue-to-cost ratio for private payers may be overstated (see Appendix A).

8. American Hospital Association, "Unsponsored Hospital Care and Medicaid Shortfalls, 1980-1991: A Fact Sheet Update" (Chicago, November 1992).

who are uninsured, but some is based on unpaid deductible or copayment amounts for insured patients.

Uncompensated care, as measured, is therefore somewhat greater than the amount of care that is provided to people who cannot afford it, because uncompensated care includes amounts that other patients failed to pay. In 1991, the costs of uncompensated care totaled $13 billion, or about 6 percent of hospitals' total costs.

Nonpatient Sources

State and local governments provided direct subsidies to about 15 percent of hospitals in 1989, most of which were government owned. Although these subsidies are often considered to be an offsetting revenue to uncompensated care, they fill a wider range of functions that cannot be distinguished in the data. For example, the subsidies might include funds for capital projects, as well as payments targeted toward charity care. In fact, for about 45 percent of hospitals receiving state and local subsidies, those subsidies exceeded the hospitals' costs of uncompensated care in 1989. In 1991, subsidies from state and local governments totaled $2.6 billion.

Other operating revenues come from cafeterias, gift shops, and additional activities that do not directly relate to patient care. Nonoperating revenues include philanthropic contributions and earnings on investments. In 1991, hospitals earned nearly $3 billion, after covering related costs, from other operating revenues and nearly $5 billion from nonoperating revenues.

VARIATION AMONG HOSPITALS

For many hospitals, the sources of revenues and costs differ markedly from national averages. For example, although, on average, hospitals lost money on Medicare and Medicaid patients in 1989, Medicare patients were profitable for about one-quarter of hospitals, and Medicaid patients were profitable for about 15 percent (see Table 2). In fact, 10 percent of hospitals had Medicare revenue-to-cost ratios of 1.06 or higher. Similarly, private payers do not always bring profits; in 1989, an estimated 7 percent of hospitals lost money on their private patients.

Furthermore, despite the overall profitability of the industry, numerous hospitals report financial losses. In 1989, 24 percent of hospitals incurred costs that were higher than their total revenues. The hospitals that are unable to

cover all their costs tend to be smaller, on average, than other hospitals. In 1989, the 24 percent of hospitals with losses accounted for only 15 percent of hospital admissions and 16 percent of the industry's total costs. Clearly, these hospitals were not able to generate sufficient revenues from private payers or other sources to cover their costs fully. Thus, even though industrywide revenues exceed costs, some costs of uncompensated care or of treating publicly insured patients were not recovered in 1989.

TABLE 2. DISTRIBUTION OF REVENUE-TO-COST RATIOS FOR HOSPITALS, BY SELECTED SOURCE, 1989

Source	Revenue-to-Cost Ratios by Percentile					Percentage of Hospitals with	
	10th	25th	50th	75th	90th	Revenues Greater Than or Equal to Costs	Revenues Less Than Costs
Medicare	0.77	0.85	0.92	1.00	1.06	24	76
Medicaid	0.45	0.60	0.77	0.93	1.04	15	85
Private Payers	1.04	1.14	1.24	1.37	1.50	93	7
All Sources[a]	0.95	1.00	1.04	1.07	1.11	76	24

SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1989.

NOTE: Based on a sample of 1,527 hospitals for which data were available.

a. Based on hospitals' total revenues and total costs from all sources, including those not shown separately.

CHAPTER III

HOSPITALS' RESPONSES DURING THE 1980s

Hospitals vary in the amount of uncompensated care they provide and in their other sources of costs and revenues. Thus, aggregate data from the hospital industry, such as those presented in Chapter II, cannot provide a complete picture of how fully and in what ways hospitals are able to cover their unreimbursed costs. This chapter, therefore, analyzes data from individual hospitals to measure trends in unreimbursed costs and how hospitals responded to them during the 1980s.

