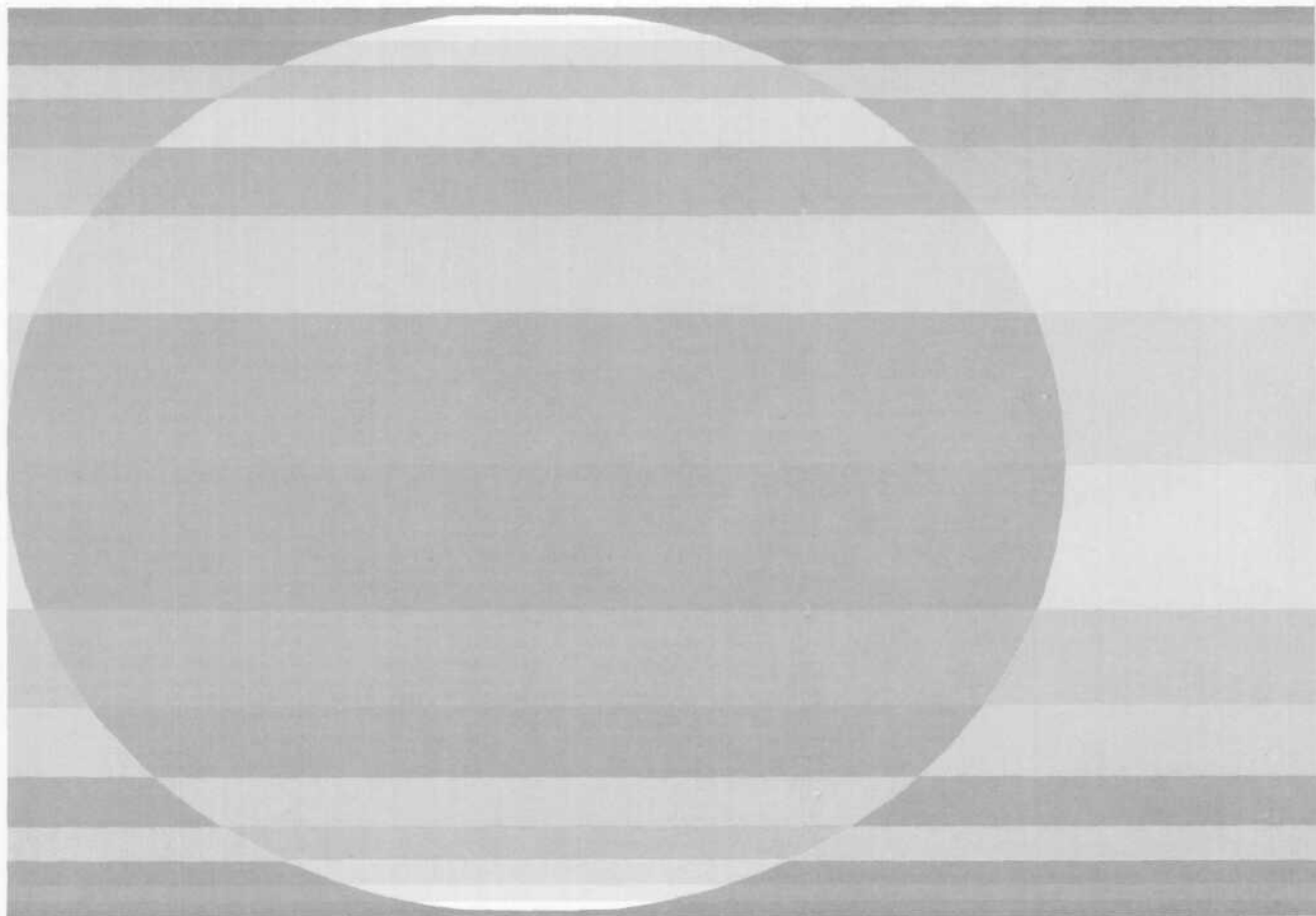


BACKGROUND PAPER

Expenditures for Health Care: Federal Programs and their Effects

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Congress of the United States
Congressional Budget Office
Washington, D.C.

EXPENDITURES FOR HEALTH CARE:
FEDERAL PROGRAMS AND THEIR EFFECTS

The Congress of the United States
Congressional Budget Office

PREFACE

This analysis of federal programs and their impact on expenditures for health care was prepared by the Congressional Budget Office in response to requests from the House and Senate Budget Committees. Widespread Congressional interest in strategies for controlling health-care costs also played a role in its development.

The principal author of this paper was Stanley Wallack, with contributions from Bonnie Lefkowitz, Sinclair Coleman, and William L. Dunn. The paper was prepared under the supervision of Robert D. Reischauer. The authors wish to acknowledge the consulting assistance of David Salkever (Johns Hopkins University), Uwe Reinhardt (Princeton University), and Paul Gertman (Boston University); the research assistance of Richard Pine and Mark Chandler; the secretarial assistance of Toni Wright; and the editorial assistance of Johanna Zacharias, Mary R. Boo, and Tricia Knapick.

In accordance with the mandate of the Congressional Budget Office to provide impartial analyses, this paper contains no recommendations.

Alice M. Rivlin
Director

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SUMMARY

Public concern over the growth of health expenditures has intensified in recent years. Since 1960, the proportion of the Gross National Product (GNP) attributable to health expenditures has risen from 5.2 to 8.6 percent and could exceed 10 percent by the early 1980s. Health expenditures, which accounted for 5 percent of the federal budget in 1965, now account for 10 percent. Federal, state, and local governments finance 42 percent of the nation's health bill, compared to 25 percent a decade ago. Public awareness of inefficiencies in the health sector, doubts about the effectiveness of expenditures in improving health, and awareness of the impact of higher health expenditures on the overall rate of inflation have all contributed to the growing concern.

A number of attempts have been made to reduce the rate of growth in health expenditures. Regulatory efforts have concentrated on hospitals because hospital expenditures continue to absorb an increasing proportion of national health expenditures. Moreover, hospital expenditures account for almost 60 percent of federal medicare and medicaid costs.

This paper reviews the trends in health expenditures, the effectiveness of current regulatory efforts, and possible cost-containment strategies with particular reference to hospital expenditures. Because rising hospital expenditures reflect underlying demand and supply factors that operate throughout the health sector and affect the need for regulation, these factors and ways to alter them are also discussed.

TRENDS IN HEALTH EXPENDITURES

Between fiscal years 1950 and 1976, personal health expenditures increased more than tenfold, from \$10.4 to \$120.4 billion. The increases can be attributed to population growth, higher medical-care prices, and increased utilization of medical services.

Population growth and the aging of the population account for about 10 percent of the increase in health expenditures over the 1950-1976 period. Higher prices for medical care explain 55 percent of the

increase over the entire period but 78 percent in the past three years. The greater importance of price increases in the past three years reflects, in large part, the inflationary conditions that plagued the entire economy. Utilization, including both volume and intensity of services per person, has risen dramatically over the past 25 years and explains nearly a third of the increase in health expenditures. The higher utilization rates reflect the increased demand for and supply of health-care services.

Demand per person has been spurred by higher incomes, more insurance coverage, and government subsidies for health care. The relationship between growth in insurance coverage and health expenditures appears particularly strong. Insurance increases the demand for health care because it lowers the price of care at the time of purchase. In 1976, insurance covered about two-thirds of all personal health expenditures, up from about 28 percent in 1950.

Medicare and medicaid are the major federal health-care financing programs. In fiscal year 1977, each will help pay for the care of roughly 25 million persons at a cost to the federal government of about \$32 billion. Medicare, medicaid, and other government programs directly encourage or subsidize greater use of health care by those individuals who have traditionally had limited access to such care -- the aged and the poor.

The tax-free status of employer contributions for health insurance and the tax deductibility of large medical expenditures, which together totalled an estimated \$7.8 billion in foregone revenues in fiscal year 1977, are indirect subsidies which also have increased the demand for health care.

The federal government has taken a number of steps to increase the capacity of the health sector. Federal funds for facility development and expansion of manpower training programs have contributed to rapid increases in the number of short-term acute care hospital beds and health professionals. Between 1960 and 1975, the supply of both hospital beds and health professionals rose by about 50 percent. The federal government is no longer encouraging expansion, but existing medical school capacity, in particular, will result in about a 60 percent increase in the number of physicians over the next 15 years.

Health expenditures have been boosted by the increased use of laboratory tests and expensive equipment in the provision of care. Over the past six years, the number of laboratory tests per hospital admission has increased by more than 8 percent annually. Expensive coronary care units, intensive care units, and respiratory therapy departments have spread to more and smaller hospitals over the past 25 years.

Expansion of the number of health personnel and facilities appears to have enlarged the demand for health care, causing further increases in health expenditures. With more and better facilities available, physicians appear more likely to refer patients to specialists, make more use of hospitals, and use more extensive diagnostic and therapeutic procedures.

Physicians appear to have some influence both on utilization rates and prices. The physician plays a major role in determining the type and amount of care received because most patients are unable to distinguish between necessary and unnecessary treatment and of course desire the best care available. A patient's willingness to seek the highest quality care is related to the fact that he or she may be paying none or only a small part of the costs. Fees in communities with high physician-to-population ratios are high and suggest that patients are not price-conscious. Thus, the usual influence of supply and demand is not found in the physician marketplace; moderate or even significant increases in the number of physicians may raise rather than lower physician fees.

Increases in both private and public insurance coverage, in the number of hospital beds and physicians, and in the complexity of medical care technologies have acted together to raise total and per person hospital expenditures. Because of the prevalence of health insurance, more than 90 percent of hospital revenues are received from third parties, so there is little incentive for patients or physicians to limit hospital usage. While the cost of a hospital day rose from about \$15 to \$150 between 1950 and 1975, the out-of-pocket cost to an individual patient has hardly changed.

The usual method of reimbursing hospitals has also encouraged the rise in hospital expenditures. Most payments are made on the basis of reasonable costs incurred. This means that the added expense of new beds and equipment may be readily offset by higher revenues.

REGULATORY EFFORTS TO CONTAIN HOSPITAL COSTS

Three limited regulatory programs have been adopted to try to contain hospital expenditures. These efforts attempt to reform reimbursement procedures, arrest the growth of hospital facilities and equipment, and eliminate overutilization of hospital services. While it is premature to label any of these efforts as successes or failures, the experience so far suggests the need for some change. The existing programs could be altered in various ways, depending upon the overall strategies. Future strategies could focus on incremental improvements in current programs, significantly toughen the regulatory approach, or reduce regulation in favor of other methods of cost containment. The following table summarizes the possible strategies for each program.

ALTERNATIVE STRATEGIES FOR CURRENT REGULATORY PROGRAMS TO CONTAIN HOSPITAL EXPENDITURES

Program	Strategy		
	Incremental Change	Stronger Regulation	Weaker Regulation
Hospital Reimbursement	<ul style="list-style-type: none"> o Increase the number of prospective rate-setting programs at the state level. 	<ul style="list-style-type: none"> o Mandate state rate-setting programs. o Set medicare and medicaid or system-wide per diem or per admission limits. o Disallow unusually high costs. o Limit annual increase in revenues. 	<ul style="list-style-type: none"> o Require hospitals to submit bids for reimbursement subject to specific penalties and rewards.
Supply of Facilities and Institutional Services	<ul style="list-style-type: none"> o Increase funding level for state planning agencies. o Place more government representatives on the boards of local agencies. o Review applications for all new facilities at one time. o Use reimbursement incentives to close unneeded facilities. o Place federal limits on capital expenditures. 	<ul style="list-style-type: none"> o Mandate state de-certification process. o Require reduction in bed-to-population ratio. 	<ul style="list-style-type: none"> o Limit regulations to situations with excess supply. o Repeal mandatory certificate-of-need requirement.
Utilization Reduction through Professional Standards Review Organizations	<ul style="list-style-type: none"> o Require pre-admission review. o Establish national criteria for admissions and length of stay. o Include some government representation. 	<ul style="list-style-type: none"> o Require review by government panels instead of private professional organizations. 	<ul style="list-style-type: none"> o Return to experimental program. o Limit selective concurrent review.

Containing the Supply of Facilities and Equipment

The National Health Planning and Resources Development Act of 1974 attempts to limit the capacity of the health-care sector by requiring a certificate-of-need process in each state to assure the necessity of additional hospital beds and expensive equipment. The regulations for this program are just emerging.

Five states initiated their own certificate-of-need programs before 1970. Studies of these programs indicate that between 1968 and 1972 growth in the number of hospital beds was reduced but total hospital expenditures were not significantly affected, because hospitals made other capital investments. By 1974, 20 more states initiated certificate-of-need programs. Analysis of the period 1971-1974 indicates that the newer programs were not effective in reducing growth in the number of beds or other capital investments. However, this more recent analysis suggests, although not conclusively, that the five early programs may have restrained growth in both beds and other capital investments between 1971 and 1974. At the end of this three-year period, hospital expenditures per person were tentatively estimated to have been somewhat lower (a maximum of 3.1 percent) than they would have been without a certificate-of-need program.

Deficiencies in the current certificate-of-need programs could be corrected by various means: increased aid to state agencies responsible for certificate-of-need review; more representation of local officials on the boards of the areawide health planning agencies; financial incentives for closing unneeded facilities; and a federal limit on new hospital investment such as that proposed by the Carter Administration (S. 1391 and H.R. 6575).

If more stringent regulation were deemed necessary, states could be forced to adopt decertification procedures to close certain facilities, and strict limits could be placed on the number of hospital beds allowed. The Carter Administration has also proposed to limit additional beds in areas with more than 4.0 beds per 1000 persons, but existing excess capacity would not necessarily be eliminated. If less regulation were desired, certificate-of-need programs could be limited to geographic areas or types of facilities where excess supply exists.

Eliminating Overutilization

The 1972 Amendments to the Social Security Act established Professional Standards Review Organizations (PSROs), made up of local physicians, to assure that services rendered by government health programs were medically necessary, professionally acceptable, and economically provided. Early and incomplete evidence from several experimental PSROs points to achievements in overseeing the quality of medical care but limited success in controlling costs. The programs that were most successful in containing costs required pre-admission review of the need for hospitalization and were characterized by aggressive management. However, most of the PSROs currently in operation review cases after the patients have been admitted.

The PSRO program might be strengthened by requiring pre-admission review for at least some procedures (for example, elective surgery) and by developing and imposing national criteria for the provision of medical care. If more stringent measures were deemed necessary, review by private peer organizations could be replaced by government review. If reduced PSRO regulation were desired, review could be limited to geographic areas or to institutions with abnormally high admission rates or lengths of stay.

Reimbursement Reform

Experiments in different ways of reimbursing hospitals have been funded under the 1974 health planning legislation and the 1972 social security amendments. These experiments attempt to shift reimbursements from a retrospective system, based on costs, to a prospective system, where some component of the payment is fixed in advance.

