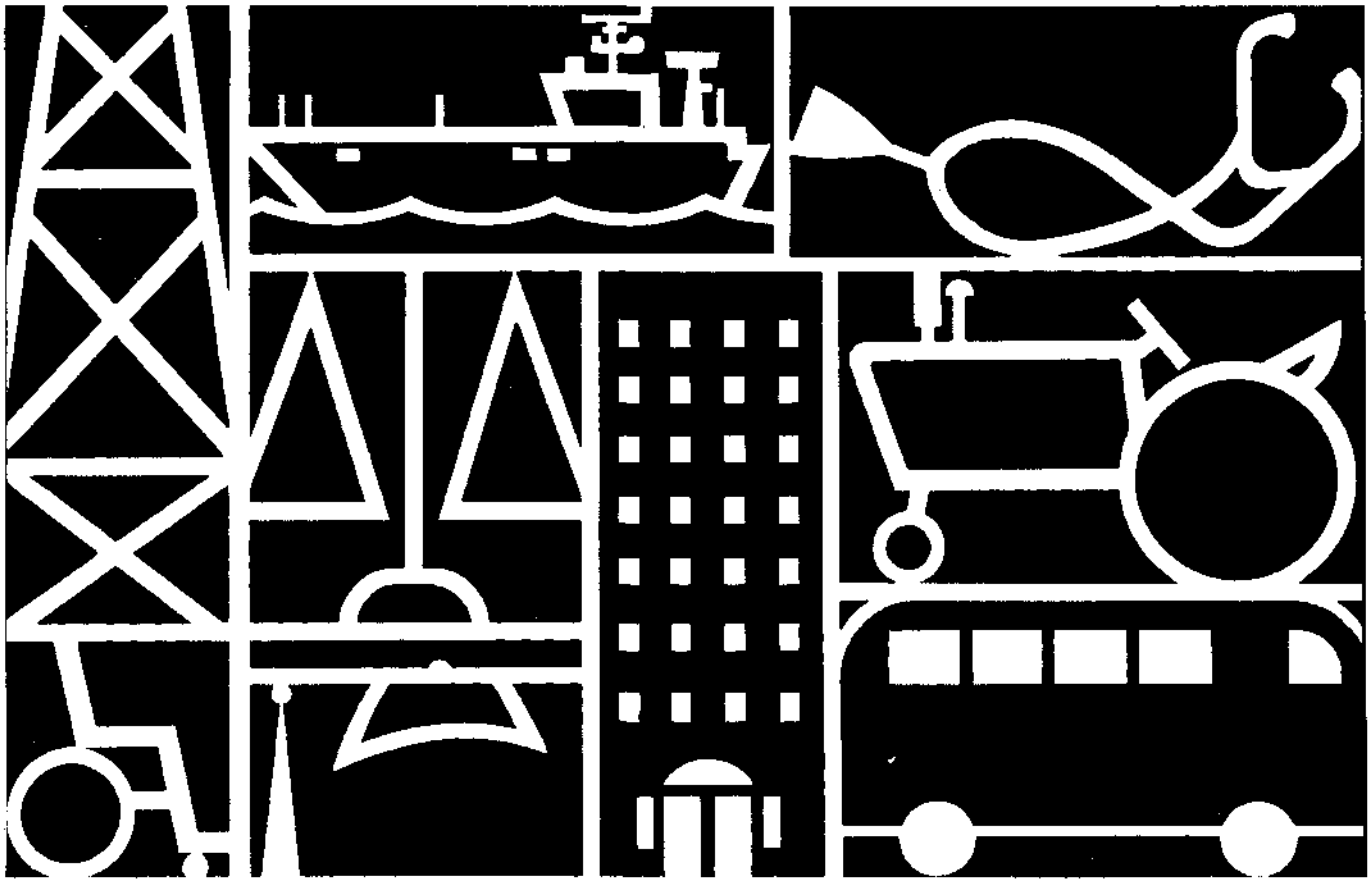
Budget Issue
Paper for
Fiscal Year 1980

Controlling Rising Hospital Costs

September
1979



Congressional Budget Office
Congress of the United States

CONTROLLING RISING HOSPITAL COSTS

The Congress of the United States

Congressional Budget Office

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PREFACE

The Congress is now considering various ways to restrict future increases in hospital costs. This paper, prepared at the request of the Subcommittee on Health and the Environment, Committee on Interstate and Foreign Commerce, analyzes proposals to hold down hospital costs either through regulating hospital revenues or by promoting competition in the hospital industry. Voluntary efforts on the part of the hospital industry are also examined.

Paul B. Ginsburg and Lawrence A. Wilson, of CBO's Human Resources and Community Development Division, prepared this report with contributions by Scott Thompson and Stephen Sheingold, under the supervision of David S. Mundel and Robert D. Reischauer. Steven Crane of CBO's Budget Analysis Division also made contributions. The authors wish to thank the many reviewers of earlier drafts, particularly Malcolm Curtis, Lawrence DeMilner, Alain Enthoven, Robert Hoyer, Mary Nell Lenhard, Karen Nelson, Wendell Primus, and Frank Sloan. Numerous people at the Department of Health, Education, and Welfare provided useful technical assistance and comment. Francis Pierce and Robert Faherty edited the manuscript. Special thanks go to Toni Wright who patiently and expertly prepared the paper for publication.

Preliminary versions of sections of this paper have been circulated earlier as staff draft analyses.

In keeping with the Congressional Budget Office's mandate to provide objective and impartial analyses, this study offers no recommendations.

Alice M. Rivlin
Director

September 1979

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FIGURE

Hospital expenditures in the United States grew at very high rates in the last decade. From 1968 to 1978, expenditures on community hospital services per adjusted admission increased at an average annual rate of 12 percent, and total community hospital expenditures increased at an average annual rate of 15 percent. Federal Medicare and Medicaid hospital bills grew by about 17 percent a year. If current policies are maintained, hospital expenditures will increase from $66 to $129 billion during the next five years--an average annual rate of 14.2 percent. This will cause Medicare and Medicaid payments for hospital care to grow by about $31 billion (from $23 to $54 billion). The concern about these expenditure increases does not arise merely from the quantity of resources involved, but also from doubts as to whether the increases in expenditures are accompanied by like increases in the value of medical services.

OPTIONS FOR LIMITING HOSPITAL COSTS

Several options for limiting hospital costs have been proposed and are now under consideration by the Congress. These options include:

- Voluntary Approaches. The hospital industry's current Voluntary Effort (VE) is an attempt to demonstrate that hospital costs can be contained without government regulation. The Congress could defer regulatory legislation to see if voluntary actions are sufficiently effective.

- Regulation of Hospital Revenues. The Administration has proposed, in the Hospital Cost Containment Act of 1979 (H.R. 2626, S. 570), controls on hospital revenues per admission that would be triggered if hospitals fail to meet guidelines for expenditure growth. Section 2 of the Talmadge-Dole bill (originally S. 505, now included as Section 202 in H.R. 934 as ordered reported by the Senate Finance Committee) would provide incentives for hospitals to moderate increases in costs for Medicare and Medicaid patients. Another regulatory approach is to encourage state-level rate-setting efforts.

- Promotion of Competition. A number of proposals have been introduced that would change the Internal Revenue Code to encourage greater use of prepaid plans and inclusion of more cost-sharing in health insurance. It is argued that these changes would increase competition, thereby restraining increases in health care costs.

Voluntary Efforts

In December 1977, in response to the Administration's effort to obtain passage of a mandatory program to contain hospital costs, the hospital industry initiated its Voluntary Effort (VE) to encourage hospitals and physicians to hold down hospital expenditures on a voluntary basis. Based on an analysis of the experience through the first quarter of 1979, the VE appears to have been effective in holding down hospital expenditure increases thus far. The result, however, is tentative and uncertain, principally because of the short period of time that the program has been in effect.

Despite its apparent success to date, the Voluntary Effort is probably not a long-term solution to rising hospital costs. Voluntary approaches depend on institutions and individuals to act in ways contrary to their private interests. Although this appears to have occurred to some extent to date, it is not likely to continue indefinitely. Since at least part of the industry's motivation for the VE has been to show that mandatory controls are not needed, the voluntary efforts of hospitals might slacken should strong regulatory policies be rejected by the Congress.

Regulatory Approaches

In March 1979, the Administration introduced the Hospital Cost Containment Act of 1979, which covers hospital revenues for all inpatient services from all patients. Senators Talmadge and Dole have proposed controls on routine costs (basically for room, board, and nursing) of Medicare and Medicaid patients. Meanwhile, eight states are now regulating hospital revenues.

The Hospital Cost Containment Act of 1979. This bill would set guidelines for increases in hospital expenditures and would impose revenue controls on hospitals that fail to keep within

them. The guidelines--based on the inflation rate for hospital purchases, population growth, and an intensity-of-service factor--would allow hospital expenditures to increase by about 12.9 percent in 1979. The controls would limit increases in inpatient revenues per admission. Several kinds of hospitals--including small, nonmetropolitan hospitals and those in states with effective mandatory hospital cost containment programs--would be exempt from the proposed program. The bill has been reported by both the Senate Committee on Labor and Human Resources and the House Committee on Ways and Means. Although the committees altered the original proposal in many ways, they retained the basic thrust of the Administration's bill.

All three versions of the Hospital Cost Containment Act of 1979 would result in significant savings for all purchasers of hospital care (see Summary Table 1). In addition, the cost containment bills would have several other positive effects.

SUMMARY TABLE 1. PROJECTED SAVINGS FROM THE THREE VERSIONS OF THE HOSPITAL COST CONTAINMENT ACT OF 1979 IN 1980-1984: IN BILLIONS OF DOLLARS

	Original Proposal	Senate Labor and Human Resources Bill	House Ways and Means Bill[a]
Federal Medicare and Medicaid Savings	9.8	11.3	6.9 (8.5)
Nonfederal Savings	14.8	17.3	9.7 (11.8)
Total Savings	24.6	28.6	16.6 (20.3)

NOTE: Components may not add to totals because of rounding.

a. The controls under this bill would expire on December 31, 1983. If the program were to run a full five years, it would save the amounts in parentheses.

First, they would lower general inflation. The cumulative increase in the Consumer Price Index (CPI) through fiscal year 1984 would be lowered by 0.2 to 0.4 percentage point. Second, the controls would not impose a disproportionate burden on any broad category of hospitals. Third, given the magnitude of the task of controlling hospital revenues, the proposals would minimize government intervention and red tape. Finally, the proposals would most likely not cause the quality of care to decline from current levels.

The Administration's proposal also has some less desirable aspects. First, for those hospitals not specifically exempted, it would in time virtually eliminate real growth--that is, increases in excess of inflation--in hospital revenues per admission, and would possibly impair future improvements in quality. Second, the original proposal, and the Senate Labor and Human Resources bill, would result in uneven treatment of many similar hospitals, because their guidelines and revenue caps are too sensitive to the sharp year-to-year fluctuations in hospital expenditure growth. The House Ways and Means bill would allow hospitals meeting their guidelines to carry forward one-half of the amount by which their expenditures were lower than their guidelines, and it would grant exceptions for capital expenses approved before enactment of the bill, thereby alleviating some of the problems of the yearly spending fluctuations. Finally, the guideline criterion of increase in total expenditures has little correlation with the mandatory cap criterion of increase in inpatient revenues per admission. This would result in different treatment of hospitals during the two stages of the program.

Section 2 of the Talmadge-Dole Bill. This proposal would establish a system of penalties and bonuses to promote hospital efficiency. Under this bill, Medicare and Medicaid would not reimburse hospitals for routine costs (basically room, board, and nursing) significantly above those of similar hospitals. Hospitals with relatively low routine costs would receive bonus payments.

The Talmadge-Dole approach would increase rather than reduce federal outlays. The reimbursement ceilings under the bill are similar to the regulations promulgated under Section 223 of the 1972 Social Security Amendments, and only one-half of the penalties would be collected during the first two years. Therefore, the bonus payments for low-cost hospitals would result in a net increase in federal outlays.

The Talmadge-Dole approach would, after its first few years, provide incentives to hospitals to increase efficiency in providing routine services, although the incentives would be limited to the minority of hospitals receiving large penalties. The bill would not affect ancillary services. As the penalties become more severe over time, the limited nature of the hospital comparisons could cause problems in fairness and could impair quality improvements. The bill would not increase red tape.

Mandatory State-Level Cost Containment Programs. These programs, now operating in eight states, appear to have been effective in reducing the rate of growth of hospital expenditures. State approaches to regulation have many advantages in terms of flexibility and sophistication over present and proposed federal regulation, but they also tend to interfere more in hospital management.

The Hospital Cost Containment Act of 1979 and the Talmadge-Dole bill would encourage state programs by exempting hospitals in states with effective programs of their own. They would also provide funding for the administrative costs of state programs. The federal government could further encourage the development of state programs by sharing Medicare savings with the states.

Promoting Competition

Several bills before the Congress would seek to improve competition among hospitals by giving patients greater incentives to seek lower-cost medical care. The proposals attempt, through changes in the Internal Revenue Code, to induce participants in employment-related health plans to choose insurance contracts with more cost-sharing provisions, and to enroll in prepaid health plans such as Health Maintenance Organizations (HMOs).

These proposals have a potential for reducing expenditures on medical services, especially in the long run, but their adoption would not necessarily make revenue regulation much less attractive. Since they are long-run in nature and focus on the entire medical care system rather than only on hospital inpatient care, they would probably have much smaller impacts on hospital expenditures than the Hospital Cost Containment Act of 1979. Further, some of the savings from the regulatory and competitive alternatives would not overlap. Much of the savings

from regulation would come from reductions in costs per hospital day or stay, while an important part of the savings from greater competition would come from fewer and shorter hospital stays and reductions in nonhospital expenditures.

On the other hand, regulation of revenues would not substantially diminish the attractiveness of the competitive proposals. Increased use of prepaid health plans would reduce hospital utilization substantially, even in the presence of revenue regulation. The competing plans would tend to buy hospital care at the lowest available prices, adding to competitive pressures on hospitals to keep prices down--possibly even below those required by regulation. Increased cost sharing in traditional insurance would also have a function in reducing hospital utilization, increasing competitive pressures on hospitals, and reducing nonhospital expenditures.

CHAPTER I. INTRODUCTION

In the last decade, hospital expenditures grew at very high rates. From 1968 to 1978, community hospital expenditures per adjusted admission increased at an average annual rate of 12 percent, and total community hospital expenditures increased at a rate of 15 percent.[1] This growth has been more rapid than that of comparable indexes of the general economy. Consumer prices increased at an annual rate of 6 percent during the last decade, while total personal consumption expenditures increased at an annual rate of 10 percent.

Federal Medicare and Medicaid outlays for hospital care, which now account for about 40 percent of community hospital revenues, have increased at even higher rates. Since 1968, their annual rate of increase has averaged 17 percent.[2]

Without hospital cost containment, hospital expenditures are projected by the Congressional Budget Office to grow by about 14.2 percent per year between fiscal year 1979 and fiscal year 1984. Annual expenditures will grow by about $63 billion (from $66 to $129 billion) over the period, while federal Medicare and Medicaid outlays for hospital care will grow by about $31 billion (from $23 to $54 billion).

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1. The hospitals discussed in this paper are community hospitals unless otherwise noted. Community hospitals are nonfederal, short-term general, and special (other than psychiatric and tuberculosis) hospitals--excluding hospital units of institutions (such as prisons and schools)--with facilities and services available to the public. These hospitals accounted for about 81 percent of total expenditures and about 92 percent of hospital admissions in 1977. Adjusted admissions is a measure of hospital use that includes both inpatient admissions and outpatient visits. Data are from the National Panel Survey of the American Hospital Association.

2. Medicare outlays are increasing faster than total hospital expenditures primarily because of the aging of the population. A greater proportion of the population is eligible for Medicare each year, and the Medicare population itself is becoming older and more expensive to care for.

HOSPITAL EXPENDITURE INCREASES: IS THERE A PROBLEM?

High and rising hospital expenditures mean that significant amounts of resources are diverted from other sectors. As expenditures grow, taxes must increase to meet the correspondingly higher outlays from federal health programs, while businesses and individuals must pay higher premiums for health insurance plans. Less of the national income is available for other goods and services.

But reallocation of resources from one sector to another is the norm in a dynamic economy. More resources, for example, go into computer services each year. Why, then, is there a concern about more resources going to hospital services?

The concern stems from doubts about whether the increases in expenditures have been paralleled by like increases in the value of medical services. Critics allege that too many resources are going into health services in general and into hospital care in particular. They assert that there is waste stemming from duplication of facilities and sloppy management, and that some services have little or no effectiveness. Technical ignorance on the part of patients, and the fact that much medical expense is borne by third parties such as governments and insurance companies, cause competition to be weaker in health services than in other markets. Because the patient does not pay directly for services, the normal market test--whether a service can be sold at a given price--does not work.

In order to answer the question whether hospital care expenditures are increasing too rapidly, this section examines which components of hospital expenditure increases explain most of their rapid rise, and what factors are responsible for increases in those components.

Components of Hospital Expenditure Increases

Hospital expenditure increases are made up of four basic components:

- The higher prices hospitals pay for the goods and services--often referred to as the "market basket"--they use in delivering care. As the costs of food, fuel, supplies, and labor increases, hospital costs also increase.

- o The increasing use of hospital services. The number of hospital admissions and days of hospital care have been increasing. Outpatient visits have also shown especially rapid growth.

- o The changing character--often referred to as the "service intensity"--of hospital services. Hospitals continually add services and deliver existing ones (for example, lab tests and x-rays) more frequently.

- o Slow productivity changes. The American economy depends on productivity gains to keep increases in product prices below increases in wages. If hospital productivity gains relative to wage increases are smaller than elsewhere in the economy, hospital prices and hence expenditures on hospital care will increase more rapidly than expenditures in other sectors.

Although increases in the prices of the hospital market basket account for over half of the growth in hospital expenditures over the last decade, they have not been responsible for the extraordinary increases in total hospital expenditures. Over the last 10 years, wage rates increased at a rate roughly comparable to that of private-sector wages in general, while the price of the rest of the market basket increased somewhat more rapidly than the economy-wide Consumer Price Index (CPI).[3]

Factors other than wage and price increases account for almost all of the portion of hospital expenditure increases that exceeded the growth in spending in the general economy. Utilization increased faster than can be explained by the growth and aging of the population. As measured by adjusted admissions, a

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3. From 1968 to 1978, payroll expense per full-time equivalent hospital worker increased at an average annual rate of 7.4 percent (AHA National Hospital Panel Survey), while adjusted hourly earnings in private nonagricultural employment increased at an annual rate of 7.2 percent (Bureau of Labor Statistics). The nonwage portion of the hospital market basket, an index of nonwage hospital input prices, increased at an annual rate of 7.7 percent (weights from AHA, prices from CBO econometric model), while the CPI increased at an annual rate of 6.5 percent.

