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The 12 percent of GNP Americans spend on health care services—twice the amount spent on defense and three-quarters of the amount spent on manufacturing—finances millions of jobs and accounts for billions of dollars in revenues.

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Health Care: What Role in the U.S. Economy?

- The increasing ratio of elderly persons to working individuals will contribute to an increase in the proportion of GNP spent on health care. Medicare expenditures alone, estimated at 2.0 percent of GNP in 1990, are projected to increase to 6.8 percent of GNP in the year 2060.

- Between 1977 and 1987, while wages in most industries grew more slowly than the rate of inflation, the earnings of health services workers outgrew the inflation rate.

- Health care delivery industries supplied 16 percent of net new jobs between 1980 and 1990.

- As of January 1991, 8.4 million individuals, or 9.1 percent of total nonagricultural workers in the private sector, were directly employed in health services. In many local areas, the proportion of health care workers is higher. Employment by restaurants, retail stores, and other nonhealth employers in these areas would decline considerably if the health sector were to shrink.

- Individual health spending as a share of adjusted personal income has increased by only 0.9 percentage points since 1965.

- Although health care expenditures are the fastest-rising component of employee compensation, they are only one component of *total compensation*, the measurement that is generally used to determine productivity and competitiveness. Employer spending on wages and salaries is a much more significant component (84 percent) of total compensation than is employer spending on health care (6 percent).

◆ Introduction

U.S. expenditures on health care exceeded 12 percent of Gross National Product (GNP) in 1990—more than twice the proportion spent in 1960 and more than that spent by any other industrialized country. During the last 25 years, the U.S. health care sector has outgrown other economic sectors by an annual average of 3 percent. The aging population and advances in medical technology suggest that this trend is likely to continue. Current discussion of health care expenditures focuses on the system's perceived problems, such as quality of and access to care. The debate also centers on the idea that the United States spends too much on this sector—that health care consumption and expenditures are inherently too high.

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From 1977 to 1987, the health care sector outgrew other economic sectors by an annual average of 3.0 percent.

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These perceptions have led employers and government policymakers, who account for 63 percent of total U.S. expenditures on health services and supplies, to develop and support proposals for reforming health care financing and delivery. Few parties, however, consider the health care sector's growing importance in the U.S. economy when discussing these reform proposals. The 12 percent of GNP spent on health care services—twice the amount spent on defense and three-quarters of the amount spent on manufacturing—finances millions of jobs and accounts for billions of dollars in revenues in numerous industries not limited to health providers. Health services expenditures fuel secondary health care industries such as health insurers and health insurance administrators as well as tertiary industries such as medical equipment suppliers and computer hardware companies. Income from health care-related sales represents an increasingly large proportion of sales for IBM, General Electric, Eastman Kodak, and other companies. Given the tremendous importance of the health care sector to the U.S. economy, economic implications need to be explicitly considered when assessing proposals to reform the system.

This *Issue Brief* discusses factors that contribute to the growth of health care expenditures and the reasons that employers and policymakers consider health expenditures too high. It describes various industries that the health care delivery system comprises and examines their role in the U.S. economy as employers, producers, exporters, and suppliers of research and development (R&D). The report also discusses the impact on these industries of various public and private policy changes.

◆ Why Are Health Care Expenditures Growing?

Between 1947 and 1987, the U.S. health care sector outgrew the combined other sectors of the economy by an annual average of 2.5 percent. Health care prices rose 1.6 percent faster annually than nonhealth care prices, and the quantity of health care services delivered grew 0.9 percent faster than the quantities delivered of other goods and services (Fuchs, 1990). From 1977 to 1987, the health care sector outgrew other economic sectors by an annual average of 3.0 percent. Medical services prices outpaced prices in nonhealth industries by an annual average of 3.0 percent, while the quantity of services delivered averaged the same growth as quantities delivered by other sectors (Fuchs, 1990). The relatively rapid growth of prices may be explained by factors such as the increase in the price of medical labor and capital and slower growth in medical productivity relative to other sectors. Reasons for the relatively rapid growth in the quantity of health care services delivered between 1957 and 1977 (1.2 percent between 1957 and 1967 and 2.4 percent between 1967 and 1977) include the development and use of new

technologies and the spread of health insurance.[1] Continuing increases in health services wages and the aging of the baby boom generation may cause the price and quantity of health care services to continue to exceed those of other goods and services.

Increasing Prices

Since the end of World War II, the price of general health care labor (not including that of physicians) rose more rapidly than the price of other labor. Between 1949 and 1985, the earnings of health care workers with 16 or fewer years of schooling exceeded the wages of their counterparts in other parts of the economy by an annual average 0.6 percent. **Between 1977 and 1987, while wages in most industries grew more slowly than the rate of inflation, the earnings of health services workers outgrew the inflation rate, with physician incomes growing even faster** (Fuchs, 1990). From 1987 to 1990, earnings of health care workers continued to outgrow those of workers in other industries as well as the rate of inflation (Pope and Menke, 1990).[2]

Relatively slow growth in health care labor productivity also may have contributed to the relatively rapid growth in health care prices. Health care delivery, like many service industries, is highly labor intensive. It has not been able to achieve the magnitude of productivity gains realized in other industries because patient care must be individualized and there are limited opportunities to replace labor with capital equipment (Fuchs,

[1]For a thorough discussion of these and other factors contributing to the growth in the proportion of GNP spent on health care, see Fuchs, 1990.

[2]For a discussion of factors contributing to the increasing price of medical services labor, for hospitals in particular, see Pope and Menke, 1990.

Table 1
Population with Private Health Insurance, by Type of Financial Intermediary, Selected Years, 1940–1988

Financial Intermediary	1940	1950	1960	1970	1980	1982	1984	1986	1988
					(millions of individuals)				
Total Resident Population	132.5	151.9	180.0	204.0	227.3	232.0	236.5	241.1	245.8
Total Population with									
Private health insurance[a]	12.0	76.6	122.5	158.8	187.4	188.3	184.4	180.9	182.3
Commercial insurance	3.7	37.0	69.2	89.7	105.5	109.6	103.1	92.5	93.3
Blue Cross/Blue Shield	6.0	38.8	58.1	75.1	86.7	82.0	79.4	78.0	74.0
Other plans[b]	2.3	4.4	6.0	8.1	33.2	48.2	54.4	64.9	71.3
					(percentage)				
Percentage of Population with									
Private health insurance[a]	9.1%	50.4%	68.1%	77.8%	82.4%	81.2%	78.0%	75.0%	74.2%
Commercial insurance	2.8	24.4	38.4	44.0	46.4	47.2	43.6	38.4	38.0
Blue Cross/Blue Shield	4.5	25.5	32.3	36.8	38.1	35.3	33.6	32.4	30.1
Other plans[b]	1.7	2.9	3.3	4.0	14.6	20.8	23.0	26.9	29.0

Sources: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1990* (Washington, DC: U.S. Government Printing Office, 1990); Health Insurance Association of America, *Source Book of Health Insurance Data* (Washington, DC: Health Insurance Association of America, 1990).

[a]Total population with private health insurance is smaller than the sum of the individual plan types because double counting has been eliminated.

[b]Includes self-insured plans, self-administered plans, plans employing third party administrators, and health maintenance organizations.

1990). In addition, increasing administrative needs associated with third party payments, malpractice concerns, and utilization management may also contribute to the health care industry's relatively slow productivity growth.

Increasing Quantities

Since World War II, advances in medical technology have resulted in a number of surgical and diagnostic procedures that were not available 50 years ago. **Although the overall use of surgical procedures decreased slightly from 1980 to 1987, the use of specific surgical procedures such as cardiac catheterization and procedures to assist in the deliveries of babies have continued to increase.** Moreover, nonsurgical procedures—particularly technologically advanced diagnostic procedures—were used nearly twice as much in 1987 as they were in 1980 (U.S. Department of Commerce, 1990). For example, from 1980 to 1987, the rate at which computerized axial tomography (CAT) scans were performed grew from 1.4 per 1,000 population to 6.8, and the rate at which diagnostic ultrasound tests were performed increased from 1.4 per 1,000 population to 6.6 (U.S. Department of Commerce, 1990). However, the net effect of medical technology advances is unclear. Although these advances may lead to increased utilization of procedures previously not performed, they can also be a cost effective substitute for other services.

