

THE IMPACT OF HEALTH CARE FINANCING ON FAMILY BUDGETS

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Introduction

The problem of high expenditures for health care is well known. In 1992, 14 percent of national income, a total of \$840 billion, was used to purchase medical care. What is not well known is who bears the burden of these high expenditures. A quick look at the statistics shows that federal and state governments, businesses, and insurance companies are major funding sources. However these are just intermediate sources of funds. Ultimately, individuals and families pay all health care costs through some combination of three financing streams: out-of-pocket spending; insurance premiums; or federal, state, and local government taxes. Even insurance premiums paid by employers are, for the most part, offset by reductions in wages and salaries. Thus, high expenditures for health care, while causing problems for business and government, ultimately are borne by and have their greatest impact on the budgets of families and individuals.

The \$752 billion spent on health care in 1991 was the equivalent of approximately \$7,860 for each of the 96 million households in the country, or over half the annual income of more than 24 percent of all households (US. Bureau of the Census 1992). When dealing with amounts of this magnitude, for services which, for the most part, are nondiscretionary and essential to well-being, how the costs are distributed among families and individuals is of major importance. This information is particularly relevant for policymakers at a time when major changes in health care financing are under consideration.

Using data from the 1987 National Medical Expenditure Survey, the “gold standard” for health expenditure information, and statistics from the Consumer Expenditure Survey and the Internal Revenue Service’s Individual Tax Model, this

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study examines the distribution of health care spending among families by income level. We find that health **expenditures**—including out-of-pocket spending, premium purchases, and the share of taxes which ultimately purchase health care—are regressively distributed. In addition, these three financing streams have quite different distributional consequences. More progressive health care financing requires a shift toward increased reliance on taxes and a reduction in the share of expenditures financed through out-of-pocket spending and premiums. In particular, we find:

- Low-income families pay over twice the share of income for health care as do high-income families;
- Out-of-pocket spending is particularly regressive with low-income families' expenditures, as a share of income, nearly nine times the level of those of high-income families;
- As a share of income, expenditures for premiums by low-income families are nearly four times the level of high-income families, even though many of the poor do not purchase health insurance;
- If everyone purchased health insurance, premium costs as a share of income for low-income families would be five times the level for high-income families;
- Tax-financed health care spending is the only portion of the health care financing system which is progressive, and even some components of tax financing are regressive; and,
- Compared to the nonelderly, the elderly pay a larger share of income for health care and face a more regressive distribution of spending.

The regressive distribution of health care spending is of particular concern since families cannot escape consumption of health care. Therefore, they are subject to the regressivity of the system which potentially can lead to two adverse outcomes. First, the more regressive the cost distribution, the greater is the possibility that health care expenditures will leave low-income families with too little income for other necessities. Second, to the extent that the costs of the system prevent low-income persons from receiving the level of health care they require, society as a whole becomes worse off. There can be negative effects from cost-induced underconsumption of health care.

This study is the first part of a larger project which will examine the distributional effects of various health-financing reform proposals. This first stage estimates and analyzes the distribution of health care spending by families in 1987. Although describing conditions that existed six years ago, the analysis is important because it is based on the 1987 National Medical Expenditure Survey (NMES). The data from this survey are only now being released. NMES is by far the best source of information on family health expenditures, and for this reason we have chosen to report the distribution of spending for 1987.

In future work, we will “age” the NMES data to 1992 to reflect more current conditions taking into account changes in demographics, the national economy, health insurance status, and health expenditures. The aged data and the resulting distribution of health costs will be a more accurate representation of the current situation. We will then examine how various health-financing proposals would affect the distribution of spending. However, when we modify the 1987 NMES data, we also lose a certain amount of accuracy. For this reason, we have chosen to report findings from both 1987 and 1992. The 1992 analysis will be released at a later date.

This study focuses on families’ spending for health care, not the level of benefits received from the expenditure. For nearly every family, benefits and spending diverge because of the tax financing of and the subsidies provided to health care. The purpose of this analysis is to determine the existing distribution of health costs against which proposed changes in financing can be measured.

Data and Methodology

We examine health care spending by single and multiple person families. To determine the distribution of spending across society, all families are assigned to one of ten groups (deciles) of equal size, with the one-tenth of families with the highest incomes in the first group, the one-tenth of families with the next highest incomes in the second group, and so on to the tenth group which contains the one-tenth of families with the lowest incomes. Incomes in the highest decile vary widely, from a “low” of \$72,153 to a high of millions of dollars. For this reason, we separate the highest income decile into two parts: the five percent of families with the highest incomes (above \$92,912) and the next highest five percent with family incomes of \$72,153 to \$92,912. Together, these two groups comprise the tenth decile.

This examination rests upon calculations of shares of income used to purchase health care. This measure is subject to error, particularly for the lowest income families in the tenth decile whose expenditures may exceed incomes.² Placing too much reliance on data from the tenth decile may be misleading. For this reason, our determinations of distributional regressivity or progressivity will compare the ninth, not the tenth, decile with the top five percent of families. For ease of expression, we will call the families in the ninth decile “low-income families” even though families in the tenth decile have even lower incomes.