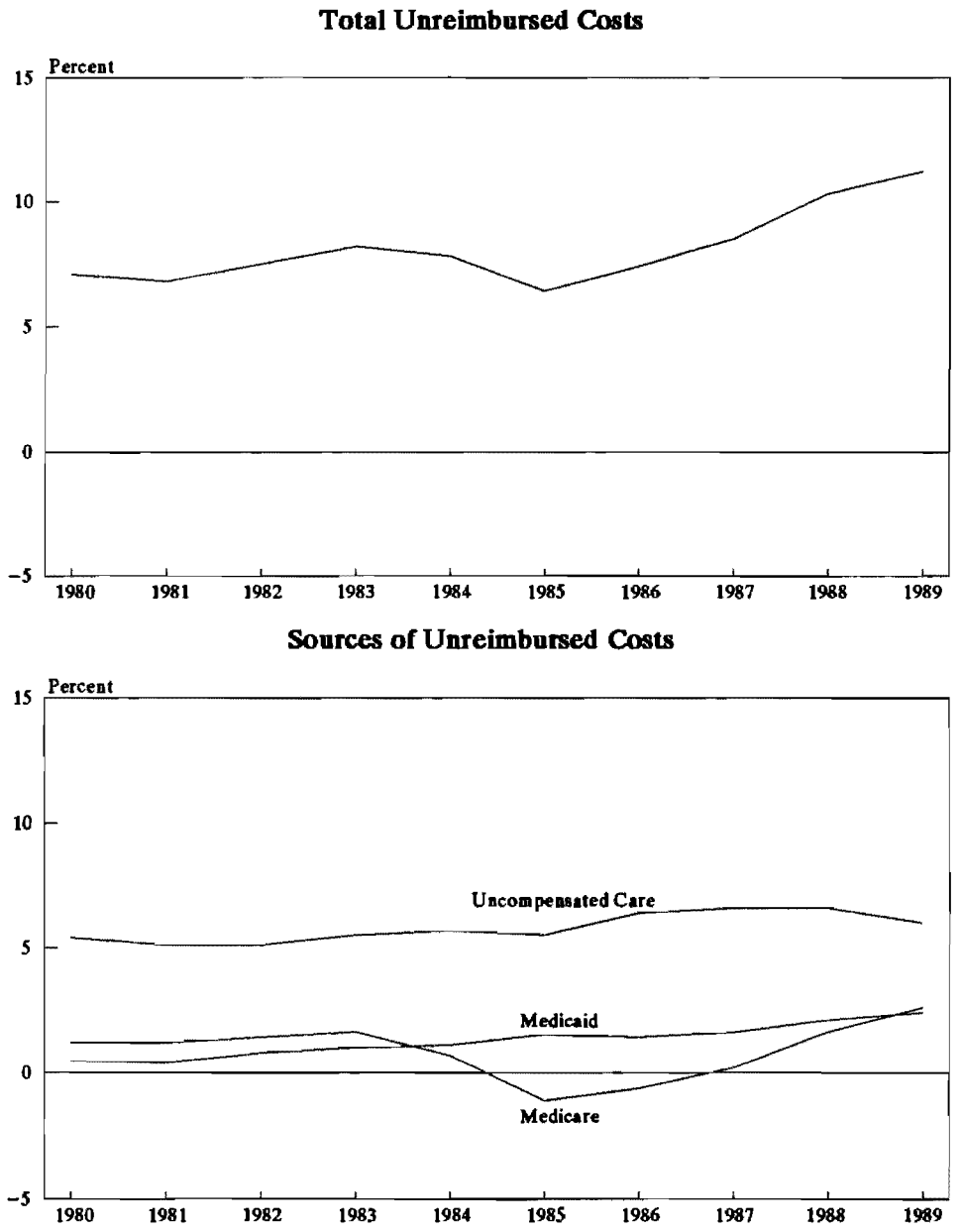
GROWTH IN UNREIMBURSED COSTS

This paper defines a hospital's unreimbursed costs as the difference between the costs it incurs for uncompensated care and publicly insured patients and the payments it receives from government programs. If those payments exceed those costs, its unreimbursed costs are zero. Thus, a hospital's unreimbursed costs measure the amount of surplus revenues that it needs to draw from private payers and sources other than patient care in order to cover the costs of uncompensated care and of any services to publicly insured patients that were not fully reimbursed.

This definition of unreimbursed costs combines the costs and revenues from uncompensated care and government payers; it therefore incorporates profits on publicly insured patients as well as losses. If a hospital has greater revenues than costs for public-sector patients, its unreimbursed costs will be lower than the costs of its uncompensated care by the amount of that profit. In 1989, for example, about 15 percent of hospitals had revenues from publicly insured patients that more than covered the associated costs, and those profits were, on average, equal to about 30 percent of these hospitals' costs of uncompensated care. Overall, however, hospitals' profits on publicly insured patients were equal to about 6 percent of the industry's total costs of uncompensated care in 1989.

As a percentage of hospitals' total costs, unreimbursed costs grew--with some fluctuations--between 1980 and 1989. Unreimbursed costs increased gradually during the first part of the decade, dropped in 1984 and 1985, and then increased rapidly (see Figure 1). By 1989, unreimbursed costs accounted for 11 percent of hospitals' total costs, compared with a low of 6 percent in 1985 and with 7 percent to 8 percent during the first part of the decade. By

Figure 1.
Hospitals' Unreimbursed Costs, by Source, 1980–1989 (As a percentage of hospitals' total costs)



SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTES: Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

The estimates shown are based on aggregate amounts using all sample hospitals. Negative entries indicate that aggregate revenues exceeded aggregate costs for that source. In addition to the sources shown, the total includes other government payers; unreimbursed costs for this category fluctuated between −0.1 and 0.2 percent of total costs over the period shown.

See Appendix B, Table B-2, for the data represented here.

1991, unreimbursed costs had increased to nearly 13 percent of hospitals' total costs.

Throughout the 1980s, uncompensated care represented the majority of unreimbursed costs. However, most of the growth in unreimbursed costs over the period came from unreimbursed Medicare and Medicaid costs. In 1980, uncompensated care accounted for three-quarters of total unreimbursed costs; by 1989, its share had fallen to just over one-half. By 1991, uncompensated care accounted for less than half of hospitals' total unreimbursed costs.

Uncompensated Care

As a percentage of hospitals' total costs, uncompensated care changed little during the first half of the 1980s, averaging about 5.4 percent of total costs. It increased to 6.6 percent in 1987 and 1988, before dropping back to 6 percent in 1989. From 1989 through 1991, uncompensated care remained at about 6 percent of hospitals' costs.[1] The recent level may result from expansions in the number of people eligible for Medicaid, which may have reduced the need for uncompensated care. Alternatively, hospitals may have cut back on uncompensated care because of increasing financial pressure from the growth in other unreimbursed costs.

Medicare

The pattern for Medicare was affected by the prospective payment system, which covers most of Medicare's payments to hospitals. Between October 1983 and October 1984, hospitals entered the PPS according to the start of their individual fiscal years. During the first few years of the system, revenues were substantially greater than the associated costs, for two reasons. First, total payments were higher than had been expected, primarily because the average case mix index, which is a weighting factor used to compute PPS payments, was higher than had been anticipated in setting the initial rates. Second, growth in hospitals' costs slowed significantly when the system was introduced. Hospitals appear to have responded to the incentives to control costs created by the system; they may also have been concerned about the effect of the new system on revenues. As a result, hospitals initially earned large positive margins under the PPS.

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1. The 1991 estimate is shown in Table 1. See Appendix B, Table B-1, for hospitals' revenues and costs, by source, for 1990.

Those margins have eroded over time, however. One reason is that, partly because payment rates were high initially, the Congress has generally restricted the annual increase in the per-case rates to less than the growth in the average price of hospitals' inputs. In addition, subsequent rapid growth of costs contributed to the declining margins. Some of Medicare's non-PPS payments to hospitals, including those for capital-related expenses and for some outpatient services, have also been subject to various controls.

The overall Medicare revenue-to-cost ratio, which is based on all Medicare-covered hospital services, increased from an average of 0.96 during the early years of the decade to over 1 in 1985 and 1986. The ratio then fell from approximately 1 in 1987 to 0.93 in 1989. As a result, hospitals went from earning profits on Medicare patients in 1985 and 1986 to having unreimbursed Medicare costs. These accounted for 2.6 percent of total costs, or about one-quarter of total unreimbursed costs, in 1989.

Since 1989, Medicare's revenue-to-cost ratio has continued to decrease--to 0.90 in 1990 and 0.88 in 1991. Based on projections for the PPS, the overall Medicare margin is likely to have declined further in 1992.[2]

Medicaid

In contrast to Medicare, unreimbursed Medicaid costs increased throughout the 1980s, from 0.5 percent of hospitals' total costs in 1980 to 2.4 percent in 1989. In 1989, losses on Medicaid patients totaled nearly as much as losses on Medicare patients, even though Medicaid patients accounted for only 11 percent of hospitals' costs compared with Medicare's 39 percent. This trend reflects a declining payment-to-cost ratio for Medicaid--from 0.95 in 1980 to 0.77 in 1989.

Since 1989, however, Medicaid payments have improved relative to costs, largely because of disproportionate share payments for hospitals that treat a large percentage of low-income patients, and because of states' expanded use of financing mechanisms that increase the federal government's matching payments. The effects of these changes vary from state to state, but Medicaid's overall revenue-to-cost ratio for hospitals increased from 0.77 in 1989 to 0.80 in 1990, and to 0.82 in 1991. Rapid growth in Medicaid spending

2. Prospective Payment Assessment Commission, *Medicare and the American Health Care System: Report to the Congress* (June 1992).

for hospitals in 1992 suggests that the revenue-to-cost ratio may have continued to increase.