Third party payment for health care services has become widespread since World War II and may account for part of the growth in the quantity of health care services provided. In 1988, 74 percent of the U.S. population was covered by private health insurance, as opposed to 9 percent in 1940 (table 1). In addition, 96 percent of the elderly population is covered by Medicare, which was implemented in 1966 (table 2). Because the majority of patients pay for health care through third party payers, many have been unaware of the magnitude of health care costs. Third party payment is thought to have contributed to increased use of medical services, because patients are not as constrained in their decisions to purchase medical care as they are in the consumption of other goods and services for which they pay directly. This idea is supported by the fact that the period during which the majority of Americans acquired health insurance coincides with the comparatively high utilization of health care services.

Employer efforts to control their health care expenditures through mandatory contributions to monthly

Table 2
Population with Selected Sources of Health Insurance Coverage, Nonelderly and Elderly Population
EBRI Analysis of the March 1990 CPS

	Nonelderly		Elderly	
Source of Coverage	Number (millions)	Percentage	Number (millions)	Percentage
Total Population	213.7	100%	29.6	100%
Total with Private Health Insurance	160.4	75.0	20.0	67.7
Employer coverage	140.8	65.9	9.4	32.0
Other private coverage	19.7	9.2	10.6	35.7
Total with Public Health Insurance	26.2	12.2	28.3	95.8
Medicare	3.2	1.5	28.3	95.6
Medicaid	18.5	8.7	2.6	8.7
CHAMPUS	5.9	2.7	1.1	3.7
No Health Insurance	34.4	16.1	0.3	1.0

premiums, copayments, increased deductibles, and the implementation of choicemaking benefit plans may have begun to sensitize patients to the magnitude of health care costs. In 1989, 48 percent of employees in medium- and large-sized establishments with group health coverage were in plans that required a contribution to premiums for individual coverage ($25 per month on average), up from 26 percent of employees in 1980 ($9 per month on average) (U.S. Department of Labor, 1990). However, even with greater awareness of the costs of health care, patients may lack the information necessary to evaluate and make rational purchase decisions concerning health care treatment. Most purchase decisions, in fact, are made by health care providers, who themselves may lack information because much of medicine is more of an art than a science. Therefore, it is not certain whether cost sharing can effectively control the quantity of health care services delivered.[3]

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The elderly population (aged 65 and over) accounts for a disproportionately high share of health care expenditures because the incidence of sickness increases with age.

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As the baby boom generation ages, the elderly population (aged 65 and over) will grow from 31.7 million people in 1990 (13 percent of the population) to 70.1 million people in the year 2060 (23 percent of the population) (U.S. Congress, 1987). Consequently, the demand for health care services will increase. The elderly population accounts for a disproportionately high share of health care expenditures because the incidence of sickness increases with age. **In 1989, for example, elderly individuals averaged 9.1 annual physician contacts, almost twice as many as individuals between the ages of 25 and 44.** Likewise, patients aged 75 and older averaged 4,098 days of hospital care per 1,000 persons per year, more than 7 times as many days as patients between the ages of 35 and 44.[4]

In addition to increasing the quantity of health care services provided, the increasing ratio of elderly persons to working individuals will contribute to an increase in the proportion of GNP that is spent on health care. Medicare expenditures alone, estimated at 2.0 percent of GNP in 1990, are projected to increase to 6.8 percent of GNP in the year 2060 (U.S. Advisory Council on Social Security, 1991). These figures suggest that health care financing for the elderly will continue to be a difficult issue for public policymakers and private employers. Given the magnitude of such projections, it is not surprising that many employers with relatively large retiree populations have been at the forefront of proposals to reform the U.S. health care delivery system.

◆ Why Are We Concerned about the Growing Health Care Sector?

Observers generally look favorably on a sector of the economy that is flourishing. Growing businesses often create desirable by-products such as jobs and profits (which generate tax revenues), capital investment, investment in R&D, and foreign exports. **Health care delivery industries supplied 16 percent of net new jobs between 1980 and 1990 (U.S. Department of Labor, 1991), while industries such as pharmaceuticals and medical equipment suppliers have higher than average R&D investment levels, in addition to a positive balance of trade (U.S. Department of Com-**

[3]Recent efforts in utilization review (UR) and outcomes research are targeted toward this information problem. UR firms are discussed later in this paper.

[4]These data are from the National Hospital Discharge survey, 1987, as tabulated by the U.S. Department of Commerce, 1990. The survey measures discharges, which include release from a hospital, death (2.8 percent of discharges), and status not ascribed (1.3 percent of discharges).

merce, 1991). Why then is there so much concern over the current boom in the health care sector?

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The employer share of total health care expenditures has remained virtually constant since 1980. Nonetheless, health care expenditures are the fastest rising component of employee compensation.

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Concern over the current level and growth of health care spending may be driven in part by employers' perception that health care expenditures represent an increasingly large component of employee compensation, federal and state governments' perception that Medicare and Medicaid represent a growing proportion of public budgets, and individuals' perception that a greater proportion of their disposable income is spent on health insurance and health care services. Indeed, health expenditures do represent a growing proportion of compensation, disposable income, and public budgets (table 3). However, the significance of these trends is unclear.

Employers

The employer share of total health care expenditures has remained virtually constant since 1980 (table 4). Nonetheless, health care expenditures are the fastest rising component of employee compensation. Because employers' health care expenditures represent a growing cost of production, many employers and policymakers argue that this spending hampers their individual competitiveness and U.S. competitiveness overall. These observers are apt to measure employer health care expenditures as a percentage of corporate profits or

Table 3
Expenditures for Health Care Services and Supplies as a Share of Personal Income, Government Revenues, and Total Compensation, Selected Years, 1965–1989

Year	Individual Health Spending as a Share of Adjusted Personal Income[a]	Federal Government Health Spending as a Share of Federal Revenues[b]	State and Local Government Health Spending as a Share of State and Local Revenues[b,c]	Employer Health Spending as a Share of Employer Spending on Total Compensation[d]
1965	4.2%	3.5%	7.5%	1.5%
1967	4.0	6.1	8.2	1.8
1970	4.1	7.3	8.3	2.4
1975	4.1	11.0	10.2	3.3
1980	3.9	11.6	12.4	4.4
1985	4.7	14.4	12.6	5.3
1986	4.8	14.1	13.1	5.4
1987	4.9	13.6	13.7	5.4
1988	5.0	14.4	13.9	5.6
1989	5.1	15.1	14.4	5.8

Source: Employee Benefit Research Institute tabulations of data from U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, *Survey of Current Business* (Washington, DC: U.S. Government Printing Office, selected years); U.S. Department of Health and Human Services, Health Care Financing Administration, news release, 9 January 1991.
[a]Personal income adjusted to include Medicare contributions and to exclude certain transfer payments (medical benefits for Medicare, Medicaid, workers' compensation, and temporary disability insurance).
[b]Excludes contributions to social insurance because these funds came directly from businesses and individuals.
[c]Excludes federal grants in aid, such as federal Medicaid grants to states.
[d]Includes contributions for Medicare Hospital Insurance, private group health insurance plans, and military medical insurance.

divide such expenditures by unit output, thereby determining the portion of a unit product's price that can be attributed to health care. Health care expenditures, however, are only one component of total compensation, the measurement that is generally used to determine productivity and competitiveness. Table 5 illustrates that employer spending for total compensation as a proportion of corporate after-tax profits has actually *declined* since 1985, and that employer spending on wages and salaries is a much more significant determinant of total labor expenditures than spending on health care.