This study examines income prior to taxes, transfers, and receipt of benefits from public programs. The definition of income used throughout this report includes, in addition to money income, employer contributions to health insurance, the employer-share of payroll and unemployment insurance taxes, and corporate taxes.³

The Distribution of Family Health Care Expenditures

Table 1 shows the distribution of expenditures from the three main health care funding sources: out-of-pocket spending, premiums, and taxes. Total health expenditures in dollars and as a share of income for families in each decile are shown in column 4. The table shows that the average family expenditure for health care in 1987 was \$4,370, or about 15 percent of family income. However there was a wide

Table 1
Family Expenditures for Health Care, 1987
(By Family Income Decile)

Family Income Decile (Income Range)	Out of Pocket (1)		Total Premiums ¹ (2)		Public Sector ² (3)		Total Expenditures (4)	
	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income
1a Top 5% (Above \$92,912)	\$1,222	1.0%	\$2,362	2.0%	\$9,650	7.3%	\$13,234	10.2%
1 b (\$72,153-92,912)	1,056	1.3	2,302	2.8	5,396	6.6	8,754	10.8
2 (\$52,558-72,152)	1,033	1.7	2,149	3.5	3,807	6.2	6,989	11.4
3 (\$41,968-52,557)	857	1.8	2,002	4.3	2,743	5.8	5,602	12.0
4 (\$33,700-41,967)	917	2.5	1,864	5.0	2,046	5.4	4,827	12.9
5 (\$26,799-33,699)	768	2.6	1,590	5.3	1,547	5.1	3,905	12.9
6 (\$21,098-26,798)	767	3.2	1,461	6.1	1,158	4.9	3,386	14.2
7 (\$15,998-21,097)	739	4.0	1,187	6.4	828	4.4	2,755	14.9
8 (\$10,956-15,997)	721	5.4	883	6.5	542	4.0	2,146	15.9
9 (\$6,240-10,955)	728	8.5	680	7.9	348	4.1	1,756	20.5
10 Lowest 10% (Below \$6,240)	432	11.6	314	8.6	214	6.8	960	26.9
Average, All Families	\$814	4.2%	\$1,459	5.6%	\$2,097	5.4%	\$4,370	15.1%
Ratio (9/1a) ³	8.5		4.0		0.6		2.0	
Sum of Funding Type as a Percent of Total Expenditures	24%		31%		45%		100%	

Notes: ¹ All premium expenditures, including Medicare, minus tax savings.

² Tax revenues spent on health care plus tax expenditures.

³ The ratio of low-income families (ninth decile) to the top five percent.

Table 2
Effective Federal Tax Rates for
All Families, 1992

Income Group	Effective Rates
All	23.3%
Top 10%	27.5
Next 10%	24.5
Second Fifth	22.3
Middle Fifth	19.6
Fourth Fifth	15.6
Fifth (Lowest) Fifth	8.7

Note: *Projected rates. Congressional Budget Office tax simulation model.

range of spending among families at different income levels. Low-income families spent, on average, \$1,756, or 20.5 percent of their income for the year. The top five percent of families spent an average of \$13,234, or 10.2 percent of income. The next wealthiest five percent paid \$8,754 or 10.8 percent of income. Thus, as a share of income, the burden on low-income families was two times the burden on high-income families. This distribution is shown in Figure 1.

In comparison to the regressive burden of health care spending, the progressive distribution of 1992 federal taxes is shown in **Table 2**. Families in the lowest income quintile pay on average 8.7 percent of income in taxes while families in the highest income decile average 27.5 percent. In this progressive distribution, as incomes rise and the ability to pay increases, taxes also rise as a share of income. The distribution of health care spending is just the opposite. As incomes rise, the share of income paid for health care falls.

This analysis of the cost burden ignores one of the other major problems of our current health care system—the uninsured and underinsured. Not only are financial costs high, but in addition, too many people cannot even afford to purchase the care they need. In 1987, there were 30.7 million people without any health insurance, or 14.4 percent of the population (see also U.S. House of Representatives, Committee on Ways and Means 1992). There are people at every income level who are uninsured, but the problem is particularly acute for those with low incomes. The percent of individuals in each decile who were without health insurance in 1987 is shown in **Table 3**. In low-income families in the tenth decile, 33.9 percent of people were uninsured.⁴ Only 29.3 percent had private insurance, including 13.4 percent with employer coverage. Almost half, or 46.7 percent had Medicaid, Medicare, or other

Figure 1
Family Expenditures for Health Care, 1987
 (by Family Income Decile)