Other government programs have had little effect on total unreimbursed costs, primarily because they involve only a small proportion of hospitals' costs. Between 1980 and 1989, these programs' unreimbursed costs fluctuated between 0.2 percent and negative 0.1 percent of hospitals' total costs.

HOW HOSPITALS COVER THEIR UNREIMBURSED COSTS

Hospitals have several potential sources of revenues to help cover unreimbursed costs. Nearly all hospitals earn surplus revenues from sources other than direct payments for patient care. For about 15 percent of hospitals, state and local governments provide subsidies that help finance uncompensated care. More than 90 percent of hospitals earn profits on privately insured patients.

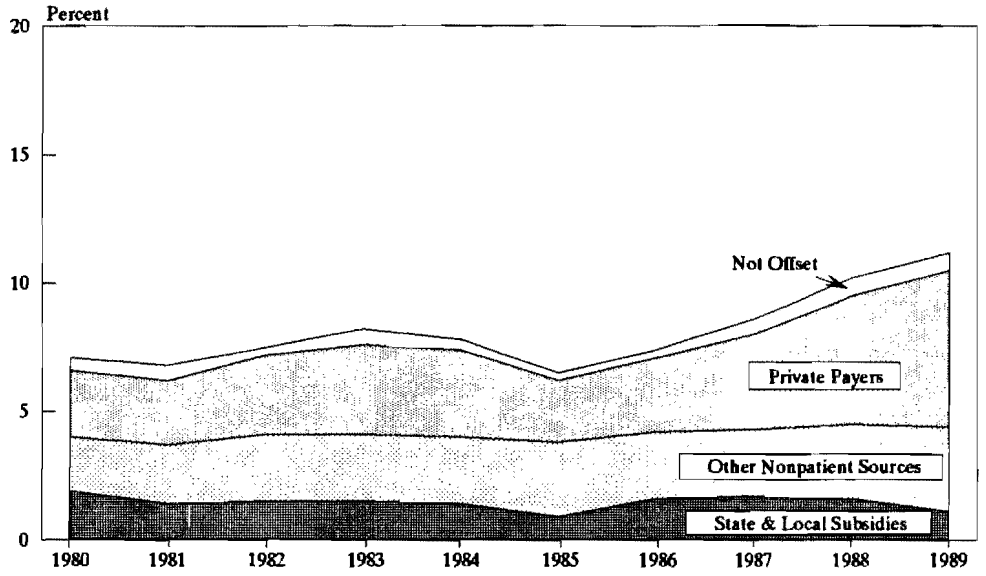
Sources of Offsetting Revenues

To measure the extent to which hospitals were able to cover their unreimbursed costs, the Congressional Budget Office analyzed data for each hospital and then totaled the results. By definition, the maximum amount of unreimbursed cost that a hospital can cover is 100 percent. In the analysis, any revenues beyond those needed to cover costs that were earned by one hospital were not allowed to offset unreimbursed costs at another hospital, since in actuality they do not. Because not all hospitals were able to offset all of their unreimbursed costs, less than 100 percent of industrywide unreimbursed costs were offset each year.

In 1989, for example, 94 percent of hospitals' total unreimbursed costs were offset by revenues from other sources. About one-fourth of hospitals were unable to cover all of their unreimbursed costs in that year; they offset about 75 percent of their unreimbursed costs. The total amount of unreimbursed costs that these hospitals could not offset represented the other 6 percent of the industry's total unreimbursed costs.

The percentage of industrywide unreimbursed costs that hospitals could cover changed little over the 1980-1989 period (see Figure 2 and Table B-3 in Appendix B). Though unreimbursed costs increased rapidly after 1985, the portion that was offset did not change much, falling slightly from 95 percent between 1984 and 1986 to 93 percent or 94 percent between 1987 and 1989.

Figure 2.
Hospitals' Unreimbursed Costs, by Source of Offsetting Revenues, 1980–1989 (As a percentage of hospitals' total costs)



SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTES: Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

Because most hospitals have revenues that exceed their costs, the order in which the sources of offsetting revenues are applied to cover unreimbursed costs affects the results. This analysis applied the sources in the order shown, going from the bottom up, so state and local subsidies were used first, and revenues from private payers were used last. Thus, the proportion attributed to private payers is lower than it would be if another order had been chosen.

The estimates shown are based on aggregate amounts using all sample hospitals.

See Appendix B, Table B-3, for the data represented here.

The contributions of the different offsetting revenue sources did change over time, however. For each hospital, CBO applied the potential sources of offsetting revenues to unreimbursed costs in the following order: state and local subsidies, revenues from sources other than patient care, and revenues from private payers. In other words, revenues from state and local subsidies were used first to offset unreimbursed costs. If the hospital had any remaining unreimbursed costs, then other nonpatient revenues were applied. Finally, if unreimbursed costs still remained, profits from private payers were used.

Because most hospitals were profitable overall, the ordering affects the results. This ordering is a natural one because state and local subsidies are largely intended to help hospitals cover their costs, and at least some of the other nonpatient revenues, such as donations, are intended to support charitable activities. The ordering is also analytically useful because it yields a lower-bound estimate of the contribution of private payers by completely exhausting the surplus revenues from other sources before turning to private payers.

Although the contribution of state and local subsidies decreased over the decade--from a high of 27 percent in 1980 to 10 percent in 1989--private payers played an increasing role. In 1989, revenues from private payers offset 55 percent of total unreimbursed costs, compared with 37 percent in 1980. The proportion of unreimbursed costs that were covered by other nonpatient sources stayed relatively constant over the 10-year period, averaging about 33 percent.

As unreimbursed costs increased rapidly during the latter half of the 1980s, hospitals were able to cover nearly all the increase with revenues from other sources. Most of that rise was offset with revenues from private payers. However, between 1987 and 1989, a small part of the increase in unreimbursed costs was offset with revenues from nonpatient sources other than subsidies from state and local governments.

The proportion of hospitals that were not able to cover all their costs increased near the end of the decade. From 1980 through 1982, the proportion dropped from 21 percent to 17 percent; it stayed at 17 percent through 1986, except for a low of 15 percent in 1985 (see Table 3). The proportion grew to 24 percent of hospitals in 1987, and peaked at 27 percent in 1988 before dropping back to 24 percent in 1989. Thus, although the share of total unreimbursed costs that were not covered stayed about the same, those costs were spread out, at the end of the decade, among a somewhat larger number of hospitals.