The idea that benefits are only one element of a total compensation package that an employee and employer negotiate is not new. In 1949, the Supreme Court affirmed a 1948 decision by the Seventh U.S. Circuit Court of Appeals in the case of *Inland Steel vs. the National Labor Relations Board*, which held that health insurance and other employee benefits are a substitute for cash compensation and are interchangeable components of total labor costs that a firm incurs in production. However, some employers claim that, aside from collectively bargained contracts, they do not (and could not) make *explicit* tradeoffs between benefits and cash compensation (Schramm, 1990, and Maher, 1990).[5]

Many economists, however, argue that such tradeoffs *are* made in the long run—whether implicitly or explicitly—and that it is employees, not employers, who bear the burden of increasing health care costs in the form of lower nonhealth insurance compensation.[6] If this argument is true, it is unlikely that increasing

[5]In some cases, employers force employees to make such a tradeoff when they implement a flexible benefits plan. See Foley, 1991.
[6]For a comprehensive discussion of this debate, see Reinhardt, 1990, and Schramm et al., 1990.

Table 4
U.S. Expenditures and Percentage Distribution for Health Services and Supplies, by Type of Payer: Selected Years, 1965–1989

Type of Payer	1965	1967	1970	1975	1980	1985	1986	1987	1988	1989
					($ billions)					
Total	$38.2	$47.9	$69.1	$124.7	$237.8	$404.7	$436.3	$475.2	$524.1	$583.5
Private	30.3	35.0	50.1	86.2	161.5	280.2	304.4	329.5	365.1	405.1
Private business	6.5	8.9	15.1	30.3	67.6	117.1	128.0	137.8	154.4	173.4
Household (individual)	23.1	25.3	33.6	53.4	87.0	151.2	164.0	178.3	196.1	215.6
Nonpatient revenue[a]	0.6	0.8	1.5	2.5	7.0	11.9	12.4	13.5	14.6	16.1
Public	7.9	12.8	18.9	38.5	76.3	124.5	131.9	145.7	159.0	178.4
Federal government	3.4	7.0	10.4	21.3	42.6	69.0	70.0	76.7	84.2	95.5
State and local government	4.5	5.8	8.5	17.2	33.7	55.5	61.9	69.0	74.9	82.9
					(percentage)					
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Private	79	73	73	69	68	69	70	69	70	69
Private business	17	19	22	24	28	29	29	29	29	30
Household (individual)	61	53	49	43	37	37	38	38	37	37
Nonpatient revenue[a]	2	2	2	2	3	3	3	3	3	3
Public	21	27	27	31	32	31	30	31	30	31
Federal government	9	15	15	17	18	17	16	16	16	16
State and local government	12	12	12	14	14	14	14	15	14	14

Source: U.S. Department of Health and Human Services, Health Care Financing Administration, news release, 9 January 1991.
[a]Includes expenditures from philanthropy and nonpatient revenues from hospitals and nursing homes.

Table 5
Employer Spending on Health Insurance,[a] Wages and Salaries, and Total Compensation[b] in Dollars and as a Percentage of Corporate After-Tax Profits, Selected Years, 1950–1989

Year	Employer Spending on Health Insurance[a]		Employer Spending on Wages and Salaries		Employer Spending on Total Compensation[b]	
	$ billions	Percentage of corporate after-tax profits	$ billions	Percentage of corporate after-tax profits	$ billions	Percentage of corporate after-tax profits
1950	$ 0.7	3%	$ 147.2	589%	$ 155.4	622%
1960	3.4	13	272.8	1003	296.7	1091
1970	14.6	35	551.5	1323	618.3	1483
1980	71.6	48	1372.0	916	1638.2	1094
1985	124.3	97	1975.2	1546	2367.5	1853
1989	178.1	103	2573.2	1491	3079.0	1784

Source: Employee Benefit Research Institute tabulations of data from the U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, *Survey of Current Business*, selected years (Washington, DC: U.S. Government Printing Office, selected years).
[a]Includes employer contributions for group health insurance, Medicare Hospital Insurance, and military medical insurance.
[b]Includes wages and salaries, health benefits, and all other noncash benefits.

employer spending on health care per se is eroding global competitiveness. Rather, employees are experiencing a decline in the income they otherwise might have available for nonhealth consumption. Regardless of who bears the burden of increasing health care expenditures, in aggregate, employer spending on health care represents less than 6 percent of total labor costs (Piacentini and Anzick, 1991).[7] In comparison, wages and salaries represent 84 percent of total labor costs. Consequently, the growth rate of health care expenditures has less impact on the growth rate of total compensation than does the growth rate in wages and salaries (table 6). Moreover, since labor productivity generally measures output in terms of *total* labor costs, total compensation may be a more relevant measure of competitiveness and profitability.

Governments

Health care spending has grown as a proportion of revenues at the federal, state, and local government levels. Federal government health care spending represented 15.1 percent of federal revenues in 1989, more than a fourfold increase from 1965, before the implementation of Medicare and Medicaid (table 3). As a proportion of total U.S. health care expenditures, the change is not nearly as significant. **Federal government expenditures on health care accounted for 9 percent of total expenditures on health services and supplies in 1965, 15 percent in 1967 (after the implementation of Medicare and Medicaid), and 16 percent in 1989 (table 4). Spending on health care represented 14.4 percent of state and local revenues in 1989, nearly twice the proportion spent in 1965.** However, in terms of total U.S. spending on health services and supplies, state and local spending has changed little, representing 12 percent of total expenditures in 1965 and 14 percent in 1989 (U.S. Department of Health and Human Services, 1991).

The proportion of the total health care bill paid by governments has remained essentially constant since the implementation of Medicare and Medicaid. However, the share of public budgets consumed by health care continues to grow because public budgets have

[7]While this is true in the aggregate, individual employer experience may vary. Retiree health care costs, age of active work force, and firm size all affect total labor costs.

remained relatively fixed as a proportion of GNP while health care expenditures have increased. **The increase in the proportion of public budgets consumed by health care expenses suggests that continuing increases in public health spending are currently occurring at the expense of other public expenditures such as infrastructure and education (human capital).** This situation may represent a more likely threat to American competitiveness than growing employer health care expenditures (Reinhardt, 1989).

Table 6
Annual Growth Rates:
Employer Spending on Total Compensation, Wages and Salaries, and Health Insurance, 1961–1989

Year	Health Insurance	Wages and Salaries	Total Compensation
1961	9.7%	2.8%	3.0%
1962	13.5	6.7	7.1
1963	9.5	5.2	5.5
1964	13.0	7.3	7.4
1965	13.5	7.7	7.8
1966	25.4	10.1	10.8
1967	14.9	7.1	7.3
1968	24.7	10.0	10.3
1969	16.0	9.8	10.2
1970	18.7	6.4	6.9
1971	11.7	6.0	6.7
1972	17.2	9.3	10.1
1973	25.1	10.9	11.9
1974	12.1	9.0	9.7
1975	17.2	5.5	6.4
1976	22.6	10.4	11.5
1977	19.5	10.5	11.2
1978	15.2	12.6	13.0
1979	17.2	11.8	12.2
1980	15.2	9.6	9.8
1981	18.9	10.1	10.3
1982	14.7	5.0	5.5
1983	11.0	5.7	6.0
1984	9.0	9.7	9.6
1985	5.2	7.4	6.9
1986	9.3	6.1	6.1
1987	9.6	7.4	7.1
1988	10.0	8.0	8.1
1989	8.8	5.9	5.9

Source: Employee Benefit Research Institute tabulations of U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, *Survey of Current Business*, 1990.

Individuals

Although more employers currently require employee contributions to group health plan premiums than they did 10 years ago and while deductibles are higher and copayments more common, individual health spending as a share of adjusted personal income has increased by only 0.9 percentage points since 1965 (table 3). **In addition, individual households account for a considerably smaller proportion of total U.S. health spending than they did in 1965, and virtually the same proportion as they have since 1980 (table 4).** However, if it is assumed that employer increases are passed on to employees in the form of lower wages and salaries, individuals may be bearing a greater share of the burden of growing health care expenditures than indicated in tables 3 and 4.