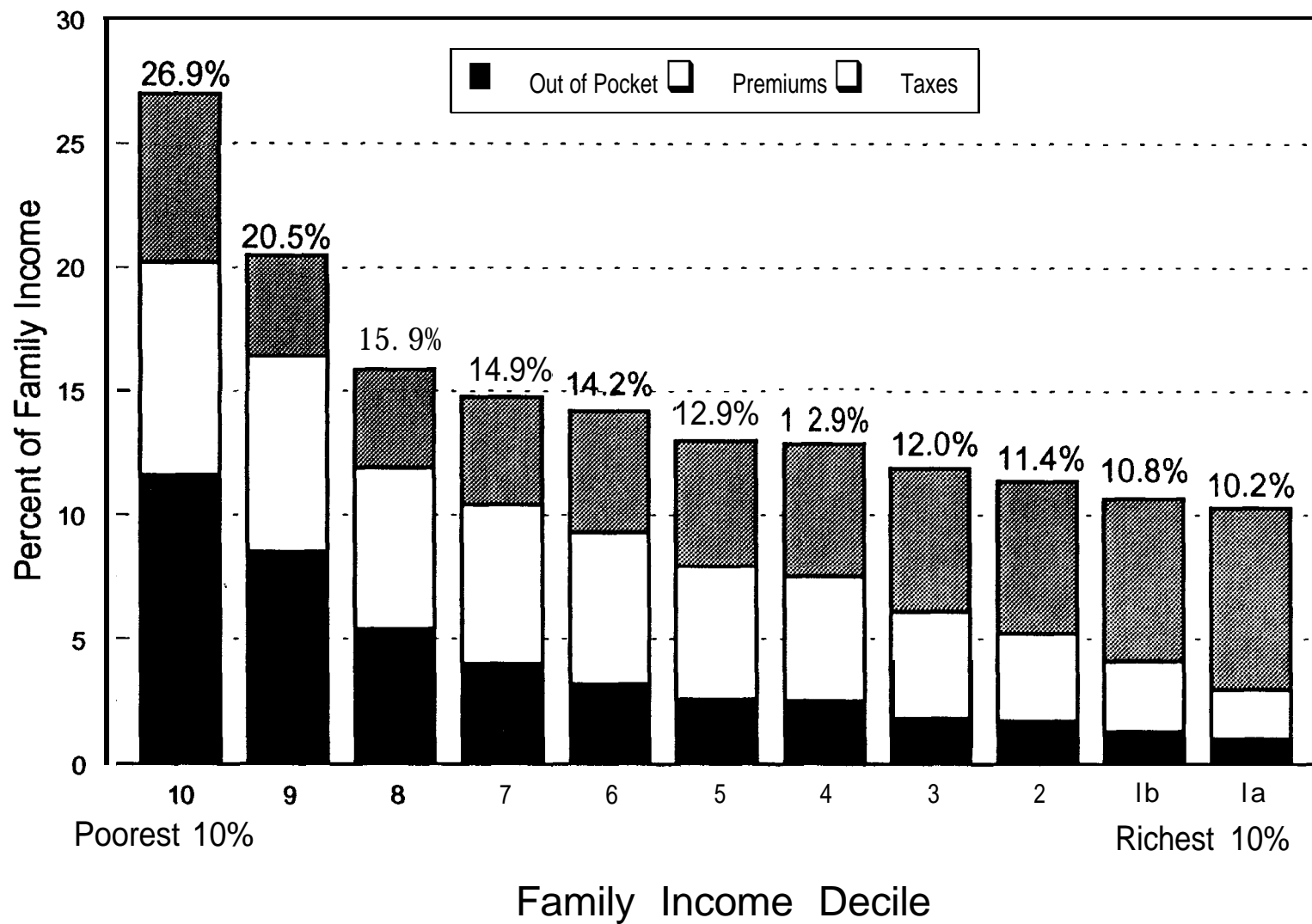


Table 3
Percent of Persons with Health Insurance Coverage, 1987
(By Family Income Decile)

Family income Decile (Income Range)	Insured (1)	Employer Coverage (2)	Other Private (3)	Total Private (4)	Medicare (5)	Medicaid (6)	Other Pu (7)
1 o Top 5% (Above \$92,912)	95.4%	80.7%	16.1%	94.6%	5.8%	0.2%	0.0%
1 b (\$72,153-92,912)	95.7	82.8	13.9	93.5	5.0	0.5	0.2
2 (\$52,558-72,152)	93.1	81.5	11.1	90.3	5.4	0.9	0.1
3 (\$41,968-52,557)	93.1	78.6	13.8	90.1	5.8	1.7	0.2
4 (\$33,700-41,967)	91.2	75.2	14.3	86.8	7.6	2.5	0.4
5 (\$26,799-33,699)	87.7	67.0	16.7	81.3	12.0	3.6	0.7
6 (\$21,098-26,798)	84.9	59.4	18.7	76.0	15.5	5.7	0.7
7 (\$15,998-21,097)	80.1	49.5	18.9	65.9	18.0	9.1	1.6
8 (\$10,956-15,997)	72.5	31.5	20.3	50.5	20.1	16.5	3.4
9 (\$6,240-10,955)	71.2	17.5	22.3	39.5	27.2	23.8	3.7
10 Lowest 10% (Below \$6,240)	66.1	13.4	15.9	29.3	20.3	30.0	3.5
All Persons	85.6%	60.5%	16.2%	74.7%	12.3%	7.5%	1.2%

Note: Some individuals have more than one type of insurance, therefore the sum of the types of coverage may exceed the totals. For employer and other private health insurance would be counted in both categories, but once in the total private and once in the

public insurance. The number of people with insurance and the percent of the insured covered by private policies rise with income until, among families with the highest incomes, 94.6 percent had private insurance. Insurance status has important implications for health expenditures, as will be discussed below.

Out-of-Pocket Spending

Table 1 also shows the expenditure distribution within each of the three health care funding sources. The major cause of the regressive distribution of total expenditures was out-of-pocket spending, shown in column 1. Out-of-pocket spending includes deductibles, all forms of cost sharing such as copayments and coinsurance, and expenditures for services not covered by insurance which might include prescription drugs or mental health care.⁵ For people without insurance or for those who are inadequately insured, out-of-pocket costs can be large, provided families have sufficient funds to purchase health care services. In addition, for those with insurance which requires cost sharing, out-of-pocket spending rises with the use of services. A seriously ill person covered by insurance with stiff cost-sharing requirements can face enormous out-of-pocket expenses. Health care expenses have become one of the leading causes of personal bankruptcy.