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measure combining admissions and outpatient visits, utilization increased at an average annual rate of 2.9 percent (see Table 1). Meanwhile, population (adjusted for the higher utilization associated with the aging of the population) grew by only 1.3 percent a year.[4] Net intensity, a residual encompassing service intensity and productivity changes, increased at an average annual rate of 3.8 percent.[5]

Causes of Rapid Expenditure Increases

Four major reasons have been suggested to explain why hospital expenditures have been growing more rapidly than can be accounted for by the increased price of the market basket and by population increases: a lack of competition in the market for hospital services, new technological developments, rising real incomes, and the changing health status of the population. Changing consumer tastes and preferences, while difficult to document, also affect the growth in hospital expenditures.

Lack of Competition. The hospital care industry is much less competitive than other industries. Since over 90 percent of hospital bills are paid by third parties--such as Medicare, Medicaid, and private insurance companies--patients usually have

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4. The adjusted increase due to population growth was calculated by weighting total population growth by the hospital utilization rates of each age group.

5. The measurement of intensity and productivity changes is problematic. Productivity is difficult to separate from other factors because hospital output is so heterogeneous and hospital charges are an unreliable guide to the relative costs needed to develop an overall output measure. Productivity tends to be measured along with intensity. The combined "net intensity" measure is a residual that includes all expenditure increases not accounted for by changes in wage rates, prices, and utilization. As such, the measure may encompass changes in the employee skill mix, errors in measurement of the market basket, and lags between the times of increases in measured prices and the times when hospitals actually experience them.

TABLE 1. COMPONENTS OF ANNUAL INCREASES IN HOSPITAL EXPENDITURES, 1968 TO 1978: IN PERCENTS

Calendar Year	Market Basket	Utilization[a]	Net Intensity[b]	Total
1969	5.9	2.2	8.3	17.2
1970	6.7	6.4	3.5	17.5
1971	4.9	0.6	5.2	11.0
1972	5.0	3.2	3.5	12.1
1973	6.3	4.2	1.1	12.0
1974	14.4	3.9	-2.5	16.0
1975	11.0	1.1	4.7	17.5
1976	7.4	3.9	6.7	19.1
1977	7.6	2.9	4.4	15.6
1978	8.0	0.8	3.6	12.8
1968-1978 (average annual increase)	7.7	2.9	3.8	15.0

SOURCES: Utilization and total expenditures from American Hospital Association, National Panel Survey. Market basket estimated by CBO using AHA hospital input price index. Net intensity calculated as a residual.

a. Adjusted admissions, combining admissions and outpatient visits.

b. A residual category of expenditures not accounted for by the market-basket and utilization factors. Along with additional resources applied to patients' care, it may encompass productivity changes, changing patterns and utilization, errors in the measurement of the market basket, and time lags between market-basket increases and expenditure increases.

little immediate stake in the cost of their care. Further, few patients or doctors have much information as to whether particular services delivered by a hospital are worth their cost, a situation probably made worse by the extensiveness of third party payment.

Health insurance raises the amounts spent on hospital care in two ways. From the perspective of the patient, hospital care costs less, so financial deterrence is reduced. For a given illness, patients are less reluctant to be hospitalized or to remain for a long stay. They are more likely to insist that their physicians employ all of the diagnostic and therapeutic procedures available. To the physican acting as the patient's agent, insurance gives parallel inducements to order additional services. It removes a deterrent to the ordering of any service that might benefit the paient regardless of cost. Indeed, under the fee-for-service system of financing, insurance increases the additional income physicians may obtain from performing additional services. With the balancing of costs and benefits of additional services less likely, insurance results in higher and more rapidly rising expenditures on hospital care.[6]

Present tax laws exacerbate the situation by their treatment of health insurance. The exclusion from taxable income of all employer contributions to employee health plans gives employees a powerful incentive to sacrifice money wages for more extensive insurance coverage than they would purchase with after-tax dollars. The additional insurance further reduces incentives to economize in the use of medical services. Furthermore, where employers offer a choice of health plans, as, for example, between traditional insurance and enrollment in a less expensive Health Maintenance Organization, employees usually do not benefit financially from choosing the low-cost plan, thus reducing incentives to choose such plans.

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6. Joseph P. Newhouse, The Erosion of the Medical Marketplace (Santa Monica: Rand, December 1978), provides evidence reinforcing the common perception that high levels of third-party insurance have led to rapidly rising costs.

Although hospitals do not have to worry much about the prices charged patients, they do worry about attracting physicians who are the source of patient admissions. Since physicians prefer to practice at hospitals that offer a full range of modern services, hospitals often duplicate each others' facilities, with wasteful excess capacity the result.

Technological Developments. The adoption of new technologies has also contributed to rising expenditures on hospital care. One recent innovation the coronary bypass operation, costs $10,000 or more. Another, electronic fetal monitoring, is now performed in roughly half of obstetrical cases at a total cost of over $400 million per year.[7] While new technology usually benefits patients, increases hospital productivity, and lowers costs, it is often embodied in new services that are additions to, rather than replacements for, existing services. Consequently, new technology often increases the utilization and intensity of hospital care, two important factors in the growth of expenditures by hospitals.

An important issue is the relationship between the introduction of cost-increasing technology and third-party payment. Some argue that third-party payment has increased the rate of adoption of such technology.[8] If they are correct, then much of the increase in hospital expenditures associated with new technology is another manifestation of the third-party financing system. But others have argued that technological advances are

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7. These include both direct costs of $80 million per year and indirect costs of additional cesarean section deliveries, scalp/abscesses, and other side effects. See H. David Banta and Stephen B. Thacker, "Assessing the Costs and Benefits of Electronic Fetal Monitoring," Obstetrical and Gynecological Survey, vol. 34, no. 8, Supplement (1979), pp. 627-642.

8. This issue was first raised by Martin S. Feldstein, The Rising Cost of Hospital Care (Washington: Information Resources Press, 1971), Chapter 4. For a more recent and empirical discussion, see Louise B. Russell, Technology in Hospitals (Washington: Brookings Institution, 1979).

exogenous, or not influenced by insurance. Indeed, the possibility is raised that extensive third-party financing is a response to technological developments that have made hospital care more costly.[9]

This issue is crucial to policy, especially with respect to the merits of proposals to increase the use of cost-sharing. Unfortunately, there is no consensus as to which view is closest to the truth.

Rising Personal Income. As people's real incomes grow, they tend to purchase more goods and services of all kinds. Some, especially the uninsured, may demand more hospital care as their incomes rise. Others may purchase more health insurance, leading in turn to increased expenditures for hospital care. With over 90 percent of hospital bills already covered by insurance, however, rising incomes have little additional potential to increase hospital expenditures.

Changing Health Status. Trends in the population's health status also influence expenditures through changes in the utilization and intensity of hospital care. Consensus on the net impact of this factor does not yet exist, however. The aging of the population should increase both utilization and intensity. Changing lifestyles may also affect health status and hospital expenditures. When daily life involves more stress and poorer diets, health may decline. On the other hand, increasing education and better nonhospital medical care may improve health and reduce inpatient hospital use.

Is There a Need for Cost Containment?

While increases in utilization and intensity go far to explain why hospital expenditures have been growing so rapidly, they do not in themselves argue the need for cost containment. The case for cost containment depends on how effective increases in utilization and intensity have been in prolonging life and reducing morbidity, and on the value society places on improving health. The evidence on effectiveness is mixed.

9. Jeffrey E. Harris, "The Aggregate Coinsurance Rate and the Supply of Innovations in the Hospital Sector" (unpublished paper, July 1979).

Some services appear to have little medical value, or involve much duplication of facilities. Studies of individual services and procedures have found instances of common procedures that are not medically useful or cost effective.[10] It is difficult, however, to generalize from a handful of specific studies. Aggregate studies using state-wide mortality data have found only small effects from increments in medical resources.[11] An analysis of survey data using broader indicators of health status has given similar results.[12] On the other hand, an intensive study of all patient records in a small number of hospitals found that those hospitals with higher levels of service intensity had better mortality records.[13]

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10. Examples include: on electronic fetal monitoring, Banta and Thacker, "Assessing the Costs and Benefits"; on hospital stays longer than one week for heart attacks, J. Frederick McNeer, Galen S. Wagner, Paul B. Ginsburg, Andrew G. Wallace, Charles B. McCants, Martin J. Conley, and Robert A. Rosati, "Hospital Discharge One Week After Acute Myocardial Infarction," New England Journal of Medicine, vol. 298 (February 2, 1978), pp. 229-32; and on elective hysterectomy, John P. Bunker, Klim McPherson, and Philip L. Henneman, "Elective Hysterectomy," in John P. Bunker, Benjamin A. Barnes, and Frederick Mosteller, eds., Costs, Risks, and Benefits of Surgery (Oxford, 1977), pp. 262-76. Respiratory therapy use has grown rapidly in recent years despite the absence of technological breakthroughs. There is concern that many patients suffer harm from its excessive use; see Russell, Technology in Hospitals, pp. 74-79.

11. See, for example, Richard Auster, Irving Leveson, and Deborah Sarachek, "The Production of Health: An Exploratory Study," Journal of Human Resources, vol. 4 (Fall 1969), pp. 411-16.

12. Lee Benham and Alexandra Benham, "The Impact of Incremental Medical Services on Health Status," in Ronald Andersen, Joanna Kravits, and Odin W. Anderson, Equity in Health Services (Ballinger, 1975), pp. 217-28.

13. Stanford Center for Health Care Research, Studies of the Determinants of Service Intensity in the Medical Care Sector, prepared for the National Center for Health Services Research, September 1977. Expected (continued)

There are also instances of excess capacity. Many physicians believe that duplication of open-heart surgical facilities increases mortality as well as wastes money. Estimates of the oversupply of hospital beds indicate that at least 15 percent of hospital beds could be closed without serious reductions in patient access.[14]

OPTIONS FOR CONTROLLING HOSPITAL COSTS

Concern over hospital cost increases has in past years led the Congress to consider ways to lower medical costs and reduce cost increases. As part of the Social Security Amendments of 1972 (P.L. 92-223), the Congress authorized Professional Standards Review Organizations to review the need for and the quality of care provided to Medicare and Medicaid patients and to deny payment for services considered unnecessary.[15] In 1974, it authorized a network of planning agencies to review capital projects and determine whether they are really needed (P.L. 93-641). In 1977 the Administration proposed regulation of hospital revenues, but the legislation did not pass.

The Congress is now considering other ways to restrain the growth in hospital costs. The options under consideration include:

- Regulation of hospital revenues. The Administration has proposed in the Hospital Cost Containment Act of 1979 (H.R. 2626, S. 570) controls on hospital revenues per

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13. (continued) mortality was calculated from detailed information on diagnosis and patient characteristics, and then compared to actual mortality. The differences were summed over all patients in a hospital.

14. Congressional Budget Office, "Federal Strategies for Closing Excess Hospital Beds," Staff Draft Analysis (May 1979).

15. For an assessment of how effective this program has been, see Congressional Budget Office, The Effect of PSROs on Health Care Costs; Current Findings and Future Evaluations, Background Paper (June 1979).

admission that would be triggered by hospitals' failure to meet guidelines for expenditure growth. Section 2 of the Talmadge-Dole bill (originally S. 505, now included in H.R. 934 as Section 202) would provide incentives for hospitals to moderate increases in costs for Medicare and Medicaid patients. An alternative regulatory approach is additional encouragement of state-level rate-setting efforts.

- o Voluntary approaches. The hospital industry initiated its Voluntary Effort (VE) in an attempt to demonstrate that hospital costs could be contained without government regulation. The Congress could choose to defer regulatory legislation and wait to see if voluntary actions are sufficient.

- o Promotion of competition. A number of proposals have been introduced that would change the Internal Revenue Code to encourage greater use of prepaid plans and the inclusion of more cost-sharing in health insurance. Sponsors claim that this would increase competition, thereby containing health care costs.

These options can be evaluated according to the following criteria:

- o Savings. Hospital cost containment proposals should reduce expenditures on hospital care (net of administrative costs) from what they would have been in the absence of the proposal. This would result in savings to the federal government, state and local governments, individuals, and firms providing their employees with health benefits.

- o Quality of care. The quality of hospital care should not be reduced.

- o Efficiency. Efficient hospital behavior should be promoted; inefficient hospitals should have to reduce their costs more than efficient ones. Wasteful hospital operations arising from mismanagement and underutilized services should be reduced. Cost containment should not provide perverse incentives for wasteful, evasive behavior by hospitals.

- Access to care. Access to necessary hospital care should not be reduced.

- Fairness. Hospital cost containment controls should be fair in the sense that hospitals in similar circumstances are treated alike. Differences in circumstances or behavior should result in corresponding differences in treatment.

- Red tape. The amount of government intervention in the hospital industry should be minimized.

These goals are often conflicting. Some savings can be achieved by reducing inefficiency, but large savings would probably have to result from lower growth in the intensity of hospital services. As a result, improvements in quality could suffer. Such a tradeoff of reduced costs for lower quality could be desirable since quality may in some cases already be too high, considering the cost involved. Similarly, fairness is best assured when the specifics of individual cases are examined, but this increases red tape.

PLAN OF THE PAPER

The remainder of this paper assesses the effects of the foregoing options. Chapter II examines the effectiveness of the hospital industry's Voluntary Effort to reduce hospital cost increases, and assesses its potential as a long-term policy. Chapter III analyzes federal regulatory policies aimed at controlling hospital care expenditures. The analysis covers present Medicare reimbursement policies, the Administration's proposed Hospital Cost Containment Act of 1979, and the Talmadge-Dole approach to limiting federal reimbursements for hospital care. Chapter IV reviews state hospital cost containment programs and methods of encouraging them. Chapter V analyzes several proposals to promote competition in the hospital industry.

CHAPTER II. THE HOSPITAL INDUSTRY'S VOLUNTARY EFFORT TO CONTROL HOSPITAL COSTS

In December 1977, in response to the Administration's effort to obtain passage of a mandatory program to contain hospital costs, the American Hospital Association, the American Medical Association, and the Federation of American Hospitals initiated the Voluntary Effort (VE).[1] The VE is intended to encourage hospitals and physicians to contain hospital expenditures or costs on a voluntary basis. Its goal has been to reduce the growth in hospital care expenditures from the 1977 increase of 15.6 percent to 13.6 percent in 1978 and to 11.6 percent in 1979. The campaign is administered by state-level committees composed of hospital associations, medical societies, and representatives of for-profit hospitals. Their activities vary considerably, from providing information clearinghouses to reviewing budgets.

The hospital industry argues that the VE obviates the need for hospital cost containment legislation. To assess the validity of that position, two questions must be answered:

- Has the VE worked thus far?
- Does it: hold promise as a long-term solution?

HAS THE VE WORKED?

In assessing the effectiveness of the Voluntary Effort, two questions arise: First, are the goals being met? Second, has the rate of increase in expenditures been lower than it would

1. In this paper, the term "Voluntary Effort" refers to all voluntary actions taken to contain hospital costs since December 1977. Some of these actions may not be specifically related to the VE program sponsored by the American Hospital Association, the American Medical Association, and the Federation of American Hospitals.

otherwise have been? In other words, even if the goals are met, would they have been met even without the VE? Or if the goals are not met, is the rate of increase still lower than it would have been in the absence of the VE?

Savings. The VE has been in effect for too short a time to definitively--that is with much statistical confidence--judge its effectiveness. However, from the available data it appears that the VE has been effective thus far in holding down hospital cost increases. In 1978, hospital expenditures increased 12.8 percent, or 1.1 percentage points less than the most likely rate of increase in the absence of the program (see Table 2). This 12.8 percent rate more than met the original VE goal of 13.6 percent, a goal that probably would not have been met without the VE. As a result of the VE, hospital expenditures in 1978 were 0.9 percent lower than they otherwise would have been, resulting in total health care system savings of about $0.6 billion. Federal Medicare and Medicaid savings were some $0.2 billion.

TABLE 2. EFFECT OF THE VOLUNTARY EFFORT (VE) ON RATES OF INCREASE IN HOSPITAL EXPENDITURES, 1977-1979

	Rate of Increase Over Previous Year (percent)			Percent Reduction in Level of Hospital Expenditures	Savings Due to VE (in billions of dollars)	
Year	VE Goal	Actual	Expected If No VE	Due to VE	Total	Federal
1977	--	15.6[a]	--	--		
1978	13.6	12.8[a]	13.9[b]	0.9	0.6	0.2
1979	11.6	14.5[b]	15.6[b]	1.9	1.3	0.5

a. Actual expenditure data from American Hospital Association, National Hospital Panel Survey.

b. CBO forecast.

In 1979, hospital expenditures are expected to increase by 14.5 percent from 1978, substantially above the VE goal of 11.6 percent. Nevertheless, the expected increase is lower than the 15.6 percent rate predicted to occur if the VE were not underway. As a result of the VE, 1979 hospital expenditures will be 1.9 percent lower than they otherwise would have been, for total savings of about $1.3 billion. Federal Medicare and Medicaid savings should approximate $0.5 billion.

The 1979 VE goal is not likely to be met for two reasons. First, although the program appears to be effective, it is not powerful enough to reduce the rate of increase of hospital expenditures by a full 4 percentage points. Second, inflation will be much higher in 1979 than was expected in December 1977, when the VE was formulated.[2]

These conclusions as to the effect of the VE are tentative and uncertain. They depend on estimates of what would have happened in the absence of the VE. The estimates are derived from statistical models that indicate there is between a one-sixth and a one-third chance that the VE has had no effect on hospital costs. The primary reason for this uncertainty is the short period of time covered. The Voluntary Effort has been in place for only 20 months, and data are available for only 17 months. Additional data may well alter the assessment.[3]

Other Criteria. How has the VE performed in terms of the other criteria put forward in Chapter I? It is unlikely that the VE has reduced the quality of hospital care because of its

2. In January 1978, CBO projected a 6.0 percent increase in the CPI for 1979. CBO's current projection for 1979 is 10.6 percent. While the hospital market basket differs from the CPI, changes in projections for it are likely to parallel those for the CPI.

3. The absence of a comparison group of hospitals is a second major problem. Since all U.S. hospitals are being urged to contain costs voluntarily, a direct comparison between those in the program and those not is impossible. This poses the risk of confounding the effect of a variable omitted from the statistical model with that of the VE. Another problem, separating out the effect of the threat of controls, is discussed below.

purely voluntary nature. Thus, there is a presumption that the savings are associated with an improvement in efficiency. The voluntary character of the program also ensures fairness in the sense that individual hospitals are not singled out for large sacrifices. On the other hand, it lacks fairness in that some hospitals may not have made any effort. Assessing the degree of red tape involved is difficult because the details of each state program are not available. Apparently some programs are reviewing hospital budgets, an activity that could entail some administrative effort.

IS THE VE A SOLUTION FOR THE FUTURE?

Despite its apparent success to date, the Voluntary Effort is probably not a long-term solution to rising hospital costs. One reason is that at least part of the industry's motivation for the VE has been to show that mandatory controls are not needed. If the Hospital Cost Containment Act of 1979 or some related proposal should not become law, the voluntary efforts of hospitals would probably slacken.[4]

Moreover, the VE does not alter the built-in incentives that lead physicians and hospital administrators to increase, rather than decrease, costs (see Chapter I). Voluntary approaches to cost containment will work only if institutions and individuals can be persuaded to act in ways contrary to their private interests. While this appears to have happened to some extent, it is unlikely to continue indefinitely.