TABLE 3. EXTENT TO WHICH HOSPITALS WERE ABLE TO OFFSET UNREIMBURSED COSTS WITH REVENUES FROM OTHER SOURCES, 1980-1989 (In percentage of hospitals)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Hospitals with No Unreimbursed Costs	5	5	4	3	7	15	9	6	4	4
Hospitals with Costs Fully Offset	74	76	79	80	76	70	74	70	69	72
Hospitals with Costs Not Fully Offset	21	19	17	17	17	15	17	24	27	24

SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTE: Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

Perhaps not surprisingly, the facilities that were not able to fully cover their costs tended to have greater unreimbursed costs, as a percentage of total costs, than other hospitals. In 1989, for example, unreimbursed costs accounted for 15 percent of the total costs for this group compared with 10 percent for other hospitals (see Appendix B, Table B-4.) The costs of uncompensated care were higher for these hospitals--8 percent of total costs compared with 6 percent for other hospitals. Hospitals in this group also provided relatively more care to Medicaid patients than did other hospitals--19 percent of inpatient days compared with 14 percent. But they provided slightly less care to Medicare patients--42 percent of inpatient days compared with 44 percent for other hospitals.

Cost Shifting to Private Payers

As unreimbursed costs increased during the 1980s, hospitals generated higher revenues from their private payers to cover most of the increase in those costs. As seen earlier, unreimbursed costs increased during two periods: 1981 through 1983, and 1985 through 1989. During each of these periods, hospitals' aggregate revenue-to-cost ratio for private payers also rose.

Between 1980 and 1983, the average markup of revenues over costs for private payers rose from 13 percent to 17 percent--an increase of 4 percentage points, or about 1 percentage point per year (see Figure 3). Over the same period, the revenues from private payers that were needed to just offset unreimbursed costs increased from 6 percent over costs to 8 percent, or 2 percentage points in all.[3] This pattern indicates that during this period the prices paid by private payers increased by more than the amount necessary to offset the growth in unreimbursed costs, thereby raising hospitals' overall margins, on average.

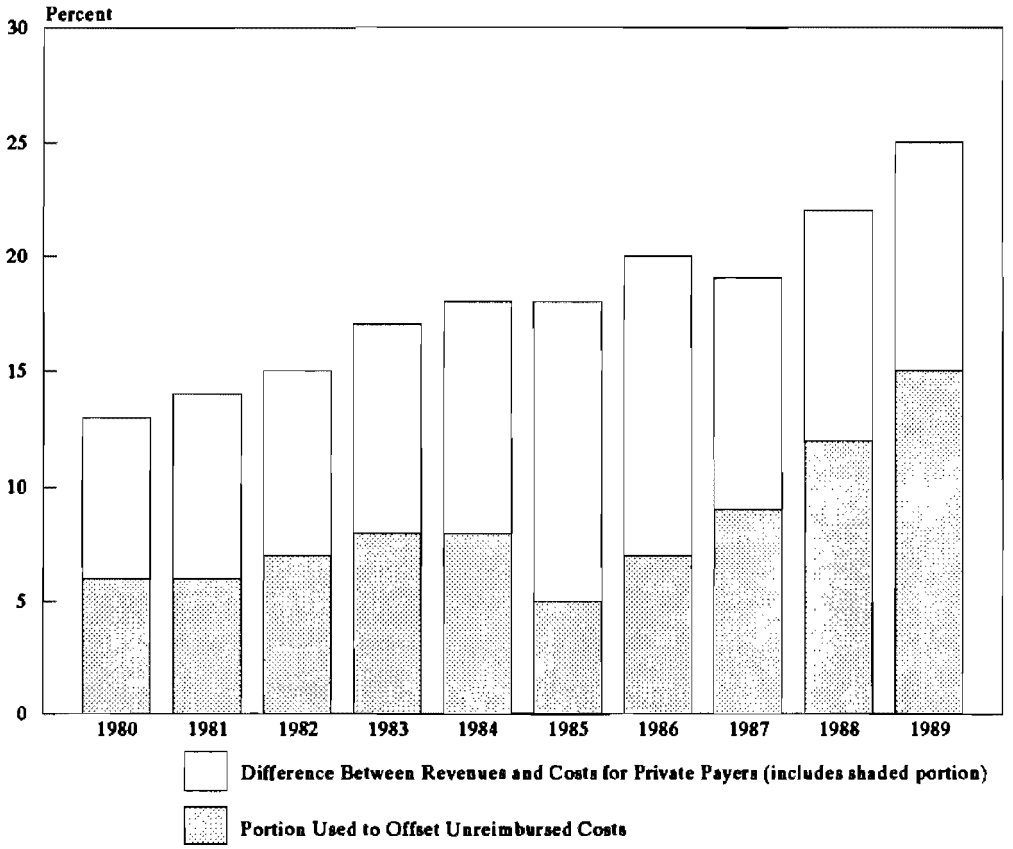
Unreimbursed costs grew more rapidly after 1985 than in the early part of the decade. Between 1985 and 1989, the percentage markup over costs for private payers that was needed to just offset unreimbursed costs increased from 5 percent to 15 percent, or over 2 percentage points per year. At the same time, the actual markup for private payers increased from 18 percent to 25 percent. Between 1985 and 1987, the increase in the markup was less than the increased contribution of private payers to offsetting unreimbursed costs. Between 1987 and 1989, however, the increase in the markup was approximately equal to the growth in those contributions. For the decade as a whole, the total increase in markups for private payers was larger than the increase in those payers' contributions to unreimbursed costs.

The 1983-1985 period also shows an interesting pattern. Unreimbursed costs fell during this time, and along with them the amount of private-payer revenues that were needed to offset unreimbursed costs. However, hospitals did not, on average, pass these reductions to private payers in the form of lower markups. Instead, those markups increased from 17 percent in 1983 to 18 percent in 1984, and then stayed at 18 percent in 1985, despite the fact that the amount needed to cover unreimbursed costs dropped from 8 percent above costs in 1983 and 1984 to only 5 percent in 1985. When hospitals' unreimbursed costs subsequently increased after 1985, the average markup for private payers also grew.

The increasing markups paid by private payers caused their spending to increase more rapidly than it might otherwise have done. In general, the growth in the total level of spending by private payers is determined by both the average markup over costs that they pay and the rate of increase of those costs. However, during the 1980s, the underlying trend in the growth of the costs incurred by hospitals changed little, except for a brief slowing in 1984 and

3. As noted earlier, the analytic method used to offset unreimbursed costs completely exhausted all revenues from other sources before applying revenues from private payers.

Figure 3.
Difference Between Hospitals' Revenues and Costs for Private Payers, and the Portion Used to Offset Unreimbursed Costs, 1980–1989 (As a percentage of the private-payer costs)



SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTES: Private payers refers to privately insured patients and individual patients who paid for their own care.

Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

Before calculating the portion of private payers' revenues used to offset unreimbursed costs, each hospital's unreimbursed costs were reduced by any state and local subsidies and by other revenues (in excess of costs) received from sources other than patient care.