◆ Health Care Delivery Industries

While employers, policymakers, and individuals are concerned about the potentially detrimental effects of growing health care expenditures, the positive economic impact of health spending is rarely examined. Money spent on health care flows to industries that provide employment and contribute to U.S. production and exports, the tax base, capital investments, and R&D. This section discusses industries directly involved in health care delivery, but these industries represent only a fraction of those that depend on health care spending.

Health care services are delivered by physicians' offices, hospitals, nursing homes, and increasingly, outpatient clinics and home health care agencies. The Health Care Financing Administration (HCFA) estimates that personal health care spending in all delivery facilities totaled $589 billion in 1990 (table 7). Although expenditures have continued to increase in all settings, the proportion of total health spending in hospitals has declined since the early 1980s, while that in physicians' offices and patients homes has increased.

A significant and growing proportion of U.S. workers are employed in health care delivery facilities. **As of**

Table 7

National Health Expenditures, by Type of Expenditure, Selected Years, 1965–1991[a]

Type of Expenditure	1965	1970	1975	1980	1985	1987	1989	1990[b]	1991[a]
					(billions)				
National Health Expenditures	$41.6	$74.4	$132.9	$249.1	$420.1	$488.8	$604.1	$675.7	$756.3
Health services and supplies	38.2	69.1	124.7	237.8	404.7	471.6	583.5	653.0	731.3
total personal health care	35.6	64.9	116.6	218.3	367.2	434.7	530.7	589.4	657.1
hospital care	14.0	27.9	52.4	102.4	167.9	193.7	232.8	257.2	285.7
physicians' care	8.2	13.6	23.3	41.9	74.0	93.0	117.6	131.9	148.3
dentists' care	2.8	4.7	8.2	14.4	23.3	27.1	31.4	33.8	36.5
other professional care[c]	0.9	1.5	3.5	8.7	16.6	20.2	27.0	30.7	35.0
home health care	0.1	0.1	0.4	1.3	3.8	4.2	5.4	6.5	7.5
drugs and other nondurables	5.9	8.8	13.0	20.1	32.3	38.6	44.6	48.0	51.7
vision products and durables	1.2	2.0	3.1	5.0	8.4	9.8	13.5	15.3	17.4
nursing home care	1.7	4.9	9.9	20.0	34.1	39.7	47.9	54.1	61.4
other personal health care[d]	0.8	1.4	2.7	4.6	6.8	8.4	10.5	11.9	13.5
program administration[e]	1.9	2.8	5.1	12.2	25.2	22.4	35.3	44.6	53.5
government public health	0.6	1.4	3.0	7.2	12.3	14.5	17.5	19.0	20.7
research and construction	3.5	5.3	8.3	11.3	15.4	17.2	20.6	22.7	25.0
research	1.5	2.0	3.3	5.4	7.8	8.5	11.0	12.2	13.5
construction	1.9	3.4	5.0	5.8	7.6	8.2	9.6	10.5	11.4
					(percentage of total)				
Total Personal Health Care	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Hospital care	39.3	43.0	44.9	46.9	45.7	44.6	43.9	43.6	43.5
Physicians' care	23.0	21.0	20.0	19.2	20.2	21.4	22.2	22.4	22.6
Dentists' care	7.9	7.2	7.0	6.6	6.3	6.2	5.9	5.7	5.6
Other professional care[c]	2.5	2.3	3.0	4.0	4.5	4.6	5.1	5.2	5.3
Home health care	0.3	0.2	0.3	0.6	1.0	1.0	1.0	1.1	1.1
Drugs and other nondurables	16.6	13.6	11.1	9.2	8.8	8.9	8.4	8.1	7.9
Vision products and durables	3.4	3.1	2.7	2.3	2.3	2.3	2.5	2.6	2.7
Nursing home care	4.8	7.6	8.5	9.2	9.3	9.1	9.0	9.2	9.4
Other personal health care[d]	2.2	2.2	2.3	2.1	1.9	1.9	2.0	2.0	2.1
					(average annual growth)				
Total Personal Health Care	8.3%	12.8%	12.4%	13.4%	11.0%	8.8%	10.5%	11.1%	11.5%
Hospital care	8.5	14.8	13.4	14.3	10.4	7.4	9.6	10.5	11.1
Physicians' care	9.1	10.6	11.4	12.5	12.0	12.1	12.5	12.2	12.4
Dentists' care	7.0	10.9	11.8	11.9	10.1	7.8	7.6	7.6	8.0
Other professional care[c]	8.4	10.8	18.5	20.0	13.8	10.3	15.6	13.7	14.0
Home health care	f	0.0	32.0	26.6	23.9	5.1	13.4	20.4	15.4
Drugs and other nondurables	7.0	8.3	8.1	9.1	10.0	9.3	7.5	7.6	7.7
Vision products and durables	8.4	10.8	9.2	10.0	10.9	8.0	17.4	13.3	13.7
Nursing home care	11.2	23.6	15.1	15.1	11.3	7.9	9.8	12.9	13.5
Other personal health care[d]	2.7	11.8	14.0	11.2	8.1	11.1	11.8	13.3	13.4

Source: U.S. Department of Health and Human Services, Health Care Financing Administration, Office of National Cost Estimates, "National Health Expenditures, 1988," *Health Care Financing Review* (Summer 1990): 1–41, and U.S. Department of Commerce, International Trade Administration, *U.S. Industrial Outlook* (Washington, DC: U.S. Government Printing Office, 1991).

[a] Forecasts.

[b] Estimates.

[c] Includes expenditures for health practitioners other than physicians and dentists.

[d] Includes expenditures not classified elsewhere such as school health programs and expenses for shipboard and field health stations from the Department of Defense. For a detailed explanation, see *Health Care Financing Review* (Summer 1990): 42–54.

[e] Includes net cost of private health insurance.

[f] Not applicable.

January 1991, private health services establishments employed 8.4 million individuals, or 9.1 percent of all nonagricultural employees in the private sector (table 8). In comparison, in 1960, health services establishments employed only 1.5 million workers, or 3.3 percent of all private-sector workers. In some local areas, health services establishments are an even larger private-sector employer. For example, among the 59,100 private-sector employees in Rochester, Minnesota, home of the Mayo Clinic, 18,600, or 32 percent, are employed directly in health care services. Health services establishments accounted for nearly 11 percent of total private sector employment in cities including Louisville, Kentucky; Birmingham, Alabama; and

Table 8
Private Health Services Employees on Nonagricultural Payrolls, Selected Years, 1960–1991[a]

Health Facility	1960	1970	1980	1985	1987	1989	1990	1991[b]
				(thousands of employees)				
Total Private	45,169	57,716	73,451	78,558	83,289	88,979	90,167	92,218
Total Health Services	1,502	2,957	5,135	6,122	6,743	7,479	7,816	8,409
Hospitals	999	1,818	2,672	2,950	3,085	3,432	3,574	3,787
Physicians Offices	c	c	733	934	1,053	1,195	1,347	1,476
Dentists Offices	c	c	336	445	468	504	513	534
Nursing and Personal Care Facilities	c	c	978	1,173	1,315	1,350	1,407	1,513
Medical/Dental Labs	c	c	c	108	136	159	172	189
				(percentage of total)				
Total Private	100%	100%	100%	100%	100%	100%	100%	100%
Total Health Services	3.3	5.1	7.0	7.8	8.1	8.4	8.7	9.1
Hospitals	2.2	3.1	3.6	3.8	3.7	3.9	4.0	4.1
Physicians Offices	d	d	1.0	1.2	1.3	1.3	1.5	1.6
Dentists Offices	d	d	0.5	0.6	0.6	0.6	0.6	0.6
Nursing and Personal Care Facilities	d	d	1.3	1.5	1.6	1.5	1.6	1.6
Medical/Dental Labs	d	d	d	0.1	0.2	0.2	0.2	0.2

	(average annual growth)		
	1960–1970	1970–1980	1980–1991
Total Private	27.8%	27.3%	25.6%
Total Health Services	96.9	73.7	63.3
Hospitals	81.9	47.0	41.3
Physicians' Offices	d	d	100.0
Dentists Offices	d	d	59.1
Nursing and Personal Care Facilities	d	d	54.5

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings* (April issues, 1960–1990, and March 1991 issue).
[a]Survey conducted in January of each year.
[b]Preliminary.
[c]Not available.
[d]Not applicable

Providence, Rhode Island.[8] Overall, health care delivery industries accounted for nearly one of every six net new jobs created from 1980 to 1990 (U.S. Department of Labor, 1991).