Evaluations of prospective reimbursement experiments are not conclusive. Studies of five demonstration projects do not indicate significant savings. In all the programs, limits were placed on per diem costs. While per diem costs fell between 1 and 4 percent, total costs did not drop because of increases in the length of stay. On the other hand, the federally run Economic Stabilization Program (ESP), which also limited per diem costs, was quite effective, particularly during its last year of operation, fiscal year 1974. The effectiveness of ESP must be qualified by the fact that it may have been viewed as a temporary program by providers and that a "catch-up" occurred after the controls were lifted.

An important reason for the failure of the five demonstration projects to contain total hospital costs seems to be that they did not adequately separate reimbursement increases from actual costs; the increases in reimbursement allowed an individual hospital were based on the hospital's actual increase in costs. ESP broke the connection between allowable increases and costs by limiting the annual growth in per diem reimbursement to 8 percent, regardless of actual cost increases. Some recent state-run prospective reimbursement programs, which are more comprehensive and more stringent than the demonstration projects, also appear to have had preliminary success in containing costs.

More states could be encouraged to initiate their own prospective reimbursement programs, so better information about the effectiveness of various approaches could be gathered before making a commitment to a uniform federal program. If tougher and more immediate steps were thought necessary, the federal government could impose per diem, per admission, or total revenue limits on medicare and medicaid or on all types of payments. The Carter Administration has proposed such a program at the federal level. Alternatively, certain types of state programs could be mandated. Revenues could be limited in two ways: withholding the amount in excess of a certain percentage of the average of a group of hospitals, as proposed by Senator Herman Talmadge (S. 1470 and H.R. 7079), or placing a ceiling on the annual increase as proposed by the Carter Administration. The latter approach, which is capable of generating much greater savings than the Talmadge proposal, has been criticized because it provides larger increases to inefficient institutions.

Various integrations of the Talmadge and Administration approaches are possible. For example, the Administration proposal might be modified to limit growth only in nonroutine costs; this could then be coupled with the Talmadge proposal to withhold reimbursement for unreasonably high routine (basically room and board) costs. Integration of the two approaches could abate some of the criticism directed at them individually.

Public regulation might be reduced by having hospitals compete among themselves through a bidding process. Individual hospitals could bid to provide services to medicare and medicaid beneficiaries. A hospital with a bid below the average of its group would receive more than 100 percent of its costs. Conversely, those bidding above the norm would receive reimbursements below their bid. To insure that the bids reflect actual costs and encourage cost-consciousness, a reimbursement adjustment would be made if the actual cost were above or below the bid.

ALTERING THE UNDERLYING DEMAND AND SUPPLY CONDITIONS

While hospitals have become the focus of regulatory programs to contain costs, the underlying demand and supply factors that have contributed to escalating health expenditures should not be overlooked. Changes in these factors could reduce the need for hospital regulation. Moreover, successful efforts at containing hospital expenditures without addressing the underlying demand and supply factors could result in excessive nonhospital expenditures; these could prove even more difficult to contain than hospital expenditures.

Consumer and Provider Demand. Consumers lack sophisticated knowledge about medical care and the prices charged for various health services. Efforts to educate consumers or to investigate allegations that provider organizations restrain trade through price fixing and advertising bans are unlikely to have great impact as long as the cost of care to the consumer remains small. The patient's out-of-pocket costs could be increased by narrowing the scope of insurance coverage or increasing cost sharing. If an employer's health insurance payments were counted as income to the employee for tax purposes, the trend towards insurance plans offering complete coverage for all medical expenditures might be reversed.

Physician-induced demand might be slowed down through the further development of health maintenance organizations (HMOs). HMO physicians, whose income depends on the difference between a fixed revenue for all care and actual costs, have an incentive to avoid unnecessary hospitalization and unwarranted services.

Supply of Physicians and Medical Technologies. Unless steps are taken to restrict the immigration of foreign medical graduates (FMGs) to the United States, or to reduce the number of students admitted to U.S. medical schools, the number of physicians will continue to grow dramatically. Some of the effects of this growth could be beneficial. For example, access to health care will be improved if a better geographical distribution of these physicians is achieved. Other effects of this growth will not be beneficial. Unless changes are made in current practices and procedures, more physicians will surely mean increased health expenditures, because physicians directly determine the level and type of health care their patients receive. Further, this care includes not only the physicians' own services, but those of other health workers, as well as costs of facilities, tests and procedures. Hence, the total health expenditure impact of each additional physician is some multiple of his income. This negative effect might be ameliorated by (1) changing the type of care provided

or the way in which physicians are reimbursed, (2) placing restrictions on hospital-based specialists, or (3) paying physicians a salary or paying them only for time actually spent with a patient. Restrictions on hospital-based specialists, who often charge high fees, might encourage more physicians to serve as primary-care practitioners. This might help reduce fees since primary-care practitioners generally charge less for their services. If physicians were paid salaries or only paid for time actually spent with a patient, they would have less of a financial incentive to perform numerous tests and procedures on their patients and to hospitalize them.

Little is known about the effects of medical technologies on costs and the efficacy of care. A comprehensive strategy of health-care assessment is needed to evaluate existing treatments and procedures and to determine how new technological developments should be monitored. Even with current limited knowledge, some of the issues related to the cost impact of new technologies can be addressed. Funding for biomedical research could provide more support for basic research and less for research that is likely to produce expensive, stop-gap procedures to treat rather than cure or eradicate diseases. Health services and clinical research could emphasize the development of knowledge in areas in which cost savings are thought possible. For example, research efforts could be targeted on reducing the number of hospital days for specific diseases, lowering the cost of the most expensive illnesses, and evaluating the effectiveness of diagnostic testing.

In recent years, the growth of health expenditures has far outstripped that of both the nation's economy and the federal budget. Not surprisingly, this trend has become a source of mounting public concern. Between fiscal years 1960 and 1976, health spending as a proportion of the gross national product (GNP) increased from 5.2 to 8.6 percent. If current patterns continue, and projections indicate they will, the proportion will exceed 10 percent by the early 1980s. Similarly, health expenditures, which accounted for only 2 percent of total federal outlays in 1960, amount to about 10 percent today. They are projected to reach 12 percent by 1980, if current policies are pursued without change.

This paper examines trends in health expenditures and describes how, in the past, federal programs and policies have contributed to rising costs. It evaluates current efforts to contain costs, particularly in the hospital sector. It goes on to discuss various strategies that could curb this growth in the future.

Chapter II considers the three components of the rise in health expenditures: increases in population, in prices, and in per capita utilization of health services. The latter two are related to significant changes that have occurred in the demand for and supply of health services over the last quarter century. These changes, as well as the present concerns as to whether current expenditure levels and trends are appropriate, are also discussed briefly.

Chapter III examines the federal policies -- particularly those of the 1960s -- that have contributed to the growth in health expenditures. These policies have stimulated demand for health care by subsidizing the purchase of private insurance, by providing tax deductions for high medical expenditures, and by financing health care for the aged and the poor. Federal programs to develop resources have been instrumental in enlarging the delivery capacity of the health system and may also have stimulated demand. Finally, some of the recent increase in health expenditures is associated with inefficient practices and technologies that have an unproven or marginal impact on health status.

In recent years, the Congress has passed a number of pieces of legislation aimed at curbing health expenditures by controlling increases in the number of health facilities, by limiting utilization, and by altering methods of payment. These efforts, which are discussed in Chapter IV, have concentrated on hospitals, which account for the largest component of health expenditures. While such public regulatory efforts are still relatively new, something can be said about how successful they have been.

Chapter V presents alternative strategies for containing health expenditures. The widespread concern over rising health expenditures has led many people to the conclusion that some form of increased intervention is needed now, before a major initiative -- such as national health insurance -- is adopted. Most of the discussion pertains to hospital costs.

CHAPTER II. HEALTH EXPENDITURES: RECENT TRENDS AND CONCERNS

Population growth, price increases, and increased per capita utilization have all contributed to the growth in health expenditures. While the relative importance of these components has fluctuated, higher prices and utilization together have accounted for about 90 percent of the total increase. The importance of these factors reflects the expansion of both the demand for and the supply of health care.

Marked increases in private and public health insurance have stimulated demand. The supply of resources, both manpower and facilities, has expanded rapidly in response to the increased financing of health care. This augmented supply may, in turn, have prompted still greater demand for health care.

The concern of public officials has focused both on rapidly expanding government programs and on the increasing proportion of GNP spent on health care. The feeling that the current system does not discourage overutilization of services or inefficient use of resources has contributed to this uneasiness.

COMPONENTS OF HEALTH EXPENDITURE INCREASES

Between fiscal years 1950 and 1976, health expenditures multiplied more than tenfold (see Table 1). ^{1/} The \$110 billion rise in personal health-care expenses over this 25-year period can be attributed to population growth, inflation in the price of medical-care services, and increases in the quantity and improvements in the quality of health-care services used (see Table 2).

^{1/} Total health expenditures include public health services, administration, and research, in addition to personal health care expenditures.

Table 1. TRENDS IN NATIONAL HEALTH EXPENDITURES FOR SELECTED FISCAL YEARS: IN BILLIONS OF DOLLARS

Year	All Health Expenditures	Percent of GNP	Expenditures for Personal Health Care a/				
			Total	Private	Public	Federal Portion of Public	Medicare & Medicaid Portion of Federal
1950	12.0	4.5	10.4	8.3	2.1	1.0	NA b/
1960	25.9	5.2	22.7	17.8	4.9	2.1	NA
1965	38.9	5.9	33.5	26.5	7.0	2.8	NA
1970	69.2	7.2	60.1	39.6	20.5	13.4	9.4
1975	122.2	8.4	105.7	63.8	42.0	28.9	21.2
1976	139.3	8.6	120.4	72.0	48.4	33.7	25.2

SOURCES: Social Security Administration, Office of Research and Statistics, and The Budget of the United States Government, Fiscal Year 1978.

a/ Expenditures for personal health care include all expenditures for health services and supplies other than those for prepayment, administration, research, construction, and government public health activities.

b/ NA - Not applicable since program started making payments in 1966.

Population

Over the last quarter century, changes in the size and age composition of the population accounted for only 10 percent of the increase in health expenditures. The relative importance of population changes fell abruptly after 1965, when the growth rate of health expenditures accelerated. The diminishing importance of population can be attributed in part to a slowdown in the growth rate of the population.

Higher Medical Prices

Of the three components identified above, higher medical prices has been the most important, accounting for more than one-half of the increase in personal health-care expenditures over the last 25 years.

Table 2. FACTORS CONTRIBUTING TO THE INCREASE IN PERSONAL HEALTH EXPENDITURES: SELECTED PERIODS, FISCAL YEARS 1950-1976

Source of Increase	1950-65	1965-71	1971-74	1974-76	(1950-76)
<u>Increase in Billions of Dollars</u>					
Price	10.1	16.8	10.4	22.8	(60.1)
Population	4.9	3.0	1.9	1.7	(11.5)
Quantity and quality increase	<u>8.1</u>	<u>13.9</u>	<u>11.8</u>	<u>4.6</u>	<u>(38.4)</u>
TOTAL	23.1	33.7	24.1	29.1	(110.0)
<u>Percent Distribution</u>					
Price	43.8	49.9	43.1	78.3	(54.6)
Population	21.0	8.9	7.9	5.8	(10.5)
Quantity and quality increase	<u>35.2</u>	<u>41.2</u>	<u>49.0</u>	<u>15.9</u>	<u>(34.9)</u>
TOTAL	100.0	100.0	100.0	100.0	(100.0)

SOURCE: Robert Gibson and Marjorie Mueller, "National Health Expenditures, Fiscal Year 1976," Social Security Bulletin, April 1977, pp. 3-22.

While some of the price increases reflect changes in health care quality, 2/ the rate of inflation in the health care sector has been a far more influential factor. Except for the Economic Stabilization Period -- August 1971 through April 1974 -- the inflation rate in the health sector has exceeded that of the overall economy since 1965 (see Table 3). The relative contribution of higher prices to

2/ The medical-care component of the consumer price index (CPI), which is used to measure prices, includes the purchase price for specific items, such as a prescription drug, a semi-private hospital room, a physician visit, etc. To the extent that qualitative changes in these items are unmeasured, the officially reported CPI does not depict changes due solely to inflation. While this problem is not too significant for some medical-care items -- such as drugs and eyeglasses, for which it is relatively easy to measure qualitative changes -- it is quite serious for others. For example, the nature of a physician visit today differs markedly from that of 20 years ago. As there are no generally acceptable ways of measuring the qualitative improvement of a visit and, therefore, of isolating its impact on price, it is clear that the CPI overstates medical price changes.

the increases in health expenditures has risen from less than 50 percent to nearly 80 percent in the last few years. This is attributable to the rises in medical-care prices after the removal of health-care price controls in 1974 and to higher inflation rates experienced by the entire economy. 3/

Table 3. AVERAGE ANNUAL PERCENT CHANGES IN CONSUMER PRICES AND SELECTED MEDICAL-CARE PRICES: 1950-1976

Year(s)	CPI All Items	CPI All Services Less Medical Care Services	Medical Care Services	Semi-Private Room Charge	Physician Fee
1950-1960	1.9	N/D <u>a/</u>	N/D	6.0	3.0
1961-1966	1.1	1.8	2.9	5.3	2.8
1967-1970	3.8	5.0	5.6	9.8	5.0
ESP <u>b/</u>	6.1	5.0	6.0	4.9	3.2
1975	9.1	9.1	12.5	17.2	12.3
1976	5.8	7.9	10.0	13.8	11.3

SOURCE: Bureau of Labor Statistics.

a/ N/D - No data available before 1957.

b/ Economic Stabilization Period (August 1971 - April 1974).

3/ Higher malpractice premiums, which have received a great deal of attention recently, account for part of the large increases in physicians' fees in 1975 and 1976. In these two years, malpractice premiums rose by 50 percent annually. As malpractice premiums account for only about 3 percent of total physician receipts, however, they probably did not increase fees in these years by more than 1 or 2 percentage points. (See "How Much Have Premiums Gone Up?" Medical Economics, December 27, 1976.)

Use and Intensity of Health Care

More than one-third of the rise in personal health expenditures resulted from increases in the use and intensity of care. Hospital admissions and the number of professional health-care visits per year have gone up (see Table 4). More difficult to measure but also important is the greater number of tests and complexity of procedures prescribed for patients. There are many reasons for these increases. Access to health care has been improved by the growth of private and public health insurance programs and by the expanded capacity of the health-care system. More tests and procedures per medical encounter reflect new technologies and medical knowledge as well as widespread insurance coverage; they may also reflect the increased number and higher settlements of malpractice suits. 4/

Table 4. TRENDS IN UTILIZATION OF HEALTH CARE FACILITIES: SELECTED YEARS 1950-1975

Year	Hospital Admissions <u>a/</u>	Outpatient Visits <u>a/</u>	Physician Visits (per person)
1950	120.4	N/D <u>b/</u>	N/D
1960	137.1	N/D	N/D
1965	146.5	639.6	4.5
1970	153.1	874.3	4.6
1975	166.9	1,176.6	5.1

SOURCES: American Hospital Association, Hospital Statistics, 1976 Edition and National Center for Health Statistics, Utilization Branch.

a/ Per thousand population.

b/ N/D - No data available before 1965.