MEASURING THE EFFECTIVENESS OF THE VE

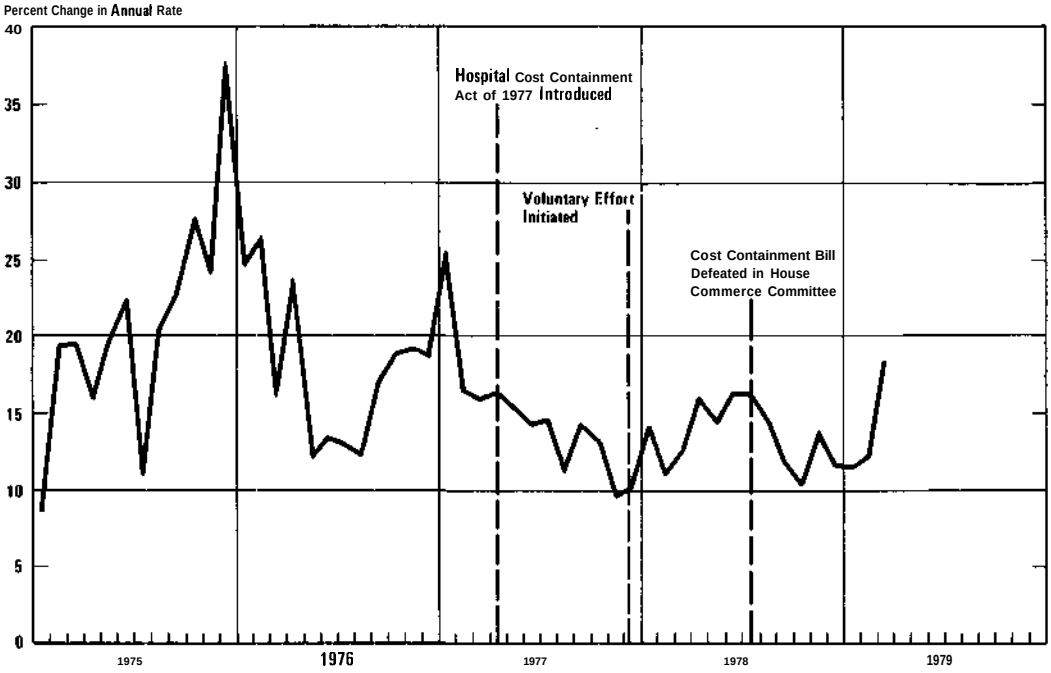
The estimates of the effectiveness of the Voluntary Effort were made with the aid of two econometric models that allow the sorting out of various influences on hospital costs. The models permit one to examine the effect of the VE on expenditure

4. Savings resulting from the VE are nevertheless likely to accrue over the next few years. First, some of the reductions already made will be manifest through lagged and/or continuing effects. Second, while the immediate threat of mandatory controls would have passed, a latent threat would continue.

increases while holding constant, by statistical means, other variables believed to influence expenditures. No model, however, can include all of the numerous factors that are likely to influence hospital behavior; some of the variation in rates of expenditure increase will go unexplained. One must also allow for the possibility that the effect on expenditure increases attributed by the models to the VE is in reality caused by factors omitted from the models because of data limitations.[5]

The use of econometric models to estimate the effectiveness of the VE is a better method than simply comparing the 1978 increase with the 1977 increase, for two reasons. First, annual data often obscure the points at which trends change direction. In this particular instance, monthly data (but not annual data) reveal a downward trend in the rate of increase in hospital expenditures during 1977 (see Figure 1). This was followed by

Figure 1.
Rate of Increase in Total Hospital Expenditures, January 1975 to March 1979



NOTE: Annual rates derived from monthly data, January 1975 to March 1979, seasonally adjusted with a five-month moving average.
SOURCE: CBO calculations based on data from American Hospital Association, National Hospital Panel Survey.

5. See Appendix A for technical details.

an upward trend during the first half of 1978, and then a downward trend during the second half of the year. The raw data alone do not show whether or not the VE reduced expenditure growth below the level it would have been without the VE.[6]

The second problem with simple comparisons is that hospital expenditures are influenced by a large number of factors. For example, the rate of inflation in the economy affects the rate of increase in hospital expenditures through its impact on the prices of labor, supplies, and purchased services. The rate of inflation in the hospital market basket was declining throughout 1977 but increasing throughout 1978. Other factors that influence hospital expenditures include budget and rate-review programs at the state level, lengths of stay, occupancy rates, the extent of hospital insurance coverage, and days of care provided.

A particularly difficult influence to isolate is the threat of mandatory controls that hospitals faced between April 1977 and July 1978.[7] If the Hospital Cost Containment Act of 1977 had been enacted, cost increases incurred during this period would have increased the likelihood that a hospital's revenues would be held down by ceilings because the bill specified 1976 as the base period. For this reason, individual hospitals may have taken steps to reduce expenditure growth during the April 1977 - July 1978 period. A variable was added to the models to distinguish direct expenditure reductions undertaken in response to this threat from reductions undertaken for other reasons.[8]

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6. The five-month smoothing used in Figure 1 is intended to aid the reader in discerning trends. It is not used in the econometric analysis described below.

7. This period began with the announcement of the Hospital Cost Containment Act of 1977 (April 1977) and ended with the defeat of the proposal in the House Interstate and Foreign Commerce Committee (July 1978). Although the Senate ultimately passed a cost containment bill in October 1978, consideration of the proposal ended soon afterward when the Congress adjourned.

8. Some have argued that the threat to individual hospitals did not end in July 1978, but continues to this point. This is unlikely since the probability of passage of (continued)

There is evidence that certain state programs to set rates have been effective in controlling hospital costs (see Chapter IV), which raises the question whether effects of the Voluntary Effort may have been confounded with the accomplishments of state rate-setting agencies. This does not appear likely. Many of the state programs commonly believed to have been effective have been operating for a number of years--for example, New York's since 1970 and Maryland's since 1974. To be seriously confounding, their effectiveness in 1978 would have had to differ substantially from what it was in 1977. But this was not the case.[9] If the effectiveness of the state programs had developed over a period of years, or been present from the beginning, the models should have been able to separate any VE effect from those of the state programs.[10]

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8. (continued) legislation by the 95th Congress after its defeat in committee must have been perceived to be small. Nevertheless, if this were so, distinguishing between the effects of the VE and those of the threat to individual hospitals would be much more difficult, further increasing the uncertainty of the measured VE effect.

9. On the basis of data from the AHA's Annual Survey, the difference in expenditure growth between hospitals in states with mandatory programs of rate-setting and others was slightly smaller in 1978 than in 1977.

10. As an additional test, a variable for the proportion of hospitals subject to mandatory state programs was added to the models. The estimated effect of the VE was not altered by this addition.

    A more technical problem is that some of the factors that influence hospital expenditures may do so after a period of time. For example, because of inventories and long-term contracts, an increase in the price of nonlabor inputs is likely to affect hospital expenditures only with a lag. The VE itself is also likely to have a delayed effect. Wage rates cannot be changed until contracts expire or until the regular time of the year for wage increases is reached. New equipment may have been ordered months before. The model attempts to use the most appropriate time-lag structure, but there is little research experience to help in choosing the best one.

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CHAPTER III. FEDERAL REGULATION OF REVENUES: PRESENT AND FUTURE POLICY OPTIONS

Among the options for controlling hospital expenditures is federal regulation of hospital revenues. The potential scope of regulatory policy ranges from setting controls only on federal payments to establishing controls on all hospital revenues. The federal government at present limits Medicare reimbursements for routine costs (basically room, board, and nursing) under Section 223 of the 1972 Social Security Amendments. The proposed Hospital Cost Containment Act of 1979 (S. 570, H.R. 2626) would apply controls to all inpatient revenues from all patients. Another proposal, Section 2 of the Talmadge-Dole bill (originally S. 505, now included in H.R. 934 as ordered reported by the Senate Finance Committee), would alter federal reimbursements for routine costs through penalties and bonuses.

SECTION 223 REGULATIONS

Section 223 of the Social Security Amendments of 1972 empowers the Secretary of Health, Education, and Welfare (HEW) to limit Medicare reimbursements to hospitals to levels consistent with the efficient provision of care.[1] Currently, the regulations apply only to routine hospital costs. Hospitals are grouped according to size (number of beds) and location (urban or rural), and Medicare reimbursements are denied for per diem routine costs in excess of 115 percent of the group mean.[2]

1. The regulations apply to Medicaid indirectly. Unless HEW specifically permits a state to pay less for Medicaid services, Medicaid reimbursements to hospitals must be the same as Medicare reimbursements.

2. Wage costs are adjusted by an area wage index for hospital workers. Adjustments are also made for states that have relatively few days of hospital care per capita resulting from shorter lengths of stay or lower admission rates. Capital and medical education program costs are excluded.

(continued)

HEW has indicated that it intends to expand the Section 223 regulations to cover ancillary service costs in the near future under its existing authority. A much more difficult task to do fairly, controls on ancillary services would increase savings.

Effect of the Regulations on Savings

As a result of a recent tightening of the 223 regulations, total federal savings will amount to about $210 million in fiscal year 1980.[3] Approximately 12 percent of the hospitals are expected to have their Medicare reimbursements reduced. Since Section 223 applies only to Medicare reimbursements, hospitals can increase their charges to private patients so as to make up for the reduced federal payments. As a result, federal savings may be partly offset by higher nonfederal payments.[4]

Effect of the Regulations on Efficiency

Section 223 aims to promote hospital efficiency. High-cost hospitals are given incentives to increase efficiency in order to avoid future penalties. But most hospitals will not be given

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2. (continued)
The limits set at 115 percent of the group mean were established in final regulations published June 1, 1979. On August 9, 1979, interim limits set at the 80th percentile of each group's per diem costs were published to allow one month for comments on the July limits. Since the limits set at the 80th percentile are very close to those set at 115 percent of the group mean, and since the 115 percent limits will probably be reestablished soon, this discussion is about the July limits. If the limits set at 115 percent of the group mean are put into effect in October, the interim limits would reduce savings by some $16 million.

3. Estimates of Office of the Actuary, HEW.

4. Since only routine costs are covered, hospitals probably have changed their accounting procedures to lower the proportion of their costs classed as routine. This should already be reflected in the above estimates of savings, however.

any incentives as long as they are not close to breaching the 115 percent ceiling. Also, since reimbursements for ancillary costs are now now subject to this regulation, many hospitals inefficient in the provision of these services may escape control.

Effect of the Regulations on Quality of Care

The Section 223 regulations probably do not have adverse effects on the quality of hospital care. The small proportion of hospitals receiving penalties have their Medicare reimbursements reduced, but there is no reason to suppose that quality is falling as a result. For one thing, they may offset the penalties by raising charges to other patients. For another, most quality improvements occur among ancillary services (for example, lab tests, special care centers), which are not covered by the regulations.

Effect of the Regulations on Access to Care

Although some hospitals are penalized by the Section 223 regulations, this is not likely to cause them to restrict access by Medicare patients. Even if reimbursements for Medicare patients fell below the average costs of treating them, the Medicare revenues would in most cases still exceed the incremental costs of treating the patients.[5]

Fairness of the Regulations

Limitations in the procedure of grouping hospitals according to size and whether they are metropolitan or nonmetropolitan causes unfair treatment. Hospitals of similar size and location

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5. There is an extensive literature on the relationship between the incremental cost of treating an additional patient and the average costs of treating all patients. For a review of this literature, see Joseph Lipscomb, Ira E. Raskin, and Joseph Eichenholz, "The Use of Marginal Cost Estimates in Hospital Cost Containment Policy," in Michael Zubkoff, Ira E. Raskin, and Ruth Hanft, eds., Hospital Cost Containment: Selected Notes for Future Policy (Prodist, 1978), pp. 514-37.

often serve very different types of patients, with different needs for nursing services. Many have criticized the grouping procedure for not allowing teaching hospitals higher limits. Higher routine costs, therefore, may not indicate inefficiency. Moreover, while area wage differentials will be taken into account, differences among areas in nonwageprices (for example, services, utility rates, malpractice premiums) are ignored. This makes hospitals in high-cost areas more likely to be penalized than hospitals in low-cost areas. As the limits are tightened, the shortcomings of the grouping procedure will increase the problem of fairness of these regulations.

Red Tape Resulting from the Regulation

Red tape is not significant under this program. No additional reporting is required, and budgets are not reviewed by HEW. The exceptions process does pose an administrative burden, however, which will increase with the tightening of the limits.

THE HOSPITAL COST CONTAINMENT ACT OF 1979

On March 6, 1979, the Administration sent to the Congress the Hospital Cost Containment Act of 1979 (H.R. 2626, S. 570). The Senate Committee on Labor and Human Resources and the House Committee on Ways and Means have ordered the bill favorably reported. Although it was altered in many ways, the bill's basic thrust remains unchanged. The following discussion covers the bill in three forms: the original as introduced, and the two versions reported by the committees.

The Proposals

The Hospital Cost Containment Act of 1979 would specify guidelines for increases in hospital expenditures and impose revenue controls on hospitals that fail to keep within them. The guidelines--based on the inflation rate for goods and services purchased by hospitals, on population growth, and on an intensity-of-service factor--would allow hospitals to increase their expenditures by about 12.9 percent in their reporting

period ending in 1979. According to CBO estimates, this would represent a rate lower than the 13.8 percent increase that would occur under current policies.[6]

Exemptions

All three bills would exempt a large number of hospitals from controls on the basis of their characteristics or their performance.

Characteristics. With respect to characteristics, a hospital would be exempt from revenue controls as long as it was:

- a hospital located in a nonmetropolitan area with, over the last three years, less than 4,000 admissions per year;
- a hospital providing mostly long-term care;
- a hospital with at least 75 percent of its patients enrolled in health maintenance organizations; or
- a hospital that had been in operation less than three years.

The original and Senate Labor and Human Resources bills also exempt federal hospitals. The House Ways and Means bill exempts children's hospitals.

Performance. Other hospitals would be exempt from controls on revenue as long as they stayed within the expenditure guidelines set by HEW. Once *a* hospital's exemption ended, it would be subject to revenue controls thereafter.

The Guidelines

National Guidelines. The first performance test under the guidelines would be a national one. If total national hospital

6. The guidelines would be based on the actual U.S. experience for 1979.

expenditures increased by less than the national guideline, all hospitals would be exempt from mandatory controls for the following year. The national guideline would be the sum of three elements: the percentage increase of an index of prices hospitals pay for a selection of goods and services, called a "market basket"; an allowance for population growth (currently 0.8 percentage point); and an allowance of 1 percentage point for increases in service intensity. The price index would be calculated using national weights and national price increases for each expenditure category in the hospital market basket. CBO estimates that this market-basket index will increase 11.1 percent in 1979 over 1978, resulting in a national guideline of 12.9 percent (11.1 percent plus 1.8 percent).[7]

State Guidelines. If total national hospital expenditures exceeded the national guideline, then the performance test would be applied to hospitals on a state-by-state basis. If total hospital expenditures within a state increased less than the state's guideline, all hospitals in that state would be exempt.[8] The guidelines would vary among the states for two reasons. First, the population growth factors would be specific to each state. Second, wage increases for nonsupervisory employees who are not physicians would be "passed through." In other words, differences in expenditure growth that were the result of differences in wage increases for such workers would be fully reflected in each state's guideline. Under the House Ways and Means bill, the population factor would be adjusted upward for states with rapidly growing elderly populations to reflect higher rates of hospital utilization by the elderly. Also, fringe benefits as well as wages would be passed through under that bill.

Hospitals in states with their own mandatory hospital cost containment programs would be exempt if hospital expenses in the state did not exceed the state's guideline by more than 1

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7. The higher of the actual or the increase estimated by HEW would be used to calculate the national guideline.

8. In practice, guidelines would be calculated for each hospital. If the sum of the differences between each hospital's actual expenditures and those allowed according to its guideline was zero or negative, then the entire state (or nation) would be exempt from revenue controls the next year.

percent, or if the state gave satisfactory assurances that the average rate of increase in hospital expenses in the state would not exceed the state's guideline.

Individual Guidelines. If the total expenditure increase in a state exceeded that state's guideline, the performance test would be applied within the state on an individual hospital basis. The guideline for each hospital would differ from that for other hospitals in the state to the extent that its wage increases for nonsupervisory employees differed from those of other hospitals. The guidelines under the original and the Senate Labor and Human Resources Committee bills would not reflect different population changes for areas within a state. The House Ways and Means bill would allow hospitals to use the higher of the local or state population increase in calculating guideline levels. Under the original and the Senate Labor and Human Resoures Committee bills, hospitals meeting the guideline would not be able to carry over to future years the amounts by which they are below their guidelines. The Ways and Means Committee bill permits a carryover of one-half the amount.

The Revenue Controls

Hospitals not exempt on the basis of either their characteristics or their performance would be subject to controls on their revenues. While the guidelines would apply to increases in total hospital expenditures, including those for outpatient services, the revenue controls would apply only to inpatient revenues. Under the revenue controls, a cap would be applied to increases in inpatient revenue per admission from the year that the guideline was breached. If a hospital's revenue rose less than the cap in any year, the unused portion could be carried over into future years.

The starting point in the calculation of each hospital's cap would be the percentage increase in the prices of the hospital's market basket for goods and services. Hospitals would use the higher of the percentage increase forecast by HEW or the percentage increase actually experienced. The wage pass-through under revenue controls would be the same as that used for the guidelines. No automatic service intensity component would be added in calculating the revenue cap, however.

The proposals include three important adjustments to the basic revenue cap. The first of these is an efficiency adjustment. As in the Section 223 regulations discussed earlier in this chapter, hospitals would be grouped on the basis of "appropriate" characteristics such as patient mix and location (metropolitan and nonmetropolitan). Then all or a portion of each hospital's expenses, adjusted for differences in local hospital wages, would be compared to group norms. The cap for hospitals with relatively low adjusted expenses would be increased, while that for hospitals with relatively high costs would be reduced. Under the House Ways and Means bill, the efficiency adjustment would be raised for hospitals with a disproportionate share of elderly patients.

The second adjustment, which would compensate for changes in a hospital's admission rate, is intended to reduce incentives to increase the number of admissions. This adjustment is needed because, in the short run, hospital costs rise or fall less than in proportion to the change in admissions. Thus a hospital might increase its net income by increasing its admissions. Despite the fact that the admissions adjustment would, to a significant degree, determine the fairness and toughness of the program, the proposals do not specify the adjustment but, rather, leave it to be set in regulations established by the Secretary of HEW.[9]

The third adjustment, called the base-period adjustment, is intended to remove incentives for hospitals to increase their

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9. The House Ways and Means Committee bill is the most specific in this regard. It directs the Secretary to take into account "the marginal costs of hospitals associated with changes in admissions" (Section 205(a)(1)). Under the formula now assumed by the HEW staff, and used for the cost estimates in this paper, allowed hospital revenues would equal "deemed" admissions times allowed revenues per admission. Deemed admissions would equal actual admissions if the increase in admissions from the prior year was less than 2 percent. If admissions increased by more than 2 percent, deemed admissions would equal 102 percent of prior year's admissions plus 75 percent of the admissions above 102 percent. If admissions declined from the prior year, deemed admissions would equal the prior year's admissions minus 75 percent of the decline. (continued)

costs during the year before they expect to be subject to revenue controls. Under the original proposal, the adjustment would subtract from the cap an average of the amount by which the hospital exceeded its guideline and the amount by which its rate of expenditure increase that year exceeded its past rates of expenditure increase. Under both the House Ways and Means and Senate Labor and Human Resources bills, the base-period adjustment would equal the full amount by which a hospital exceeded its guideline, but the latter half of the adjustment would be dropped.