Column 1 in Table 1 shows that low-income families spent 8.5 percent of income, on average, on out-of-pocket health care purchases compared to 1 percent for those with the highest income. Thus, the burden on low-income families was nearly nine times the burden on high-income families. This regressive distribution existed despite the inherent limits on out-of-pocket spending by the poor due to their low incomes. Any increase in out-of-pocket spending requirements, without careful safeguards to protect the poor and the near poor, will worsen the regressivity of this distribution.

Insurance Premiums

The distribution of expenditures for insurance premiums was also very regressive in 1987. Spending for premiums is shown in column 2 of Table 1, and in more detail in **Table 4**. Column 1 in Table 4 shows expenditures for nongroup insurance premiums purchased directly by families, and employee contributions to premiums obtained through employers. (Expenditures by employers for employee insurance are shown in column 2.) Low-income families spent, on average, 4.1 percent of income, although few of the poor purchase private insurance. The highest income (top five percent) of families spent less than one percent of income on direct and employee purchases of premiums.

Spending on premiums by employers is shown in column 2. Not unexpectedly, we find that for middle- and upper-income families, employer-sponsored insurance

Table 4
Family Expenditures for Health Insurance Premiums, 1987,
(By Family Income Decile)

Family Income Decile (Income Range)	Individual & Employee (1)		Employer (2)		Tax Savings (3)		Net Employer (4)		Total Private (5)		Medicare (6)		Total Premiums (7)	
	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income
	1a Top 5% (Above \$92,912)	\$829	0.7%	\$2,604	2.2%	\$1,112	0.9%	\$1,492	1.3%	\$2,321	2.0%	\$41	0.0%	\$2,362
1b (\$72,153-92,912)	769	1.0	2,555	3.2	1,057	1.3	1,498	1.8	2,267	2.8	35	0.0	2,302	2.8
2 (\$52,558-72,152)	750	1.2	2,264	3.7	902	1.5	1,363	2.2	2,113	3.5	37	0.1	2,149	3.5
3 (\$41,968-52,557)	737	1.6	1,876	4.0	648	1.4	1,228	2.6	1,965	4.2	36	0.1	2,002	4.3
4 (\$33,700-41,967)	653	1.7	1,678	4.5	513	1.4	1,165	3.1	1,818	4.8	46	0.1	1,864	5.0
5 (\$26,799-33,699)	579	1.9	1,321	4.4	371	1.2	950	3.1	1,528	5.1	62	0.2	1,590	5.3
6 (\$21,098-26,798)	570	2.4	1,094	4.6	274	1.1	821	3.5	1,391	5.8	70	0.3	1,461	6.1
7 (\$15,998-21,097)	485	2.6	797	4.3	172	0.9	625	3.4	1,110	6.0	78	0.4	1,187	6.4
8 (\$10,956-15,997)	373	2.8	491	3.6	68	0.5	423	3.1	796	5.9	87	0.6	883	6.5
9 (\$6,240-10,955)	349	4.1	235	2.7	13	0.1	222	2.5	571	6.6	108	1.3	680	7.9
10 Lowest 10% (Below \$6,240)	161	4.8	79	2.0	0	0.0	79	2.0	240	6.8	74	1.8	314	8.6
Average, All Families	\$550	2.4%	\$1,255	3.7%	\$409	0.9%	\$845	2.7%	\$1,395	5.1%	\$63	0.5%	\$1,459	5.6%
Ratio (9/1a)*	5.9		1.2		0.1		1.9		3.3		n/a		4.0	

Note: The ratio of low-income families (ninth decile) to the top 5 percent.

accounts for the largest share of health care spending after taxes. As a share of income, spending on employer-sponsored insurance rose from the tenth through the sixth deciles, then declined. There are two major reasons for this pattern. Many people who are poor or lower-middle class do not receive health insurance on the job, therefore as a group their expenditures of this type are low (see Table 3). As incomes rise, workers are more likely to receive health insurance on the job, and the policies offered are more comprehensive and thus more expensive, so average costs for the decile rise. Further, although the costs of policies vary with the comprehensiveness of the coverage, the variation in premiums between the least and most comprehensive policies is much smaller than the variation in income across society. Thus, expenditures as a share of income decline across the higher income deciles.

These data include families with and without health insurance.' Thus, they understate the burden for families who do have private insurance since families without insurance (and those with Medicaid) make no premium payments. They also overstate the burden for those without insurance. Later, we show the distribution restricted to families with private insurance.

There is ongoing debate over who actually pays for premiums obtained through employers. In this study we adopt the predominant view and assume that all employer payments for premiums are completely offset by lower wages to workers. This view rests on the following logic. Since health insurance is received as a fringe benefit of employment, it is a part of the total compensation workers receive. If employers did not purchase insurance, the entire amount of money they would have spent would instead be received by workers as higher money wages. Therefore, workers—through their lower wages—are bearing the entire cost of premiums. However, others argue that the cost of health insurance is not completely offset by lower wages and that part of the cost is borne by employers, or passed on to consumers through higher prices.⁷ In the future we will consider this alternative hypothesis.