See Appendix B, Table B-5, for the data represented here.

1985. Between 1986 and 1991, hospitals' costs per patient grew an average 4.5 percent a year, adjusting for inflation, compared with average annual growth of 3.8 percent in 1984 and 1985, and 4.9 percent in the 1978-1983 period (see Appendix B, Figure B-2).

IMPLICATIONS

The trends analyzed here suggest that in the current multiple-payer setting, actions taken by one group of payers to control spending can have significant effects on other payers. During the 1980s, hospitals were able to offset nearly all of the increases in uncompensated care and unreimbursed costs related to public programs with increased revenues from other sources. This pattern appears to have continued more recently. In particular, between 1989 and 1991, the hospital industry's overall profit margin remained relatively stable, even though unreimbursed costs increased because of declining Medicare margins.

Further attempts to control public-sector health costs would probably produce further cost shifting to the private sector, unless those attempts were combined with other changes. Although the maximum extent of such cost shifting is unknown, the evidence from the 1980s indicates that cost shifting might be considerable, at least in the short run. Not all facilities would be able to recover their costs fully in this way, however. The patients treated by facilities that were least able to cost shift--because of patient mix or market conditions--could be adversely affected. For example, hospitals with a large share of uninsured or publicly insured patients might be less able to cover their unreimbursed costs, both because those costs are a larger share of their total costs and because they have a smaller pool of privately insured patients.

Proposals to change the health care system need to take into account the extent to which the private sector now subsidizes uninsured and publicly insured patients. For example, if reforms expanded the number of people with insurance, so that uncompensated care fell, private-sector hospital rates might fall relative to costs. However, such a response might be delayed, because hospitals would probably not adjust immediately--for example, hospitals did not lower private rates in the mid-1980s when their Medicare revenues increased relative to costs. Alternatively, if price controls were adopted for hospitals but did not incorporate the costs of uncompensated care, some hospitals might cut back the amount of free care they provide. As a consequence, uninsured people might receive less care than they do now.

APPENDIX A

DATA AND ANALYTIC METHODS

The data for this paper come from the American Hospital Association's (AHA's) Annual Survey of Hospitals for 1980 through 1989. The surveys provide data about the characteristics of individual hospitals, including size, location, available services, and finances. The analysis was based on community hospitals, which are defined by the AHA as nonfederal, short-term hospitals that are open to the general public.[1]

Hospitals' individual reporting periods vary. In general, the data reported in each year of the survey correspond to hospitals' reporting periods that ended during that calendar year. Consequently, the results of the analysis do not correspond exactly to calendar years.

COMPARISON OF HOSPITALS IN THE SAMPLE WITH ALL COMMUNITY HOSPITALS

The analysis was based on data from the hospitals that permitted the Congressional Budget Office (CBO) to use the financial information they reported in the annual survey. In all, data from approximately 2,300 hospitals, or over 40 percent of all community hospitals, were used. In any given year, however, a number of hospitals did not report certain financial variables needed for the analysis. The data were also screened to eliminate extreme or implausible values. Because data were available for different hospitals in different years, the specific set of hospitals used in the analysis varies from year to year. The number ranged from a low of approximately 1,000 hospitals for 1985 to more than 1,900 for 1988.

In using a sample of hospitals, such as this one, it is important that the sample represent the patterns that occur in the full universe of hospitals. That way, conclusions based on the sample can be considered valid for the entire group. To verify the representativeness of the sample, CBO compared a number of characteristics of the hospitals used in the analysis with those of all community hospitals.

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1. Excluding psychiatric hospitals, hospitals for treating alcoholism and chemical dependency, hospitals for tuberculosis and other respiratory diseases, chronic-disease hospitals, facilities for the mentally retarded, and hospital units of institutions.

Based on location, patient mix, size, and other characteristics, the hospitals in the sample appear to be generally representative of all community hospitals. As an example, the 1989 sample consisted of 1,527 hospitals, or 28 percent of all community hospitals (see Table A-1). About 55 percent of the sample were located in urban areas, compared with 54 percent nationally. Hospitals in the two groups were similar in their distributions by size, although the sample hospitals were somewhat larger on average--194 beds compared with 170 beds nationally. The shares of patient days and discharges attributable to Medicare were nearly identical for the two groups. Similarly, Medicaid's shares of days and discharges were the same for the two groups. In addition, uncompensated care accounted for 6 percent of total costs for each group.

One exception to this similarity is the type of ownership. In 1989, for example, for-profit hospitals constituted only 3 percent of the sample, compared with 14 percent nationally; nongovernment, not-for-profit hospitals accounted for 69 percent of the sample but only 59 percent of all community hospitals. Government-owned hospitals were a similar proportion of both categories--28 percent of the sample and 27 percent of all community hospitals.

METHOD OF ESTIMATING COSTS

The analysis relies on various financial data collected in the AHA's annual survey, including information about hospitals' revenues from different sources and their provision of uncompensated care. In general, revenues for patient care are categorized into the various sources based on the patient's primary payer.

Two measures of revenue from each group of patients are reported: the hypothetical revenue based on full (list price) charges and the actual revenue received. For Medicare and Medicaid, for example, the actual revenues are the reimbursements for patients insured by those programs, while the full charges are based on the hospitals' list prices for the services provided. In addition, actual revenues from sources other than patient care are reported.

The survey does not break down the hospital's actual costs of treating patients by payer groups. To estimate costs for each group of patients--for example, private patients--the full charges for that group were multiplied by the hospital's ratio of costs to charges (RCC). Similarly, each hospital's costs of uncompensated care were estimated by multiplying the full charges attributed to charity care and bad debt by the hospital's RCC. The RCC for each hospital is defined as the ratio of its total costs to the sum of its total full-charges

TABLE A-1. SELECTED CHARACTERISTICS OF HOSPITALS IN THE SAMPLE FOR CBO'S ANALYSIS AND ALL COMMUNITY HOSPITALS, 1989

	Sample for 1989 Analysis[a]	All Hospitals[b]
Number of Hospitals	1,527	5,512
Percentage of Hospitals	28	100
Percentage of Discharges	33	100
Average Number of Beds	194	170
Average Occupancy (In percent)[c]	60	56
Medicare's Share of Days (In percent)	43	42
Medicare's Share of Discharges (In percent)	34	34
Medicaid's Share of Days (In percent)	15	15
Medicaid's Share of Discharges (In percent)	13	13
Total Revenue-to-Cost Ratio	1.040	1.035
Uncompensated Care (As a percentage of total costs)[d]	6.0	6.0
Percentage of Hospitals		
Total	100	100
Rural	45	46
Urban	55	54
Urban Hospitals by Population of City		
Less than 250,000	12	10
250,000-1 million	20	19
1 million-2.5 million	13	14
2.5 million or more	10	11
Ownership		
Nongovernment, not for profit	69	59
Government	28	27
For profit	3	14
Number of Beds		
50 or fewer	17	24
51-100	22	23
101-200	24	24
201-400	26	20
401 or more	12	9
Teaching[e]	27	23
Nonteaching	73	77

(Continued)

TABLE A-1. CONTINUED

	Sample for 1989 Analysis[a]	All Hospitals[b]
Percentage of Hospitals (continued)		
Disproportionate Share[f]	28	26
Nondisproportionate Share[g]	72	74
Disproportionate Share Hospitals by Teaching Status		
Teaching	13	11
Nonteaching	15	15
Region		
New England	8	4
Middle Atlantic	12	10
South Atlantic	14	15
East North Central	17	15
East South Central	5	9
West North Central	18	14
West South Central	10	14
Mountain	5	7
Pacific	11	12

SOURCE: Congressional Budget Office calculations based on data from the American Hospital Association's Annual Survey of Hospitals for 1989.