4/ The increasing cost of malpractice insurance has resulted in more physicians self-insuring and in an increase in the number of tests performed by physicians. While it is difficult to define and measure what may be called "defensive medicine," the cost appears to be in the billions of dollars.

DEMAND FOR AND THE SUPPLY OF HEALTH CARE

Behind the increases in prices and per capita utilization of health care are tremendous changes in demand and supply.

Demand

Three factors have influenced the demand for health care: the number of citizens over 65, growth in personal incomes, and increases in so-called "third-party" (i.e., insurance carrier) payments. To some extent, the growing demand created by the elderly population has been spurred by federal spending on health care. The other two factors, which are interrelated, have been far more influential, however.

The fraction of the population aged 65 years and older has grown from 8 to 10 percent over the last quarter century. This overall aging pattern has pushed up the demand for health-care services, since elderly persons spend on average three to four times the dollar amounts that the nonelderly spend on health care. (In 1974, persons over 65 spent an average of \$1,360 on health care, while younger persons spent only \$375.)

Persons with higher incomes spend more on health care. The relationship between income and expenditures on health care has become blurred, however, with the extensive growth of third-party payments through private and public health insurance programs. Insurance tends to encourage demand because it reduces the price to the patient at the time care is purchased. In 1950, third-party payments covered only about 25 percent of health care costs -- almost 65 percent of hospital-care expenditures but only 15 percent of expenditures for physicians' care. In 1976, however, about two-thirds of all personal health expenditures -- more than 90 percent of hospital-care expenditures and more than 60 percent of expenditures for physicians' services -- were paid for by a third party.

The growth of hospital insurance has meant that, while overall health expenditures have multiplied 1,000 percent, out-of-pocket costs to the patient have stayed roughly constant since 1950. (The effects of this trend are discussed further in Chapter IV.) Greater insurance coverage for inpatient hospital care as well as the orientation of physicians' training toward hospital-based services, has caused institutional expenditures to grow more rapidly than expenditures for lower-priced outpatient services. Expenditures for hospital and nursing home care accounted for 47 percent of all national health expenditures in 1976, up from 37 percent in 1965 and about 32 percent in 1950.

Supply

Partly in response to the growth in demand, the delivery capacity or supply of the health sector has expanded in several ways. Between 1960 and 1975, short-term hospital capacity (measured by the number of beds available), hospital personnel (per patient day), and the number of health-care professionals all increased by almost 50 percent (see Tables 5 and 6). The increase in third-party payments has also made possible the acquisition by more and smaller hospitals of such expensive, specialized treatment facilities as coronary care units. (This growth in capacity, and how federal programs contributed to it, is discussed further in Chapter III.)

Table 5. TRENDS IN NUMBERS OF SHORT-TERM HOSPITAL BEDS AND HOSPITAL PERSONNEL: SELECTED FISCAL YEARS 1950-1975

Year	Beds (in thousands)	Beds per 1,000 Population	Employees per Daily Census
1950	505	3.3	1.78
1960	639	3.5	2.26
1965	741	3.8	2.46
1970	848	4.1	2.92
1975	947	4.4	3.39

SOURCE: American Hospital Association, Hospital Statistics, 1976 Edition.

Table 6. GROWTH TRENDS IN ALL HEALTH PROFESSIONALS AND SELECTED OCCUPATIONS: SELECTED YEARS 1960-1975

Year	All Health Professionals <u>a/</u>	Physicians <u>b/</u>	Dentists	Registered Nurses <u>c/</u>
<u>Number Active in Thousands</u>				
1960	1,011.9	259.5	90.1	527
1965	1,167.6	288.7	96.0	621
1970	1,329.1	323.2	102.2	750
1975	1,574.8	375.3	112.4	906
<u>Number per 100,000 Population</u>				
1960	557	143	50	290
1965	599	148	49	319
1970	648	158	50	366
1975	736	175	52	423

SOURCE: U.S. Department of Health, Education, and Welfare, The Supply of Health Manpower: 1970 Profiles and Projections to 1990 (1975), Table 5, p. 15.

- a/ Includes physicians, dentists, registered nurses, optometrists, podiatrists, pharmacists, and veterinarians.
- b/ Includes medical doctors and doctors of osteopathy.
- c/ Includes full-time and part-time registered nurses (RNs); it is estimated that 30 percent are part-time.

Interrelationship Between the Supply and Demand

The normal sequence that explains growth in expenditures for a given commodity is: increased demand leads to price rises, which in turn, cause expansion in supply. In the health-care sector of the economy, the growth in supply and demand may be related differently. Since utilization rates are higher where there are more health-care resources, increases in the supply of hospital beds and number of physicians may lead to increases in the amount of health care sought. This argument was first made with regard to hospital beds. It was observed that areas with more beds experienced higher utilization as measured by hospital patient days per capita. 5/ Attempts to determine the cause of this phenomenon supported the notion of an independent effect of bed supply on hospital use. Statistical analysis has shown that a 1.0 percent increase in the number of hospital beds raises per capita utilization by about 0.4 or 0.5 percent. 6/

Studies have linked physician supply and specialization with hospitalization patterns and the number and type of surgical procedures performed. 7/ Where there are more surgeons, there are more surgical procedures performed per capita but fewer such procedures performed by each surgeon. 8/ Similarly, areas with higher physician-

5/ M. Roemer and M. Shain, Hospital Utilization Under Insurance, American Hospital Association (Chicago, 1950).

6/ See J. May, "Utilization of Health Services and the Availability of Resources," in Equity in Health Services, R. Anderson and others, eds., Ballinger, (Cambridge, Massachusetts, 1975), and B. Chiswick, "Hospital Utilization: An Analysis of SMSA Differences," National Bureau of Economic Research (New York City, June 1976), mimeo.

7/ Martin Feldstein, "Hospital Cost Inflation," American Economic Review, December 1971. J. Wennberg and others, "Small Area Variation in Health," Science, December 1973, pp. 110-108, J. Wennberg, "PSROs and the Relationships Among Health Need, Elective Surgery, and Health Status," in Perspectives on Health Policy, Boston University Press (1975).

8/ Rita T. Nickerson and others, "Doctors Who Perform Operations," New England Journal of Medicine, Volume 295, October 21 and October 28, 1976, pp. 921-26, 982-989. Also see Walter W. Hauck and others, "Surgeons in the United States," Journal of the American Medical Association, Volume 236, October 18, 1976, pp. 1964-1971.

to-population ratios tend to show higher per capita utilization of physician services, but the number of visits per physician tends to be lower. Why there is higher utilization is not readily apparent. One possible explanation for the higher per capita utilization rates could be the shorter travel and waiting times people encounter in areas with relatively greater supplies of physicians.

The discretion that physicians have in providing care is another plausible explanation. It is physicians who place patients in hospitals and determine lengths of stay. In other words, consumers (patients) depend on the vendors (physicians and other health-care providers) to formulate the demand for services. Such physician-induced demand may emanate from the physicians' belief that the greater the use of health-care services, the higher the quality of health care.

The increased utilization does not result from lower prices. In fact, the prices charged by physicians in communities with higher physician-to-population ratios appear to be higher. While unit prices for physicians' services are higher, the average income of physicians tends to be slightly lower in areas with higher physician-to-population ratios. (This may mean that physicians are only partly able to control their own incomes by exercising discretion over the amount of care provided or the prices charged.)

THE PUBLIC CONCERNS

Recent growth in health expenditures has been rapid, but it may not necessarily be bad. It may reflect changing tastes, rising incomes, or the meeting of previously unmet needs. Nonetheless, such growth is a source of concern among many public officials. This concern stems from government's expanded role in health-care financing.

The rise in government expenditures for health has been most dramatic over the last 10 years (see Table 1). In fiscal year 1976, federal, state, and local governments paid about 42 percent of the \$139.3 billion spent on health care; in 1966, the nation spent \$42.1 billion on health care, and government carried only one-fourth of the expense. The federal share of the national health-care bill rose from \$4.6 billion to \$39.9 billion between 1965 and 1976.

Medicare and medicaid account for a major part of the rise in federal health expenditures. Since the two programs were initiated in July 1966 and January 1967, respectively, their costs have doubled every five years, reaching today's total of \$26.2 billion. If the pattern continues, the proportion of federal resources allocated to health care could encroach on the funds available to address other national priorities, such as housing, transportation, social services, and defense.

Many observers contend that the 8.6 percent of GNP currently attributed to health care is too much. There are three reasons underlying this contention:

- o Fiscal inefficiencies in the health-care sector,
- o Ineffectiveness of the care delivered, and
- o Effects on inflation.

Fiscal Inefficiencies in the Health-Care Sector

Suspicion is widespread that the health-care sector is economically inefficient because it is not a competitive market. Many of the decisions involved in purchasing health care are made without active or informed consumer participation. The main reason for this is that most consumers (patients) know little about the need for and effectiveness of various treatments. As a result, physicians have wide latitude in deciding what and how much care to give. Thus, physicians act as suppliers who determine the demand for care.

Insurance coverage is cited as another factor contributing to fiscal inefficiency in health care. Coverage, particularly for hospital treatment, reduces the cost to the patient or makes it seem free. ^{9/} The cost of services may receive little consideration at the time of purchase. High prices, therefore, do little to restrict demand or to reduce overutilization of both physician and hospital services. Furthermore, since most hospitals are reimbursed by insurance or other third-party payers on the basis of their costs, they

^{9/} Of course, individuals pay health insurance premiums. But, since the individual use of health services does not affect the premium, it is out-of-pocket costs that influence the demand for care.

operate in a system that provides rather perverse economic incentives: raising prices usually raises revenues by a comparable amount. This means that the usual market signals that indicate excess supply -- income losses and falling prices -- do not emerge.

Ineffectiveness of Medical Care

Between 1900 and 1950, the death rate in the United States fell from 17.2 to 9.6 per 1,000 persons. The major reductions in death rates in this century are attributable to the control of infectious diseases, such as tuberculosis and polio. As death rates from infectious diseases dropped, chronic diseases emerged as the major causes of death.

Few links connecting increased health expenditures with diminished death and illness rates over the last 25 years have appeared.^{10/} Between 1950 and 1976, health expenditures grew from \$12 to \$139 billion, but the types and incidence of the most prevalent diseases hardly changed.^{11/} Furthermore, the death rate changed little from 1950 to 1965; it did, however, begin to drop in the 1970s, falling to 8.9 percent in 1975.^{12/} These results are encouraging. Decreases in infant mortality and cervical cancer seem related to increased medical attention. When adjusted for the fact that there were more elderly people in the population, the death rate showed a marked decrease in the late 1960s. For males between ages 55 and 64, the recent decline has been quite dramatic, decreasing by 12 percent between 1969 and 1975.

^{10/} Dorothy Rice, Director, National Center for Health Statistics, Statement before the Subcommittee on Health and Scientific Research, Senate Committee on Human Resources, 95th Congress, First Session (March 31, 1977). The statement reads in part: "Whether the downward trends in mortality result from a decline in the occurrence of disease, advances in medical treatment after the disease has occurred, social and economic improvements, changes in personal health habits, and the environment that affect health or in what mixes and proportions such factors are at work, we do not know."

^{11/} Exceptions include tuberculosis. It ranked fourth as a cause of death in 1950 but it has since been just about eliminated. Also, the incidence of death from heart disease and stroke has fallen somewhat; deaths from cancer, however, have increased.

^{12/} Dorothy Rice, cited above.

Inflation

As the health-care sector grows, its effect on the overall rate of inflation increases. In 1976, the annual average consumer price index (CPI) increased by 5.8 percent; if health-care prices had not risen, the CPI would have increased by 5.4 percent. This 0.4 percent difference is the lowest possible figure for the impact of health-care prices on inflation since higher utilization rates are not taken into account. Higher utilization rates are translated into higher insurance rates for employers. If these higher costs result in higher prices for such goods as steel or automobiles, then the overall inflation rate is raised further.

Contrary to the notion that the resources the United States now allocates to health care are too great, or that the recent growth is bad, are two other considerations:

- o That the rapid growth of the health-care sector reflects consumer preferences and higher incomes, and
- o That the problem is one of distribution of expenditures rather than their magnitude.

Wealthier countries spend more than poorer nations do on health care, regardless of what resource controls are imposed or what type of health insurance programs are in operation. For some goods, such as food, proportionately less of aggregate family income is spent as income rises. Health care may be just the opposite. In looking across countries of similar income levels, it appears that the proportion of GNP devoted to health care in the United States is not out of line. ^{13/} Over the last 10 years, per capita expenditures for health care went up about 55 percent (after adjusting for inflation) and real disposable personal income per capita went up 27 percent. Thus, much of the increase in spending may be explained by consumer preferences.

While other wealthy developed nations spend a comparable proportion of GNP for health, they do so under some form of national health insurance. Thus, the total expenditures are spread more evenly over the entire population. Also, other prosperous countries appear to allocate a greater portion of their health expenditures to primary and long-term care. Thus, the type of services provided may be less expensive and more likely to decrease the need for short-term hospital care.

^{13/} Joseph Newhouse, Income and Medical Care Expenditures Across Countries: Is Medical Care at the Margin a Luxury Good? The Rand Corporation (1976).

From the end of World War II until the early 1970s, federal policy on health-related matters concentrated on increasing equality in access to care and encouraging the use of services. Demand for health care was boosted by the enactment of health financing programs for the aged and poor and by tax subsidies for the purchase of private health insurance. Facility and manpower development programs promoted the expansion in supply or capacity of the health-care sector. This chapter examines the federal programs established during the expansionary period and discusses how they have contributed to the need for regulatory action. After the early 1970s, the emphasis of new federal programs shifted to reallocating resources and containing costs. The programs devised to constrain growth in health expenditures are discussed in the following chapter.

INCREASED FINANCING

The federal government has increased the ability of some citizens to obtain health care directly through the medicare and medicaid programs and indirectly through tax expenditures.

Medicare and Medicaid

In 1977, medicare will finance health care for an estimated 23.1 million aged and 2.6 million disabled persons; 24.4 million poor persons will receive benefits from the medicaid program. These programs have increased the amount of health care provided and redistributed it toward the oldest and poorest segments of the population. Within a few years after the passage of medicare in 1966, the number of hospital days accounted for by the aged rose by about half; for younger persons, it fell slightly. Hospital days for those in poverty also rose substantially after the introduction of medicaid. This occurred in absolute terms as well as relative to the non-poor population. The number of physician visits per year by poor persons also increased, rising to the level of the highest income groups. For the near-poor and for low-income populations not covered by medicare and medicaid, however, the number of annual physician visits fell.