In any case, employees do receive some relief from the costs of their premiums. Health insurance received as compensation for employment is a form of income, but unlike income received as wages, federal law exempts from taxes income received in the form of health insurance coverage.

For example, consider a worker with a tax rate of 25 percent who receives \$4,000 in money income. The worker would pay \$1,000 in taxes and take home \$3,000. If instead of cash income, the employee received compensation in the form of a \$4,000 health insurance policy, no taxes would be assessed. The worker would be exchanging \$3,000 in (after-tax) income for a \$4,000 health insurance policy. The health insurance is actually costing the worker just \$3,000 since this is the amount of income he is giving up in exchange for the policy. This \$1,000 difference is a *tax*

savings to the worker, essentially a federal subsidy to facilitate the purchase of health insurance. But the \$1,000 not paid in taxes by the worker is a tax *expenditure* that requires all taxpayers to pay more taxes as an offset. In addition to favorable income tax treatment, health insurance is also exempt from payroll taxes—a further increase in both tax savings to workers and tax expenditures.

All workers who receive health insurance as part of their compensation receive a tax savings, and the size of this subsidy rises with the cost of the insurance and with the worker's marginal tax rate. Thus, tax savings disproportionately accrue to those with higher incomes, higher marginal tax rates, and more expensive insurance. The higher taxes which result from the tax expenditure are distributed among all tax payers in proportion to their federal tax burden, with those with higher incomes paying a greater share. The net effect of the tax savings and tax expenditure is discussed below.

The tax savings received by families who obtain health insurance on the job are shown in column 3 of Table 4. As expected, this distribution also favors higher income families. Families with the lowest incomes received essentially no subsidy, while those with the highest income received a subsidy that is greater than \$1,000, although this constituted only about one percent of their income.

The net cost of employer-paid health insurance is shown in column 4. This is the difference between what employers (actually workers) paid for health insurance minus the workers' tax savings. For the reasons mentioned, the distribution of the net cost was more regressive than was the distribution of all employer expenditures.

In 1987, employers spent approximately \$130 billion for health insurance, or about 27 percent of the national health care total (see also Levit and Cowan 1991). (This does not include the employer share of health insurance payroll taxes, workers' compensation, or health services provided at the workplace. These amounted to another \$37 billion or 8 percent of national health spending.) However, the tax savings received by workers were approximately \$40 billion, or eight percent of total spending.* Thus the share of national health care expenditures paid for by employers through health insurance premiums, net of the tax expenditure, was 19 percent of the national total. The share of total health spending financed through the public sector was about 45 percent when tax expenditures are included.

The two parts of the Medicare program have separate funding sources. The first and larger component, absorbing slightly more than 60 percent of all Medicare dollars, is hospital insurance and is funded primarily through the payroll tax. This will be discussed below. The second part of the Medicare program (Part B) pays for doctors' and outpatient services. This is funded through premiums paid by the elderly and the disabled, through required deductibles and coinsurance paid by enroll-

ees, and through general federal revenues. In 1987, premiums accounted for slightly less than one-quarter of Part B program costs.⁹

The distribution of Medicare premiums is shown in column 6 of Table 4. These costs were somewhat regressive, but were a small share of income, even for families with the lowest incomes. However, if the Part B program were completely funded through premiums, this would raise the level of premium expenditures by a factor of approximately four, exacerbating the regressivity of the distribution.

Total spending on premiums is shown in column 7. This total includes spending for premiums for individual nongroup policies and Medicare as well as employer and employee spending, net of tax savings. The distribution was regressive with low-income families spending a share of income approximately four times that of high-income families.

Premiums for Nonelderly Families with Private Insurance

The figures in Table 4 portray the spending patterns of families in 1987, including the spending or the lack of spending by the millions of people who were uninsured and did not purchase premiums. However, most health reforms propose to cover everyone with premium-financed insurance purchased either through the workplace (by employers and employees) or through a public plan. To gain some insight into the distribution of the costs if everyone were required to pay insurance premiums, Table 5 shows the distribution of premium costs in 1987 among only those nonelderly families that paid private insurance premiums. These costs are more regressive across the income distribution than are those shown in Table 4. Low-income families spent 9.4 percent of income on premiums, while those with high incomes spent just 1.9 percent, about one-fifth as much.

Requiring all families (or their employers) to purchase health insurance premiums locks in place a regressive distribution of health care funding unless large subsidies are available to low-income families (which some reforms do include). The regressive distribution occurs because premium costs for low-income families are not very different than those for families with high incomes. So, as a share of income, there is a much greater burden on families in the lower deciles. As long as the variation in premium costs among families is less than the variation in income, the distribution of premiums will be regressive.