NOTES: Characteristics are generally based on data from the Annual Survey of Hospitals for 1989. Teaching and disproportionate share are exceptions; these were based on data from the Health Care Financing Administration.

In the upper panel, the term "average" indicates the average amounts per hospital. Entries not designated as "average" are the percentages or ratios based on total amounts for hospitals in each category--for example, Medicare's share of discharges is the percentage of total discharges for hospitals in the category that were discharges of Medicare patients.

a. All of the hospitals used in the analysis for 1989 were community hospitals.

b. The category consists of all community hospitals in the 50 states and the District of Columbia for which data were available from the Annual Survey of Hospitals for 1989.

c. The occupancy rate for each hospital is defined as the ratio of the hospital's average daily number of patients to its average number of beds during the reporting period.

d. Uncompensated care is defined as charity care plus bad debt.

e. Hospitals that receive an adjustment under Medicare's prospective payment system (PPS) for the indirect costs of medical education.

f. Hospitals that receive the disproportionate share adjustment under Medicare's PPS for treating a large proportion of low-income patients.

g. The nondisproportionate share category includes 2 percent of hospitals in the sample and 4 percent of all community hospitals for which data on disproportionate share status were not available.

revenue and other operating revenue (excluding subsidies from state and local governments). The use of this conversion factor assumes that the full charges for a given patient reflect the relative resource use compared with other patients--for example, that two patients with the same charges have the same underlying treatment costs. One justification for using the RCC to convert charges to costs is that relative charges probably reflect relative costs. In addition, a hospital's list prices are the same for all patients.

A shortcoming of this approach is that markups probably vary from service to service within a hospital. If a hospital applied higher markups to services more frequently used by Medicare patients than by other groups, for example, the estimated costs of treating Medicare patients would be greater than the actual costs, and the estimated costs of treating other patients would be less than the actual costs.

Hospitals may also have adapted their accounting methods in ways that result in overstating the costs incurred in treating publicly insured patients. In the past, retrospective, cost-based reimbursement by Medicare and Medicaid provided an incentive for hospitals to overstate their reported costs, because payments were based on those costs. Generalizing about Medicaid programs is difficult because the state systems vary widely. For Medicare, these considerations are most relevant to the cost data reported on its cost reports, because Medicare used them to determine the cost-based reimbursements (and continues to use them to determine the remaining cost-based payments). However, full charges may also have been affected by these incentives, because Medicare used information on full charges to determine its share of certain costs.

Under the prospective payment system (PPS), such accounting practices could well have persisted. For one thing, they were already in place. For another, even though most payments are no longer directly based on reported costs, costs may still play a role in determining future payments by influencing annual updates in Medicare's rates and other changes in the PPS over time.

In addition, data from the Medicare cost reports suggest somewhat higher revenue-to-cost ratios for Medicare than the AHA data suggest.[2] In particular, the revenue-to-cost ratios based on cost-report data for the PPS (which applies to about 75 percent of Medicare's payments) were higher over the 1984-1991 period than the revenue-to-cost ratios (for all services to

2. No national data exist for Medicaid that would permit a similar comparison with the AHA data.

Medicare patients) from the AHA data.[3] If the services not covered by the PPS are taken into account to estimate total Medicare ratios, those ratios would probably still be larger than the ones based on the AHA data. This limited evidence suggests that the Medicare revenue-to-cost ratio, which was estimated to be 0.88 in 1991 using the AHA data, could range from 0.88 to 0.96. A closer comparison of data from the two sources might be useful in evaluating these issues, but is beyond the scope of this analysis.

If Medicare's revenue-to-cost ratio is underestimated by the AHA data, then hospitals' total unreimbursed costs and the amount of cost shifting to the private sector would both be less than estimated by the analysis. In addition, because of the method used to apportion costs among payer groups, an underestimate of Medicare's revenue-to-cost ratio would imply that the ratio for private payers was probably overestimated.

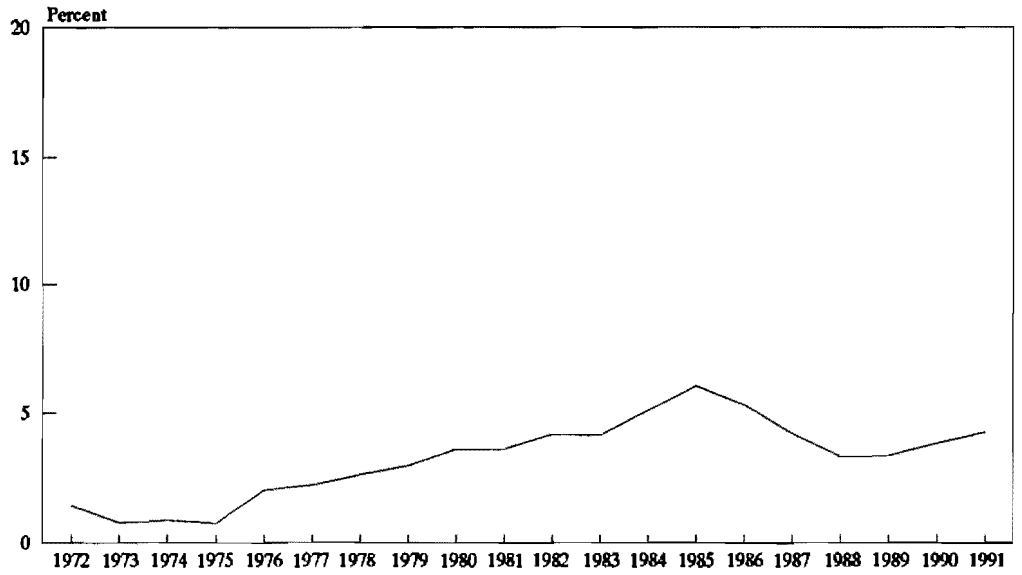
Although these considerations indicate that the revenue-to-cost ratios for specific years and payer groups should be viewed with caution, they would not have much effect on the analysis of change over time. As a result, they would not affect the paper's finding that cost shifting to private payers increased during the 1980s.