Since the enactment of medicare and medicaid, the rate of inflation in the health-care sector has been disproportionately high, both in absolute terms and relative to the overall rate of inflation (see Table 3 in the previous chapter). The growth rate of total health expenditures also accelerated (see Table 1). Expenditures for medicare and medicaid have increased at annual rates of between 15 and 18 percent since the programs began. In fiscal year 1977, expenditures are expected to total \$32 billion -- over three times those of fiscal year 1970.

To assure appropriate use of the financial access to health care made available through medicare and medicaid, utilization review committees were required for each hospital serving patients under these programs. The need for hospitalization must be reviewed after the twelfth day and eighteenth day of a patient's stay. This process -- the only real cost-containment provision of these programs -- has had only a limited effect in controlling costs. 1/

Subsidies for Private Insurance

The federal government subsidizes the financing of health care through the tax system. The tax system encourages the purchase of private health insurance in various ways: by allowing an employer to deduct as a business expense the cost of the health insurance premiums he pays for his employees; by not counting as employee income the employer's health insurance payments; and by permitting a specific income tax deduction for health insurance premiums. Large medical expenditures are also subsidized by allowing them as itemized deductions. In fiscal year 1977, the federal government will forego an estimated \$7.8 billion in revenues because of these tax expenditures. 2/

1/ George Chulis, "Utilization of Short-Stay Hospitals Under Medicare, 1968." U.S. Department of Health, Education, and Welfare, SSA 75-11702 (1975).

2/ Of the \$7.8 billion, \$5.2 billion will be for the employer's exclusion for health insurance payments and \$2.6 billion for high medical care expenditure deductions. If tax expenditures for charitable health contributions are included, the total revenue foregone rises to \$8.8 billion. Congressional Budget Office, Five-Year Projections: Fiscal Years 1978-1982, Supplement on Tax Expenditures (April 1977).

These tax expenditures benefit higher-income individuals disproportionately and encourage the purchase of private health insurance. As federal and state income tax rates rise, it becomes increasingly more advantageous to take income in nontaxable, in-kind benefits rather than as taxable cash. It is not surprising, then, that the health insurance sought by employees tends to be more comprehensive as income rises; coverage is sought for expected or normal health care services, not just for unlikely, expensive illnesses.

CAPACITY DEVELOPMENT

In other efforts to broaden access to health care for the general population, the federal government took actions to expand the number of hospitals and health professionals. Federal reimbursement practices and support for biomedical research have contributed to a similar expansion in medical care technologies.

Hospitals

Hospitals and other health-care facilities were the first to benefit from federally supported expansion of the nation's health-care delivery system. Hospitals received priority because they were judged inadequate to serve the veterans of World War II. In 1946, the Hill-Burton program was enacted to provide aid for hospital construction and modernization.

Between 1948 and 1971, nearly \$13 billion was spent nationally on hospital construction projects; more than \$9 billion was for short-term care hospitals. About 30 percent of the funding was provided by the Hill-Burton program.^{3/} Partly because of this federal stimulus, the number of short-term hospital beds approximately doubled in the post-World War II period, rising from 473,000 in 1946 to 947,000 in 1975 (see Table 5). The result was a 33 percent increase in the bed-to-population ratio, from 3.3 to 4.4 beds per 1,000 persons. The program also helped eliminate substantial disparities among states in bed-to-population ratios because its distribution formula favored those states with low per capita incomes and relatively fewer hospital beds.

^{3/} J.R. Lave and L.B. Lave, The Hospital Construction Act: An Evaluation of the Hill-Burton Program, 1948-1973. American Enterprise Institute for Public Policy Research (Washington, D.C., May 1974).

A federal program of direct support for capital development of hospitals is apparently no longer necessary, except in isolated instances. But hospitals are continuing to expand, relying now on debt financing rather than direct grants. Debt financing is easily secured because private insurance and federal reimbursement programs usually assure that revenues will meet both operating and capital costs. These reimbursement programs do not pay for debt principal directly. However, they usually reimburse the hospital on the basis of its costs and include a depreciation allowance, which is intended to cover replacement costs. There is no incentive, however, for a hospital to retain the depreciation allowance and no restriction on its immediate use, so the allowance can be used for any purpose, including debt payments. If the annual depreciation allowance is greater than the annual debt payment, there could be unexpended revenues in a hospital's budget, further encouraging capital formation and new investment.

Tax-exempt bonds, which most hospitals may issue, have become the major source of capital in recent years. Tax-exempt bonds were expected to account for 54 percent of all construction outlays of short-term hospitals in 1976, while government grants were expected to account for only 3 percent. Philanthropy was expected to account for 10 percent; internal surpluses, 8 percent; and other private financing, 25 percent. 4/

Today, many experts believe that the nation actually has too many short-term hospital beds, that rapid growth has taken place without attention to actual need. 5/ This reflects the fact that planning for hospital beds is usually based on current utilization levels in the community, rather than on some more desirable level. As discussed above, hospital admissions and lengths of stay can be altered so that an existing bed often becomes a utilized bed.

4/ R.S. Kelling and P.C. Williams, "The Projected Response of the Capital Markets to Health Facilities Expenditures for the Years 1976-1981" (presented at the Conference on Capital Formation for Health Facilities, University of Pittsburgh, Pittsburgh, Pennsylvania, November 1976).

5/ Institute of Medicine, Controlling the Supply of Hospital Beds, A Policy Statement (Washington, D.C., National Academy of Sciences, October 1976), and Walter McClure, Reducing Excess Hospital Capacity, Contract Number HRA-230-76-0086, U.S. Department of Health, Education, and Welfare, Bureau of Health Planning and Resource Development (October 1976).

Physicians, rather than hospital administrators or the patients themselves, largely determine the use of hospitals, as well as the type and amount of care. Since current manpower policies will significantly enlarge the total number of physicians, pressures to fill existing beds and, more importantly, to expand the number of beds are likely to continue.

Manpower

Federal health manpower policy since the mid-1960s has been aimed primarily at reducing what was widely perceived as a serious shortage of health professionals -- particularly physicians. The Health Professions Educational Assistance Act of 1963 was enacted to provide construction and renovation grants to health professions schools as well as aid to students. Soon after, separate legislation provided aid to nursing and allied health training institutions. Since then and until 1976, efforts concentrated on increasing the supply of health professionals. (The Health Professions Educational Assistance Act of 1976 shifted the federal emphasis from expanding supply to geographic and specialty redistribution.)

Between fiscal years 1964 and 1976, federal spending for training of health professionals through the health professions legislation totalled \$5.0 billion. Annual expenditures rose from \$20.8 million to \$432.0 million in 1976, with a peak of \$702.3 million in 1973. 6/ These federal health manpower efforts, together with the steady influx of foreign medical graduates (FMGs), have resulted in a 50 percent increase in the number of physicians, from 251,900 in 1960 to 375,300 in 1976, and a 80 percent increase in the number of registered nurses, from 527,000 in 1950 to 906,000 in 1975. Per 100,000 population, the number of physicians rose from 146 to 176 and nurses from 290 to 423. Table 6 in the previous chapter highlights past trends in manpower supply.

These growth trends are expected to continue through the rest of the century, largely because of higher enrollments in schools for health professionals (see Table 7). The combined graduating classes of U.S. medical and osteopathic schools are expected to total 16,500 in 1980, more than double the 1960 number. Projections for 1990 indicate

6/ These figures represent only funds appropriated for direct educational aid through the Bureau of Health Manpower. Additional funds for educational research and training totalled \$1.49 billion in 1976.

that there will be more than 590,000 physicians, about a 60 percent increase over 1975. ^{7/} The physician-to-population ratio is projected to increase by more than 35 percent in the same period. Total growth in the number of registered nurses is projected to be even more dramatic, with the ratio of nurses to population growing by more than 45 percent between 1975 and 1990.

Table 7. PROJECTIONS OF HEALTH MANPOWER INCREASES: SELECTED YEARS 1975-1990

Year	All Health Professions	Physicians	Registered Nurses
(Numbers in thousands)			
1975	1,575	375	906
1980	1,945	446	1,166
1990	2,546	590	1,532
(Number per 100,000 population)			
1975	736	175	423
1980	873	200	523
1990	1,039	241	625

SOURCE: U.S. Department of Health, Education, and Welfare, Health Resources Administration, Forward Plan, Fiscal Years 1979-1983.

^{7/} This projection takes into account the effect of recent health manpower legislation, including the stricter restrictions placed on the immigration of FMGs.

The Carnegie Council on Policy Studies warned recently that medical schools now under development are not needed. 8/ The view that the health manpower shortage is over, or will be in the near future, is not shared by all. This is so partly because some geographic areas are still experiencing shortages of key professionals. The disparities among states in the physician-to-population ratio has in fact widened in the past decade. The large increases in supply expected over the next 25 years could be channeled into geographic areas with shortages, but if this is not done, pressures to solve imbalances through overall expansion may continue.

The increase in the supply of physicians in recent years has not retarded fee increases or physician incomes. In 1975, the median income, after taxes, of office-based physicians was almost \$60,000, and one out of every four physicians had a net income from practice in excess of \$80,000. 9/ The median income of physicians is more than four times the median income of all families. The high income and the prestige of physicians help explain the surge in applications for medical school in recent years.

Physician incomes, which have remained high in areas with the highest ratio of physicians to population, are a cost to the payer of health services. Moreover, since care delivered by physicians involves other health workers, hospitalization, tests, and other procedures, the total expenditure effect of each additional physician is some multiple of his income. 10/ This multiple might rise in

8/ Carnegie Council on Policy Studies, "Progress and Problems in Medical and Dental Education," Josey-Bas, Inc. (1976). This is an abrupt change of view; just five years ago a Carnegie Council report recommended rapid expansion of medical schools.

9/ "Earnings Survey: Which Specialties Are Staying Ahead of Inflation?" Medical Economics, October 18, 1976.

10/ Little work has been done on the total expenditure impact of physicians. Carl Lyle and others, "Cost of Medical Care in a Practice of Internal Medicine, A Study in a Group of Seven Internists," Annals of Internal Medicine, Vol. 81, No. 1, July 1974, showed that in 1972 for six of the seven physicians the average expenditure impact per physician (including physician and hospital billings) was about \$260,000. Given the inflation rates since 1972, the impact in 1977 would be more than \$350,000. Also, John Morrow and Arch Edwards, "U.S. Health Manpower Policy: Will the Benefits Justify the Costs?" Journal of Medical Education, October 1976, estimated that if the physician-to-population ratio expected in the year 2000 were present in 1975, total health expenditures in 1975 would have been 12 percent of GNP.

the future because physicians are making increasing use of hospitals, tests, and expensive equipment in the provision of care.

Technology

Federal reimbursement policies have contributed to the rapid diffusion and expansion of laboratory tests and procedures, and federal research and development expenditures have spurred advances in technology. Of the \$3.1 billion spent on health research in 1976, \$2.0 billion was channeled through the National Institutes of Health (NIH). Over the previous three decades, NIH's expenditures grew at an annual rate of more than 20 percent; since 1965, outlays have increased about 180 percent. Recent growth in outlays for biomedical research has been concentrated on specific conditions, such as cancer and heart disease, in an effort to reduce their prevalence. Because the underlying causes of cancer and heart disease are not yet well understood, the targeting of research dollars seems to have resulted in expensive technological therapies that are ameliorative, rather than curative. For example, the surgery, chemotherapy, and radiation developed for the treatment of cancer have greatly driven up costs without proportional increases in survival rates.

The total number of laboratory tests performed increased from about 2.9 billion in 1971 to an estimated 5.0 billion in 1975. Over the last six years, the number of laboratory tests per hospital admission rose by more than 8 percent annually. Intensive and coronary care units and departments of respiratory therapy have spread to more and smaller hospitals over the last 20 years. Only 21 percent of nonprofit hospitals with more than 300 beds had an intensive care unit in 1958, but nearly all nonprofit hospitals with more than 200 beds and more than 40 percent of hospitals with fewer than 100 beds had an intensive care unit in 1975.

The motivating factor in the use of new procedures and equipment has been the physicians' hope that the quality of care would improve. Whether or not this hope is fulfilled is the most important measure of the success of a new technology. However, a second dimension -- how technological change affects cost -- has rarely been considered. While the cost of a day spent in a hospital rises significantly every year because of increased technology, virtually no data exist to show how technological changes have affected the growth in total health expenditures or expenditures for treating specific diseases. 11/

11/ While this discussion focuses on the cost impact of new technologies, there is no implication that the quality of health care has not improved. The emphasis is on the cost impact because this aspect has received so little attention.

Some procedures and equipment appear to have raised health costs, others appear to have lowered costs; for still others, the cost question is unanswered. Unfortunately, new technologies often spread before either medical or cost impacts are well understood. ^{12/} The medical community has virtually stopped doing heart transplants, but other less newsworthy and less expensive procedures have persisted long after they have been found to be ineffective or even dangerous. ^{13/} While no thorough evaluation of their cost-effectiveness exists, laboratory and diagnostic tests have increased considerably and now account for more than 10 percent of total national health-care expenditures.

Intensive care units (ICUs) have a major impact on health expenditures because of the equipment and personnel required to operate them. ICUs also use more lab tests, x-rays, and other services. It has been estimated that the average hospital cost per patient day in 1975 was 10 percent higher than it would have been without ICUs and other specialized units. ^{14/} While these units have saved lives and improved the quality of medical care, questions have been raised as to whether they are cost-effective or used efficaciously.

^{12/} The most widely discussed example is gastric freezing for ulcer disease. This technique was widely adopted in the early 1960s without evidence as to its efficacy and against the recommendation of the American Gastroenterological Association. The current widespread adoption of coronary artery bypass surgery and brain scans by computerized axial tomography (usually referred to as CAT scanners) has occurred without knowledge as to their cost-effectiveness. While gastric freezing was found nonefficacious, the latter two, although beneficial, may be used too often.

^{13/} Examples are the continued use of penicillin to treat viral infections and the wide use of chloramphenicol, a powerful antibiotic, for purposes ranging from treatment of colds to post-operative prophylaxis. Unnecessary use of penicillin increases the likelihood that resistant strains of bacteria will develop. The unnecessary use of chloramphenicol has even more drastic consequences because of the high risk of side effects, such as severe blood disorders.

^{14/} Louise B. Russell, Making Rational Decisions About Medical Technology (paper presented to the American Medical Association's National Commission on the Cost of Medical Care, Chicago, November 23, 1976).