The Public Sector and Health Care Spending

In 1987, approximately 45 percent of all health care spending flowed through the tax systems of federal, state, and local governments. Tax dollars pay for most of Medicare and Medicaid: public health programs: research and construction: health care for veterans, military personnel and their dependents: and special services such

Table 5
Premium Expenditures by Nonelderly Privately Insured Families, 1987
(By Family Income Decile)

Family Income Decile (Income Range)	Individual & Employee (1)		Employer (2)		Tax Savings (3)		Net Employer (4)		Total Private (5)	
	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income
1 a Top 5% (Above \$96,122)	\$845	0.7%	\$2,718	2.2%	\$1,196	1.0%	\$1,521	1.3%	\$2,367	1.9%
1 b (\$75,440-96,122)	785	0.9	2,722	3.2	1,168	1.4	1,554	1.8	2,339	2.8
2 (\$55,790-75,439)	822	1.3	2,636	4.1	1,108	1.7	1,528	2.4	2,350	3.7
3 (\$45,112-55,789)	780	1.6	2,120	4.3	795	1.6	1,325	2.7	2,104	4.2
4 (\$36,792-45,111)	686	1.7	1,971	4.8	644	1.6	1,328	3.3	2,013	4.9
5 (\$30,254-36,791)	596	1.8	1,673	5.0	523	1.6	1,150	3.4	1,746	5.2
6 (\$23,851-30,253)	642	2.4	1,393	5.2	401	1.5	993	3.7	1,635	6.1
7 (\$18,558-23,850)	545	2.6	1201	5.7	307	1.4	894	4.2	1,439	6.8
8 (\$12,842-18,557)	517	3.3	889	5.6	178	1.1	711	4.5	1228	7.8
9 (\$6,877-12,841)	412	4.3	555	5.5	45	0.4	510	5.1	921	9.4
10 Lowest 10% (Below \$6,877)	214	6.9	176	3.8	0	0.0	176	3.8	390	10.8
Average. All Families	\$637	2.3%	\$1,688	4.6%	\$589	1.3%	\$1,100	3.3%	\$1,737	5.6%
Ratio (9/1a)*	6.1		2.5		0.4		3.9		5.0	

Note: *The ratio of low-income families (ninth decile) to the top five percent.

as maternal and child health programs. This money is raised through all the ways in which taxes are collected, including personal and corporate income taxes at the federal and state levels, sales and excise taxes, and others. To fully calculate the health cost burden on families, this study includes health care purchased through the tax system. After estimating the various tax liabilities of families, those portions of their taxes which go to purchase health care are calculated and the distribution of these costs is determined.¹⁰

Most of the money spent by governments for health care is raised as part of their general revenues. The major exception is the payroll tax earmarked for Medicare, discussed below. The distribution of the burden of health care purchased through the tax system is shown in the third column in Table 1 and in more detail in

Table 6
Family Health Care Expenditures Through the Public Sector, 1987
(By Family Income Decile)

Family Income Decile (Income Range)	Federal Taxes ¹ (1)		Federal Tax Expenditures (2)		State Taxes ² (3)		Payroll Taxes (4)		Total Public Sector ³ (5)	
	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income
1a Top 5% (Above \$92,912)	\$4,386	3.2%	\$2,480	1.8%	\$1,682	1.3%	\$1,102	0.9%	\$9,650	7.3%
1b (\$72,153-92,912)	2,097	2.6	1,169	1.4	998	1.2	1,133	1.4	5,396	6.6
2 (\$52,558-72,152)	1,347	2.2	758	1.2	732	1.2	970	1.6	3,807	6.2
3 (\$41,968-52,557)	875	1.9	490	1.0	570	1.2	808	1.7	2,743	5.8
4 (\$33,700-41,967)	605	1.6	339	0.9	452	1.2	650	1.7	2,046	5.4
5 (\$26,799-33,699)	435	1.4	243	0.8	363	1.2	506	1.7	1,547	5.1
6 (\$21,098-26,798)	289	1.2	162	0.7	318	1.3	389	1.6	1,158	4.9
7 (\$15,998-21,097)	185	1.0	103	0.6	258	1.4	282	1.5	828	4.4
8 (\$10,956-15,997)	93	0.7	51	0.4	210	1.6	189	1.4	542	4.0
9 (\$6,240-10,955)	52	0.6	29	0.3	171	2.0	97	1.1	348	4.1
10 Lowest 10% (Below \$6,240)	1	0.0	0	0.0	149	4.9	64	1.9	214	6.8
Average, All Families	\$720	1.4%	\$404	0.0%	\$460	1.7%	\$512	1.5%	\$2,097	5.4%
Ratio (9/1a) ⁴	0.2		0.2		1.5		1.2		0.6	

- Notes:** ¹ Includes federal personal and corporate income taxes, unemployment insurance premiums, and gift and estate taxes for health care.
² Includes state personal and corporate income taxes plus state sales and excise taxes.
³ Includes federal taxes and tax expenditures, state taxes, and payroll taxes.
⁴ The ratio of low-income families (ninth decile) to the top five percent.

Table 6. The total distribution was progressive, with low-income families paying 4.1 percent of income while the highest income families averaged 7.3 percent. For the most part, this parallels the distribution of the national tax burden. Tax-financed spending is the only component of the health-financing system that is progressive.

Federal Income Taxes. In 1987, personal and corporate federal income taxes provided 56 percent of total federal revenues.¹¹ Both of these taxes are progressively distributed with the wealthy paying a larger share of income than the poor (Table 2 and Pechman 1985). Health care spending through federal taxes is also progressively distributed, as shown in column 1 of Table 6. In 1987, low-income families paid 0.6 percent of income while the highest income families paid 3.2 percent of income.