3. For PPS margins based on cost-report data, see Prospective Payment Assessment Commission, *Medicare and the American Health Care System: Report to the Congress* (forthcoming, June 1993).

APPENDIX B

ADDITIONAL FIGURES AND TABLES

Figure B–1.
Total Revenue Margin for Hospitals, 1972–1991

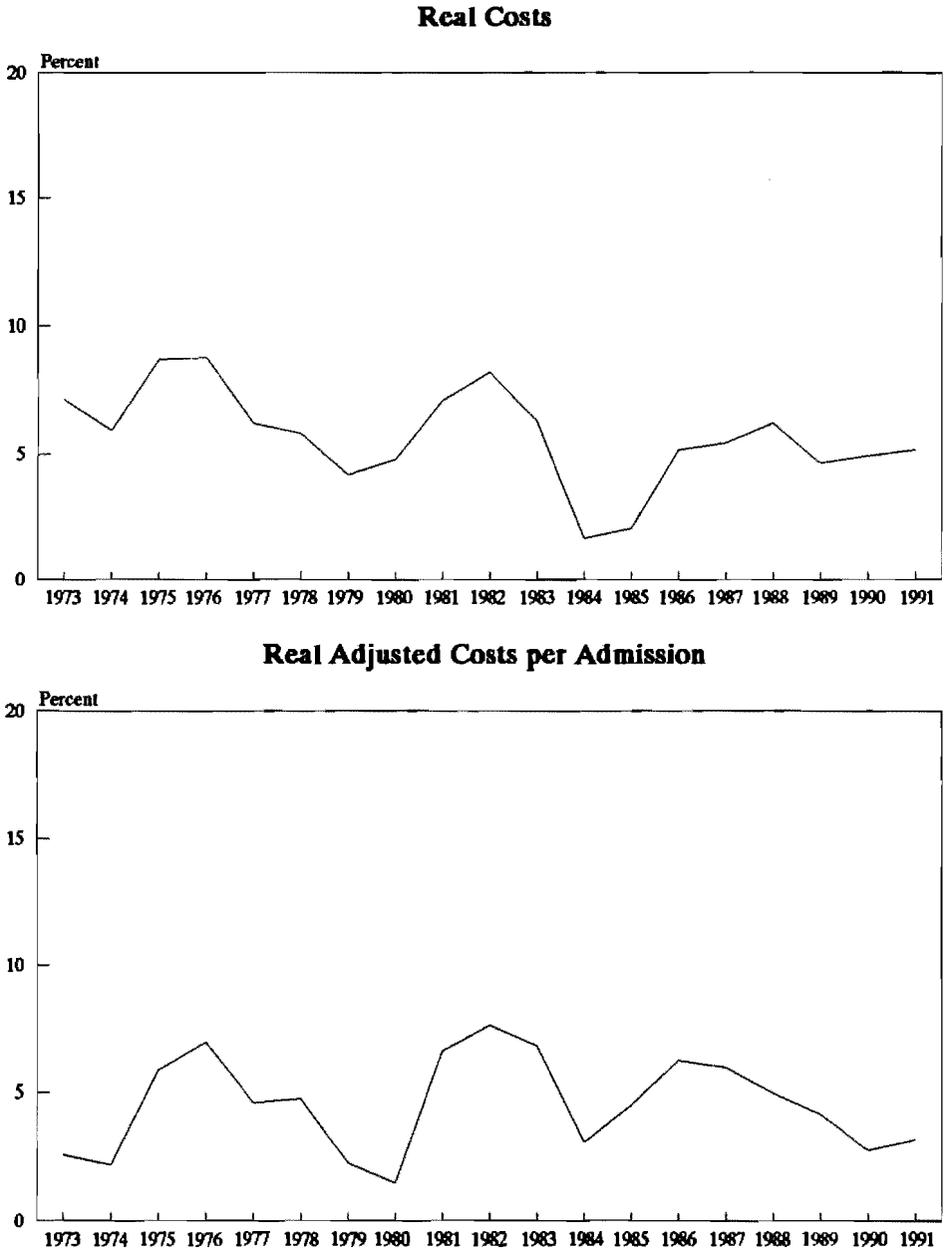


SOURCE: Congressional Budget Office estimates based on data from *American Hospital Association Hospital Statistics* (Chicago: AHA, 1972 through 1992–1993 editions).

NOTES: The total revenue margin is defined as the difference between total revenues of all hospitals and total costs, expressed as a percentage of total revenues.

The data were based on all community hospitals.

Figure B–2.
Annual Change in Hospitals' Real Costs and Real Adjusted Costs per Admission, 1973–1991



SOURCE: Congressional Budget Office estimates based on data from *American Hospital Association Hospital Statistics* (Chicago: AHA, 1972 through 1992–1993 editions).

NOTES: The term "real" is used here to mean adjusted for general inflation rather than for inflation in the prices of health services, which is almost certainly different. Hospitals' real costs are calculated in 1991 dollars using the consumer price index for all urban consumers.

Adjusted cost per admission is the average expense to the hospital to provide care for one hospital inpatient stay. It is estimated by subtracting the estimated costs incurred for the provision of outpatient care from total costs.

The data were based on all community hospitals.

TABLE B-1. HOSPITALS' REVENUES AND COSTS, BY PAYER OR OTHER SOURCE, 1990

Payer or Other Source	Revenues		Costs		Ratio of Revenues to Costs
	In Billions of Dollars	As a Percentage of Total	In Billions of Dollars	As a Percentage of Total	
Medicare	69.8	33.2	78.0	38.4	0.90
Medicaid	18.4	8.7	23.0	11.3	0.80
Other Government Payers	3.4	1.6	3.2	1.6	1.06
Private Payers	104.1	49.5	81.6	40.1	1.28
Uncompensated Care[a]	n.a.	n.a.	12.1	5.9	n.a.
Nonpatient Sources					
State and local subsidies	2.5	1.2	n.a.	n.a.	n.a.
Other operating[b]	7.8	3.7	5.5	2.7	1.43
Nonoperating[c]	4.6	2.1	n.a.	n.a.	n.a.
Total	210.6	100.0	203.2	100.0	1.04

SOURCE: Congressional Budget Office using data from Prospective Payment Assessment Commission (ProPAC), *Medicare and the American Health Care System: Report to the Congress* (June 1992). Data were calculated by the American Hospital Association using its Annual Survey of Hospitals for 1990, based on ProPAC's specifications.