The impact of health spending in terms of jobs extends far beyond health care delivery industries, because health care workers spend their wages on goods and services in other sectors. Any contraction of the health care sector in cities such as Rochester, Louisville, Birmingham, and Providence would result in reduced employment in restaurants, retail stores, janitorial services, and other local businesses.

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In 1990, national spending on hospital care reached $257 billion, 44 percent of total personal health care expenditures.

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Policy changes—cost containment efforts in particular—have a major impact on health care delivery providers. Public and private policies strive to emphasize quality while trying to contain health care costs. The success or failure of these efforts may depend on an understanding of the organization of businesses engaged in health care delivery.

Hospitals

Hospital care represents the largest single component of U.S. health care expenditures. In 1990, national spending on hospital care reached $257 billion, 44 percent of total personal health care expenditures (table 7). Hospitals are particularly susceptible to private insurer and government policy changes because these parties pay for 95 percent of hospital revenues. During the 1980s, cost containment efforts by public and private insurers resulted in reduced hospital admissions and inpatient days as well as lower hospital occupancy rates (table 9).[9] In 1983, Medicare shifted from cost-based reimbursement for inpatient care to a prospective payment system (PPS), with reimbursement at a fixed rate based on diagnosis. In addition, peer review organizations (PROs) were established to reduce medically unjustified patient admissions. Likewise, private insurers targeted hospital care for cost containment through programs such as mandatory precertification of hospital stays and utilization review (UR).

Although hospital spending has decreased slightly as a proportion of health care expenditures since the early 1980s, total hospital expenditures have continued to climb. Reasons for increasing hospital expenditures include the growing elderly population, development of new technologies, changes in medical practice toward providing more intensive care, and increasing volume of hospital outpatient care. The proportion of hospital revenues from outpatient services grew from 12.5 percent in 1980 to 21 percent in 1989 (U.S. Department of Commerce, 1991).

Employment in hospitals outgrew total U.S. employment throughout the 1980s (table 8). Hospitals are the single largest employer among health care delivery settings. Private hospitals employed 3.8 million workers at the end of 1990, representing 45 percent of all private-sector workers employed in health care delivery facilities and 4 percent of the total private-sector work force. Public hospitals employed 7.4 percent of all government workers (U.S. Department of Labor, 1991).

[8]These figures include employees in offices and clinics of medical doctors and dentists, nursing care facilities, skilled nursing facilities, hospitals, medical and dental laboratories, and home health care services. They exclude employees of health care financing firms that supply health care providers and facilities, and non-health related businesses that rely on health sector workers for revenues.

[9]For a detailed discussion of trends in hospital expenditures and care, see U.S. Department of Health and Human Services, 1990c.

Table 9

Trends in Nonfederal, Short-Term General and Special[a] Hospitals, by Type of Ownership, Selected Years, 1970–1989

	1970	1980	1982	1984	1985	1986	1987	1989
				(thousands)				
Beds								
Total	848	992	1,015	1,020	1,003	982	961	936
State/local governments	204	212	212	203	191	185	182	172
Nongovernment, nonprofit	592	693	712	717	708	690	673	661
For profit	53	87	91	100	104	107	106	102
				(thousands)				
Admissions								
Total	29.3	36.2	36.4	35.2	33.5	32.4	31.6	31.1
State/local governments	6.3	7.5	7.2	6.6	6.1	5.7	5.5	5.3
Nongovernment, nonprofit	20.9	25.6	25.9	25.3	24.2	23.5	22.9	22.8
For profit	2.0	3.2	3.3	3.3	3.2	3.2	3.2	3.1
				(percentage)				
Occupancy Rate[b]								
Total	78.0%	75.4%	75.2%	68.9%	64.8%	64.2%	64.9%	66.2%
State/local governments	73.2	70.7	70.7	65.9	62.8	62.6	63.1	64.8
Nongovernment, nonprofit	80.1	78.2	77.8	71.4	67.2	66.8	67.6	68.8
For profit	72.2	65.2	65.5	57.0	52.1	50.7	51.1	51.7
				(days)				
Average Length of Stay								
Total	8.2	7.6	7.6	7.3	7.1	7.1	7.2	7.3
State/local governments	8.7	7.4	7.6	7.4	7.2	7.4	7.6	7.7
Nongovernment, nonprofit	8.2	7.7	7.8	7.4	7.2	7.2	7.2	7.3
For profit	6.8	6.5	6.6	6.3	6.1	6.1	6.2	6.3
Personnel per 100 Adjusted Census[c]				(number per hundred)				
Total	265	334	353	367	385	392	400	411
State/local governments	264	339	355	362	385	385	391	385
Nongovernment, nonprofit	268	336	355	371	389	398	406	420
For profit	238	304	320	334	350	354	367	390
				(thousands)				
Outpatient Visits								
Total	133.6	206.8	250.9	216.5	222.8	234.3	247.7	287.9
State/local governments	37.9	54.2	60.9	51.5	50.4	51.1	53.0	58.9
Nongovernment, nonprofit	91.0	142.9	176.8	153.9	160.0	168.3	178.1	209.2
For profit	4.7	9.7	13.2	11.1	12.4	14.9	16.6	19.3

Source: American Hospital Association, *Hospital Statistics* (Washington, DC: American Hospital Association, 1988).
[a]Includes specialty hospitals other than psychiatric hospitals, tuberculosis hospitals, and hospitals for other respiratory diseases.
[b]Occupancy rate represents the percentage of occupied hospital beds in relation to nonoccupied beds.
[c]Adjusted to include personnel for outpatient services.
Note: Numbers may not total due to rounding.

Hospitals are generally categorized according to the type of care they provide (specialty or general), length of stay (chronic or acute care), and type of ownership (public, private nonprofit, or private for profit).

Nonfederal, short-term (acute care) general hospitals accounted for 76 percent of all U.S. hospital beds, 92 percent of all admissions, and 82 percent of all outpatient visits in 1989 (American Hospital Association,

1990). Public hospitals are owned by federal, state, or local government agencies. Private nonprofit hospitals are owned and operated by community associations and religious organizations. Because private nonprofit hospitals are exempt from government taxation, they must reinvest net profits into hospital operations and capital investments. Investor-owned hospitals, which are subject to government taxation, can use profits for any purpose and are free to use equity as a means of raising capital.

Hospitals' characteristics vary according to their type of ownership, which determines their objectives and role in the community. For example, investor-owned hospitals have a shorter average length of stay and lower occupancy rate than nonprofit hospitals. Both these and nonfederal government hospitals employ fewer staff per patient than nonprofit hospitals (table 9). Private hospitals are more likely than public hospitals to treat patients who are privately insured or covered by Medicare, and investor-owned hospitals treat approximately one-half as many Medicaid patients as public hospitals (table 10). In addition, public hospitals are nearly three times more likely than investor-owned hospitals to treat uninsured patients. Although for profit hospitals experienced the most significant decline in occupancy rates following the implementation of PPS, their outpatient volume grew more than 300 percent from 1970 to 1989, compared to 130 percent for nonprofit hospitals and 55 percent for state and local government hospitals (American Hospital Association, 1990).

Table 10
Sources of Expected Payment, by Type of Hospital Ownership, 1988

Sources of Payment	Public Hospitals	Nonprofit Hospitals	Investor-Owned Hospitals
	(percentage of patients discharged)		
Private Insurance	36.6%	45.5%	47.0%
Government			
Medicare	29.6	34.0	36.3
Medicaid	13.7	9.0	7.4
Workers' compensation	1.2	1.7	2.5
Other	3.3	1.7	1.9
Self-Pay	11.4	5.9	3.9
No Charge	1.1	0.8	0.1
Other	3.0	1.4	.9

Source: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1990* (Washington, DC: U.S. Government Printing Office, 1990).