Federal Tax Expenditures. As mentioned above, federal law exempts employer-paid health insurance from income and payroll taxes. This means that recipients of employer-sponsored insurance receive subsidies to help purchase their insurance. However, to offset these tax expenditures, additional taxes must be raised. Column 2 in Table 6 shows the level and distribution of these replacement taxes.¹² Like federal income taxes, the distribution of tax expenditures was progressive. However, the net effect, by decile, of the tax savings and expenditures is shown in **Table 7**. Both the lowest and the highest income families paid more in additional taxes than they received in tax savings. For the five percent of families with the highest incomes, net taxes equaled \$1,368 or nearly one percent of income. However, low-income families also had a net tax liability that averaged \$16 or 0.2 percent of income. Over the broad middle range of the income distribution, (deciles 2 through 8), on *average* families had a net savings.

In addition to being a burden on the lowest income families, the tax exclusion is troublesome for another reason. The net incidence of the tax savings and expenditures, shown in column 3 in Table 7, is the average for all families in a decile. However, since all taxpayers bore the added taxes, the tax savings went to families with employer-sponsored health insurance only, within each decile there was a transfer from taxpayer families without employer-sponsored insurance to those that did have this benefit. If a family that did not receive health insurance through an employer purchased a nongroup policy, it would not receive the tax savings.¹³ The subsidy for employer-sponsored health insurance is paid by taxpayers without such insurance, whatever their income level, and by the highest and lowest income families.

The tax exclusion for employer payments for health insurance enables families at all income levels to afford health insurance. But, it provides no help to families who do not receive employer-sponsored insurance, while increasing their taxes. However, eliminating the tax exclusion is not the answer. We need increased tax financing of health care and health insurance, not less. But, we must distribute the tax benefits and the tax burdens more equitably.

State and Local Taxes. State and local revenues for health care are raised primarily through income and sales taxes. The resulting distribution of health care spending is shown in column 3 in Table 6. Because states raise more revenue

Table 7
Family Tax Savings and Tax Expenditures, 1987
(By Family Income Decile)

Family Income Decile (Income Ranges)	Tax Savings (1)		Tax Expenditures (2)		Difference Net Savings (3)	
	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income
1a Top 5% (Above \$92.9 12)	\$1,112	0.9%	\$2,480	1.8%	\$ -1,368	-0.9%
1b (\$72,153-92,912)	1,057	1.3	1,169	1.4	-111	-0.1
2 (\$52,558-72,152)	902	1.5	758	1.2	145	0.2
3 (\$4 1,968-52,557)	648	1.4	490	1.0	158	0.3
4 (\$33,700-4 1,967)	513	1.4	339	0.9	174	0.5
5 (\$26,799-33,699)	371	1.2	243	0.8	128	0.4
6 (\$2 1,098-26,798)	274	1.1	162	0.7	112	0.5
7 (\$15,998-21,097)	172	0.9	103	0.6	69	0.4
8 (\$10,956-15,997)	68	0.5	51	0.4	17	0.1
9 (\$6,240- 10,955)	13	0.1	29	0.3	-16	-0.2
10 Lowest 10% (Below \$6,240)	0	0.0	0	0.0	0	0.0
Average, All Families	\$409 ¹	0.9%	\$404 ¹	0.8%	\$5	0.2%
Ratio (9/1a) ²		0.1		0.2		0.2

Notes: ¹ Average tax savings and tax expenditures differ due to rounding errors.

² The ratio of low-income families (ninth decile) to the top five percent.

through regressive sales and excise taxes than through progressive income taxes, low-income families paid a larger share of income in state taxes than did families with high incomes, although the differences were not great.

Payroll Taxes. The hospital component of the Medicare program is funded through two sources. The elderly pay deductibles and coinsurance when they receive Medicare services. These expenditures are included in out-of-pocket costs as shown in Table 1. The majority of funding, however, comes from the health insurance portion of the payroll tax. In addition, a portion of the social security component of the

payroll tax buys health care. The distribution of payroll taxes is shown in column 4 in Table 6. Both low- and high-income families paid an average of about one percent of income for health care through the payroll tax. The share of income paid rose from the bottom through the middle of the income distribution, then declined.¹⁴ Overall, the incidence in 1987 was fairly flat.

Payroll tax liabilities are driven by two factors. First, the tax falls only on labor money income (wages and salaries) and not on other types of income such as dividends, interest, fringe benefits, or rents. Therefore, as the share of income received from **nonlabor** sources rises, as is the case as we move up the income ladder, a smaller and smaller share of total income is subject to the tax. Thus, payroll tax liabilities as a share of income will decline. Second, the amount of labor income subject to the tax is capped, further contributing to regressivity. In 1987, earnings above \$43,800 were not subject to the payroll tax. However, since 1987, the cap has been raised and in 1992 stood at \$130,200 for the health insurance portion and at \$55,500 for the social security component of the payroll tax. This further flattens the distribution and makes it more progressive.

The Distribution of Spending Among Funding Sources

Thus far, the discussion has focused on the distribution of spending among family income deciles within each of the three types of health care funding: out-of-pocket, premiums, and taxes. But the distribution of total health care spending depends upon two factors. One is the distribution across deciles within any single funding source. But since each type of funding has a different incidence, the second factor is the funding mix, an equally important determinant of the final expenditure distribution. For example, if out-of-pocket spending were reduced by \$20 billion and replaced by an equivalent increase in public funding, and if the incidence within these funding sources were maintained, then regressivity would be reduced. .