The impact of technological changes on costs may also be examined on the basis of their effect on individual diseases. Immunizations that prevent such diseases as polio and diphtheria, or drugs that control such conditions as pneumonia, tuberculosis, and some mental illnesses have clearly lowered the costs of treating specific diseases. Other treatments that alleviate the incapacitating effects of a disease or prolong life without curing the disease have raised costs substantially; the current treatments for coronary artery disease, kidney failure, and cancer are three examples.

There has been little analysis of the way in which the cost of treating most diseases has changed over time. One longitudinal study of eleven conditions commonly found in hospitals, including childbirth, pneumonia, and forearm fracture, found mixed results: costs fell for five of the eleven conditions. ^{15/} The cost reductions were due largely to shorter periods of hospitalization. It appears that direct experimentation with different lengths of stay for some conditions, such as childbirth, showed no advantage for longer stays. For the diagnoses in which costs rose, an increase in the number of laboratory tests was the major reason. ^{16/}

^{15/} Anne Scitovsky and Nelda McCall, "Changes in the Cost of Treatment of Selected Diseases, 1951 - 1964 - 1971," Palo Alto Medical Research Foundation, Research Grant No. 1 P01 HS00409, National Center for Health Services Research (August 1975). This study only includes patients located at the Palo Alto Medical Clinic, so the results may not be representative.

^{16/} One illness for which costs changed dramatically was myocardial infarction. The additional real input costs for treating one myocardial infarction patient between 1964 and 1971 (an average of \$800) far outweighed the savings in treating all the other conditions studied.

CHAPTER IV. CURRENT EFFORTS TO REGULATE HOSPITAL COSTS

The rapid, sustained growth of hospital expenditures, particularly since the enactment of medicare and medicaid, has made hospitals the focus of regulatory efforts to control health expenditures. The way in which the underlying factors of demand and supply (discussed in the two previous chapters) have worked together to raise expenditures is particularly applicable to hospitals. With more than 90 percent of hospital revenues coming from third-party payments, cost increases have not had the effect of reducing demand for hospital care. Cost-based reimbursement has permitted expansion and the provision of a broader, more complex range of services involving more manpower and greater technology.

Not surprisingly, regulatory efforts to control costs have multiplied in recent years. This chapter describes such efforts, including programs dealing with the supply, utilization, and reimbursement of hospitals. While it is too early to draw conclusions as to the effectiveness of these cost-containment efforts, it is clear that the success has been rather limited. Important insights have been gained from earlier failures, however, and some modifications have been made in the programs. Other possible modifications emerge from this evaluation; they are discussed in the next chapter.

THE GROWTH OF HOSPITAL EXPENDITURES AND COSTS

Hospitals have become the target of regulatory action because of their importance in terms of overall health expenditures and because the cost of a patient day has increased rapidly over the past decade.

Hospital care is the largest component (about 40 percent) of health expenditures today. Just 10 years ago, hospitals accounted for about 34 percent of all health expenditures. Between 1950 and 1976, total hospital expenditures increased more than fourteen-fold, and per capita expenditures for hospital care increased about nine-fold. Table 8 highlights this remarkable growth.

Table 8. TRENDS IN HOSPITAL EXPENDITURES AS A PERCENT OF TOTAL NATIONAL HEALTH EXPENDITURES FOR SELECTED FISCAL YEARS: DOLLARS IN MILLIONS

Year	Total National Health Expenditures	Hospital Care	Hospital Care as a Percent of Total
1940	3,883	969	25.0
1950	12,027	3,698	30.7
1960	25,856	8,499	32.9
1965	38,892	13,152	33.8
1970	69,201	25,879	37.4
1976	139,312	55,400	39.8

SOURCE: Robert Gibson and Marjorie Mueller, "National Health Expenditures, Fiscal Year 1976," Social Security Bulletin, April 1977, p. 15.

Roughly 90 percent of the increase in per capita expenditures for care in short-term general hospitals resulted from higher costs per patient day and only 10 percent from an increase in the number of days per capita. Since the introduction of medicare and medicaid, the annual rate of increase in the cost per day of hospital care has grown from less than 7.5 percent between 1950 and 1965 to about 14.0 percent for the 1965-1975 period.

In Table 9, the increases in cost per patient day are separated into costs due to inflation and costs due to new services. While more rapid economywide inflation rates have contributed to the acceleration in hospital costs since 1965, the growth rate of new services and the nonlabor components of these new services have also been dramatically higher.

Table 9. SOURCES OF INCREASE IN HOSPITAL COST PER PATIENT DAY:
SELECTED FISCAL YEARS 1960-1976

Item	Average Annual Percent Increase						
	1960-65 <u>a/</u>	1965-67	1967-71	1971-73	1974	1975	1976
Total Increase	6.7	10.4	14.0	10.5	9.8	15.8	14.7
Increase in Wages and Prices	3.4	3.9	7.8	5.2	6.8	10.7	8.3
Wages	4.7	4.8	9.9	6.3	5.2	9.8	9.0
Prices	1.3	2.6	4.8	3.8	9.0	11.0	7.1
Increases in Services	3.3	6.5	6.2	5.3	3.0	5.1	6.4
Labor	1.7	3.9	2.9	2.3	0.7	2.7	2.2
Other (nonlabor, e.g., x-rays, lab tests, etc.)	5.9	10.5	11.0	9.3	6.0	7.5	10.6
Percent of total increase due to:							
Wages and Prices	50.7	37.5	55.7	49.5	69.4	67.7	56.3
Services	49.3	62.5	44.3	50.5	30.6	32.3	43.7

SOURCES: Price data are from the Consumer Price Index, Bureau of Labor Statistics. All other data are from Hospitals, Guide Issue, August 1, various years, and American Hospital Association, Hospital Statistics, 1973 Edition. Data for fiscal years 1973-1976 are from the Hospital Panel Indicators Survey.

a/ Figures calculated on a per patient day basis; figures for all other periods are calculated on a per adjusted patient day basis. The latter include an approximation of equivalent services to outpatients.

THE IMPACT OF INCREASED INSURANCE COVERAGE

In 1950, the average cost for an inpatient hospital day in a community hospital was \$15.62; in 1975 it was \$151.53. The greatly increased cost per day has not reduced the demand for hospital care, partly because cost to the patient at the time care is purchased -- the net cost -- has risen much more slowly than the actual cost. It has been estimated that the net cost to the patient, the out-of-pocket expenditure, has increased only from \$7.75 to \$18.03. 1/ This smaller increase in net cost reflects the substantial growth in private and public health insurance, which accounted for about 60 percent of hospital revenues in 1950 and almost 90 percent in 1975. 2/ The small increase in out-of-pocket hospital costs has been outstripped by the growth in prices in the general economy, so today the consumer must give up less of other goods to purchase a day of hospital care than he would have had to give up in 1950. 3/

Neither the patient, who is not bearing higher costs at the time care is provided, nor the physician, who decides on the amount and type of care, have exhibited much cost-consciousness. Insurance companies, which pay most hospital bills, have avoided involvement in the patient/physician relationship. To the extent that they are at all cost-conscious, insurance companies have concentrated on total hospital costs. 4/

1/ Martin Feldstein and Amy Taylor, "The Rapid Rise in Hospital Costs," Staff Report for Council on Wage and Price Stability, January 1977.

2/ When government payments are excluded, the growth in third-party payments is just as dramatic. The proportion of private hospital costs paid by private insurance rose from 37 percent in 1950 to 79 percent in 1975.

3/ Feldstein and Taylor, "The Rapid Rise in Hospital Costs."

4/ This means that, while the insurance companies have supplanted the patient in terms of paying for the cost of hospital care, they do not represent the patient in terms of defining the need for medical care or in negotiating the level, amount, or price of health-care services. There are many reasons for this. Insurance companies do not want to second guess physicians or tell the patient, their insuree, what is the right care for him. Also, because they pay on the basis of average cost, there may be little financial gain from restricting the services provided to their insurees.

The rise in hospital costs has been encouraged by the way in which hospitals are reimbursed by federal financing programs and private insurance. The majority of hospital reimbursements are based on reasonable costs incurred; this means that the added cost of new beds or equipment may be readily offset by higher revenues. The pressures on hospitals to expand the scope and quality of their services are intensified by increasing numbers of physicians demanding more equipment and by the increasing availability of sophisticated medical-care technologies. Since purchases of expensive equipment and technologies add to the prestige of the institution and involve little financial risk, there is an incentive to acquire excess capital, both in beds and equipment.

CURRENT EFFORTS TO CONTAIN HOSPITAL EXPENDITURES

Mechanisms intended to regulate the supply, utilization, and reimbursement of hospitals have been developed in recent years.

- o Supply. The primary federal statute for controlling the supply of facilities and institutional services is the National Health Planning and Resources Development Act of 1974. This act mandates that each state establish a certificate-of-need process to assure the necessity of additional hospital beds and expensive equipment.
- o Utilization. The 1972 amendments to the Social Security Act established Professional Standards Review Organizations (PSROs) in part to address overutilization. PSROs were designed to assure that services financed by the medicare, medicaid, and maternal and child health programs were medically necessary, professionally acceptable, and provided most economically.
- o Reimbursement. Experiments in hospital reimbursement procedures have been funded under the 1974 health planning legislation and the 1972 Social Security Amendments. These experiments attempt to shift reimbursements from a retrospective, cost-based system to a prospective method of payment.

While it is premature to label any of these regulatory efforts a success or failure, experience to date can be analyzed to estimate their likely effectiveness in containing hospital expenditures.

Supply

The National Health Planning and Resources Development Act of 1974 (Public Law 93-641) mandated state certificate-of-need programs similar to those a number of states had initiated on their own. It also established a new planning network based primarily on the federal Comprehensive Health Planning program enacted in 1966. Further, it encompassed two previous federal efforts: the Regional Medical Program and a vastly reduced Hill-Burton program, now focused on modernization. The certificate-of-need program is the statute's source of regulatory power. Capital spending by institutions for projects costing over a certain amount must be reviewed and justified as necessary under a certificate-of-need program.

In 1964, New York became the first state to enact a certificate-of-need statute, primarily at the urging of its own hospital industry, which feared economic instability. By 1969, four more states -- California, Connecticut, Maryland, and Rhode Island -- had enacted similar statutes. In these states, as in New York, the certificate-of-need concept was supported by the hospital industry. Unlike New York's original program, programs in the four other states established links between certificate-of-need and the federally-initiated health planning agencies, which incorporated the principle of consumer involvement.

Empirical analysis reflecting primarily the impact of these five early programs indicated that between 1968 and 1972 growth in the number of hospital beds was reduced by a maximum of 9 percentage points from the number expected without a certificate-of-need program. Growth in total plant assets, which includes beds, equipment, and other investments, was not affected, however. Hospital utilization is another component of health-care expenditures one might expect to be lower if reducing supply reduces demand. 5/ The analysis showed that the level of hospital utilization in 1972 was, on average, about

5/ The effect of an increased supply of beds on hospital utilization was discussed in Chapter II. Lower utilization rates would occur if the same relationship were true for reductions in the number of beds.

4.8 percentage points lower than it would have been without the certificate-of-need program. The summary measure, however, hospital expenditures per capita, showed very little change. In other words, certificates-of-need merely altered the components of expenditure increases; they did not reduce the size of the increases. 6/

Results for the years 1968-1972 were updated for 1971-1974, using statistical relationships similar to those employed in the earlier study. For at least part of this later period, 25 states had certificate-of-need programs. The 20 states with new programs showed no lowering of growth in the number of beds, and actual increases in plant assets per bed and total plant assets -- increases beyond the level expected without certificates-of-need. However, further analysis of the five early state programs, using a number of statistical specifications, suggests -- although not conclusively -- that increases in all three measures of capacity may in fact have been slowed down. The most positive results indicate that the early certificate-of-need programs reduced growth in beds by 4 percentage points, plant assets per bed by 10 percentage points, and total plant assets by 18.5 percentage points, in a period when the growth of such assets increased on average by 40 percent. According to this evidence, at the end of the three-year period, 1971-1974, hospital expenditures per capita in the five early states were somewhat lower (a maximum of 3.1 percent) than they would have been without a certificate-of-need program. These conclusions should not be taken as definitive, since the relationships observed were often not statistically significant and varied with the states included. 7/

6/ David Salkever and Thomas Bice, Impact of State Certificate of Need Laws on Health Care Costs and Utilization, Final Report on Contract Number HRA-106-74-57, U.S. Department of Health, Education, and Welfare; National Center for Health Services Research, January 31, 1976. This analysis used controls for the effect of variables such as the condition of existing hospital facilities, number of physicians, and investment climate.

7/ Although the effects of certificates-of-need on beds and plant assets per bed were not statistically significant, those for total plant assets were significant at the 7 percent level in one of the three equations. The results were more significant when California was excluded and less significant when New York was excluded. Finally, the presence of the federal Economic Stabilization Program controls and the fact that New York and Rhode Island had prospective reimbursement experiments for some part of the study period may have affected the results.

It is possible that the effectiveness of certificate-of-need programs increases with time. In particular, it may take several years to develop the ability and cost-consciousness to review services and equipment.

One question that can be asked about the planning and regulatory network established by Public Law 93-641 is whether it can be effectively implemented in a few years? Start-up time appears to be necessary, and, in those states with little regulation prior to enactment of Public Law 93-641, implementation may be more difficult because the program is not voluntary. HEW has established 200 of the 205 required areawide Health Systems Agencies and 52 of the 56 State Health Planning and Development Agencies and Health Coordinating Councils, but there were extensive delays in issuing the final regulations for new state certificate-of-need procedures. The Ford Administration may have damaged the program's credibility by proposing (in two succeeding years) its inclusion in a health block grant to states, despite the fact that no Congressional support developed for this proposal. ^{8/} Partly for these reasons, only two states have enacted certificate-of-need statutes in the last two years. Thirty-two states now have such laws on the books; however, they are operative in only 31 states.

There are several other problems related to implementation. One involves relations between different levels of governments. States and local governments often complain that, despite their interests in controlling costs, the law allows them too little involvement in decisionmaking. States also claim that they are being denied the staff and resources to operate the program effectively. Finally, as more certificate-of-need applications are denied, decisions may increasingly be appealed by institutions with substantial legal resources. Review boards and courts may overturn some of these decisions and undermine the process.

A second and more basic problem is whether the reduction in hospital expenditures achieved by even the more effective certificate-of-need programs is enough. A necessary (though insufficient) condition for the success of a regulatory program is that it save as much as it costs to administer. This would appear to be the case with Public Law 93-641, which will cost roughly \$200 million in

^{8/} The block grant would have required only that some kind of public planning process be established. States could have eliminated certificate-of-need procedures.

federal funds when fully implemented. 9/ If every state had had a program whose effectiveness equalled the maximum impact of the five early programs, reductions would exceed \$200 million. 10/ However, savings and other benefits derived from regulation should also be measured against its risks -- bureaucratic inflexibility and a tendency to perpetuate the existing system. If, in this broader sense, benefits are not greater than costs, regulation may be the wrong choice. Conversely, expansion in the scope of regulation might increase the program's effectiveness. One major weakness of the existing mechanism is that it controls only new facilities and not those already established. Another is the difficulty in controlling expenditures for equipment as opposed to new beds.