An exceptions process would be available for circumstances unforeseen in the prescribed adjustments, but just how this process would work is not specified in the original bill. Both committees' bills specify conditions (for example, renovation costs, significantly new services) that could be taken into account. The House Ways and Means bill makes financial solvency a necessary consideration for granting an exception, but hospitals would be granted automatic exceptions for the interest and depreciation costs of capital investments approved prior to enactment of the bill.

Since the caps would be calculated on a calendar year basis and hospitals keep their records for reporting periods that generally do not coincide with the calendar year, a weighted average of the caps for two years would be employed in the revenue control system. For the first year that a hospital came under revenue controls, its actual expenditure increase would be averaged with a cap for the year in which the reporting ended. For example, if a hospital with a July 1 to June 30 reporting period failed to meet its guideline for 1979 (July 1, 1978 to June 30, 1979), its actual rate of expenditure increase over that period would be averaged with its cap for calendar year 1980 to determine the limit by which its inpatient revenues could increase during its 1980 reporting period (July 1, 1979 to

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9. (continued) For example:

Prior Year Admissions	Actual Admissions	Deemed Admissions	
100	102	102	
100	110	108	[(110-102) X 0.75 + 102]
100	92	94	[100-(100-92) X 0.75]

June 30, 1980). This procedure would significantly reduce the first-year savings below what they would have been if the hospital's cap for its first reporting period under revenue controls had been the average of its calendar year caps.[10]

Revenue controls would apply separately to each cost payer (Medicare, Medicaid, Blue Cross) and to revenues obtained from charges to individuals. For example, if the cap were 10 percent, Medicare reimbursements per admission could increase 10 percent, and revenues per charge-paying admission could increase 10 percent, even if the two base amounts were different.

IMPACT OF THE COST CONTAINMENT PROPOSALS ON THE HOSPITAL INDUSTRY

Savings Resulting from the Proposals

All three versions of the Hospital Cost Containment Act of 1979 would save purchasers of care significant sums of money. The original bill would save about $24.6 billion over the next five years. The Senate Labor and Human Resources Committee version would save somewhat more ($28.6 billion), and the House Ways and Means Committee version would save less ($16.6 billion), although a large part of the difference between the committees' bills is due to the latter's expiration on December 31, 1983.[11]

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10. In both of the committees' bills, reporting period adjustments would be dispensed with after a hospital's first year under revenue controls. Instead, market baskets would be calculated for periods that would conform to each hospital's reporting period.

11. The estimates of savings are based on a simulation model of the hospital industry. Technical information on the methodology can be obtained from CBO. The assistance of the Office of the Assistant Secretary for Planning and Evaluation, HEW, in providing data used in this model is gratefully acknowledged.

    The savings estimated for the original bill are lower than those included in Congressional Budget Office, "The Hospital Cost Containment Act of 1979: A Preliminary Analysis" (May 1979) because of updated projections. (continued)

Effect of the Guidelines. The hospital industry will probably not meet the proposals' national guideline in 1979. The projected increase in expenditures of 13.8 percent is higher than the projected national guideline of 12.9 percent.

11. (continued)
The estimates are based on projections of hospital expenditures under current policy which assume continuation of the hospital industry's Voluntary Effort to control hospital costs. They may be too high for the following reasons:

(1) Some revenue reductions would be accomplished by shifting services from an inpatient to an outpatient basis. Estimates of savings should subtract the additional outpatient revenues from the reduction in inpatient revenues. Since there is little basis for an estimate of what proportion of revenue reductions would be derived from shifting services to an outpatient basis, this "netting out" was not performed.

(2) Hospitals in states having mandatory controls would be treated more leniently under the bill, providing an incentive for additional states to enact such legislation. To the extent that more states enacted controls and thus more hospitals were treated leniently, net savings would be lower.

(3) Possible exceptions, other than those for interest and depreciation costs of capital projects approved prior to enactment of the House Ways and Means bill, were not accounted for.

(4) Hospitals would inevitably find ways to reduce the impact of the controls by "gaming" or evasive behavior. While it is impossible to predict its magnitude, such behavior would also reduce savings.

A factor that could cause the savings estimate to be too high or too low is changes in hospital behavior while under the guidelines. Some hospitals would reduce their expenditures in order to avoid mandatory controls. But others would be likely to increase expenditures (see page 39).

The average hospital not exempt on the basis of characteristics would face an effective 1979 guideline of between 12.9 and 13.9 percent, depending on the specific bill (see Table 3). This exceeds the national guideline of 12.9 percent for two reasons. First, the effective guideline would apply only to hospitals in states without mandatory cost containment programs. Hospitals in these states are projected to have higher wage increases than those in states with mandatory programs under current policy, which increases the effective guideline. Second, each hospital's guideline would be adjusted for the proportion of its 1979 reporting period (the period ending in 1979) that fell in 1978.[12]

Of those hospitals not exempted on the basis of their characteristics or their location in states with mandatory state programs, between 53 and 57 percent would meet the guideline in 1979, either through their own performance or because they were in states in which the guideline was met. It is likely that a few states would meet the guideline in 1979, but these would account for less than 10 percent of hospitals subject to the guideline.

For the original and Senate Labor and Human Resources bills, only about 25 percent of the hospitals would meet the guidelines in both 1979 and 1980. It is unlikely that any of the states without mandatory hospital cost containment programs would meet the guidelines in both years. Approximately 12 percent of the hospitals would meet the guidelines in 1979, 1980, and 1981.

Because of the carryover provision, a few more hospitals would meet the guidelines under the House Ways and Means bill. About 31 percent of the hospitals eligible for controls would meet the guidelines in 1979 and 1980, and 20 percent would meet the guidelines in 1979, 1980, and 1981.

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12. The hospital's actual expenditure increase for its reporting period ending in 1978 is weighted by the proportion of the reporting period falling in 1978. In the Senate Labor and Human Resources bill, the greater of the 1978 increase or 12.8 percent is used.

TABLE 3. ESTIMATES OF AVERAGE PERCENTAGE GUIDELINES IN THE VOLUNTARY PROGRAM, AND PERCENTAGE OF COMMUNITY HOSPITALS MEETING THEM, 1979-1981[a]

Year of Reporting Period	Original Bill		Senate Labor and Human Resources Bill		House Ways and Means Bill	
	Effective Guideline[b]	Hospitals Meeting Guideline (percent)[c]	Effective Guideline[b]	Hospitals Meeting Guideline (percent)[c]	Effective Guideline[b]	Hospitals Meeting Guideline (percent)[c]
1979	13.4	57	13.9	53	12.9	53
1980	13.1	25	13.5	25	13.4	31
1981	12.1	12	12.0	12	11.8	20

a. Average guidelines are weighted averages for all community hospitals not in states with mandatory hospital cost control programs and not exempted on the basis of characteristics.

b. The effective guideline is adjusted for differences in hospital reporting periods.

c. This is the percentage of those hospitals not already exempted by characteristics or by mandatory state programs. For 1980 and 1981, this is the percentage meeting the guideline for two and three years respectively.

In spite of the fact that most hospitals potentially subject to controls would fail to meet the guidelines, less than half of all hospitals would come under the revenue controls during the 1980-1984 period. Of all hospitals, about 22 to 24 percent would probably be under mandatory controls in 1980, and 33 to 36 percent of hospital revenues would be controlled (see Tables 4 and 5). By 1984, just under half of hospitals and about two-thirds of hospital revenues would be controlled. Should additional states adopt their own cost containment programs, fewer hospitals would be subject to federal controls.

TABLE 4. PERCENTAGES OF COMMUNITY HOSPITALS UNDER FEDERAL MANDATORY CONTROLS, BY BILL, 1980-1984

Year of Reporting Period	Original Bill	Senate Labor and Human Resources Bill	House Ways and Means Bill
1980	22	24	24
1981	39	39	35
1982	46	46	41
1983	47	47	43
1984	48	48	43

NOTE: Table covers all community hospitals, including those in states with their own mandatory cost control programs and those exempted on the basis of characteristics.

TABLE 5. PERCENTAGE OF COMMUNITY HOSPITAL REVENUES UNDER FEDERAL MANDATORY CONTROLS, BY BILL, 1980-1984

Year of Reporting Period	Original Bill	Senate Labor and Human Resources Bill	House Ways and Means Bill
1980	33	36	36
1981	56	56	51
1982	65	65	59
1983	68	67	64
1984	69	69	65

NOTE: Table covers all community hospitals, including those in states with their own mandatory cost control programs and those exempted on the basis of characteristics. Percentages are of revenues under current policy.

Effect of the Controls on Payments for Hospital Care. As stated above, all three hospital cost containment bills would result in significant savings for all purchasers of hospital care. The bill as introduced would save about $24.6 billion over the next five years (see Table 6). Federal outlays for Medicare and Medicaid would fall by approximately $9.8 billion from what they would otherwise have been. The Senate Labor and Human Resources version would save about $28.6 billion overall, of which $11.3 billion would result from lower federal expenditures. The savings of the House Ways and Means Committee version would be approximately $16.6 billion, with federal savings amounting to $6.9 billion. If this version were effective in 1984, the total and federal savings would be 20.3 billion and $8.5 billion, respectively.

TABLE 6. PROJECTED SAVINGS FROM THE THREE VERSIONS OF THE HOSPITAL COST CONTAINMENT ACT OF 1979 IN 1980-1984: IN BILLIONS OF DOLLARS

	Original Bill	Senate Labor and Human Resources Bill	House Ways and Means Bill[a]
Federal Medicare and Medicaid Savings	9.8	11.3	6.9 (8.5)[a]
Nonfederal Savings	14.8	17.3	9.7 (11.8)
Total Savings	24.6	28.6	16.6 (20.3)

NOTE: Components may not add to totals because of rounding.

a. The controls in this bill would expire on December 31, 1983. If the program were to run a full five years, it would save the amounts in parentheses.

The savings would grow over time (see Tables 7-9). This pattern results from the phasing-in of revenue controls, the reporting-period adjustment for a hospital's first year under revenue controls, and the fact that each year's cap would be applied to the previous year's allowed rather than actual revenue.

Nonfederal payers would get a somewhat smaller proportion of the savings than their proportion of revenues because caps would be applied separately to revenues from each cost payer and to those from charges to individuals. Since revenues per admission generated by Medicare increase more rapidly than overall revenues per admission (mostly because of the aging of the Medicare population), hospitals would have to reduce Medicare revenues to a larger degree than those from other payers.

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TABLE 7. ESTIMATED SAVINGS FROM THE HOSPITAL COST CONTAINMENT ACT OF 1979, AS INTRODUCED, 1980-1984: IN BILLIONS OF DOLLARS

Fiscal Year	Federal Savings			Nonfederal Savings	Total
	Medicare	Medicaid	Total		
1980[a]	0.30	0.06	0.37	0.76	1.1
1981	0.78	0.14	0.92	1.7	2.6
1982	1.4	0.24	1.6	2.7	4.3
1983	2.4	0.37	2.8	4.0	6.8
1984	3.6	0.54	4.1	5.7	9.8
1980-1984[a]	8.4	1.4	9.8	14.8	24.6

NOTE: Components may not add to totals because of rounding.

a. Includes small savings from 1979.

The bill reported by the Senate Labor and Human Resources Committee would save more than the bill as introduced because of a tougher penalty for exceeding the voluntary guideline (see Table 8).

The bill reported by the House Ways and Means Committee, on the other hand, would save less (see Table 9). Four provisions are primarily responsible for this:

(1) The expiration of controls on December 31, 1983, would reduce 1984 savings by over 40 percent, and 1980-1984 savings by about 20 percent.

TABLE 8. ESTIMATED SAVINGS FROM S. 570 AS REPORTED BY THE SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES, 1980-1984: IN BILLIONS OF DOLLARS

Fiscal Year	Federal Savings			Nonfederal Savings	Total
	Medicare	Medicaid	Total		
1980[a]	0.33	0.07	0.39	0.82	1.2
1981	0.90	0.16	1.1	1.9	3.0
1982	1.7	0.28	1.9	3.2	5.1
1983	2.8	0.44	3.2	4.8	8.0
1984	4.1	0.62	4.7	6.6	11.3
1980-1984[a]	9.7	1.6	11.3	17.3	28.6

NOTE: Components may not add to totals because of rounding.

a. Includes savings from 1979.

(2) The bill would allow hospitals meeting the voluntary guidelines to carry forward to the next year one-half of the amount by which they met them. This would result in fewer hospitals failing the guidelines, and subsequently coming under controls, after 1979.

(3) The automatic exception for capital expenditures approved prior to enactment of the bill would reduce savings by up to $200 million in 1980, and $400-$500 million a year thereafter.

(4) The bonus payments to efficient hospitals would cost $50 million a year.

TABLE 9. ESTIMATED SAVINGS FROM H.R. 2626 AS REPORTED BY THE HOUSE COMMITTEE ON WAYS AND MEANS, 1980-1984: INBILLIONS OF DOLLARS

Fiscal Year	Federal Savings			Nonfederal Savings	Total
	Medicare	Medicaid	Total		
1980[a]	0.29	0.05	0.33	0.56	0.90
1981	0.67	0.10	0.77	1.2	2.0
1982	1.2	0.19	1.4	2.0	3.4
1983	2.1	0.31	2.4	3.2	5.6
1984[b]	1.8 (3.2)	0.26 (0.46)	2.0 (3.6)	2.7 (4.8)	4.7 (8.5)
1980-1984[ab]	6.0 (7.4)	0.90 (1.1)	6.9 (8.5)	9.7 (11.8)	16.6 (20.3)

NOTE: Components may not add to totals because of rounding.

a. Includes savings from 1979.

b. The controls expire on December 31, 1983. If the program were to run a full five years, it would save the amounts in parentheses.

Because the mandatory caps would require a substantial reduction in the rate of increase of revenues, it is possible that not all of the reduction would come from decreased expenditures. At least in the early years, increased deficits or reduced surpluses might occur, but the proportion of revenue reductions that would thus be achieved at the expense of hospital financial assets is difficult to predict.

Effect of Changes in Hospital Behavior. These estimates assume that hospitals do not alter their behavior during the voluntary or guideline phase from what it otherwise would have been. Some hospitals will find it advantageous to reduce their expenditures in order to meet the guideline. On the other hand, some hospitals that would be under the guideline may find it advantageous to increase their expenditures, up to their guideline, in order to have a better chance of meeting the guideline the next year. One possible series of assumptions about behavioral responses on the part of hospitals would lower the estimate of savings by about 20 percent.[13]

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13. The following assumptions were used to examine the sensitivity of savings estimates to hospital behavior:

    (1) For hospitals below their 1979 guideline, expenditures are increased by a maximum of 2 percentage points (but not so much as to exceed the guideline).

    (2) For hospitals above their guideline whose long-term increase in admissions is less than their state's population growth plus 1 percentage point:

        — those within 2 percentage points of their guideline will reduce expenditures so as to meet the guideline,

        — those more than 2 percentage points above their guideline will not change their behavior.

    (3) For hospitals above their guideline whose long-term increase in admissions is greater than their state's population growth plus 1 percentage point:

        — those within 1 percentage point of their guideline will reduce expenditures so as to meet the guideline,

        — those more than 1 percentage point above their guideline will not change their behavior.

(continued)

Effect of the Wage Passthrough. Although the wage passthrough--the inclusion of increases in wage rates for nonsupervisory, nonphysician employees in calculating a hospital's guideline and cap--eliminates the incentive to avoid penalties by holding down wages, it would do nothing to stimulate wage increases. For the most part, hospitals would be left with the same incentives and constraints in setting wages that they have now.

Impact of the Proposals on Inflation

In addition to the savings engendered by cost containment, the proposals would also lower the rate of general inflation. While they would have little effect in the first year, estimates indicate that the cumulative increase in the Consumer Price Index (CPI) would be reduced by about 0.1 percentage point through fiscal year 1981 under both the original and the Senate Labor and Human Resources bill, and that the total cumulative increase through fiscal year 1984 would be reduced by 0.4 percentage point. The House Ways and Means bill would reduce the cumulative increase in the CPI by 0.2 percentage point (0.3 percentage point if the controls are effective for the full five years).[14]

Administrative Costs

The costs of administering the program are not likely to be large. Since HEW already collects most of the data necessary to administer the program, the bulk of the administrative costs

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13. (continued)
There is no evidence upon which to base these or any alternative series of assumptions about hospital behavior because of the lack of experience with this type of regulation. For this reason, and because so much of 1979 hospital reporting periods are now history, no behavioral assumptions were included in the savings estimates discussed in the text.

14. The estimates take into account both the direct and the indirect effects of the bills. For more details see Appendix B.

would arise from the processing of exceptions. HEW s estimate of $10 million in annual outlays for those reviews appears reasonable.

Distribution of Revenue Reductions Among Hospitals

The burden of the controls is not likely to be concentrated on any one type of hospital (see Table 10). Hospitals subject to controls would be quite similar to those exempted, in terms of ownership, size, and teaching status. Estimates indicate that the distribution of savings among types of hospitals would be in rough proportion to the share of each type in total hospital expenditures.

Effect of the Proposals on Quality of Care

It is unlikely that any of the three bills would lower the average quality of hospital care from its current level. Since the revenue caps would be based on increases in the prices hospitals pay for their purchases, hospitals would be able to buy the same goods and services in future years.[15]

The proposals, by limiting growth in the intensity of services, might reduce future improvements in quality, although little is known of the relationship between intensity and quality. Real resources per inpatient admission have increased an average of 3.8 percent per year in the last decade. Because the caps would consist only of the market-basket inflation increase and the efficiency adjustment (which in the aggregate leaves the cap virtually unchanged), there would be no allowance for increasing the intensity of services. Since real revenue growth (increases in excess of inflation) would be virtually eliminated

15. During the first few years under mandatory controls, a hospital's revenue cap might be below its market-basket price increase because of the base-period adjustment. But since the adjustment would never be larger than the amount by which the hospital's expenditures exceeded the market basket in the preceding year, real expenditure growth (increases in excess of inflation) over the period would not become negative.