Physician Clinics and Offices

National spending on physician care reached $132 billion in 1990, or 22 percent of total expenditures on personal health care (table 7). Spending on physician services has been the second largest component of national health expenditures and has grown faster than hospital spending since 1980. Third party payments account for 81 percent of spending on physician services, including 48 percent from private health insurance and 23 percent from Medicare, with patients' out-of-pocket payments accounting for 19 percent of total physician expenditures. From 1980 to 1990, the number of workers employed in medical offices and clinics doubled from 733,000 to nearly 1.5 million (table 8).

Rapidly growing ambulatory care expenditures have led payers to seek outpatient cost containment strategies. The Omnibus Budget Reconciliation Act of 1989 (OBRA '89) included a change in Medicare Part B physician reimbursement that is scheduled to be implemented over five years beginning January 1, 1992. The new reimbursement method—the resource-based relative value scale (RBRVS)—values Medicare physician payments relative to one another based on the resources used in providing care. These resources include the physician's time, skill, and intensity of the service; physician's practice expenses; and physician's malpractice insurance. OBRA '89 also provided for an overall limit on the increase in physician expenditures through a volume performance standard (VPS). In addition to public payers, private payers are now addressing rapidly increasing physician expenditures. A recent survey found that 19 percent of responding employers had outpatient UR programs in place—most

often retrospective review of the necessity of physician and/or diagnostic services (A. Foster Higgins, 1990).

Nursing Homes

Expenditures on nursing home care reached $54 billion in 1990, a 13 percent increase over 1989 expenditures. This figure measures professionally supervised inpatient nursing care prescribed by a physician and provided in skilled nursing facilities, general nursing homes, and intermediate care facilities for the mentally retarded.[10] **Third party payments accounted for only 56 percent of 1990 nursing home revenue. Public insurers, however, paid 53 percent of nursing home revenues, including 43 percent paid by Medicaid.** Medicare coverage for nursing home care is limited to a fixed number of days of skilled nursing or rehabilitation services provided in a Medicare qualified skilled nursing facility (SNF). These payments represented only 7.5 percent of total nursing home revenues in 1990 (U.S. Department of Health and Human Services, 1990b). Employment in nursing homes grew 55 percent, from 978,000 in 1980 to 1.5 million in 1991—more than twice the rate of employment growth in all private industries (table 8).

Long-term care services are increasingly being provided in the home rather than in more costly nursing homes. The home health care business has grown rapidly, reaching $6.5 billion in 1990, compared with $1.3 billion in 1980.[11] The home health care industry receives 87 percent of its revenues from third party payers—76 percent from government sources, including 39 percent from Medicare.

Because a high proportion of nursing home and home health care revenues comes from public payers, policy changes can have a significant impact on the financing and delivery of long-term care. For example, the Nursing Home Reform Act, which Congress legislated as part of the Omnibus Budget Reconciliation Act of 1987 (OBRA '87), effective in October 1990, imposed new requirements on nursing homes that receive federal funds for the care of Medicare and Medicaid recipients (U.S. Department of Health and Human Services, 1990c). This legislation, designed to improve the quality of care, also may increase costs of nursing home care for state Medicaid programs and nursing homes. Public and private proposals to expand options for and clarify the tax treatment of long-term care financing will also probably affect the nursing home and home health industries.

◆ Industries That Supply Health Care Delivery Industries

Health care delivery industries are not the only industries in the economy that are driven by health care expenditures. Industries that *supply* health care providers and delivery facilities also employ large numbers of workers and generate billions of dollars in revenues annually. These industries include pharmaceuticals, medical equipment, and laboratory testing. Less recognized industries that realize significant revenues from the health sector include computer hardware and software, food and beverage services, construction, and professional services (U.S. Department of Commerce, 1990a and 1991). Often these suppliers are not associated with the health care industry because they are part of diversified companies and/or they supply other industries as well. For example, General Electric, Hewlitt Packard, Eastman Kodak, and IBM derive significant revenues from the production of high-tech medical equipment. Like hospitals, these industries and firms are affected by changes in health care policy and efforts to contain health care expenditures. Health care suppliers contribute to the U.S. economy not only by generating income and employment but also by contributing to high technology research and foreign exports.

[10] Nursing home-type care provided in hospitals is included in HCFA hospital expenditure figures.

[11] HCFA defines home health care as care provided by Medicare-certified, nonfacility-based home health agencies (HHAs) and people delivering home health services financed by Medicaid. It does not include services furnished by facility-based HHAs. A broader home health care industry definition (not included in the above figure) includes supportive social services, respite care, and adult day care.

There are many businesses fueled by health care providers. This section focuses on pharmaceuticals and medical and dental instruments and supplies, two examples of industries that are dependent on the financial well-being of the health care sector and affected by policy changes.

Pharmaceuticals

Total drug industry sales in 1990 are estimated at $55 billion (U.S. Department of Commerce, 1991). Forty-six billion dollars was derived from the pharmaceutical business, with prescription drugs representing $27 billion and nonprescription drugs representing $10 billion in sales.[12] Total 1990 drug industry employment is estimated at 178,300 persons. The U.S. Department of Commerce valued 1990 drug exports at $5.3 billion, up 19 percent from 1989, while imports reached $4.2 billion, an increase of nearly 20 percent. In 1990, the pharmaceutical industry enjoyed a 15 percent average net profit margin (U.S. Department of Commerce, 1991).

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Medicaid pays for an estimated 20 percent of prescription drug sales, private insurers and hospitals each pay for an additional 20 percent, and HMOs account for 15 percent.

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The drug industry invests a significant and growing proportion of income from sales in R&D. In 1989, R&D expenditures were an estimated $8.3 billion, or nearly 17 percent of income from sales, compared with 12 percent in 1980. R&D costs are rising significantly in part due to the increasing cost of high technology equipment needed for research activities such as computerized molecular modeling and genetic engineering (U.S. Department of Commerce, 1991). The growing R&D costs in the pharmaceutical industry have contributed to an increase in mergers and corporate alliances among drug companies.

A significant share of drug sales is attributable to third party payers and health care delivery facilities. Medicaid pays for an estimated 20 percent of prescription drug sales, private insurers and hospitals each pay for an additional 20 percent, and HMOs account for 15 percent. Therefore, third party cost containment efforts can significantly affect the pharmaceutical industry. For example, a 1990 law (P.L. 101-508) required drug firms to sign contracts by March 1991 agreeing to sell to Medicaid at their "best price" or lose the right to sell to that program. Approximately 220 U.S. drug manufacturers signed contracts promising Medicaid these preferred discounts, but at least a dozen of them reportedly boosted their overall prices before the contract deadline (Faulkner and Gray, 1991). Although the federal government expected prices to increase in response to the law, actual increases appear to be larger than estimated. This price increase is shifting costs of the required Medicaid discounts to other drug purchasers, including Veterans Administration hospitals, which had enjoyed "best price" contracts prior to the 1990 law.

The pharmaceutical industry may find it is less able to pass on the burden of other health care cost containment efforts. For example, many hospitals, HMOs, and employer-sponsored health plans encourage the use of generic drugs, which have lower profit margins. Consequently, generic prescription drug sales, which currently represent an estimated 30 percent of the market, are expected to grow (U.S. Department of Commerce, 1991). Cost containment efforts by public and private insurers are likely to increase the trend toward lower cost drugs and may dampen drug company profit margins.

[12]The other $9 billion comes from medicinals and botanicals ($4.9 billion), diagnostic substances ($2.5 billion), and biologicals ($2.1 billion).

Medical and Dental Instruments and Supplies

In 1989, medical and dental instruments and supplies accounted for $28 billion in sales and $5 billion in exports (U.S. Department of Commerce, 1991). Medical equipment exports have been growing rapidly and were estimated at nearly $6 billion in 1990, or 21 percent of product shipments. Although this industry is not as R&D intensive as the drug industry, R&D expenditures (6.2 percent of 1989 industry sales) still account for nearly double the national industrial R&D rate (3.4 percent of sales in 1989) (U.S. Department of Commerce, 1991). More than 231,000 persons were employed in this industry in 1990.