Utilization

Professional Standards Review Organizations (PSROs) are community-based organizations operated by private physicians. Three integrated efforts comprise the PSRO program: review of institutional care, medical-care evaluation studies, and profile analysis. These review efforts are undertaken to assure that the care provided federal beneficiaries is necessary and provided in the most economical way.

In fiscal year 1976, "conditional" PSROs reviewed 1.25 million, or about 8 percent, of the 15 million hospital discharges reimbursable under the medicare, medicaid, and maternal and child health programs. 11/ The current cost of review for a single hospital admission

9/ The \$200 million is the total cost of implementing all activities of the act. Because the planning process also involves assessing the health needs of the community and reallocating health resources, a cost/benefit evaluation of this program would have to include benefits other than restraining unnecessary growth in hospital expenditures.

10/ The inconclusive nature of the findings reported in this paper and particularly the need to know how the longevity of the program affects hospital expenditures point to the need for further quantitative studies.

11/ By statute, a PSRO does not become operational until it is able to review federal beneficiaries in long-term care institutions. Since this aspect of the program was delayed while hospital review was emphasized, no PSRO is yet doing complete reviews of long-term care.

is estimated to range between \$12 and \$16. ^{12/} At this rate, it would cost the federal government about \$200 million to review all 15 million admissions.

The local PSRO usually delegates review responsibilities to a hospital-based committee. The statute specifically requires each hospital to conduct its review before a patient is admitted or during his hospital stay. The vast majority of reviews now conducted are concurrent, rather than pre-admission. This entails review within two days of admission plus continued-stay review after a designated number of days. The statute does not mandate that every admission be reviewed, but the law is being implemented in this way.

Thus, concurrent review is the primary mechanism for assessment of utilization and cost control. The major vehicles for quality review are medical-care evaluation studies or medical audits conducted by PSROs. These evaluation studies assess the quality and administration of health-care services to a group of patients within a hospital.

Although the PSRO program is still in its infancy, hard questions are being asked about its potential effectiveness in reducing costs. The questions reflect, in part, the skepticism of those who doubt that physicians will monitor themselves toughly, particularly when the criteria for acceptable care are not well established.

Definitive evidence of the impact of PSROs on the cost and quality of medical care will not be available for some time because the program is new and because valid and reliable baseline and operating data do not exist. ^{13/} Some useful insights are provided, however, by evaluations of a few PSROs and PSRO-like organizations -- the Colorado Foundation for Medical Care, the New Mexico Foundation for Medical Care, the Utah Professional Review Organization, and the Sacramento Foundation for Medical Care. Each of these organizations was established voluntarily before the passage of national PSRO legislation, so generalizations to organizations mandated by statute may be questionable.

^{12/} The cost of review per admission in 1974 for seven conditional PSROs ranged between \$12 and \$27, the average being \$15. The lower range mentioned here assumes some economies and improvement in management.

^{13/} Institute of Medicine, Assessing Quality in Health Care: An Evaluation, National Academy of Sciences (Washington, D.C., November 1976).

The results of these evaluations are inconsistent with regard to overall cost savings. Little or no evidence of reduction in admissions or length of stay was found in the Utah 14/ and New Mexico 15/ studies. The studies in Colorado 16/ and Sacramento found substantial savings -- between \$3 and \$4 for every \$1 spent for the review program. In both Colorado and Sacramento a decline in utilization rates occurred concurrently with the initiation of inpatient review. Both of these studies suffer from methodological problems, however, particularly the Colorado study. 17/

The Sacramento program, for which the evaluations are only preliminary, provides the best evidence that PSROs are capable of reducing costs. The cost savings reported are rough approximations and probably overestimated because the study assumed that the total cost of room and board was saved. Also, this study did not adjust for utilization trends over time that would have occurred without the review program; if a trend towards shorter stays or fewer admissions already existed, undue credit could be given to the program. A study of medicaid patients in Allegheny County, Pennsylvania,

14/ Paul Bonner, "On-Site Utilization Review: An Evaluation of the Impact on Utilization Patterns and Expenditures" (Sc.D. dissertation, Harvard School of Public Health, February 1976).

15/ Robert Brook and Kathleen Williams, An Evaluation of New Mexico Peer Review, The Rand Corporation (Fall 1976).

16/ Kenneth A. Platt, Medical Director of Colorado Foundation for Medical Care, Statement before the Subcommittee on Health and the Environment, House of Representatives Committee on Interstate and Foreign Commerce, 94th Congress, Second Session (February 18, 1976).

17/ The Colorado study did not control for any downward trends in admissions that existed prior to the review process, for other important factors affecting utilization, or for intensified administrative review of fiscal intermediaries. Moreover, in estimating the savings from peer review, the study erroneously included total hospital charges per day rather than the variable costs that might have been avoided. The Sacramento study did not control for downward trends in utilization before the establishment of the review programs. However, it did have a control group and controlled for other determinants of utilization.

found just such a phenomenon: length of stay fell in hospitals without a review program as well as in those that had one. Moreover, the downward trend for all hospitals had begun before the introduction of the review process. 18/

Studies of review programs in three individual hospitals by the Institute of Medicine also found inconsistent results. 19/ Significant savings were found in only one of the three hospitals. This hospital had pre-admission review, stringent requirements for patient treatment, and aggressive planning for patient discharge.

In summary, the preliminary evidence suggests that significant reductions in cost have not often resulted from the operation of PSROs. This is particularly true when aggressive management and pre-admission review procedures are not followed. 20/ In judging the potential value of PSROs, it must be recognized that hospitals and physicians are primarily interested in using the review process to eliminate poor medical practices and improve the quality of care, rather than to reduce admissions or lengths-of-stay in order to control costs.

With regard to mechanisms other than PSROs that might reduce utilization, the current method of financing hospital stays offers virtually no incentive to physicians to avoid hospitalizing patients, but the availability of hospital beds does. Fewer admissions and shorter lengths-of-stay appear to occur in communities with low bed-to-population ratios.

18/ Judith R. Lave and Samuel Leinhardt, "An Evaluation of a Hospital Stay Regulatory Mechanism," American Journal of Public Health, October 1976.

19/ Institute of Medicine, Assessing Quality in Health Care, page 71.

20/ Both the Sacramento review system and the one hospital for which savings were found by the Institute of Medicine had a pre-admission review program. The Institute of Medicine report cited above stated that available information does not demonstrate the effectiveness of the concurrent review programs examined. When the regulations describing the necessary functions of PSROs were being written, the medical profession strongly opposed requiring pre-admission review.

Reimbursement

Demonstrations in prospective reimbursement are an attempt to shift hospital reimbursements from a retrospective, cost-based system to a prospective system which involves payment for services to be performed for a specific period of time in the future. Under a retrospective cost reimbursement system, there is great potential for hospitals to:

- o use resources inefficiently,
- o operate at too low an occupancy rate,
- o maintain excess capacity, and
- o provide services of limited value.

A prospective reimbursement system may modify the behavior of hospitals by fixing some component of reimbursement for hospital services in advance, regardless of the actual costs incurred.

The results of prospective reimbursement demonstrations are still inconclusive. Experiments already evaluated have not shown significant savings, but programs initiated during the last two years by several states and the experience of the federally-run Economic Stabilization Program suggest that such savings are possible.

Results of federally-funded evaluations of five private or state-run prospective reimbursement experiments are now available. ^{21/} For all five, the prospective reimbursement rate was set on a per diem basis; the cost-containment focus was on inefficiency in the use of resources and on low bed-occupancy rates.

Table 10 compares the five experiments. The two programs in New York used identical approaches and were the most restrictive. These two and the one in New Jersey followed most closely the intent of prospective reimbursement, since all savings and losses were absorbed by the hospital. In the New York experiments, an allowable

^{21/} Results presented at a conference held by the Social Security Administration to present the findings of the evaluators, Herndon, Virginia, November 10, 1976.

annual increase in each hospital's per diem rate was determined by a standard formula. In addition, each hospital was penalized for routine costs exceeding 110 percent of the average for its group. Minimum occupancy rates and penalties for operating below them were also imposed. In New Jersey, budgets for each of the hospital's departments were used for establishing the reimbursement rates. The hospitals were grouped as to whether they were urban or rural, teaching or nonteaching, and according to size. Hospitals were not penalized for low occupancy but were for excessively high routine costs.

Table 10. COMPARISON OF RETROSPECTIVE COST REIMBURSEMENT TO SELECTED METHODS OF PROSPECTIVE REIMBURSEMENT IN FIVE EXPERIMENTS

	<u>Penalties</u>		<u>Revenue Adjustments</u>	
	Low Rate of Occupancy	Excessive Routine Costs	Percent of Cost Savings Retained by Hospitals	Percent of Cost Overruns Reimbursed
<u>Prospective Cost Reimbursement Demonstrations</u>				
Upstate New York	yes	yes	100	0
New York City	yes	yes	100	0
New Jersey	no	yes	100	0
Rhode Island	no	no	50	0
Western Pennsylvania	no	no	50	50
<u>Retrospective Cost Reimbursement</u>				
	no	no	0	100

The Western Pennsylvania and Rhode Island experiments did not include penalties for low occupancy or excessive routine costs. Rhode Island used budget review, while Pennsylvania set budget levels, using a formula in combination with negotiations. Incentives for cost-consciousness on the part of hospital administrators were of two types: one based on disallowance of budget overruns (in Rhode Island the disallowance was 100 percent and in Western Pennsylvania, 50 percent) and the other based on hospital retention of savings (50 percent in both states).

All of the studies showed small reductions in per diem costs of 1 to 4 percent. The net savings were considerably smaller, however, because the average length of stay did not decline as rapidly as it did in areas with no experiments. Longer lengths-of-stay reduce the average cost per day. In the face of a fixed per diem reimbursement rate, it is understandable that hospital administrators would encourage longer stays in order to increase revenues.

Of the five experiments, the one in Upstate New York had the smallest reduction in per diem costs (1 percent) and the one in New York City, the greatest (4 percent). These two experiments used the same formula for setting rates, but the New York City program was much more aggressively managed. The Western Pennsylvania experiment also had savings of 1 percent, perhaps for the more obvious reason that cost overruns were partially reimbursed. The similar savings in Western Pennsylvania and Upstate New York, together with the disparity between the two New York state demonstrations, suggest that most of the gains from prospective reimbursement -- when it is directed at management inefficiencies and low occupancy -- result not only from its form but from its implementation. This makes the standard-formula approach of the two New York demonstrations more attractive, since it is less expensive to administer.

The limited success of all these experiments can be attributed to a number of factors. The programs were usually not statewide and did not cover all payers to the hospitals. Another important factor may be that the experiments did not adequately separate allowable reimbursement increases to individual hospitals from actual cost increases. Budget reviews and negotiated budgets maintained the connection between increases in a hospital's costs and its revenues. The New York experiments, by adjusting hospital costs annually before factoring in the increase, also maintained this relationship.

Experience with the Economic Stabilization Program demonstrated the effectiveness of breaking the connection between a hospital's costs and its revenues. Under Phase II of this program's controls, hospitals were limited to an 8 percent increase in their per diem reimbursements, regardless of their costs. At first, hospital costs rose faster than revenues and it was only in 1974 -- three years after the program began -- that hospitals began to bring their cost increases down to the level of the allowable revenue increases. As shown in Table 9, the annual percentage increase in per diem hospital costs did fall substantially -- by about 30 percent -- during the

program. The effect of the smaller per diem increase was partially offset by an unusually large increase in the number of admissions. The percentage increase in hospital expenditures, however, did fall by about 20 percent.

The 8 percent limit on the rate of increase in per diem reimbursement was set to allow for some annual increase in new services or intensity of care, but this was lower than the 5 to 6 percent rate of increase for new services experienced from 1966 to 1971. As shown in Table 9, growth in new services fell to 3 percent in fiscal year 1974.

The belief that these federal controls were too stringent and inflexible was the impetus for proposing changes in the program, including a switch from per diem to per admission limits, an adjustment for volume variation, and a more accessible appeals procedure. The controls were lifted, however, before these changes took effect. Because the behavior of hospitals was not permanently altered, cost increases shot up once the program ended. This had led some observers to question the viability of long-term cost controls on hospitals. 22/

Fairly stringent and comprehensive prospective reimbursement programs have recently been initiated by several states, including New York, Maryland, Connecticut, Massachusetts, and Washington. Designed on the basis of the initial results in the earlier experiments, they may produce significant cost reductions. All are state-wide and will attempt to coordinate their planning and rate-setting processes with state certificate-of-need programs. Some of the programs will cover all payers to hospitals and include adjustments for changes in patient volume. The programs will also study the effect of various kinds of patients -- a hospital's case mix -- on hospital costs.

22/ The fact that the controls were more effective in the later part of the control period argues against this connection.

CHAPTER V. FUTURE STRATEGIES FOR CONTAINING HEALTH EXPENDITURES

Although experience with various regulatory approaches is limited and inconclusive, current efforts will apparently have little effect on the upward trend in health expenditures and on their ratio to GNP. Two issues, therefore, are relevant to the formulation of future cost-control strategies: how to alter the current regulatory programs, and how to alter (by means of governmental policies) the underlying supply and demand factors in the health-care sector. This chapter discusses these issues.

The existing reimbursement, facility, and utilization containment programs can be altered by increasing or decreasing the level of regulation. Changes must be made in hospital reimbursement practices if some immediate impact on hospital expenditures is to occur. A successful program, whether administered at the state or federal level, would have to break the automatic cost-increase/revenue-increase relationship that is currently enjoyed by individual hospitals. Certificate-of-need programs could be strengthened through increased financial support for the state agencies, more precise federal guidelines, and perhaps limits on capital spending. The cost-effectiveness of PSROs might be improved by restricting utilization review to more questionable medical practices or by emphasizing pre-admission review.

The expansion of regulatory efforts is an attempt to compensate for the overutilization of health care and the failure of high costs to lessen demand. Appropriate changes in the underlying supply and demand factors could reduce the need for hospital regulation. Moreover, because these supply and demand factors operate throughout the entire health sector, successful containment of hospital expenditures might accelerate nonhospital expenditures. Increases in patients' out-of-pocket costs or limits on physicians' fees might, however, increase price-consciousness related to nonhospital care.

Federal regulatory efforts to contain the supply of resources have concentrated on beds and facilities, virtually disregarding manpower and technology. While prospective reimbursement and utilization control programs can be strengthened and thereby reduce health expenditures, their effectiveness may be limited without national health

insurance, because of the number of third-party payers and the variation in their payment procedures. Supply policies, however, might be quite effective without national health insurance. (Countries with national health insurance plans are relying increasingly on constraints in supply to contain health expenditures.)