TABLE 10. DISTRIBUTION OF HOSPITALS AND REVENUE REDUCTIONS FROM COST CONTAINMENT, BY TYPE AND SIZE, 1980-1984

Category	Distribution of Hospitals (percent)		Revenue Reductions of Controlled Hospitals as Percentage of Total Expenditures[a]
	Controlled	Exempt	
Public (city-state)	87	13	5.8
Private, Nonprofit	89	11	7.0
Private, For-Profit	85	15	7.1
Number of Beds			
1-99	83	17	7.4
100-299	89	11	6.7
300-499	90	10	6.7
500 or more	92	8	6.8
Teaching	92	8	7.1
Nonteaching	88	12	6.5

NOTE: Estimates based on bill as introduced, excluding hospitals in states with mandatory programs and those exempted on the basis of characteristics.

a. Total expenditures based on current policy projection.

for hospitals subject to revenue controls, spending on new services would be substantially lower. Hospitals receiving an efficiency adjustment bonus would have some room to expand services, but hospitals that did not receive a bonus, particularly those hospitals that were penalized, would have to cut down elsewhere in order to offer new services.[16]

The proposals, moreover, limit a hospital's ability to improve quality in the face of a tight revenue constraint by requiring it to seek permission from a planning agency to reduce or eliminate one service in order to make room for a new one. Eliminated services would be removed from the base unless they were designated as "inappropriate" by the local planning agency; new services would be subject to the revenue cap as applied to the reduced base. This provision is intended to restrain hospitals from discontinuing certain high-cost services or from evading the cap by simply having hospital-based physicians bill patients directly for ancillary services previously billed by the hospital. It would also, however, tend to freeze the system to the status quo, increasing the risk of a reduction in quality growth.

Effect of the Proposals on Efficiency

The bills would provide significant incentives for hospitals to cut waste and improve efficiency. If hospitals were to maintain the quality of services and at the same time meet the revenue caps, they would have to improve efficiency. Many suspect that such opportunities exist. Since the caps would be on a per admission basis, hospitals would also have an incentive to reduce lengths of stay; this might reduce unnecessary days of hospital care. And since only inpatient revenues would be controlled, hospitals would have an incentive to shift some of the preoperative testing that is now done while the patient is in

16. The revenue cap formula currently proposed could easily be adjusted to include an allowance for intensity growth. Such an adjustment would allow service intensity to grow, but savings would fall. A one-percentage-point allowance would reduce five-year savings by about 20 percent, and a two-percentage-point bonus would reduce savings by about 35 percent.

the hospital to an outpatient basis, thus saving the costs of room and board. Minor surgery might also be shifted to outpatient departments.

But the guidelines will not necessarily bring only inefficient hospitals under control. The guidelines do not take into account the fact that the rate of expenditure increase experienced by a hospital in a single year is not highly related to its expenditure level per admission. For this reason, mandatory controls will not necessarily be limited to inefficient hospitals.

These incentives might also induce undesirable responses on the part of hospitals. During the guideline phase of the program, hospitals well under their guidelines in one year would have incentives to increase expenditures up to the guideline in order to be in a better position to meet their guidelines in the next year. This would also make the revenue cap less constraining to the hospital should it be subject to revenue controls in the future.[17] The House Ways and Means bill ameliorates this problem by allowing hospitals under the guidelines to carry forward one-half of the amounts by which they were under.

The breadth of the guideline criterion would permit many types of "gaming" activities. For example, hospitals could spin-off a department a year (especially outpatient departments) to keep within their guideline without impairing their ability to function under revenue controls in the future.

Hospitals under revenue controls would have an incentive to admit patients for very short stays, thus reducing the ratio of revenues to admissions. It would be desirable, from the standpoint of the hospital, to admit persons needing a series of tests, instead of having the work done on an outpatient basis.

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17. For example, if a hospital's guideline was 11.5 percent in 1979 but its rate of increase in expenditures was expected to be about 10 percent, it could still make the 1979 guideline and have an easier time complying with its 1980 guideline if it shifted some of its anticipated 1980 expeditures to 1979.

Efficiency Adjustments. In regulating revenue growth, the bills would not fully incorporate past (and possibly inefficient) levels of hospital expenditures. The efficiency adjustments under the revenue controls would give lower caps to hospitals with relatively high costs to provide an incentive for reducing the difference. In fact, the efficiency adjustment could make a difference of three percentage points in the allowed rate of increases in hospital revenues a year, which could in turn compound to six and nine percentage points in the next two years. Initially, HEW is expected to determine relative efficiency by comparing the daily routine costs of similar hospitals as in the Section 223 regulations discussed above. Under the original bill, hospitals with costs between 90 and 100 percent of their group median would receive a bonus of one-half of a percentage point increase in their cap. Hospitals with costs between 115 and 130 percent of the group median would have their caps reduced by one percentage point.

Under the Senate Labor and Human Resources bill, hospitals in the 115 to 130 percent range would receive penalties varying from 1 to 2 percent, and those in the 90-100 percent range would receive bonuses varying from 0 to 1 percent (for example, a hospital whose costs were 92 percent of the group median would receive a bonus of 0.8 percentage point). The House Ways and Means bill is similar, except that the penalty zone begins at 110 percent rather than 115 percent. Under all three bills, hospitals with costs below 90 percent of the group median would receive a bonus of one percentage point, and those with costs above 130 percent of the group median would receive a penalty of two percentage points. In the aggregate, the efficiency adjustment under any of the bills would not appreciably change the revenue caps on hospitals as bonuses and penalties would offset each other. The House Ways and Means bill also provides extra Medicare and Medicaid reimbursements for hospitals whose costs are below their group means.

While the efficiency adjustment may have some virtues in making the controls fairer, it gives only weak incentives to improve efficiency. A large proportion of hospitals will not get an efficiency adjustment because their costs are between 100 and 115 percent of the group median. For the half of the hospitals receiving bonuses, the additional bonus from cutting costs is very small. For example, a hospital cutting costs from 98 percent of the group median to 97 percent would get an additional bonus of 0.1 percentage point under either of the committees' bills and nothing under the original bill.

The methodology to implement the efficiency adjustment currently envisioned by HEW has several possible weaknesses. For one thing, routine costs are not necessarily a good proxy for total costs. A hospital might be efficient in its routine services but inefficient in areas such as the laboratory and radiology departments, or vice-versa. Also, as noted earlier with regard to the Section 223 regulations, the procedure for grouping hospitals may overlook differences in nonwage prices among geographic areas. [8] HEW is aware of these problems and has announced its intent to include case-mix adjustments and nonwage price adjustments and to expand the adjustment to ancillary services as soon as it is technically feasible to do so.

Effect of the Proposals on Access to Care

Whether the cost containment proposals would tend to limit the public's access to hospital care depends on how the admissions adjustment is formulated. The adjustment is not specified

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18. The efficiency adjustment could also be made more sensitive to hospital differences. One improvement would be to use an age-mix adjustment. Hospitals have long maintained that elderly patients have higher routine costs than others. This belief is currently reflected in the Medicare routine nursing cost differentials. Hospital routine costs could be standardized according to the proportion of patient days in each age category before comparisons are made to establish relative efficiency. The House Ways and Means Committee bill calls for an adjustment of this type.

    In addition, an adjustment could be made by broad patient type--medical, surgical, pediatric, maternity, or psychiatric. Simple statistical procedures are available to standardize costs on the basis of these broad patient-mix categories. The results would be a far more accurate assessment of relative efficiency in the delivery of routine services.

    State-level hospital regulation programs use a variety of sophisticated techniques to compare hospitals. These are discussed in Chapter IV.

in the three bills. The formulation currently assumed by HEW staff would not restrict access. A more restrictive admissions adjustment, such as the one included in the 1977 bill, would risk creating serious problems in access after a few years.

The admissions adjustment aside, the proposals have incentives for hospitals to limit access for patients requiring long stays or a large number of ancillary services. Not admitting such patients would reduce expenditures by more than the loss of allowed revenues, thus easing the constraint of the revenue controls. The bill as introduced would also encourage hospitals to refuse admission to charity patients.

The proposals attempt to avoid such behavior through regulation. All versions prohibit changes in admission practices that discriminate against patients unlikely to be able to pay their bills. The reported versions also prohibit denial of admissions to high-cost patients. It is difficult to predict how effective such regulations will be.

The House Ways and Means Committee bill actually removes incentives to "dump" patients unlikely to pay, by passing through charity and bad debt expenses during the voluntary phase and by not considering as revenues those charges unlikely to be collected.

The bills would probably not encourage hospitals to turn away Medicare or Medicaid patients, since a separate cap applies to revenues from each group of patients. Although Medicare or Medicaid patients may, on average, be more expensive, they would not be any more or less attractive relative to other patients than they are today.

The proposals might, however, reduce access by increasing health care bills for some individuals. This would come about as an unintended side effect of the otherwise desirable shifting of services to outpatient departments. There would be an increase in out-of-pocket expenses for many patients whose insurance is more generous for inpatient than outpatient expenses. For example, under Medicare, *after a* one-day deductible is met, all inpatient charges are paid by the program; but only 80 percent of outpatient charges above a separate deductible are paid. The beneficiary is responsible for 20 percent or more of the charges for these outpatient services.

Fairness of the Proposals

Some inequities might occur in the treatment of hospitals. The use of the guidelines to determine whether a hospital would be subject to revenue controls, and the controls themselves, might result in similar hospitals being treated differently. This unequal treatment would stem in part from the desire to maintain program flexibility and to maximize savings.

Fairness of the Guideline Process. The limitation of the screening period to one year means that chance might be the major factor in exempting hospitals. A hospital's rate of increase in expenditures varies a great deal from year to year; furthermore, the rate of increase in one year has little relationship to rates in other years.[19] Hospitals that met the guideline one year would not necessarily meet it the next, nor would the hospitals that met it one year necessarily be those with the lowest long-term growth rates in expenditures.

The one-year screening period might also result in different treatment for similar hospitals, since two hospitals with similar expenditure growth rates over a period of years might have very different rates in any one year. Consequently, one might be placed under controls while another remained uncontrolled. Longer screening periods would increase fairness, but delay implementation.[20]

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19. For example, a regression model was used to determine how much of a hospital's 1977 expenditure increase (relative to the industry mean increase) could be explained by expenditure increases for 1976, 1975, 1974, and 1973 together. Less than 1 percent of the variation in 1977 expenditure increases could be thus explained. The simple correlations between individual years were:

1973/1974	0.00
1974/1975	0.04
1975/1976	0.00
1976/1977	0.08

20. The base-period adjustment would exacerbate the problem. All hospitals over the guideline would be penalized, even if they were not trying to inflate their base.

Another possible difficulty with the guideline process in each of the bills is that it uses a criterion (total expenditures) that is different from the one used under the revenue controls (inpatient revenues per admission). If the objective is to regulate hospitals showing rapid increases in revenues per admission, guidelines based on total expenditures may be inappropriate. Since the relationship between increases in inpatient revenues per admission and increases in total expenditures is not strong, individual hospitals would be likely to come out quite differently on each measure.[21] Two hospitals with similar growth rates of inpatient revenues per admission might have quite different growth rates of total expenditures; this would result from different trends in their outpatient services, differences in population growth in their service areas, or different trends in their rates of surplus or deficit.[22]

Fairness of the Revenue Cap. The proposed revenue controls employ a one-year base period that would also result in uneven treatment of similar hospitals. Because of the fluctuating expenditure patterns of hospitals, two hospitals with similar revenues over a period of years would be likely to have different revenues in any one year. Controls would be more restrictive on the hospital with lower revenues in the base year than on the hospital with higher revenues.

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21. The simple correlation between a hospital's 1977 increase in inpatient revenues per admission and its 1977 increase in total expenditures is 0.48. This implies that variation in total expenditures explains only 23 percent of variation in inpatient revenues per admission.

22. An alternative would be to use the same criterion--that is, revenues per admission--for both the guideline and the revenue cap. The population allowance would correspondingly be removed from the guideline. An admissions adjustment similar to that envisioned for the mandatory phase would have to be employed to remove incentives to admit more patients. This would increase the uniformity with which hospitals are treated during both stages of the program without having a significant effect on savings.

The one-year base period would also make the controls tougher on hospitals that had already made efforts to reduce costs on a voluntary basis because they would already have trimmed some of the waste from their operations. This problem is compounded by the fact that a hospital's base in its first year of mandatory controls would become its base forever (successive caps being applied in a compound manner). If a hospital's level of revenues per admission was unusually high or low in its base period, this would affect it each year thereafter.[23]

The bills allow for an exceptions process that would increase their fairness. Since an exception would automatically be granted if *a* request was not answered within two months, hospitals would have great incentives to make such requests, posing significant administrative burdens for HEW. Such burdens could be reduced by establishing narrow grounds for exceptions, but this could significantly reduce fairness.

The bill reported by the House Committee on Ways and Means would be fairer than the other versions. The exception for interest and depreciation costs of capital projects approved prior to enactment of the bill would eliminate some of the problems of the year-to-year variations in expenditure increases, some of which are the result of large capital projects, and it would avoid penalizing hospitals for decisions already reached and approved. The House Ways and Means Committee bill would also improve fairness by taking into account the greater hospital utilization and higher costs associated with older people. But HEW could make financial hardship a prerequisite for most exceptions, denying many hospitals the opportunity for consideration of their unique circumstances.

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23. Lengthening the voluntary guideline period and the base period to two years would ensure more uniform treatment of similar hospitals. Such a change would also result in more accurate selection of hospitals with higher long-term rates of expenditure growth. But because a two-year guideline in 1979 and 1980 would postpone implementation of the revenue controls until 1981, fiscal year 1980 savings would fall to near zero and overall five-year savings would fall by about 10 percent.

The exclusion of small nonmetropolitan hospitals would also result in uneven treatment of similar hospitals. Their expenditures have increased at essentially the same rates as those in other hospitals.[24] A reason often given for excluding them is that they are often the only providers of hospital care in their areas, and that they therefore have unique cost patterns. Such problems, if they exist, could be handled by the exceptions process.

Red Tape Resulting from the Proposals

Considering the magnitude of the task of controlling hospital revenues and the extent of the savings that would be achieved, the proposals do well in minimizing federal intervention. One factor in this is the incentive for states to run their own hospital cost containment programs.

Another positive feature of the three bills is that HEW would not be in the position of dictating or reviewing individual hospital spending decisions. A hospital would be given an overall revenue limit, but left to decide on its own how to meet it. This would give discretion to those in the best position to decide how to comply with the caps--that is, hospital administrators and medical staffs. Administrative burdens would be greatly reduced.

A feature of the proposals that increases red tape is the requirement of planning agency approval of reductions or eliminations of services. This may substantially reduce hospital ability to contend with the need to cut expenditures and concentrate a significant amount of power in these agencies.

SECTION 2 OF TALMADGE-DOLE

Section 2 of the Talmadge-Dole bill (originally S. 505, now Section 202 of H.R. 934 as ordered reported by the Senate

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24. A regression analysis found that the combination of small size and nonmetropolitan location had virtually no effect on expenditure growth over the 1969-1977 period, with or without other hospital characteristics held constant.

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Finance Committee) would establish a bonus and penalty system to moderate the growth in federal payments for routine hospital services. In contrast to the Hospital Cost Containment Act of 1979, the Talmadge-Dole bill would regulate differences in hospital expenditures from group norms, rather than increases in expenditures from past levels. As with the Section 223 regulations discussed earlier, hospitals would be grouped by number of beds, metropolitan or nonmetropolitan location, and type (for example, community, psychiatric, pediatric).[25] Average per diem routine costs would be calculated for each group of hospitals, with the labor component adjusted for area wage differentials.[26] These costs would be used to establish a target rate of per diem costs for each hospital. States with their own cost control programs would be exempt from the federal program, provided that their controls were at least as effective as the proposed system in holding down federal payments.

Beginning with hospitals whose accounting; years start in July 1980, Medicare and Medicaid would not reimburse hospitals for routine costs in excess of 115 percent of their target rates.[27] Hospitals with costs below their target rates would receive bonuses of half of the difference between their costs and their target rates up to a maximum of 5 percent of the mean. For example, a hospital with per diem routine costs of 92 percent of its target rate would be reimbursed at 96 percent of the target rate. Under the bill as ordered reported by the Senate Committee on Finance, only one-half of the bonuses and penalties would be applied in the first two years of the program.

The limits would get progressively tougher over the years. First, the maximum payment would increase by only the dollar amount the target rate increases. Second, in calculating the

25. Hospitals that are the primary affiliates of medical schools would be in a separate category.

26. The bill would exclude from control capital and related costs, education and training program costs, energy costs, malpractice insurance costs, and the costs of interns, residents, and nonadministrative physicians.

27. Hospitals with relatively short average lengths of stay would get lower limits.

group averages, one-half of the costs above the limit would be excluded. Both would lower the limits from what they would otherwise be.

The bill would also establish a commission to study the system described above and make recommendations for altering it. For example, reimbursement limits could be tightened, or expanded to cover ancillary costs.

EFFECTS OF TALMADGE-DOLE

In its early years, any potential of Section 2 of the Talmadge-Dole bill to reduce federal outlays is basically eliminated by the new Section 223 regulations. Since both approaches limit reimbursement to 115 percent of the group mean, and since the Section 223 regulations begin a year earlier than the Talmadge-Dole approach, the penalties from the latter would not reduce federal outlays further. The incremental effect of the Talmadge-Dole bill on federal outlays depends on the effect of its bonus provisions.[28]

The bonus provisions would most likely increase rather than reduce federal outlays. The net effect depends upon how much hospitals are induced to lower their costs. The inducements are not likely to be large, because a cost-cutting hospital below the group mean would get a bonus of only 10 or 20 percent of its cost reduction.[29] It is difficult to estimate how nonprofit hospitals (which account for 93 percent of community hospital expenditures) would respond to the prospect of bonuses, but many have expressed doubts as to the effectiveness of such incentives. Therefore, most of the bonuses would go to hospitals that would have been below their group mean anyway. Since the bonuses for hospitals already below their group means would

28. This paper does not discuss the savings of other provisions of H.R. 934.

29. The average hospital derives 40 percent of its revenues from Medicare and the federal share of Medicaid. Bonuses are 50 percent of the amount per diem costs are below the group mean. In the first two years, bonuses would be cut in half.

probably be quite large, any reimbursement savings from bonus-induced cost reductions would most likely be far outweighed by the cost of the bonuses.

Relative to the old Section 223 regulations, the Talmadge-Dole bill would increase federal outlays in each year from 1981 through 1984, for a total cost of $430 million.[30] Since the new Section 223 regulations are more stringent, the increase in federal outlays will be higher

A potential advantage of the Talmadge-Dole approach is that it, like the Section 223 regulations now in effect, emphasizes comparisons between hospitals. As a result, it is potentially fairer than the Hospital Cost Containment Act of 1979, which incorporates much of past expenditure levels whether efficient or not. On the other hand, the techniques used to make the comparisons are limited in scope.[31] Until they are improved, fairness may be a significant problem.

In terms of the other criteria discussed in Chapter I, Section 2 of the Talmadge-Dole bill would have effects similar to those of the Section 223 regulations. Initially, it would have little, if any, effect on the quality of hospital care or on access to that care. As the penalties become more severe, however, impairments of hospitals' ability to improve quality could result, especially if more refined measures of comparison were not introduced. The bill would have some positive impact on hospitals' efficiency in providing routine services, although strong incentives would be limited to those hospitals severely penalized. The efficiency of ancillary services would not be addressed under the initial system.

The Talmadge-Dole bill would not increase red tape, since it would simply replace the present Section 223 regulations.

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30. Congressional Budget Office estimate. The assistance of the Office of the Medicare Actuary is gratefully acknowledged.

    The 1980 impact is negligible.

31. Note the criticisms of Section 223 and the efficiency adjustment of the Hospital Cost Containment Act of 1979 stated above.