NOTE: The data are based on all community hospitals. n.a. = not applicable.

a. Uncompensated care is defined as charity care plus bad debt.

b. Includes operating revenues and costs for sources other than patient care, such as cafeterias and gift shops.

c. Includes revenues from donations, grants, earnings on endowments, and other sources. Nonoperating revenues are assumed to have no associated costs.

TABLE B-2. HOSPITALS' UNREIMBURSED COSTS, BY SOURCE, 1980-1989
(As a percentage of hospitals' total costs)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Unreimbursed Costs[a]	7.1	6.8	7.5	8.2	7.8	6.4	7.4	8.5	10.3	11.2
Source[b]										
Uncompensated care	5.4	5.1	5.1	5.5	5.7	5.5	6.4	6.6	6.6	6.0
Medicare	1.2	1.2	1.4	1.6	0.7	-1.1	-0.6	0.2	1.6	2.6
Medicaid	0.5	0.4	0.8	1.0	1.1	1.5	1.4	1.6	2.1	2.4
Other government payers	-0.1	0.1	0.1	c	0.1	0.2	c	-0.1	-0.1	c

SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTES: Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

The estimates shown are based on aggregate amounts using all sample hospitals. Negative entries indicate that aggregate revenues exceeded aggregate costs for that source.

a. The amounts shown for the individual sources do not sum exactly to the total unreimbursed costs because for individual hospitals the latter are constrained to be zero or positive.

b. For Medicare, Medicaid, and other government payers, the amounts shown equal the differences between costs and revenues for the respective source. For uncompensated care, there are no revenues, so the amounts shown are the costs of uncompensated care.

c. Between -0.05 percent and 0.05 percent.

TABLE B-3. HOSPITALS' UNREIMBURSED COSTS, BY SOURCE OF OFFSETTING REVENUES, 1980-1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
As a Percentage of Hospitals' Total Costs										
Total Unreimbursed Costs	7.1	6.8	7.5	8.2	7.8	6.4	7.4	8.5	10.3	11.2
Source of Offsetting Revenues[a]										
State and local subsidies	1.9	1.4	1.5	1.5	1.4	0.9	1.6	1.7	1.6	1.1
Other nonpatient sources	2.1	2.3	2.6	2.6	2.6	2.9	2.6	2.6	2.9	3.3
Private payers	2.6	2.5	3.1	3.5	3.4	2.4	2.9	3.7	5.0	6.1
Total Amount Offset	6.6	6.2	7.2	7.6	7.4	6.1	7.1	7.9	9.6	10.5
As a Percentage of Hospitals' Unreimbursed Costs										
Source of Offsetting Revenues[a]										
State and local subsidies	27	21	20	18	17	14	21	20	16	10
Other nonpatient sources	29	34	35	32	33	44	35	30	28	30
Private payers	37	37	41	43	44	37	39	43	49	55
Total Amount Offset	93	91	95	93	95	95	95	94	93	94

SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTES: Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

The estimates shown are based on aggregate amounts using all sample hospitals.

a. Because most hospitals have revenues that exceed their costs, the order in which the sources of offsetting revenues are applied to cover unreimbursed costs affects the results. This analysis applied the sources in the order shown, so state and local subsidies were used first, and revenues from private payers were used last. Thus, the proportion attributed to private payers is lower than it would be if another order had been chosen.

TABLE B-4. SELECTED CHARACTERISTICS OF HOSPITALS WITH TOTAL REVENUES LESS THAN COSTS AND HOSPITALS WITH TOTAL REVENUES EQUAL TO OR GREATER THAN COSTS, 1989

	Revenues Less than Costs	Revenues Equal to or Greater than Costs
Percentage of Hospitals	24	76
Average Occupancy (In percent)[a]	55	62
Medicare's Share of Days (In percent)	42	44
Medicaid's Share of Days (In percent)	19	14
Revenue-to-Cost Ratios		
Total	0.96	1.06
Medicare	0.89	0.94
Medicaid	0.77	0.77
Private payers	1.18	1.26
Uncompensated Care (As a percentage of total costs)[b]	7.9	5.7
Unreimbursed Costs (As a percentage of total costs)[c]	15	10
Percentage of Unreimbursed Costs That Were Offset	75	100
Percentage of Hospitals		
Total	100	100
Rural	54	42
Urban	46	58
Ownership		
Nongovernment, not for profit	62	71
Government	34	27
For profit	4	3

(Continued)

TABLE B-4. CONTINUED

	Revenues Less than Costs	Revenues Equal to or Greater than Costs
Percentage of Hospitals (continued)		
Number of Beds		
50 or fewer	28	13
51-100	27	21
101-200	23	24
201-400	16	29
401 or more	6	13
Teaching[d]	20	30
Nonteaching	80	70
Disproportionate Share[e]	27	28
Nondisproportionate Share[f]	73	72

SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1989. Teaching and disproportionate share status were based on data from the Health Care Financing Administration.

NOTES: Based on a sample of 1,527 hospitals for which data were available.

In the upper panel, the term "average" indicates the average amounts per hospital. Entries not designated as "average" are the percentages or ratios based on aggregate amounts for hospitals in each category--for example, Medicare's share of days is the percentage of aggregate days for hospitals in the category that were days of care for Medicare patients.

a. The occupancy rate for each hospital is defined as the ratio of the hospital's average daily census to its average number of beds during the reporting period.

b. Uncompensated care is defined as charity care plus bad debt.

c. Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

d. Hospitals that receive an adjustment under Medicare's prospective payment system (PPS) for the indirect costs of medical education.

e. Hospitals that receive the disproportionate share adjustment under Medicare's PPS for treating a large proportion of low-income patients.

f. Nondisproportionate share category included 2 percent of hospitals in each group for which data on disproportionate share status were not available.

TABLE B-5. DIFFERENCE BETWEEN HOSPITALS' REVENUES AND COSTS FOR PRIVATE PAYERS, AND THE PORTION USED TO OFFSET UNREIMBURSED COSTS, 1980-1989 (As a percentage of the private-payer costs)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Difference Between Revenues and Costs for Private Payers	13	14	15	17	18	18	20	19	22	25
Revenues from Private Payers Used to Offset Unreimbursed Costs	6	6	7	8	8	5	7	9	12	15

SOURCE: Congressional Budget Office estimates based on data from the American Hospital Association's Annual Survey of Hospitals for 1980 through 1989.

NOTES: Private payers refers to privately insured patients and individual patients who paid for their own care.

Unreimbursed costs are defined for each hospital as the costs incurred for uncompensated care (charity care plus bad debt) and for treating publicly insured patients minus the revenues received from all government payers; if those costs are less than those revenues, however, unreimbursed costs are zero.

Before calculating the portion of private payers' revenues used to offset unreimbursed costs, each hospital's unreimbursed costs were reduced by any state and local subsidies and by other revenues (in excess of costs) received from sources other than patient care.