Future growth in the number of physicians could be reduced, particularly by restricting the influx of foreign medical graduates. Because each additional practicing physician generates expenditures for both hospital and physician care far beyond the level of his net income, strategies to reduce the impact of each physician on total expenditures could be considered. Altering reimbursement schedules and increasing the proportion of physicians in primary care and in prepaid health plans are possible strategies.

Little is known about the effects of technology on costs and on the efficacy of care. To gain an understanding, significant research expenditures will be necessary, beginning with the development of an assessment strategy. In the meantime, research efforts in areas of potential cost savings could be funded; these could include evaluations of the efficacy of shorter hospital stays and of diagnostic testing.

ALTERING EXISTING HOSPITAL REGULATORY PROGRAMS

The present reimbursement, facility, and utilization containment programs directed at hospitals could be changed by strategies which represent incremental change, stronger regulation, or weaker regulation. A strategy of reducing regulation would result from the belief that either a more competitive health-care market or greater price-consciousness would be more effective in containing costs.

Because of limited knowledge, it is not possible to predict accurately the cost savings or increased costs resulting from increases or decreases in regulatory efforts. The following discussion is therefore limited to describing the program components. While programs dealing with reimbursement, facilities, and utilization can be altered separately, the effectiveness of change in any one program will depend on its support by and coordination with change in the others. For example, a decision to restrict reimbursements may alter utilization patterns in an undesirable way if hospitals are not appropriately monitored. Table 11 provides a summary of alternatives by program and types of strategy.

Table 11. ALTERNATIVE STRATEGIES FOR CURRENT REGULATORY PROGRAMS TO CONTAIN HOSPITAL EXPENDITURES

Program	Strategy		
	Incremental Change	Stronger Regulation	Weaker Regulation
Hospital Reimbursement	<ul style="list-style-type: none"> o Increase the number of prospective rate-setting programs at the state level. 	<ul style="list-style-type: none"> o Mandate state rate-setting programs. o Set medicare and medicaid or system-wide per diem or per admission limits. o Disallow unusually high costs. o Limit annual increase in revenues. 	<ul style="list-style-type: none"> o Require hospitals to submit bids for reimbursement subject to specific penalties and rewards.
Supply of Facilities and Institutional Services	<ul style="list-style-type: none"> o Increase funding level for state planning agencies. o Place more government representatives on the boards of local agencies. o Review applications for all new facilities at one time. o Use reimbursement incentives to close unneeded facilities. o Place federal limits on capital expenditures. 	<ul style="list-style-type: none"> o Mandate state de-certification process. o Require reduction in bed-to-population ratio. 	<ul style="list-style-type: none"> o Limit regulations to situations with excess supply. o Repeal mandatory certificate-of-need requirement.
Utilization Reduction through Professional Standards Review Organizations	<ul style="list-style-type: none"> o Require pre-admission review. o Establish national criteria for admissions and length of stay. o Include some government representation. 	<ul style="list-style-type: none"> o Require review by government panels instead of private professional organizations. 	<ul style="list-style-type: none"> o Return to experimental program. o Limit selective concurrent review.

Containing Hospital Reimbursement

If the Congress decides to restrict federal budget increases in health expenditures in fiscal year 1978, its efforts will have to be directed at, at least in part, hospital reimbursement.

The incremental change strategy. If cost increases can be tolerated for the short-term, valuable information about the effects of cost-containment strategies can be gained from the experience of additional prospective reimbursement programs administered by states and private insurance plans. This experience could provide a basis from which to select a particular reimbursement approach, if a uniform national health insurance plan is enacted.

Some states have taken the lead in controlling health expenditures through reimbursement reforms. To assist states, almost \$7 million in federal funds will be made available in fiscal 1978 to support the development, implementation, and evaluation of existing efforts in reimbursement reform. In addition, Public Law 93-641 authorizes the expenditure of federal funds for up to six additional programs, provided that the states involved coordinate their rate-setting, health-planning, and certificate-of-need activities. So far, no state has qualified for these funds, although New York and New Jersey are both expected to achieve eligibility soon. Each state program funded under Public Law 93-641 will require approximately \$1 million in planning and start-up costs.

To achieve greater coordination between planning, facility regulation, and rate-setting, the federal government could provide incentives or funding priority to those states where the regulatory procedures are actually integrated. If rates set for hospitals do not consider communitywide interests and duplication of services, effective rate-setting can deal only with inefficiencies in the management of individual hospitals. Conversely, control of reimbursement rates is important in enforcing certificate-of-need decisions. Moreover, certain types of rate-setting that are not feasible at the federal level, particularly the review of individual hospital budgets, may be most effective in controlling capital investments below the certificate-of-need threshold. There are, however, administrative disadvantages to detailed budget review.

The stronger regulation strategy. Substantial reductions in the federal health budget for fiscal year 1978 could result from the imposition of limits on per diem, per admission, or total revenue reimbursements under federal financing programs. There is danger, however, that hospitals might make up some or all of these federal savings at the expense of patients not financed under federal programs; this possibility has led some experts to urge that controls be placed on all sources of revenue. The Upstate New York study (described in the previous chapter) found no evidence of transfer of costs to other payers, but it is reasonable to expect that such a transfer would occur if cost-containment pressures were great enough. Another danger is that those patients covered by programs emphasizing cost containment might get second-class treatment. This is another argument for controls on all revenues. Such controls could be accomplished through a federal law such as the one recently proposed by the Carter Administration (S. 1391 and H.R. 6575) or through federally mandated state programs. 1/

Whether operated at the federal or state level, programs to contain reimbursement rates should attempt to break the existing link between increases in a hospital's costs and automatic increases in its revenues. There are two approaches for accomplishing this. The first, proposed by Senator Herman Talmadge (S. 1470 and H.R. 7079), would deny reimbursement to an individual hospital for excessive routine per diem costs (basically room and board) for medicare and medicaid patients; costs would be judged excessive if they were more than 120 percent of the norm for a group of similar hospitals. 2/ In fiscal year 1981, the first year of implementation, this approach would yield roughly between \$100 million and \$400 million in federal savings for the medicare and medicaid programs, slightly more than 1 percent of their hospital expenditures. By making individual hospital reimbursements conform to a group norm, the approach addresses two problems of the current system: inefficiency and low

1/ The Carter Administration proposal would limit growth in the revenues of the hospital industry to about 11 percent annually. See The Hospital Cost Containment Act of 1977: An Analysis of the Administration's Proposal, prepared by the Congressional Budget Office for the Subcommittee on Health and Scientific Research, Senate Committee on Human Resources, 95th Congress, 1st Session (1977).

2/ The hospitals are grouped according to their number of beds.

occupancy rates. The principal criticisms of this approach are that it would require a uniform cost reporting system and could not be implemented for three years, that the rate of growth of total hospital costs would not be affected, and that savings would not be substantial.

A second approach focuses on limiting hospital reimbursement increases, rather than on cost differences among hospitals. This approach could be restricted to medicare only, as suggested in the Ford Administration's 1977 proposal, or it could apply to all payers, as the Carter Administration has proposed. The same limit on the rate of increase could be applied to all hospitals, or distinctions could be made between types of hospitals. With the uniform 7 percent increase in per diem reimbursement recommended by the Ford Administration, savings to medicare in the first full year would be about \$1 billion. The Carter Administration's proposal would limit growth in hospital revenues to roughly 11 percent, resulting in savings in total hospital expenditures of \$3.4 billion in fiscal year 1978. Federal expenditures for medicare and medicaid would be reduced by \$1.6 billion in 1978. The Carter proposal allows for some variation among hospitals by including adjustments for significant changes in admissions and growth in the services provided. Both the Ford and Carter proposals are aimed at reducing the growth of new services. The principal criticisms of this approach are that it would reward inefficiency by allowing higher-cost hospitals a larger growth increment; its exception procedure is too limited and inflexible; and it could induce hospitals to admit patients with illnesses that could be treated successfully without hospitalization because less complex, and therefore less expensive, cases would be more attractive. The criteria, then, for evaluating each approach are how significant the adverse affects might be, and how difficult it would be to identify and correct them.

Elements of both approaches -- disallowance of unreasonably high costs and a ceiling on the rate of growth -- could be integrated. Penalties for unusually high routine costs and bonuses for below average routine costs could be included in each hospital's base cost before applying the growth ceiling. This would have the effect of allowing efficient hospitals to grow more rapidly than inefficient ones. Another integrated approach would apply the limits on excessive cost to routine costs only and place a growth ceiling on non-routine costs. This would separate the problem of inefficient hospital operation from the problem of providing additional services of

uncertain value and allow each problem to be attacked separately. The problems inherent in singling out one sector of the economy for wage and price controls would also be ameliorated.

The weaker regulation strategy. Effective government regulation requires that the regulators understand the cost of delivering hospital services. Letting hospitals submit their own reimbursement rates through a bidding process would not require as much knowledge on the part of regulators. Individual hospitals could submit reimbursement bids for providing particular services to medicare and medicaid beneficiaries. All hospitals could participate, but the reimbursement of each would depend upon the size of its bid relative to those of other hospitals. The hospital would therefore be permitted to set its own rate, subject to two important conditions, both designed to strengthen its incentive to be cost-conscious.

The first condition is that the hospital would be penalized or rewarded in direct proportion to the extent that its bid was over or under the average for its group. ^{3/} This adjustment, based on relative bids, would provide an incentive for low bidding by each hospital and would thereby hold down the average bid for the group. The second condition is that an adjustment would be made at the end of the budget cycle, when actual costs were available. The rate of reimbursement that a hospital would actually receive would be adjusted down or up in direct proportion to the extent that its cost per unit was above or below its bid. This second adjustment would encourage each hospital to anticipate accurately its expected costs for the next period, and would prevent hospitals from bidding below cost to get a higher reimbursement rate.

^{3/} One formula that could be used in this approach is:

$$\text{Rate} = \frac{\text{Cost}}{\text{Unit}} \left[1 + \frac{(\text{Avg. Hospital Bid}) - (\text{Hospital Bid})}{(\text{Average Hospital Bid})} \right] \\ \times \left[1 + \frac{(\text{Hospital Bid}) - (\text{Hospital Cost})}{(\text{Hospital Bid})} \right]$$

The idea of bidding is discussed in a footnote in William L. Dowling, "Prospective Reimbursement of Hospitals," Inquiry, September 1974. It is cited there as originating with H. Hinderer in an address at the Fourteenth Annual Symposium on Hospital Affairs at the University of Chicago in May 1972.

Once the bidding was complete and the average bid for each group published, each hospital would be on its own in holding down costs. Those that bid higher than the average bid for their group would face a bidding penalty and would be motivated to keep their costs well below their bids to offset the penalty. Those who bid under the group average would also want to keep their costs below their bids to further increase the net revenue they would receive as a reward for bidding low. A hospital with below-average costs would typically receive more than 100 percent of its costs. The overall effect of the bidding process and of the bid -- compared to actual-cost comparisons -- would be to penalize hospitals with costs higher than the average for their group.

Controlling the Supply of Facilities and Institutional Services

A one-year extension of the National Health Planning and Resources Development Act, Public Law 93-641, has been enacted, but the Carter Administration has included major revisions of the legislation in its hospital cost-containment proposal. Budget and implementation decisions this year could also significantly affect the long-term viability of this program.

The incremental change strategy. A number of steps could help deal with the problems involved in implementing Public Law 93-641. States' opposition to the program could be partially addressed by increasing the resources available to the organizations responsible for certificate-of-need review: State Health Planning and Development Agencies. Increasing resources for the state agencies would also allow states, which tend to be more cost-conscious, to have greater input to both planning and regulation. The Carter Administration's fiscal year 1978 budget request would provide \$20 million in federal funding for the state agencies, but the National Governor's Conference estimates that \$36 million in federal funds would be required if the goal is to have active certificate-of-need programs in all states in fiscal year 1978. 4/

4/ This estimate is based on the average \$.186 per capita spent by states with operating certificate-of-need programs in 1975, inflated to 1978 levels. The current federal contribution of 75 percent is assumed.

The exclusion of local governments could be addressed by requiring that areawide Health Systems Agency (HSA) boards include a certain proportion (perhaps one third) of local government officials. ^{5/} Although some observers believe that local governments are insensitive to cost concerns, these governments are responsible for about 11 percent of all medicaid expenditures.

To insure that certificate-of-need decisions stand up when challenged before courts and review boards, the criteria upon which the decisions are based should be more specific; requiring a statutory link between the state health plan and the certificate-of-need process would help.

The procedures by which certificate-of-need decisions are made might be improved by requiring that the long-term costs of all proposed investments be estimated by applicants. In addition, applications for similar projects could be grouped. This would shift the process from one of "first come, first approved" to one closer to franchising. Franchising has been criticized because it may encourage additional investment proposals, but it could also foster competition among hospitals in terms of projected efficiency and cooperation with other planning goals.

In addition to the steps discussed above to facilitate more effective implementation of Public Law 93-641, weaknesses of the existing certificate-of-need mechanism could be addressed in a limited way through the reimbursement system. Reimbursements can be used to provide positive or negative incentives to close existing facilities. The Talmadge proposal would provide a positive incentive in the form of a small amount of money to pay for closing or converting underutilized facilities. Some states have initiated negative incentives,

^{5/} Currently, HSA boards are required to include local officials and there is a limit on the number of consumer representatives that can come from government. A current compromise lets local governing bodies control the budgets of the 23 HSAs under their jurisdiction. This arrangement may lead to conflict between the HSA and the governmental body, however, and does not help local governments participate in the 177 other HSAs that were established privately.

such as penalties for low occupancy rates, that may also lead to the closing of facilities or their conversion to other uses. It should be noted, however, that in the absence of strong PSRO review, penalties for low occupancy rates may encourage inappropriate utilization.

The other major weakness in existing controls on facilities is the difficulty of limiting investments in plant assets. To help reduce slack in hospital budgets and thereby discourage investments generally, the depreciation allowance could be eliminated from medicare and medicaid rates. Instead, approved payments on existing and new debt principal could be reimbursed. 6/

Finally, existing certificate-of-need programs might be required to operate within a federal investment limit imposed on each state. Such limits are part of the Carter Administration's proposal. They might be considered part of a stronger regulation strategy rather than an incremental change strategy. In many ways, however, federal limits are not as stringent as the steps described in the following section.