CHAPTER IV. STATE EFFORTS TO CONTROL HOSPITAL COSTS

State cost control programs offer another approach to the control of hospital care expenditures. Roughly one-third of the nation's community hospitals have their rates, revenues, or budgets regulated at the state level. In 8 states the programs are legislatively mandated, while in 12 others private organizations such as Blue Cross or hospital associations perform the function voluntarily.[1]

Encouragement of state-level regulation of hospital revenues is an alternative to direct federal regulation. One way of encouraging these efforts is to exempt hospitals subject to state-level regulation from federal controls. This approach is incorporated in the Hospital Cost Containment Act of 1979. Another approach would be federal funding of some of the administrative costs of state-level programs, as specified in both the Hospital Cost Containment Act of 1979 and the Talmadge-Dole proposal. Still another way would be to allot the states a share of the Medicare savings attributable to their cost containment efforts. This approach could be used either in conjunction with federal regulation or as a substitute for it.

This chapter reviews state-level cost containment programs, focusing on their potential as substitutes for federal regulation and on the extent to which their methods of rate setting might serve as models for a federal program. Most attention is given to mandatory state-level programs, because only they tend to be considered as substitutes for federal regulation.

1. Data are from a January 1979 survey conducted by the American Hospital Association. The survey results have been updated to take account of Colorado's recent repeal of its program. Rhode Island's is treated as a mandatory program in order to maintain consistency with HEW cost containment analyses.

PROGRAM CHARACTERISTICS

The states employ a wide range of methods in setting hospital rates.[2] The programs vary along the following dimensions:

- o Payers Covered. Some governmental programs apply to revenues from all payers (for example, Maryland) while others (for example, Connecticut) have authority over only charge-paying patients. Most governmental programs regulate Medicaid reimbursements. Private sector programs usually regulate Blue Cross reimbursements and sometimes regulate charges to other private payers.

- o Formula vs. Budget Review. New York is the only program to rely exclusively on a formula to set reimbursement limits. In this case, a limit is based on the hospital's previous costs (actual or allowed), subject to a ceiling based on costs in similar hospitals. Budget review involves a less mechanical consideration of more detailed information on each hospital's operations. Programs often combine the two methods. Many budget review systems use formulas to screen hospitals for detailed review (for example, Washington, New Jersey, Connecticut). Maryland reviews all hospital budgets, but does so infrequently, using a formula to set rates for intermediate years.

- o Peer Comparisons. Most programs compare a hospital's costs to those of its peers. Usually the comparisons are made department by department, although New York makes comparisons for routine and ancillary costs per patient day. Programs tend to group hospitals for comparison on the basis of size and location, but a growing number are beginning to use complex statistical techniques that permit additional factors to be used to group hospitals.

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2. This section draws on descriptive materials in Abt Associates, Inc., National Hospital Rate Setting Study; Case Study Reports, prepared for the Health Care Financing Administration (HCFA). The cooperation of HCFA in allowing access to a draft of this study is gratefully acknowledged.

- o Treatment of Volume Changes. Many programs allow all volume changes, including both changes in the number of patient days and in the number of ancillary services, to augment revenue on a proportional basis. • In an attempt to induce hospitals to control volume, a number of programs limit passthroughs of volume changes. Often a corridor, or range, is established for volume changes that are passed through. Hospitals with changes greater than those permitted by the corridor have their revenues increased or decreased less than in proportion to the volume change. Typically, 25 to 60 percent of the volume change is translated into a revenue change. In place of a fixed corridor, Maryland uses a staff-developed projection of volume changes as a ceiling for the passthrough.

- o Capital Expense Reimbursement. Most programs treat interest and depreciation expenses as a passthrough, but there are interesting exceptions. Massachusetts allows depreciation based on replacement cost (instead of historical cost) for major movable equipment. Maryland has developed a capital facilities allowance that takes into account future bed needs and replacement costs.

Attractive Features of State Regulation Programs

Many state programs have features that appear superior to those of present; and proposed federal cost containment programs. Some of these features could be adopted for federal regulatory programs. The attractive features include:

- o Emphasis on refined interhospital comparisons,
- o More explicit treatment of fixed and variable components of costs,
- o Explicit attention to capital requirements, and
- o Flexibility.

Emphasis on Refined Interhospital Comparison. The state programs place more importance on interhospital comparisons and

use more sophisticated methods in doing so. There is less automatic acceptance of past levels of costs, which tends to put efficient hospitals at a disadvantage.

With the use of complex statistical techniques, large numbers of characteristics can be considered in grouping hospitals. This usually results in more homogeneous groups than those formed on the basis simply of bed-size and metropolitan/nonmetropolitan location, permitting interhospital comparisons to play a larger role in determining rates.

Some states include data on variations in case mix among hospitals, thus permitting better comparisons. Scheduled for implementation in New Jersey on January 1, 1980, is a system of diagnostic-related groupings (DRG), which classifies patients into groups that are homogeneous with respect to treatment costs. This would allow uniform payment rates per DRG case for all hospitals after adjustment for local market-basket prices. Initially, New Jersey plans to adjust the uniform rates according to each hospital's actual costs per DRG case, in recognition of the imperfect homogeneity within DRGs.[3]

Most state budget review programs compare costs by department on a per unit basis. This further improves efficiency comparisons. If hospital A has a more difficult case mix than hospital B, a comparison of laboratory expense per test will help to adjust for some of the cost differences associated with differences in case mix, since more difficult cases tend to have more tests.

More Explicit Treatment of Fixed and Variable Components of Costs. Hospital expenditures vary in proportion to permanent changes in volume of service, but less in proportion to temporary changes in volume.[4] State programs have done a great deal of experimentation in handling this problem, with the goal of

3. New Jersey State Department of Health, A Prospective Reimbursement System for New Jersey Hospitals, 1976-1978 (1978).

4. On the second point, see Lipscomb, Raskin, and Eichenholz, "The Use of Marginal Cost Estimates." On the first point, see Simon E. Berki, Hospital Economics (D.C. Heath, 1972).

avoiding incentives to increase volume while ensuring equitable treatment of hospitals. One technique is the corridor for volume changes discussed above. The theory behind such a scheme is that changes within the corridor are more likely to reflect long-term trends, while those outside the corridor are more likely to reflect temporary changes.

Maryland deals explicitly with planned and unplanned volume changes. The state cost commission projects volume for each department of each hospital on the basis of the prior year's actual volume, changes due to market area characteristics (for example, population growth), and changes due to internal hospital characteristics (such as medical staff changes). Actual volume changes below the projection result in proportional allowed revenue increases, but volume changes above the projection result in a less than proportional treatment. A lower factor is applied to ancillary services to discourage their growth.

Explicit Attention to Capital Requirements. Many state programs have separated out capital reimbursement for special treatment, for two reasons. First, most capital costs (interest, depreciation, retained funds) are based on past decisions and cannot be altered for some time by greater attention to efficiency. Second, regulation may reduce operating surpluses. As a result, careful attention must be given to a hospital's ability to finance needed facilities in the future.

State-level programs have shifted their emphasis from fair reimbursement of costs for existing facilities to the provision of adequate funding for needed facilities. Maryland, for example, besides providing for aggregate capital needs, also permits reallocation of resources to areas with the greatest needs and to those hospitals most likely to use them well.

Flexibility. State programs have shown a remarkable ability to change over time, becoming on the whole tougher and more sophisticated. Perhaps the major factor permitting such flexibility is the broad authority typically given to state commissions. In contrast, the Hospital Cost Containment Act of 1979 specifies in considerable detail the methods to be used in controlling expenditures, making it more difficult to introduce major improvements as new information becomes available. Since there is much uncertainty about the best way to regulate hospital costs, such flexibility is valuable.

Unattractive Features of State Regulation Programs

The record of state programs is not entirely positive. Not all of the attractive features discussed above are included in all of the programs. A number of negative features are found as well.

Bureaucracy and Red Tape. The budget review methods employed by most state programs tend to require more manpower than current federal programs have used, or than proposed federal programs envision. In addition, budget review involves more interference by regulators in the affairs of hospitals.

Leniency and Severity. Some state programs have been accused of being overly lenient. The budget reviewers' initial recommendations are often subject to negotiation, opening the process to hospital influence. On the other hand, New York's program, which is more stringent than the Hospital Cost Containment Act of 1979, has been criticized for being too tough. Critics allege that it has damaged the financial position of hospitals and, as a result, has impaired hospitals' ability to improve quality.

HAVE STATE LEVEL PROGRAMS SAVED MONEY?

A key issue is whether state hospital cost control programs have been effective in reducing expenditure growth. The question is not easy to answer since the best available studies are largely out of date. None use data from years more recent than 1975. Many of the current programs either have not been evaluated at all or have changed substantially since they were evaluated. For the older programs, early experience may not be indicative of present performance.

A simple regression study of the 1976-to-1978 period suggests that mandatory regulation has held expenditure growth to an annual rate three percentage points less than if there had been no regulation.[5] Voluntary regulation reduced annual expen-

5. Since all states had equal weight in this regression study, these results were not dominated by the experience of New York. Indeed, dropping New York from the analysis reduced the estimated effect of mandatory rate review by less than one-half of a percentage point.

diture growth by between one and two percentage points.[6] These results should be regarded with caution because of the very short period of time covered and the limited amount of detail about hospitals and their markets included in the study.[7]

OTHER EFFECTS OF STATE PROGRAMS

It is difficult to generalize about state plans because of the great diversity among them. State programs are in a good position to be fair. Their refined methods of comparison increase the chance of distinguishing between efficient and inefficient hospitals. The greater weight given to interhospital comparisons helps to reduce the difficulty of handling fluctuating year-to-year increases in hospital expenditures. The explicit treatment of capital replacement requirements also contributes to fairness in the sense that decisions made years ago will have less impact on how hospitals fare under regulation. Indeed, the separate treatment of capital costs removes one of the sources of the annual fluctuations in expenditure increases. On the other hand, fairness is hindered in the sense that capital costs in hospitals are often not fully reimbursed; this happens when a state cost commission finds no need for the investment, even though a hospital's performance may not have been inefficient.

Some state programs seem to foster improvements in efficiency by better targeting of penalties to inefficient hospitals. This gives them an incentive to cut costs through efficiency improvements rather than through reductions in new services. On the other hand, state programs tend to impose more red tape on hospitals than would the Hospital Cost Containment Act of 1979. Little is known about the effects of state programs on quality and access to hospital care.

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6. The latter result has more statistical uncertainty associated with it. A one-in-ten chance of no expenditure difference was indicated.

7. See Appendix C for details of this study and a review of studies using data from earlier years.

PROMOTING STATE COST CONTROL PROGRAMS

The Congress is now considering ways to give further federal encouragement to state programs. They may be promoted both as a complement of direct federal regulation and as an alternative to it. Specific methods of encouraging states to implement effective programs include:

- Providing an exemption from federal controls for hospitals subject to qualifying state programs;
- Granting states funds to cover the administrative costs of these programs; and
- Sharing with the states federal savings resulting from their programs.

The first approach is included in the Hospital Cost Containment Act of 1979 and the Talmadge-Dole bill. In the former, hospitals in states with mandatory cost control programs judged effective would be exempted. Eight states now have such programs. The legislation would induce other states to enact their own programs.

In order to prevent states from setting up programs without teeth in them, the Administration's proposal stipulates a number of requirements that a program must meet in order to gain an exemption for the state's hospitals. The major requirement is one of performance--that the rate of growth of community hospital expenditures in the state be within one percentage point of the federal guideline for that state. A performance standard is preferable to a set of procedural standards, since there has been too little experience with regulation of hospital revenues to develop a notion of which procedures are most effective. Even if procedural standards could be applied, it would be difficult to assess how closely they were adhered to. The application of the performance standard does, however, raise problems of its own. Specifically, some of the year-to-year variation in individual hospital expenditure growth that creates difficulties for federal regulation will also be encountered at the state level. A state may be within its performance standard over a period of a few years, but exceed it during a single year.

The Talmadge-Dole bill would exempt hospitals in states whose programs apply to the same hospitals and costs that are subject to the legislation, and keep Medicare and Medicaid reimbursements below what they would have been if subject to the provisions of the legislation. The problems in judging compliance are similar to those discussed above.

Another way for the federal government to encourage state programs would be to fund their administrative expenses. The version of the Hospital Cost Containment Act of 1979 reported by the Senate Labor and Human Resources Committee would provide $10 million for state programs. The version of the bill reported by the House Ways and Means Committee authorizes $10 million in fiscal year 1980 and such sums as may be necessary for the following three fiscal years. No state, however, could receive more than 50 percent of the costs of running its program. The Talmadge-Dole bill would provide funds for the start-up and operating costs of state cost control programs in proportion to the federal share of hospital expenditures in the state (on average, about 40 percent).

Incentives for states to implement their own plans would be increased if they were to receive a larger share of the savings from their efforts. At present, the only direct benefit to states is in their share of Medicaid hospital reimbursements, which amounts to only about 5 percent of hospital expenditure reductions. In contrast, the federal government receives about 40 percent of the savings through reductions in Medicare and Medicaid outlays--money that leaves the states.

Giving the states a large enough share of the Medicare savings to induce them to administer effective cost control programs could be expensive for the federal government. But the savings might be reclaimed through other channels without reducing state incentives, for example by withdrawing funds from general revenue sharing or by reducing block grants for health services.

A technical problem with such an option is determining what are the savings from each state program. A current policy expenditure growth path would have to be established, perhaps two to three percentage points above the state's guideline.

Giving states a share of savings from their own cost containment programs could be done either in conjunction with federal regulation or in place of it. In conjunction with federal controls, it could induce states to be more stringent than would be required by the performance standard. As a substitute for federal regulation, such an arrangement might induce enough states to undertake regulation on their own so that a federal regulatory apparatus would not be needed.

CHAPTER V. PROMOTING COMPETITION IN THE HOSPITAL INDUSTRY

One possible approach to cost containment in the hospital industry would be to promote more competition, chiefly by making patients more aware of the cost of medical services and by providing incentives to reduce hospital use. A number of proposals have recently been introduced in the Congress that would attempt to encourage economic competition through a greater use of cost sharing in health insurance and by inducing people to enroll in prepaid health plans such as health maintenance organizations (HMOs). These changes in the financing of health care would be accomplished by altering Section 106 of the Internal Revenue Code, which excludes from taxable income all contributions by an employer to employee health and accident plans.

This chapter focuses on two issues:

- Are proposals of this type likely to reduce hospital expenditures?
- Would adoption of one of these proposals reduce the attractiveness of regulation of hospital revenues?[1]

The chapter concludes that important savings in medical care expenditures might be achieved through encouraging competition, especially given a few years' time. But an important part of the savings from increased cost sharing would likely come in ambulatory care, such as physician services, mental health services, and dental services.[2] Additional enrollment in prepaid

1. A more comprehensive treatment of these proposals is included in Congressional Budget Office, Tax Subsidies for Medical Care: Current Provisions and Possible Alternatives (forthcoming).

2. The proposal of Congressman Jones (H.R. 3943) and, to a limited extent, that of Senator Schweiker (S. 1590) specifically mandate cost sharing for hospital services. A greater share of their savings would come in hospital expenditures.

health plans would bring about savings from reduced inpatient hospital revenues--but more from reductions in the number of hospital stays than from reductions in revenues per stay. For these reasons, legislation designed to encourage competition would not substantially reduce the attractiveness of regulatory proposals. The proposals to foster competition have important merits in their own right, but they tend to be complementary to regulation of hospital revenues rather than substitutes for it.

THE PROPOSALS

The proposals attempt to induce people to choose health insurance plans that have lower premiums. The premiums could be lower for any of several reasons. The plans might include (1) fewer benefits or (2) higher deductibles or (3) coinsurance. With higher deductibles, patients would have to pay a fixed amount (say $200) before the insurance would apply. With coinsurance, patients would have to pay a fixed percentage (say 25 percent) of the hospital bills. Alternatively, the low-cost premium plan could be a prepaid plan (such as an HMO) in which patients pay a set fee to receive all needed medical services (at the direction of a member physician).[3] In such a plan, physicians have incentives to avoid the unnecessary use of medical services.

The legislative proposals all place restrictions on the exclusion from income tax of employer contributions to health plans. They use a variety of methods to promote the choice of low-premium health plans (see Table 11).[4] First, most of the proposals require that employers make health benefit contributions in the form of an equal or a fixed dollar amount that does not increase with the choice of a high premium. For example, if an employer pays the full costs of health plans with premiums of $800 and $1,200, the employees who choose the $800 plan must receive an extra $400 in cash or other fringe benefits. Such a

3. Some prepaid plans have small copayments.

4. Many of the proposals have provisions not specifically related to the promotion of competition, such as mandating catastrophic health insurance coverage by employers. These types of provisions are not discussed in this paper.

TABLE 11. CHARACTERISTICS OF LEGISLATIVE PROPOSALS TO INCREASE COMPETITION THROUGH HEALTH FINANCING REFORM

Legislative Proposal	Characteristics
Congressman Jones (H.R. 3943)	Requires all health plans to have 15 percent coinsurance for hospital expenses, with copayment limited to 20 percent of income.
Congressman Ullman (Press Release, June 7, 1979)	Equal employer contribution to different health plans offered. Employees get cash for choosing a plan with a premium less than employer contribution. Employer must offer HMO, or low-option when HMO not available. Tax-excludable contribution limited to premium of lowest cost HMO plan offered, or national median HMO premium.
President (National Health Plan, Press Release, June 12, 1979)	Equal employer contribution to different health plans offered. Employees get other fringe benefits for choosing a plan with a premium less than the employer's contribution. Employer must offer all HMO plans in area.
Senator Durenberger (S. 1485)	Equal employer contribution to different health plans offered. Employees get cash or other benefits for choosing a plan with a premium less than employer contribution. Employer must offer choice of three plans, two of which must be HMOs or qualified insurance plans. Tax-excludable contribution limited to national average HMO premium.
Senator Schweiker (S. 1590)	Equal employer contribution to different health plans offered. Employees get tax-free or other benefits for choosing a health plan with a premium less than the employer contribution. Employer must offer choice of three plans, one of which must have 25 percent coinsurance for hospital services with copayment limited to 20 percent of income. Tax-excludable contribution limited to the premium on the most expensive plan chosen by at least 10 percent of employees.

NOTE: Some of these proposals include other types of provisions such as mandating employer's provision of catastrophic insurance. These are not noted here.

stipulation would ensure that employees benefit financially when they choose a low-premium health plan. Under one. of the proposals, employees would receive the premium difference in the form of tax-free income, giving them further incentive to choose a low-premium plan. Second, many of the proposals would require employers to offer a choice of health plans. Third, some of the proposals place a cap on the amount of the employer contribution that could be excluded from taxes. Such a limit would increase the attractiveness of low-premium plans to employees as compared with plans having premiums above the cap. Fourth, all of the proposals prescribe to some extent the type of health plans that can be offered. The proposal of Congressman Ullman would require that employers offer either a federally qualified HMO or a low-premium insurance plan. In contrast, Congressman Jones' proposal would require employer-offered health plans to have a coinsurance rate of at least 25 percent for hospital services.