Like pharmaceuticals, the medical and dental instruments and supplies industry benefits from the growth of the health care sector and is susceptible to health care policy changes. Hospitals, which accounted for 52 percent of total industry sales in 1989, are facing extreme pressure from the U.S. government and other third party payers to curtail health care expenditures (U.S. Department of Commerce, 1991). Despite shrinking profit margins, hospitals have been increasing capital expenditures for construction and equipment purchases in order to expand outpatient facilities and generate new revenues from this rapidly growing market segment. Nonsurgical techniques such as endoscopy laser surgery, lithotripsy, angioplasty, and valvuoplasty are well suited to outpatient facilities and most likely will be used more frequently (U.S. Department of Commerce, 1991).

A recent HCFA proposal to abandon cost-based reimbursement for hospital capital expenditures and incorporate this reimbursement in PPS illustrates how public policy affects not only medical care providers but also the businesses that supply them. The proposed policy is intended to discourage hospitals from buying unnecessary medical equipment. While controlling excessive expenditures seems to be a desirable goal, the effects of such a change would extend beyond health care providers to their suppliers, in terms of income and employment.

While pharmaceutical companies such as Bristol-Myers Squibb Co. and Merck & Co., Inc., among others, are widely recognized as part of the health care sector, less visible suppliers such as medical equipment and other pharmaceutical firms also depend on this sector. For example, the Eastman Kodak Company reported that $4 billion (22 percent) of its $18 billion sales in 1989 sales was attributable to health care (Eastman Kodak Company, 1989). This figure includes worldwide pharmaceutical sales of Sterling Drug, Inc., acquired by Eastman Kodak in 1988, which accounted for $1.8 billion in 1989 sales (CMP, 1990). Other firms not immediately identified with the health care sector include General Electric, DuPont, Hewlitt Packard, and IBM. GE Medical Systems is the largest supplier of magnetic resonance imagers (MRI) to domestic and foreign medical facilities and also sells high technology medical equipment such as CAT scanners, x-ray, nuclear imagers, ultrasound, and other diagnostic equipment and supporting services. Sales of these products accounted for $3 billion of GE's $58 billion revenues in 1990 (General Electric, 1991). DuPont Co. Medical Products was the largest vendor of radiology software in 1989 (CMP, 1990b). Hewlitt Packard reported $875 million in net revenues from medical and electronic equipment and service in 1990 (Hewlitt Packard, 1991). IBM, the largest hospital management information systems hardware vendor, had $1.2 billion in health care sales in 1989 (CMP, 1990a).

◆ Health Care Financing and Administration Industries

A number of industries have developed to serve as financial intermediaries between those who pay for health care and those who provide it. Financial intermediation includes insurance, claims administration, and, more recently, utilization management services. These functions are performed by commercial insurance companies, Blue Cross/Blue Shield plans, HMOs, employers, federal and state governments, third party administrators (TPAs), preferred provider organizations (PPOs), and cost/quality/utilization management firms.

Industries that supply health care financial intermediaries, similar to those that supply health care providers, employ many workers and generate billions of dollars from the growing health care sector. In recent years, insurers' efforts to control escalating health care costs have led to the development of a health care cost management industry whose express purpose is to control or manage health care costs. Insurers and TPAs have expanded into cost management functions because employers are increasingly demanding management services as a part of health insurance claims administration. In addition to these industries, which are widely recognized as suppliers to financial intermediaries, other less obvious industries derive billions of dollars in revenues from customers involved in health care financing. For example, whether the objective is maximum efficiency in claims administration or health care cost containment, the computer hardware industry reaps billions of dollars in sales from health care insurers, administrators, and providers; pharmaceutical manufacturers and distributors; governments; and corporations that purchase computer equipment for administration of health benefits.

Health Insurers

Health insurers include commercial insurance companies, Blue Cross/Blue Shield companies, and HMOs. In addition, employers that self-fund health insurance benefits serve as their own insurers. The federal government also serves as its own insurer for Medicare beneficiaries, and federal and state governments are insurers for Medicaid recipients. Health insurance is a significant industry in the private sector in terms of income and employment. HCFA estimates the costs of program administration and private health insurance (premiums minus claims paid) at $44.6 billion for 1990. This estimate includes expenditures on both insurance and administrative services.

In 1990, private medical service and health insurance companies employed approximately 250,000 workers (U.S. Department of Labor, 1991). Private insurers in 1988 paid $171 billion in claims for 182 million individuals (table 11). It is difficult to measure the size of each type of private insurer separately because some entities overlap. For example, 18 percent of HMOs are owned by Blue Cross/Blue Shield plans, and 15 percent of HMOs are owned by commercial insurers (Group Health Association of America, 1990). In addition, plans in which an employer and an insurer share the insurance risk (minimum premium plans for insured groups and stop-loss plans for self-insured groups) account for 24 percent of the commercial health insurance business (Health Insurance Association of America, 1990).

Table 11
Private Health Insurance Claims Payments, by Type of Financial Intermediary, 1984–1988

Type of Financial Intermediary	1984	1985	1986	1987	1988	4 Year Average Growth
			($ billions)			(percentage)
Total	$107.5	$117.6	$128.5	$151.7	$171.1	12.3%
Commercial insurance	55.9	59.9	64.3	72.5	83.0	10.4
Blue Cross/Blue Shield	35.7	37.5	40.6	44.5	48.2	7.8
Other plans[a]	26.0	32.5	36.8	56.5	62.8	24.7

Sources: Health Insurance Association of America, *Source Book of Health Insurance Data* (Washington, DC: Health Insurance Association of America, 1990) and unpublished data.
[a]Other plans include self-insured plans, self-administered plans, plans employing third party administrators, and health maintenance organizations.

Commercial Insurers

In 1988, commercial insurers paid $83 billion in claims for 93 million individuals. Their claims volume grew at an average annual rate of 10.4 percent between 1984 and 1988—faster than that of Blue Cross/Blue Shield plans but more slowly than that of HMOs and self-insured plans. The number of individuals with private health insurance from a commercial insurer peaked at 110 million in 1982 and declined to 93 million in 1988 (Health Insurance Association of America, 1990). Commercial insurers and Blue Cross/Blue Shield have been losing market share to self-insured plans and HMOs.

HMOs

In 1988, HMOs represented 14 percent of total claims paid by private health insurers (Health Insurance Association of America, 1990). HMOs are unique among health insurers because they may serve as both financial intermediaries and health care providers. HMOs are owned by commercial insurance carriers, Blue Cross/Blue Shield plans, providers, and national chains such as Kaiser Permanente. They can also be independently owned. Although commercial insurers and Blue Cross/Blue Shield plans have penetrated the HMO market, national chains and independently owned HMOs account for 63 percent of total HMO enrollment (Group Health Insurance Association of America, 1990).[13]

HMO enrollment climbed throughout the 1980s, although recent industry consolidation has caused the number of plans to decline from a high of 659 in 1987 to 553 in 1990 (Interstudy, 1991). In 1990, there were 33.6 million HMO enrollees, up from 15.1 million in 1984 (Interstudy, 1991). It is estimated that 1991 HMO enrollment will reach 37.4 million individuals (U.S. Department of Commerce, 1991).