The stronger regulation strategy. If the effect of a certificate-of-need program is believed to be insufficient, states could be required to establish decertification procedures. These procedures could be made a condition for receiving categorical grant funds, as is now the case with the certificate-of-need program. Making decertification procedures a condition of participation in federal reimbursement programs would be an even stronger incentive. States already have some power to affect hospital capacity because they license hospitals. Moreover, the structure needed to insure due process in certification decisions is similar to that required

6/ The Ford Administration proposed a similar step. Medicare depreciation allowances in excess of debt principal payments would have been placed in escrow and released only for approved new capital investments. The creation of a capital pool from the savings achieved by eliminating depreciation payments to individual hospitals has also been proposed. The pool could then be used by states or HSAs for approved modernization or new projects.

for decertification. ^{7/} Decertification is, however, a virtually untried approach and a number of questions would have to be answered, including what criteria would be used to close facilities, whether outstanding debts would have to be paid, and, in the case of private for-profit hospitals, whether there would have to be compensation for the value of the lost equity.

Even with a mandatory decertification program, reducing hospital capacity would be politically difficult. Geographic, religious, or ethnic interest groups may support certain hospitals, and states may not wish to oppose such groups. If this is the case, various federal limits on the number of beds could be imposed. The Carter Administration's proposal would establish a standard of not more than 4 beds per 1,000 persons for each health service area except those with "special characteristics." Of the nation's 212 health service areas, 72 now meet this standard. If most areas met the standard, the current nationwide ratio of 4.4 beds per 1,000 persons would be reduced, on average, 10 percent. The Carter proposal would also establish an 80 percent occupancy rate. Currently, only 17 health service areas meet both standards.

Two major studies have suggested that the 10 percent reduction in the bed-to-population ratio is appropriate. ^{8/} If the 10 percent reduction in the number of beds were achieved by closing down whole hospitals and if overall utilization rates were not affected, occupancy rates would rise and hospital expenditures would be reduced by 6 percent. Based on previously established relationships between beds per capita, occupancy rates, and utilization, it has also been estimated that a 10 percent decrease in beds could reduce utilization

^{7/} The federal government's available lever is the reimbursement system, rather than licensing. However, a denial of reimbursement in order to force bed closings without a full-scale review process (such as that established by a certification or decertification program) would be open to serious legal challenge.

^{8/} Institute of Medicine, A Policy Statement: Controlling the Supply of Hospital Beds, National Academy of Sciences (Washington, D.C., October 1976); and W. McClure, Reducing Excess Hospital Capacity, Contract No. HRA-230-76-0086, InterStudy (Excelsior, Minnesota, October 15, 1976).

4.4 percent. In this case, the increase in occupancy rates would reduce the cost per patient day by only 3.5 percent, resulting in a combined savings of 7.8 percent in hospital expenditures. 9/

A limit in the bed-to-population ratio of 4 beds per 1,000 persons could be imposed immediately. A second, less drastic alternative would be to impose a moratorium on future increases in the number of hospital beds. Population growth would lower the ratio to 4 beds per 1,000 persons by the end of the tenth year of the moratorium, and annual savings realized at that time would be of the same magnitude as an immediate bed reduction. A third alternative would be to require a ratio of 4 beds per 1,000 persons by some future date. Under this alternative, only those areas whose population growth would not bring them into compliance after a fixed period of time, for example five years, would be subject to a federally imposed bed reduction; some areas could increase the total number of beds. This alternative has the advantage of allowing for future differences in population growth. The standards in the Carter Administration's proposal imply a fourth alternative. Areas not meeting either the 4 beds per 1,000 ratio or the 80 percent occupancy criterion would be required to close two beds for every new bed approved. Because the Carter Administration's proposal would not mandate bed closings, however, states might do little or nothing and the nationwide excess would not be reduced by population growth. In that case, the proposal would have the same effect as a moratorium on new beds. The severity of the two-for-one requirement, moreover, might make it particularly difficult to reallocate the existing supply of hospital beds.

It should be noted that under any circumstances a decertification program would probably be a necessary adjunct to federally imposed limits. Even if the total number of beds in an area remained the same, there could be change; some facilities could be closed and new ones built. In fact, the results might be more desirable than those produced by other alternatives.

9/ McClure, cited above. If wards or individual beds were closed, the savings would be less. The expenditures estimate assumes that 60 percent of costs are fixed. If only 40 percent of costs are fixed, savings from the same bed reduction would equal 4 percent of annual hospital expenditures if utilization was not also reduced and 6.6 percent if both utilization and cost per patient day were reduced.

The weaker regulation strategy. If the results achieved by the existing certificate-of-need programs are believed to be insufficient to justify their continued existence, federally funded mandatory controls could be repealed. As an alternative, states might be allowed to choose whether to continue the existing program, devise programs of their own, or eliminate controls under a health block grant as was proposed by the Ford Administration. In that proposal, however, no funds were earmarked for either planning or regulation. In such a situation, a state regulatory system would then have to compete for funds with many other health programs, including the rapidly-expanding medicaid program itself. A third alternative partially consistent with a reduced regulatory approach would retain the existing federal program but limit it to geographic areas or types of facilities with large bed surpluses.

Reducing Utilization

Since the PSRO implementation strategy is still evolving and the current program structure does not appear to be cost-effective, serious attention needs to be given to restructuring the program.

The incremental change strategy. PSROs may not be able to question many practices until criteria for specific diagnoses are established. Since lengths-of-stay vary widely across the country, the development and imposition of criteria reflecting the lower utilization rates in some parts of the country might yield substantial savings. PSROs lack incentives to reduce or eliminate questionable admissions and shorten lengths-of-stay, therefore, other persons more concerned with reducing health expenditures (such as representatives of government and private insurance companies) might be included on the PSRO boards. Finally, since the utilization review programs that have been successful in containing costs appear to include pre-admission review, this type of review could be mandated for all or particular diagnoses. For example, a pre-admission review program might require that second opinions be sought for all elective surgical procedures.

The stronger regulation strategy. The present system of review by peers could be replaced by government review. Such an approach has been initiated by a few states, whose health departments conduct their own reviews. This would be a drastic change from current policy. Significant data would have to be gathered regarding the effectiveness of public vs. private agencies, and procedures would have to be adopted to assure the rights of patients and physicians.

The weaker regulation strategy. PSROs might be more cost-effective if they were more selective in the cases chosen for concurrent review. If the goal were a reduction in government regulation, all PSROs could continue to conduct concurrent reviews, but financial resources would be targeted more heavily on geographic areas or institutions with abnormally long lengths-of-stay, or on specific treatments of a questionable nature, such as elective surgical procedures. This change in emphasis would not be inconsistent with the public law, but would be at variance with the current federal administration of the program.

A further retreat would be to return the program to one of experimentation with regard to cost containment, emphasizing its quality assessment aspects. The Institute of Medicine recently suggested such a strategy so that both comprehensive and targeted review using various mechanisms could be evaluated.^{10/} The budgets for most of the planning and conditional PSROs would be reduced, and the basic task of most PSROs would be medical care evaluation.

With either of these reduced regulatory approaches, the funding for concurrent review could be authorized and appropriated by direct grants rather than paid out automatically from the medicare trust fund, as is the current practice.

IMPROVING THE MARKET FOR MEDICAL SERVICES: ALTERING THE UNDERLYING DEMAND AND SUPPLY FACTORS

The health-care system in the United States exhibits a number of characteristics that inhibit the market's role in the efficient allocation of resources. These characteristics can be described in terms of consumer demand, physician supply and behavior, and technology.

Consumer Demand

Consumers lack knowledge about the benefits of medical care and the prices charged for various services. Health education programs may improve their knowledge. The Federal Trade Commission is investigating alleged price fixing and bans on advertising by

^{10/} Institute of Medicine, Assessing Quality in Health Care, p. 78.

various provider organizations. How effective these efforts will be in establishing prices as an influence on health-care demand is uncertain. Lack of knowledge and limited advertisement are not new phenomena and therefore do not explain the recent, more rapid growth in health-care costs. Nor are improved consumer knowledge and more advertising likely to change greatly the out-of-pocket costs to the patient. If prices are to become a more important determinant of consumption, the prices faced by consumers at the time that the care is purchased must be increased.

Higher out-of-pocket costs are the key to strengthening the medical market, according to some experts. Changes in the insurance or tax systems could dramatically increase the prices faced by consumers at the time they purchase health care. The out-of-pocket or net cost to the patient would be increased if the scope of insurance coverage were narrowed or if the amount of copayment was increased. If the employer's health insurance payments were treated as income to the employee for tax purposes, the trend of health insurance plans to complete coverage for all medical expenditures might be reversed. Another, less drastic, approach would be to set a fixed dollar tax credit. With either of these changes, insurance coverage might tend to concentrate on unusual or large expenditures. Under current policies, the federal government can increase copayments only for federal beneficiaries. The Ford Administration proposed hospital copayments of 10 percent for medicare recipients. However, since the amount of hospital care sought is not very responsive to small changes in the price charged, the reduction in federal expenditures would be largely offset by higher out-of-pocket outlays by the aged and the poor. The level of price increases necessary to cut demand dramatically may not be desirable for federal beneficiaries and may be opposed by other consumers of health care.

Physician Supply and Behavior

One obvious way to control future expenditures is to limit the total supply of physicians. The easiest way would be to limit the entry of foreign medical graduates (FMGs) into this country. The 1976 health manpower legislation moves in this direction by raising the entry requirements for FMGs, and making entry through the exchange visitor program more difficult. A requirement that every licensed physician earn his undergraduate degree in the United States or Canada -- provisions similar to those now applied to dentists -- would reduce the total supply of physicians in 1990 by more than 75,000, or 13 percent.

Reducing the number of slots in U.S. medical schools is another alternative. This would be extremely difficult to accomplish as long as FMGs are allowed to enter and practice medicine. The federal government could, however, discourage new schools and increased enrollment by limiting or not providing per-student support to institutions. Governors and state legislators could be informed that the new health manpower legislation is more likely to solve their distribution problems than further expansion of their state medical schools.

It should be noted, however, that restrictions placed on the supply of physicians may further one goal (controlling expenditures) at the expense of another (correcting the maldistribution of physicians). Theoretically, serious problems of maldistribution -- both in terms of geographical areas and medical specialties -- could be resolved in the next few years, as the supply of physicians increases. Actions to restrict the supply would interfere with the redistribution. At best, health care would continue at the existing level; at worst, it would decline. Patients in mental institutions and inner-city public hospitals, which employ a high proportion of FMGs, would be most affected. If the desired redistribution failed to materialize, pressures would again mount (1) for further expansion of the supply of physicians and perhaps (2) for increased government regulation regarding fees and location of practice.

There are a number of options for reducing the level of health expenditures generated by each physician. One way is to restrict licenses for specialty practice. Increased specialization has meant increased hospitalization and the use of more auxiliary services. The 1976 health manpower legislation provides incentives for an increase in residency training in primary care. While this should be helpful, it does not assure that physicians trained in primary care will not become hospital-based specialists. Since some believe excessive surgery is related to an excess supply of surgeons and the fact that any physician may perform surgery, restricting both the number of surgeons and the ability to perform surgery might eliminate some unnecessary procedures.

Another method for reducing per-physician health expenditures would be to alter the physician payment structure. If the price for time actually spent with a patient were raised substantially relative to reimbursement rates for laboratory tests and procedures, physicians might be able to generate the same income at lower total levels of health expenditures. A fee structure reflecting the amount of time spent with patients would reduce physicians' financial incentive to provide some expensive treatments.

Another way to affect the health expenditure impact of physicians is through organizational arrangements that remove the link between a physician's income and the tests and procedures he orders. One approach is tied to health maintenance organizations (HMOs). HMO patients prepay a net total amount for all care, and physicians are salaried with an adjustment sometimes for profits or losses. Under HMOs, physicians have no incentive to increase their incomes by hospitalizing patients or providing unnecessary tests; unnecessary procedures have, in fact, the effect of reducing net income to the HMO and, therefore, to the physician.

The growth of HMOs would make more physicians concerned about the efficient operation of hospitals. Private fee-for-service physicians do not have any incentive to participate in prospective reimbursement programs or to hold down per diem hospital costs. Unless a physician is financially or professionally involved in the management of a hospital, or it is in danger of closing, prospective reimbursement will have little effect upon his behavior.

Whether patients join HMOs and benefit from their ability to increase efficiency will depend on the competition among the HMOs. Competition and lower prices could make such plans more attractive to consumers. The large increase projected in the supply of physicians offers potential for substantial HMO growth, so increased support for HMO development could receive higher budget priority. 11/

Technology

Little is known about the effect of technology on costs and the efficacy of care. Policymakers obviously need more information about the benefits and costs of new technologies to make objective decisions as to how much the nation should spend on them. The kind of knowledge needed is years away because of a failure to invest substantially in assessments of the effects of technology. A first corrective step would be the development of a comprehensive health-care assessment strategy to determine the order in which existing treatments and procedures should be studied and how new technological developments should be monitored.

11/ While federal HMO initiatives had a very troubled beginning, more recent amendments to this legislation should provide more stimulus to HMO development. See "The Federal Government and Health Maintenance Organizations" in Working Papers on Major Budget and Program Issues in Selected Health Programs, prepared by the Congressional Budget Office for the Committee on the Budget, U.S. House of Representatives, 94th Congress, 2nd Session (1976).

Even with our current limited knowledge, some of the issues related to the cost impact of new technologies can be addressed. Biomedical research funding could provide more support for basic research and less for research that is likely to produce expensive, stop-gap procedures to treat diseases. Health services and clinical research could emphasize the development of knowledge in areas where cost savings are thought possible through reduced hospitalization. As described in Chapter III, studies of cost changes in the treatment of specific diseases have found that, when the cost of treating a specific disease declines, it is usually because the average length of hospital stay was shortened. These shorter hospital stays seem to have resulted from trying different lengths of stay and discovering no medical benefits from longer stays. There may be other areas where experimentation could find ways to reduce hospitalization: more home health care and more surgical procedures performed on an ambulatory basis.

Increases in the volume of laboratory, x-ray, and diagnostic tests have led to higher costs for health care. Advances in diagnostic technology, increased third-party financing for outpatient services, and large increases in physician supply are likely to cause even greater increases in the number of these tests in the future. No program has been developed, even on an experimental basis, to monitor the appropriateness of either inpatient or outpatient diagnostic testing. The problem might receive high priority on any agenda for clinical research.

More careful monitoring of new technology could have important effects on costs. In particular, the title rights of NIH to certain new discoveries could be exercised to monitor their diffusion. After a technology is in use, follow-up assessment and the use of PSROs to enforce the findings of technology assessment could contribute to a weeding out of costly, ineffective procedures.

CONCLUSION

Under current policies, health expenditures will continue to absorb a larger proportion of the nation's resources and of the federal budget. These trends could be slowed down significantly by increased regulation similar to that recently proposed by President Carter to contain future hospital revenues and investments. Increased cost-sharing by patients, or a significant reorganization of the health-care delivery system are other alternatives. If strategies to contain health expenditures are not adopted soon, the possibility of enacting a comprehensive national health insurance program may be adversely affected. Moreover, a long delay is likely to produce even more severe proposals for containing health expenditures -- proposals that are likely to freeze prevailing health expenditure patterns.