THE EFFECT OF THE PROPOSALS ON SAVINGS

The proposals would, in varying degree, reduce expenditures on hospital care. These savings would result from the following chain of events. Some employees would choose health insurance contracts with more cost-sharing provisions or enroll in prepaid health plans.[5] The additional cost sharing should reduce hospital expenditures directly by reducing hospital utilization. For example, increasing coinsurance from zero to 25 percent might reduce hospital utilization by 17 percent.[6] Hospital expendi-

5. This effect would result from the increase in the net price to the employee of additional insurance, or from the additional choices offered. See Charles E. Phelps, The Demand for Health Insurance; A Theoretical and Empirical Investigation (Santa Monica: Rand, 1973), for estimates of the degree of sensitivity of insurance purchases to net cost of coverage.

6. Estimates calculated from results in Joseph P. Newhouse and Charles E. Phelps, "New Estimates of Price and Income Elasticities" in Richard Rosett, ed. The Role of Health Insurance in the Health Services Sector (New York: National Bureau of Economic Research, 1976), pp. 261-312.

tures might also be reduced indirectly through increased price competition among hospitals.[7] Because physicians in prepaid plans such as HMOs have incentives to minimize the use of hospital facilities, the shift to enrollment in such plans would also reduce hospital expenditures. In a thorough review of the literature, Harold Luft concluded that physicians in prepaid group practices hospitalize their patients 25 to 45 percent less than fee-for-service physicians.[8] Increased enrollment in prepaid plans might pressure other physicians to form competing groups, accelerating enrollment growth in prepaid plans.[9] Prepaid plans, as purchasers of hospital services in bulk, might be able to increase price competition among hospitals.

These proposals would also reduce expenditure growth outside of the hospital. Dollar limits on premiums eligible for a tax exclusion could discourage extensive dental benefits, mental health benefits, and full coverage of outpatient physician services. Since utilization of these services has been shown to be sensitive to the out-of-pocket price, the reduction in expenditure growth could be substantial. Similar results could be achieved with the fixed contribution proposal, but only if employees were offered an option with a premium as low as the dollar limitation discussed above.

While the proposals would tend to reduce hospital expenditures, the reduction might not be very large, at least in the short run. First, large increases in cost sharing by patients--a key to reducing hospital utilization--might not occur. Mandating a choice of plans by employees along with fixed employer

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7. The effect of coinsurance on hospital prices has been difficult to measure. Martin S. Feldstein, "Quality Change and the Demand for Hospital Care," Econometrica, vol. 45 (1977), pp. 1681-1702, found substantial price effects.

8. Harold S. Luft, "HMOs and Medical Costs: The Rhetoric and the Evidence," New England Journal of Medicine, vol. 298 (June 15, 1978), pp. 1336-43.

9. This appears to have happened in the Minneapolis-St. Paul area. See Jon B. Christianson and Walter McClure, Competition in the Delivery of Medical Care (Interstudy, September 27, 1978).

contributions does not guarantee that any of the plans offered would have extensive cost sharing.[10] Even if such a plan was offered (as required by the Ullman and Schweiker proposals), it is difficult to predict how many employees would choose it.[11] Given the complexity of health insurance and people's lack of experience in making such choices, a shift to policies with extensive cost sharing would, if it occurred at all, probably come slowly.

Second, should cost sharing increase, it would likely come within benefits for services other than inpatient hospital care, such as mental health care, dental care, or outpatient physician services. The difference between more expensive and less expensive insurance contracts tends to be in their coverage for non-hospital services. Since hospital coverage was the first to be adopted historically, principally because of the greater financial risks involved, it would probably be the last coverage reduced.

The proposal of Congressman Jones attempts to counter this tendency by requiring coinsurance of hospital charges. But this would increase the financial risks of those insured to such a degree that many people would probably purchase supplemental insurance, even though the premiums would have to come from their after-tax pay. The proposal of Senator Schweiker would

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10. Discussions with health benefit actuaries indicate that at present few employees are offered a choice among employer-paid insurance contracts. The Federal Employees Health Benefits Program is a major exception.

11. The Federal Employees Health Benefits Program (FEHBP) has offered meaningful choice for many years, and some participants have chosen low-option plans. For the government-wide plans, low options were chosen by 16 percent of those covered in 1977. See Office of Personnel Management, Federal Fringe Benefit Facts - 1978, Tables D-4 and D-5. But FEHBP is not a prototype for these proposals because the contribution by the federal government is not fixed. Instead, the federal government pays a percentage of the premium, so that choosing a low-option plan means giving up some of the federal subsidy. Presumably, a higher proportion of employees would choose low- option plans under a fixed contribution arrangement.

require employers to offer at least one plan including coinsurance of hospital charges, but few are likely to choose such an option.

Enrollment in prepaid plans is likely to increase as a result of some of the proposals. Many prepaid plans will benefit from the fixed contribution requirement as their premiums are often lower than those for comprehensive traditional insurance policies.[12] While employers are already required to offer federally qualified HMOs when one is prepared to handle the business (P.L. 93-222), the requirement in many of the proposals is likely to have an effect because of greater incentives to comply (the risk of losing the privilege of tax exclusion of contributions).

There are reasons, however, to doubt that growth in prepaid health plan enrollment induced by these proposals will have a substantial effect on national hospital expenditures in the near term. For one thing, prepaid health plan enrollment is already growing rapidly--by 18 percent per year--under current policy.[13] For the proposals to have an impact, enrollment growth would have to increase from this level.

Difficulties on the supply side may reduce the ability of prepaid plans to expand rapidly enough to play a major role in hospital cost containment in the near term. There are limitations on the internal growth of an HMO. A prepaid group practice HMO probably cannot grow much faster than 10 percent per year. Overall expansion can be more rapid, however, when fee-for-service physicians convert part of their practices to a

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12. In 1978, the average monthly premium per family for prepaid health plans was $95. In contrast, the average monthly premium per family for FEHB government-wide high-option plans was $107. The premium difference probably understates the difference in full costs to the consumer since the prepaid plan usually has less cost sharing and often covers additional types of services.

13. U.S. Department of Health, Education, and Welfare, National HMO Census of Prepaid Plans, 1978.

prepaid basis.[14] Indeed, enrollment in prepaid plans in the Minneapolis-St. Paul area grew at an average annual rate of 27 percent over the period from 1971 to 1977, mostly from conversion of existing practices.[15] Nevertheless, since only 3 percent of the insured persons in the country are enrolled in prepaid plans, even a national growth rate paralleling that of Minneapolis-St. Paul would require a long time before a substantial part of the population would be covered by prepaid plans.[16]

COMPETITIVE PROPOSALS AND REVENUE REGULATION

Enacting one or another of the competitive proposals would not foreclose the adoption of proposals to regulate hospital revenue, such as the Hospital Cost Containment Act of 1979, at least in the near term. While the competitive proposals have important merits, the savings in hospital revenues they might expect to generate in the first five years would be substantially lower than those estimated for any of the three versions of the Hospital Cost Containment Act of 1979. To the extent that one wants to achieve large hospital savings over the near term, the competitive proposals do not obviate the attraction of regulation of hospital revenues.

Moreover, the savings from competition and revenue regulation are to some extent additive. Much of the hospital savings from greater competition would come from reductions in utilization (fewer and shorter hospital stays), while most of the savings expected from regulation would stem from reductions in the rate of growth of costs per admission. In addition, an important part of the impact of many of the proposals to increase competition would occur outside of hopsitals. Thus, savings resulting from increased competition would not reduce substantially the savings expected from regulation. Finally, most of the savings expected to result from increased competition would go to nonfederal purchasers of hospital care.

14. Such conversions ease demand constraints as well by permitting individuals to enroll in prepaid plans without changing family physicians.

15. Christianson and McClure, Competition in the Delivery of Medical Care.

16. HEW, National HMO Census.

Just as the competitive proposals would not eliminate the benefits from revenue regulation, the regulation of hospital revenue would not diminish the value of the competitive proposals, particularly in the long run. Competition is a broader approach, influencing not only unit costs but hospital utilization and expenditures in the rest of the medical care sector. Even in the area of hospital unit costs, it has the potential of plugging some of the gaps left by revenue controls. Moreover, should increased competition be particularly effective at reducing hospital price increases, the existence of a regulatory ceiling would not prevent such forces from working.

APPENDIXES

APPENDIX A. TECHNICAL NOTES ON THE VOLUNTARY EFFORT STUDY

THE MODELS

Two econometric time series models were used to assess the effect of the Voluntary Effort (VE) on hospital expenditures. This appendix discusses the basis for the models, the data employed, and the results obtained.

The models are based on two perspectives as to the behavior of hospital expenditures. The first is that variables such as the VE, mandatory controls, or the amount of insurance coverage influence the level of hospital expenditures. For example, the use of controls might ultimately reduce expenditures by a certain percentage. This might be brought about through more aggressive purchasing, lower levels of staffing, the operation of facilities more hours per week, a decline in wage levels relative to those outside of the hospital sector, and so forth. The second perspective is that these variables influence the rate of growth rather than the level of hospital expenditures. They might do this by reducing the rate of growth of service intensity, the size of wage increases, and so forth.

Each perspective suggests its own model of hospital expenditures. Past studies of the economic behavior of hospitals do not clearly favor either perspective, so a model appropriate to each was estimated.[1]

The model appropriate to the first perspective assumes that the impact of the VE is felt over a period of time, the consequence being that expenditures are lower than they would otherwise have been by a certain percent. The long-term impact of

1. The statistical goal of the VE is a reduction in the rate of increase of expenditures (from 15.6 percent to 11.6 percent over two years). Many examples of VE success discussed by its proponents, however, have to do with cutting waste, which is consistent with the first perspective.

the VE on the level of expenditures is estimated to be 3.2 percent.[2] The standard error is 6.7 percent, implying roughly a one-in-three chance that there is no VE effect at all. Nevertheless, 3.2 percent is the most likely magnitude of the long-run effect.[3]

The model appropriate to the second perspective estimates a reduction in the rate of increase in expenditures of 2.2 percentage points. The standard error of 2.0 percentage points implies a smaller degree of uncertainty than that of the first model, or a one-in-six chance that there is no VE effect at all.

Data and Specification

The data base for both of the models was the National Hospital Panel Survey conducted by the American Hospital Association. Although these data were available on a monthly basis, they were aggregated to quarterly data for the purpose of this analysis, since none of the other data used were available more frequently than quarterly. The time period used for estimation was 1964:1 through 1978:4.

The first model (VE reduces the level of expenditures by a certain percent) had the logarithm of expenditures as the dependent variable and used a Koyck distributed lag to approximate a process of partial adjustment. Addition of the lagged dependent variable was found to be highly significant and improved the fit of the equation dramatically. It also eliminated a serious autocorrelation problem.

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2. The VE effect is somewhat smaller than that estimated in an earlier CBO analysis. The source of the difference is the use of a more refined index of hospital market-basket prices not previously available. The present estimates also make use of an additional quarter of data, but this did not effect the results materially.

3. Some time will elapse before the full long-run effect is realized. During 1979, roughly two-thirds of the effect will be realized.

The second model (VE reduces the rate of growth of expenditures) used the percentage change in expenditures from the previous quarter as the dependent variable. All of the independent variables were in this form with the exception of percent of third-party payment, which entered as a level as well as a rate of change, and the binary variables, which entered only as levels. Each model had the same independent variables, although they were used in different forms (see Table A-1).

TABLE A-1. VARIABLES AND SOURCES

Variable	Source
Occupancy Rate	Panel
Average Length of Stay	Panel
Adjusted Patient Days	Panel
Percent Third-Party Payment	Unpublished tabulations from Health Care Financing Administration (HCFA)[a]
Compensation per Manhour	U.S. Department of Commerce
Hospital Nonlabor Input Price Index	Weights from American Hospital Association, prices from CBO economic model
Binary Variables	
Economic Stabilization Program (1971:3 - 1974:1)	
Medicare (1966:3 - 1978:4)	
Voluntary Effort (1978:1 - 1978:4)	
Mandatory control threat (1977:2 - 1978:2)	
First quarter	
Second quarter	
Third quarter	

a. These are revisions of published National Health Expenditures data. They were further revised by CBO to better describe community hospital financing.

The results are displayed in Table A-2.

TABLE A-2. REGRESSION RESULTS

Dependent Variable	Lagged Dependent	VE	Threat
Log Total Expenditures	0.87 (20.9)	-0.0042 (0.5)	-0.0048 (0.9)
Percent Change, Total Expenditures	--	-2.2 (1.1)	-2.2 (1.1)

NOTE: t-statistics in parentheses.

Using the criteria of stability of results in the face of minor changes in specification and normalized mean squared error, the first model is more reliable. For this reason, estimates of the impact of the VE were derived from it. The second model is important, however, in demonstrating the robustness of the VE result in the face of major changes in specification.

A forecast of hospital expenditures in 1979 was obtained by extrapolating data for average length of stay, adjusted patient days, and percent third-party payment from the period 1970:1 through 1978:4. The occupancy rate was forecast as constant. Compensation per manhour and the nonlabor input price index were forecast on the basis of CBO economic assumptions. In light of the recent introduction of the Administration's bill, the forecast assumes a threat of mandatory controls for the second and third quarters of 1979. The forecast results are presented in Chapter II (Table 2).

APPENDIX B. INFLATION IMPACT OF THE HOSPITAL COST CONTAINMENT ACT OF 1979: METHODOLOGY AND DETAILS

Appendix B presents inflation impact estimates for three versions of the Hospital Cost Containment Act of 1979: the bill as originally introduced (hereafter the original bill), the bill as reported by the House Committee on Ways and Means (hereafter H.R. 2626/WM), and the bill as reported by the Senate Labor and Human Resources Committee (hereafter S. 570/LHR). The methodology was developed in CBO's previous inflation impact statements on hospital cost containment. [1]

INFLATIONARY IMPACT

Should revenue controls begin January 1, 1980, as assumed in the proposals, the program's impact on the fiscal year 1980 increase in the Consumer Price Index (CPI) would be negligible for all three versions of the bill. By fiscal year 1984, however, the original bill could reduce the cumulative increase in the CPI by slightly more than 0.3 percentage point, H.R. 2626/WM by about 0.2 percentage point (about 0.3 percentage point if the controls are effective for the full five years), and S. 570/LHR by slightly less than 0.4 percentage point. Exceptions and offsetting increases in other health expenditures, however, could reduce the impact of the program somewhat under any of the three bill versions.

1. CBO released an inflation impact estimate of the original bill (H.R. 2626 and S. 570 as introduced) in May 1979. The inflation impact of the bill as reported by the House Committee on Ways and Means was reestimated in August 1979. Results for the original bill and the Ways and Means versions (H.R. 2626/WM) are modified from the previous estimates to reflect changes in the economic outlook and their effect on prospective savings from the bill's provisions. In addition, the estimate of the original bill will differ slightly from the May estimate because of minor refinements that were made in imputing the portion of the Consumer Price Index influenced by changes in hospital services costs.

TABLE B-1. POTENTIAL IMPACT OF HOSPITAL COST CONTAINMENT

	1980	1984
Original Bill		
Annual Rate of Inflation (percentage point)	0	-0.1
Cumulative Increase in CPI (percentage point)	0	-0.3
Annual Health Care Expenditures (billions)	-1.0	-9.8
H.R. 2626/WM		
Annual Rate of Inflation (percentage point)	0	0 (-0.1)[a]
Cumulative Increase in CPI (percentage point)	0	-0.2 (-0.3)[a]
Annual Health Care Expenditures (billions)	-0.9	-4.7 (-8.4)[a]
S. 570/LHR		
Annual Rate of Inflation (percentage point)	0	-0.1
Cumulative Increase in CPI (percentage point)	0	-0.4
Annual Health Care Expenditures (billions)	-1.1	-11.3

a. The controls for this version expire December 31, 1983. Figures in parentheses represent impacts if the bill were to run the full five years.

SUMMARY OF INFLATION IMPACTS

More than 80 percent of total expenditures on hospital care is paid by government or by employer financial insurance plans. Individuals pay directly only a small portion of hospital charges and insurance premiums. This means that a reduction in hospital expenditures will have little direct effect on the Consumer Price Index (CPI), which measures only direct consumer expenditures. There will, however, be substantial indirect effects operating primarily through changes in employer insurance costs and to a lesser extent through changes in government

spending. These indirect effects account for about three-fourths *of* the total impact estimate for H.R. 2626/WM and two-thirds for the original bill and S. 570/LHR.[2]

The direct impact on the CPI occurring through lower prices paid directly by consumers for hospital services and health insurance would likely reduce the cumulative increase in the CPI through fiscal year 1984 by somewhat under 0.1 percentage point for H.R. 2626/WM (about 0.1 percentage point for the full five years) and somewhat more than 0.1 percentage point for the other two versions. Furthermore, the reduction in the rate of increase of employee compensation resulting from a slowing of employer expenditures on health insurance might cause the cumulative CPI increase through fiscal year 1984 to be lower by another 0.1 percentage point for each version. In addition, the bills would reduce federal expenditures significantly. While this would have some effect on the CPI, its impact on the cumulative increase in the CPI through fiscal year 1984 would likely be less than 0.1 percentage point. Finally, wage-price feedback effects would further reduce the cumulative CPI increase through fiscal year 1984 by nearly 0.1 percentage point for H.R. 2626/WM (slightly more than 0.1 percentage point for the full five years) and somewhat more than 0.1 percentage point for the original bill and S. 570/LHR. Therefore, the total hospital cost containment CPI impact should be about a 0.2 percentage-point reduction in the cumulative increase through fiscal year 1984 for H.R. 2626/WM (about 0.3 percentage point for the full five years), slightly more than 0.3 percentage point for the original bill, and slightly less than 0.4 percentage point for S. 570/LHR.

The impact of the bill could, however, be less than that implied by the reduction in inpatient revenues. Hospitals might attain the target revenue reductions in a number of ways, such as by shifting some services into uncovered outpatient areas and

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2. The direct consumer effect on the cumulative CPI increase is a smaller proportion of the total impact for H.R. 2626/WM because this version removes controls at the end of the first quarter of fiscal year 1984, whereas controls remain through fiscal year 1984 for the other versions. If H.R. 2626/WM were effective for the full five years, the indirect effects would be about two-thirds of the total inflation impact.

reducing the quantity of some services. Some of these responses could generate offsetting increases in outpatient or nonhospital health expenditures. Furthermore, some hospitals would be granted financial hardship exceptions that would directly reduce the impact of the program.

Macroeconomic Price Effects of Hospital Cost Containment

The savings from cost containment, which were estimated in Chapter III, could affect overall consumer prices in three ways:

- The rate of increase of prices for hospital services might be reduced. This should have the effect of reducing the rate of increase of the medical care services component of the CPI. The CPI, of course, takes into account explicitly only the proportion of hospital services and health insurance paid for directly by consumers. Thus the largest components of payments for hospital services and health insurance--those made by the government and employers--have no direct impact on the CPI.

- Employer costs might be reduced. A large portion of payments for hospital services (about 40 percent) are covered by employer payments (including health insurance payments). Thus if hospital cost containment affected the cost of medical services, the increase in total compensation paid by employers would be less. Unless this were offset by increases in other forms of compensation, unit labor costs would rise more slowly, reducing the cost pressure on prices in general.