Blue Cross/Blue Shield

In 1989, Blue Cross/Blue Shield plans paid $50.7 billion in claims for 72.5 million subscribers (Blue Cross and Blue Shield Association, 1990). Although the claims volume has been increasing, Blue Cross/Blue Shield's share of the total private insurance market declined throughout the 1980s (Health Insurance Association of America, 1990). Like many commercial insurers, Blue Cross/Blue Shield has an increasing proportion of its business in HMOs and PPOs. As of year-end 1989, there were 92 Blue Cross/Blue Shield HMOs, with an enrollment of 4.5 million people in 40 states. Fifty-seven Blue Cross/Blue Shield plans now offer a preferred provider product with an enrollment of 11 million persons. In addition to regular subscribers, Blue Cross/Blue Shield serves as a claims administrator for Medicare, Medicaid, and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) programs and paid $70.1 billion in claims for Medicare beneficiaries in 1989.[14]

Self-Funded Employer Insurance

Employers are increasingly choosing to serve as intermediaries for health care financing by self-funding, or self-insuring, medical benefits. Fifty-two percent of employers responding to a 1989 survey had self-funded plans, up from 46 percent in 1986 (A. Foster Higgins, 1990). Employers that self-fund medical benefits can hold their own reserves and use the funds as working capital. In addition, self-funding a health benefits plan exempts the employer from paying state premium taxes and providing state mandated benefits. **In 1988, private employer self-funded health plans covered 7.8 million individuals and paid $39.4 billion in claims** (Health Insurance Association of America, 1990). Employers may completely self-fund medical benefits or may do so with stop-loss protection through an insurance company.

[13]For more information on types and characteristics of HMOs, see InterStudy, 1990, and Group Health Association of America, 1990.

[14]Claims paid for Medicaid and CHAMPUS beneficiaries are unavailable.

The administration of a self-insured plan includes claims processing, actuarial estimation of plan costs, and utilization review. These responsibilities may be assumed by the employer, an insurance carrier, a TPA, or all three. In 1989, 39 percent of employers who self-funded medical benefits contracted the services of a commercial insurance carrier, 16 percent used a Blue Cross/Blue Shield plan, and 40 percent contracted the services of a TPA for claims administration. Third party administration is generally less expensive as a percentage of total claims for larger employers than it is for smaller employers because insurers and TPAs generally offer volume discounts (A. Foster Higgins, 1990). Only 9 percent of self-funded employers performed their own claims administration. Benefits of self-administration for the employer include control over claims turnaround time and quick availability of claims data, which employers can use to manage health care costs. Self-administration is rarely cost effective for any employers except the largest because of the fixed costs of equipment and staff needed to process claims.

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Although companies that self-administer their plans are not in the insurance business, they must have staff and overhead dedicated to administration. Motorola, for example, covers 59,000 employees with its own self-funded, self-administered health care plan. Its claims service operation, based in Phoenix and staffed by 127 Motorola employees, processed 1.4 million claims in 1989, paying a total of $167 million in health care costs (McEachern, 1990).

Administrative Services

Health insurance companies frequently act as claims administrators as well as insurers for their customers. Commercial insurers and Blue Cross/Blue Shield provide at least some administrative services to 96 percent (64 percent and 32 percent, respectively) of the employers they insure (A. Foster Higgins, 1990). For customers that self-fund their health plans, commercial insurers act purely in an administrative capacity and as such are suppliers rather than financial intermediaries.[15] The commercial insurance industry estimates that contracts for administrative services only account for 31 percent of the total claims paid by commercial insurers (Health Insurance Association of America, 1990). Among employers with self-funded health plans, however, only 55 percent contract the administrative services of a commercial carrier (39 percent) or Blue Cross/Blue Shield (16 percent). Nine percent administer their own health plans, and 40 percent contract the services of a TPA.

TPAs, which do not perform an insurance function, have become an increasingly common choice for administrative services among employers with self-funded health plans. The proportion of self-insured employers using TPAs rose from 35 percent in 1988 to 40 percent in 1989, while the proportion using commercial insurers declined from 41 percent to 39 percent, and the proportion using Blue Cross/Blue Shield declined from 20 percent to 16 percent over the same period (A. Foster Higgins, 1990). Reasons for the increasing popularity of TPAs may include greater efficiency, lower administrative costs, and better cost management arrangements (A. Foster Higgins, 1990).

Cost Management Services

As health care costs continue to grow, employers are seeking ways to eliminate unnecessary expenditures and

[15]Most self-insured employers purchase some level of stop-loss protection through an insurer. However, a minority (33 percent) purchase administrative services only contracts without stop-loss insurance.

save costs by promoting cost-effective care. To achieve this goal, they have begun to incorporate cost management or managed care programs in their health care plans. Cost management programs can take different forms including contracting with a UR firm, conducting in-house UR and management, and establishing a preferred provider network.

An estimated 300 to 400 firms have become involved in health care utilization and cost management in recent years (American Managed Care and Review Association, 1991). These firms typically contract with the health insurance administrator, whether it is an insurer, a TPA, or the employer itself. Firms involved in utilization review advise insurers on whether to authorize or deny payment for health care services ordered by doctors. Industry experts have questioned the competence of some cost management firms because of variations in the qualifications of their staffs and their approaches to utilization review and management. Many states have passed laws to regulate medical review companies, and others are currently facing pressure for regulation by state hospital and medical groups.

PPOs, another type of cost management firm, are a network of health care providers and/or delivery facilities that contract with insurers to provide services at a discounted price in return for a specified volume of business. PPO participants are typically given the choice of seeking care outside the network if they are willing to assume a greater portion of the costs. In addition, there are exclusive provider organizations (EPOs), that do not reimburse care outside the network. Although 37 percent of PPOs are owned by insurers and 71 percent of PPO contracts are with employer groups through health insurers, PPOs themselves are not insurers. The value added by a PPO is administrative. Between 1984 and 1989, the number of PPOs grew nearly 600 percent, from 115 plans to 685 plans. PPOs generated an estimated $865 million in revenues in 1989 (Marion Merrill Dow, 1990). At year-end 1989, PPOs covered 30 million workers, and an estimated 70 million individuals and their dependents were eligible for coverage under these plans (Marion Merrill Dow, 1990).

◆ Conclusion

The health care sector plays a significant role in the U.S. economy. Continuing increases in the price and quantity of health care relative to all other sectors of the economy combined have resulted in the ongoing growth of health expenditures as a proportion of GNP. Employers, governments, and individuals have expressed a desire to control national health expenditures. Employer spending on health care benefits has increased as a proportion of total compensation, and government spending on health care occupies an increasing share of total public expenditures. More than one-half of Americans (56 percent) questioned in a recent public opinion survey rated the U.S. health care system as fair or poor. Among respondents with health insurance coverage, 29 percent rated their coverage as fair or poor, and 19 percent of these rated it this way because it was expensive. However, 92 percent of those who stated they have family physicians rated the quality of care they receive as excellent or good (Employee Benefit Research Institute/The Gallup Organization, Inc., 1991).

The implications for U.S. competitiveness of growing *employer* spending on health care are uncertain. Although some employers argue that health expenditures impair their ability to compete internationally because they represent a constantly growing proportion of net profits, total labor costs (total compensation) is an arguably better measure for determining productivity. In aggregate terms, *total* compensation has declined as a proportion of net profits in recent years. The growing proportion of *public* budgets devoted to health care, however, poses clear concerns for long-term U.S. competitiveness. Increasing health care expenditures as a proportion of government budgets may be crowding out public spending on other items, such as education, that are essential to U.S. competitiveness.

While there is a national desire to control health care expenditures, public and private health care policy

changes can significantly affect industries that depend on health care expenditures. Money spent on health care flows to industries that employ millions of workers and that contribute to U.S. production, exports, the tax base, employment, capital investments, and investments in R&D. In addition, employers in local areas with significant numbers of health care workers depend on this sector and its employees to supply revenues for their own businesses. **Given the breadth of parties that have a vested interest in the financial well-being of the health care sector and the high proportion of survey respondents who have indicated satisfaction with their own health care, it would seem that proposals that would radically alter the financing and/or delivery of health care may be strongly opposed. On the other hand, individuals, businesses, and governments are increasingly expressing dissatisfaction with the U.S. health care system, and proposals for reform continue to surface.** Regardless of the ultimate direction of political momentum, the organization of the health care delivery system and its interaction with other sectors of the economy have important implications for both the politics of health care reform and the effect of policies focusing on health care costs, quality, and access.

This *Issue Brief* was written by Karen Horkitz of EBRI with assistance from the Institute's research and education staffs.

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