- Costs to the federal government might be reduced. Federal government payments cover about 40 percent of hospital services. To the extent that these payments were held down by hospital cost containment and not matched by tax cuts, the federal deficit would be reduced. This would tend to reduce aggregate demand and hence, to some extent, inflation. Another approach may affect prices more directly. Federal government payments for Medicare are financed from payroll tax revenues. If the savings from payroll tax revenues were offset in whole or in part by a reduction in the payroll tax, such a tax cut would reduce unit labor cost pressures on prices.

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Assumptions

The calculation of the bill's direct impact on inflation is affected by several assumptions.

- The employer share of nonfederal savings for inpatient hospital services is assumed to be about 50 percent, about equal to the employer share of nonfederal expenditures. Based on fiscal year 1977 expenditure data, the amount of state and local government Medicaid savings is assumed to be about 80 percent of federal Medicaid savings. Total state and local government savings are assumed to be about twice their Medicaid savings.

- Any reduction in health insurance payments is assumed to be passed through to individuals or employers paying the premiums, with a lag of about one year. The direct impact on the CPI, however, of a reduction in health insurance payments by individuals is immediate because the CPI measure of health insurance is based on prices paid by insurers, rather than premiums paid by individuals.

- One half of the savings in total hospital revenues is assumed to be achieved through lower prices and the other half through reduced admissions and services per admission. The percentage impact of hospital cost containment on the price of hospital services as measured by the CPI would therefore be equal to half of the percentage effect on total hospital revenues. The inflation impact estimates are not highly sensitive to this assumption, since most of the impact on the CPI is an indirect impact caused by reduced total employer and government expenditures.

- Any reduction in the rate of increase of employer costs for health insurance is assumed to be fully passed through to product prices. Since labor costs are about two-thirds of total production costs, a one percentage-point reduction in compensation growth is assumed to result in a two-thirds percentage-point reduction in growth of prices. This assumption may be too strong because in some cases the easing of health insurance costs may be offset by increases in other forms of compensation.

Quantitative Estimates of Price Impacts

Both federal savings, broken down into Medicare and Medicaid savings, and nonfederal savings under hospital cost containment were given in Chapter III. In order to estimate the price impact, it is necessary to break the nonfederal savings down into employer, consumer, and state and local government components. The assumptions listed above were used to estimate the employer and state and local government components; the consumer savings were then estimated as a residual. This breakdown of savings is presented in Table B-2. Quantitative estimates of the three different CPI impacts described above follow. The savings accruing to state and local governments are relatively small and would have a negligible impact on prices.

Medical Care Service Price Impact. The impact of hospital cost containment on the price of hospital services was assumed to be one-half of the impact on total hospital revenues. For the original bill, this should reduce the fiscal year 1980 increase in the medical care services component of the CPI by 0.3 percentage point and would reduce the cumulative increase through fiscal year 1981 by 0.7 percentage point. For H.R. 2626/WM and S. 570/LHR, the fiscal year 1980 impacts are 0.2 and 0.3 percentage points respectively, and for fiscal 1981 they are 0.5 and 0.8 percentage points respectively. The relative importance of medical care services in the CPI is 4.1 percent; hence, the corresponding effects on the total CPI would be negligible through fiscal year 1981, and for all bill versions there would be about 0.1 percentage point reduction in the cumulative increase through fiscal year 1984. The impacts are summarized in Table B-3.

Compensation Impact. The impacts on compensation were calculated by estimating total savings to employers and then taking these as a percentage of estimated total private compensation for fiscal year 1979. By fiscal year 1984, hospital cost containment would reduce the cumulative increase in compensation by somewhat more than 0.1 percentage point for H.R. 2626/WM, by somewhat less than 0.2 percentage point for the original bill, and by about 0.2 percentage point for S. 570/LHR. The corresponding price effect would be about a 0.1 percentage point reduction in the cumulative increase of the CPI through fiscal 1984 for all three versions. These impacts are summarized in Table B-4.

TABLE B-2. ESTIMATED ANNUAL REDUCTION IN EXPENDITURES UNDER HOSPITAL COST CONTAINMENT, BY FISCAL YEAR: IN BILLIONS OF DOLLARS

Fiscal Year	Federal			Nonfederal			
	Medicare	Medicaid	Total[a]	State and Local Government[b]	Employers[c]	Consumers	All Expenditures[a]
				Original Bill[d]			
1980	0.3	0.1	0.3	0.1	0.4	0.3	1.0
1981	0.8	0.1	0.9	0.2	0.8	0.6	2.6
1982	1.4	0.2	1.6	0.4	1.3	1.0	4.3
1983	2.4	0.4	2.8	0.6	2.0	1.4	6.8
1984	3.6	0.5	4.1	0.9	2.8	2.0	9.8
				H.R. 2626/WM			
1980	0.3	e	0.3	0.1	0.3	0.2	0.9
1981	0.7	0.1	0.8	0.2	0.6	0.4	2.0
1982	1.2	0.2	1.4	0.3	1.0	0.7	3.4
1983	2.1	0.3	2.4	0.5	1.6	1.1	5.6
1984[f]	1.8	0.3	2.0	0.4	1.3	1.0	4.7
	(3.2)	(0.5)	(3.6)	(0.8)	(2.4)	(1.6)	(8.4)
				S. 570/LHR			
1980	0.3	0.1	0.4	0.1	0.4	0.3	1.1
1981	0.9	0.2	1.1	0.3	1.0	0.7	3.0
1982	1.7	0.3	1.9	0.4	1.6	1.1	5.1
1983	2.8	0.4	3.2	0.7	2.4	1.7	8.0
1984	4.1	0.6	4.7	1.0	3.3	2.3	12.3

SOURCE: Based on estimates contained in Chapter III.

a. Components may not sum to total because of rounding.

b. Does not include deficits of state and local government hospitals.

c. For purposes of calculating the impact of these savings on compensation, it is assumed that the savings do not actually reach the employer until a year later.

d. The savings estimates for the original bill differ from those used in the previous inflation impact statement because revised economic assumptions were incorporated into this paper. See Chapter III.

e. Less than 0.05.

f. Figures in parentheses are savings if the program were to run for the full five years.

TABLE B-3. DIRECT IMPACT OF HOSPITAL COST CONTAINMENT ON COMPONENTS OF THE CONSUMER PRICE INDEX, FISCAL YEARS 1980-1984: CUMULATIVE PERCENTAGE CHANGE FROM 1979

	Original			H.R. 2626/WM			S. 570/LHR		
Fiscal Year	Hospital Services[a]	Medical Care Services	All Items	Hospital Services[a]	Medical Care Services	All Items	Hospital Services[a]	Medical Care Services	All Items
1980	-0.8	-0.3	b	-0.7	-0.2	b	-0.8	-0.3	b
1981	-1.9	-0.7	b	-1.4	-0.5	b	-2.2	-0.8	b
1982	-3.2	-1.1	-0.1	-2.5	-1.0	b	-3.8	-1.4	-0.1
1983	-5.1	-1.8	-0.1	-4.2	-1.5	-0.1	-5.9	-2.2	-0.1
1984[c]	-7.3	-2.6	-0.1	-3.5 (-6.2)	-1.3 (-2.3)	-0.1 (-0.1)	-8.4	-3.1	-0.1

NOTE: Growth of impact over time in All Items category not apparent because of rounding.

a. Constructed from the hospital services component of the CPI category for medical care services.

b. Rounds to 0.0.

c. Figures in parentheses represent inflation impacts if the program were to run for the full five years.

TABLE B-4. IMPACT OF HOSPITAL COST CONTAINMENT ON EMPLOYEE COMPENSATION AS REFLECTED IN THE CONSUMER PRICE INDEX, FISCAL YEARS 1981-1984: CUMULATIVE PERCENTAGE CHANGE FROM 1979

Fiscal Year	Original Bill		H.R. 2626/WM		S. 570/LHR	
	Savings	CPI	Savings	CPI	Savings	CPI
1981[a]	b	b	b	b	b	b
1982	-0.1	b	b	b	-0.1	-0.1
1983	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
1984	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1

NOTE: Growth of impact over time in some categories is not apparent because of rounding.

a. Fiscal year 1980 not included because of one year lag in hospital insurance savings.

b. Rounds to 0.0

Federal Savings Impact. If taxes were not reduced, hospital cost containment, as can be seen in Table B-2, would have an effect on the federal deficit. By fiscal year 1984, the reduction in the deficit would reach $4.1 billion, $2.0 billion ($3.6 billion for the full five years), and $4.7 billion for the original bill, H.R. 2626/ WM, and S. 570/LHR respectively. While large in money terms, the impact of this on the cumulative increase of the CPI through fiscal year 1984 is likely to be less than 0.1 percentage point.

By fiscal year 1984, between $1.8 billion and $4.1 billion (depending on the bill version) of the annual federal savings would be in Medicare payments, which are financed by payroll tax revenues. One alternative to reducing the deficit would be to cut payroll taxes by the amount of Medicare savings. Assuming

such a cut were spread evenly between employee and employer contributions, it would reduce the cumulative increase in the CPI through fiscal year 1984 by less than 0.1 percentage point for H.R. 2626/WM (about 0.1 percentage point for the full five years), about 0.1 percentage point for the original bill, and somewhat more than 0.1 percentage point for S. 570/LHR.

Adding together the direct consumer impact and the indirect employee compensation and federal deficit effects results in a negligible impact on the cumulative increase in the CPI through fiscal year 1981 for all bill versions. Through fiscal year 1984, however, these effects would result in a 0.2 percentage-point reduction in the cumulative increase in the CPI for the original bill. Correspondingly, the reductions in the cumulative increase in the CPI through fiscal year 1984 for H.R. 2626/WM would be somewhat less than 0.2 percentage point (somewhat more than 0.2 percentage point for the full five years), and somewhat less than 0.3 percentage point for S. 570/LHR. Wage-price feedback effects are estimated to be somewhat less than 0.1 percentage point for H.R. 2626/WM (slightly more than 0.1 percentage point for the full five years), and somewhat greater than 0.1 percentage point for the original bill and S. 570/LHR. Thus the total effect of hospital cost containment on the cumulative increase in the CPI through 1984 would be a reduction of slightly more than 0.3 percentage point for the original bill, 0.2 percentage point for H.R. 2626/WM (about 0.3 percentage point for the full five years), and slightly less than 0.4 percentage point for S. 470/LHR. Alternatively, if Social Security payroll taxes were cut by an amount equal to Medicare savings, the reduction would be larger by less than 0.1 percentage point for H.R. 2626/WM (about 0.1 percentage point for the full five years), about 0.1 percentage point for the original bill, and somewhat more than 0.1 percentage point for S. 570/LHR.

Factors That Might Reduce the Impact

A number of factors might reduce the impact of the bills, but these are difficult to quantify. They include the extent to which some hospitals would be granted financial hardship exceptions, the extent to which services would be shifted from hospital inpatient to other unregulated forms of delivery, and the

possible effects of the program on physicians' fee levels.[3] Additional states might also adopt mandatory programs of their own, because their hospitals would then be subject to more lenient constraints.

The financial hardship exceptions could be significant because hospitals might not be able to reduce their costs as much as their revenues would be reduced.[4] The possibilities of financing this shortfall through hospital deficits are limited by the size and assets of the covered hospitals. It is conceivable that several billion dollars could be obtained by absorbing current operating surpluses and deferring depreciation and maintenance of hospital physical plant, although this implies higher future expenditures and/or deteriorating facilities. Actual deficits would not be spread evenly among hospitals and, to the extent that an individual hospital experienced a severe financial hardship, it would be likely to receive an exception. These exceptions would, of course, directly reduce the impact of the program.

Another sizable fraction of the savings would have to come from reducing the quantities of certain inpatient services relative to what they would have been. Some of these services would simply not be performed at all; others would be performed on an

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3. A large fraction of the savings would be likely to come from reducing technological investments that improve physicians' productivity. An example is the CAT scan, which greatly reduces the amount of physician time needed to make some diagnoses, as well as the physical pain and medical risk borne by the patient under a number of alternative procedures. To the extent that this occurs, the effective supply of physicians' services will be lower than it otherwise would have been. If the demand for their services is unaffected, the effect would be a higher level of physician fees than would otherwise have resulted. The opposite result would occur to the extent that the eliminated services reduced the demand for physicians' services more than their effective supply.

4. The Ways and Means bill mandates an exception for depreciation and interest associated with investments approved prior to enactment of the bill. The savings estimates in Chapter III take account of this exception.

outpatient basis or in doctors' offices, clinics, and long-term care facilities. The cost *of* these shifted services would presumably be lower than when performed on an inpatient basis, but the offsetting increase in outpatient health expenditures could be large. For example, if a fourth of the total savings was obtained by shifting treatment in this manner, and if the services, on the average, cost half as much when performed on an outpatient basis, the increase in annual outpatient health expenditures would be between $0.7 and $1.6 billion (depending on the bill version) by fiscal year 1984.

APPENDIX C. EFFECTIVENESS OF STATE-LEVEL REGULATION: TECHNICAL NOTES

A number of well-designed studies of state-level regulation have been published, but most are out of date. A simple CBO study of the 1976-1978 period suggests that mandatory regulation by state governments held annual expenditure growth per capita to a rate three percentage points less than it would have been with no regulation.

This appendix briefly reviews the previous studies and then provides details of the study of 1976 through 1978 data.

EARLIER STUDIES

The literature on effectiveness of state-level rate setting includes case studies of single programs and a national study of all programs functioning in the early 1970s.

Case Studies

In 1974, the Social Security Administration funded a series of major evaluations of state-level hospital rate or budget review programs. Mandatory programs were studied in New York, New Jersey, and Rhode Island. Voluntary programs were studied in Indiana and western Pennsylvania. With one exception (Indiana), all of the evaluations were completed and released in 1976.

These studies were not entirely successful. Much of the state-level experience studied coincided with the federal government's Economic Stabilization Program (ESP). To the extent that federal price controls had stronger effects than the state-level hospital programs, the consequences of the latter could not have been measured. In some cases, the state review programs existed for too short a period of time to be successfully evaluated. In some, their administration raised insurmountable barriers to evaluation. Finally, some of the studies had weak research designs.

The Sloan-Steinwald National Study

A recent study by Sloan and Steinwald improves on the case studies in a number of ways.[1] First, it includes data from 1975, a year unlikely to have been affected by ESP. The additional year's data may also have captured some delayed impacts of regulation in earlier years. Second, data on all hospitals in 34 states are included. This increases the chance of detecting small program impacts, and reduces the risk of distortion from unmeasured variables in a single state. Third, the model employed, which is designed to eliminate "state effects," is superior to any of those used in the earlier studies.[2]

The Sloan-Steinwald study classified rate-review programs according to whether a formula or budget review was used to set hospital rates. Formula programs were found to increase costs by a small amount, although since there was only one formula program in the sample (New York) this result is akin to one from a case study.[3]

Budget review was estimated to reduce expenditures per adjusted patient day by 3 percent and expenditures per admission by 1 percent. These cost reductions did not show up in regressions for components of cost, but not all of the components were estimated.

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1. Frank A. Sloan and Bruce Steinwald, "Effects of Regulation on Hospital Costs and Input Use," Journal of Law and Economics, forthcoming.

2. The term "state effects" describes a situation in which a hospital's or state's costs are chronically high or low over a period of time for reasons other than those accounted for by independent variables in the model.

3. Using a less sophisticated technique, Sloan and Steinwald found formula programs to reduce costs by a large amount. They consider the result reported in the text to be more reliable. This sensitivity to statistical technique is an example of the dangers of influence from case studies.

CBO REGRESSION STUDY

The Congressional Budget Office sought to provide an update of the literature on state-level rate-setting effectiveness. With state-level data from 1976 through 1978 available, CBO conducted a regression study of hospital expenditure increases during this period. The dependent variable was the percentage increase in expenditures per capita.[4] Independent variables included third-party payments,[5] collective bargaining, the proportion of hospitals covered by state regulation, and the proportion covered by private-sector regulation.[6] Definitions and sources are given in Table C-1.

Using data pooled from the two periods (1976-1977 and 1977-1978), the study found that rate review by state governments has a substantial effect on annual expenditure growth, reducing it by more than three percentage points relative to no regulation at all (see Appendix Table C-2). This result is statistically significant at the 1 percent level, and insensitive to different specifications of the model.[7]

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4. Similar results were obtained for evaluations employing measures of unit costs as the dependent variable.

5. The use of third-party payment to explain the rate of change in expenditures warrants explanation. Joseph P. Newhouse, in Erosion of the Medical Marketplace, used the specification to test a model that high levels of insurance are inflationary and found it to be very useful. The CBO study of the Voluntary Effort discussed in Chapter II found that the level of third-party payment did more to explain expenditure increases than did the rate of change of third-party payments (see Appendix A). The level of collective bargaining is used on the basis of the same reasoning.

6. The addition of measures of volume did not appreciably affect the results.

7. Some have contended that the apparent effectiveness of mandatory state programs is really a reflection of one state's success (New York). To examine this possibility, the regression was rerun with New York omitted. The estimate of the expenditure reduction fell, but only by 0.4 percentage point, and the coefficient was still statistically significant at the 1 percent level.

TABLE C-1. VARIABLES FOR REGRESSION STUDY

Variable	Source
Total Expenditures per Capita, (percentage increases 1976-1977, 1977-1978)	Hospital Statistics, 1977, 1978[a]
Third-Party Payment (proportion of community hospital expenditures, 1975)	[b]
Collective Bargaining (proportion of hospitals with agreements, 1975)	[b]
State Government Rate Review (proportion of hospitals subject to, 1976)	AHA survey, unpublished
Private Rate Review (proportion of hospitals subject to, 1976)	AHA survey, unpublished

a. The AHA provided data from Hospital Statistics, 1979 Edition before formal publication. This assistance is gratefully acknowledged.

b. Unpublished data furnished by Professor Frank Sloan, Vanderbilt University. Access to these data is gratefully acknowledged.

TABLE C-2. REGRESSION RESULTS, EXPENDITURES PER CAPITA: PERCENTAGE CHANGE

Independent Variables[a]	1977 and 1978 pooled	1977	1978
Government Rate Review	-3.3	-3.0	-3.6
	(3.4)	(2.4)	(2.7)
Private Rate Review	-1.5	-1.2	-1.9
	(1.6)	(0.9)	(1.4)
Third-Party Payment	-1.7	-1.4	-4.8
	(0.4)	(0.3)	(0.8)
Collective Bargaining	-0.23	-2.3	1.8
	(0.1)	(0.9)	(0.7)
Intercept	15.3	13.8	16.7
	(4.7)	(3.2)	(3.6)

NOTE: t-statistics in parentheses.

a. For detailed explanation of variables, see Table C-1.

Private-sector rate review reduced expenditure growth by between one and two percentage points relative to regulation. This result was statistically significant at the 11 percent level.

The analysis gives support to the view that state-level cost-containment activities have been effective, but some caveats are necessary. Only two years of expenditure growth were examined, eliminating opportunities to integrate pre-existing trends into the analysis. While shortcomings such as these do not impart a bias to the analysis, they do reduce its reliability. Studies with different data would be useful in corroborating these results.