In 1987, approximately 24 percent of all health care was financed through out-of-pocket spending (see the last row of Table 1).¹⁵ Another 31 percent was paid for through premiums, including payments by individuals for nongroup policies, and employee and employer contributions to employer-sponsored insurance minus tax savings. This total also includes the \$23 billion in premiums paid by federal, state, and local governments in their role as employer and \$6 billion in Medicare Part B premiums. Forty-five percent of health care (\$207 billion) was purchased through the public sector. If Medicare and public employee premiums are added to this total, the public sector paid for 51 percent of health care in 1987. An additional \$14 billion was raised through nonpatient revenues such as donations.

The ratio showing the regressivity or progressivity of each type of spending is also shown in Table 1. The regressivity of the total expenditure distribution would be lessened by either reducing out-of-pocket expenditures, with a low-income to high-income family incidence ratio of 8.5, or by reducing reliance on premiums, which have an incidence ratio of 4.

Expenditures of Elderly and Nonelderly Families

There are major differences in the funding of health care for people under and over age **65**. Nearly everyone age **65** and above has Medicare coverage: there are few uninsured in this age group. As we have seen, the costs of Medicare are spread among all adults, not just the elderly. However, seniors do pay deductibles and coinsurance when they use services, and most also purchase supplemental Medicare insurance which covers doctors and outpatient services. In addition, many seniors purchase private “Medigap” insurance policies to cover some of their cost-sharing obligations and additional services.

The spending requirements for people under 65 years old are very different. Most receive insurance coverage through their employer. Some policies provide first dollar coverage that requires no contribution from the patient, while others have large cost-sharing requirements. Some cover a broad package of benefits, while people with more limited policies may have to pay for some services entirely out of pocket. People without insurance (numbering nearly 31 million in 1987) must forego care, pay out of pocket, or receive charity care.

These differences in insurance, cost sharing, and access to care have large effects on the distribution of costs among the elderly and the nonelderly. In addition, seniors use more medical services than do the under-65. However, many of these costs are covered by taxes paid by the elderly and nonelderly alike.

Tables 8 and 9 show the health cost burden for elderly and nonelderly families.¹⁶ The average family expenditure for each group is shown in the third from the bottom row of each table. In 1987, the average elderly family paid \$3,707 for health care while the average nonelderly family paid \$4,529. But because incomes of the elderly were generally lower than those of the nonelderly, seniors, on average, paid a larger share of income for health care than did the under 65, 20.5 percent compared to 13.8 percent, respectively.

The distribution of the burden across the income spectrum is worse for the elderly than for the nonelderly. Low-income elderly families paid 27.4 percent of their income for health care, a share which was nearly three times the 9.7 percent paid by high-income families. Among the nonelderly, low-income families paid 16.1 percent of income, while the highest income families paid slightly more than 10 percent. Compared to the nonelderly, seniors paid a larger share of income for health care and

Table 8
Elderly Family Expenditures for Health Care, 1987
(By Elderly Family Income Decile)

Elderly Family income Decile (Income Range)	Out of Pocket (1)		Total Premiums' (2)		Public Sector ² (3)		Total Expenditures (4)	
	Dollars	Percent of income	Dollars	Percent of income	Dollars	Percent of income	Dollars	Percent of Income
1 a Top 5% (Above \$67,027)	\$1,552	1.5%	\$2,403	2.5%	\$6,333	5.7%	\$ 10,287	9.7%
1 b (\$47,665-67,027)	1,951	3.4	2,449	4.4	2,657	4.7	7,057	12.5
2 (\$32,292-47,664)	1,424	3.6	2,159	5.6	1,593	4.1	5,176	13.3
3 (\$24,719-32,291)	1,456	5.2	1,860	6.6	1,082	3.8	4,398	15.6
4 (\$19,658-24,718)	1,545	6.9	1,682	7.6	832	3.8	4,060	18.3
5 (\$15,837- 19,657)	1,263	7.3	1,497	8.5	637	3.6	3,396	19.4
6 (\$12,679- 15,836)	1,273	8.8	1,230	8.6	539	3.8	3,042	21.3
7 (\$9,768- 12,678)	1,061	9.5	984	8.9	430	3.8	2,475	22.1
8 (\$7,608-9,767)	1,124	12.8	842	9.7	318	3.7	2,284	26.2
9 (\$4,956-7,607)	808	12.7	694	11.0	244	3.7	1,746	27.4
10 Lowest 10% (Below \$4,956)	582	15.4	492	14.0	127	3.3	1,202	32.7
Average, All Elderly Families	\$ 1,239	8.3%	\$1,407	8.3%	\$1,062	3.9%	\$3,707	20.5%
Ratio (9/1a) ³	8.5		4.4		0.7		2.8	
Total Funds From This Source as a Percent of Total Expenditures	41%		34%		25%		100%	

Notes: ¹ All premium expenditures, including Medicare, minus tax savings.
² tax revenues spent on health care plus tax expenditures.
³ The ratio of low-income families (ninth decile) to the top five percent.

Table 9
Nonelderly Family Expenditures for Health Care, 1987
(By Nonelderly Family Income Decile)

Nonelderly Family Income Decile (Income Range)	Out of Pocket (1)		Total Premiums ¹ (2)		Public Sector ² (3)		Total Expenditures (4)	
	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income	Dollars	Percent of Income
1 a Top 5% (Above \$96,122)	\$1,147	0.9%	\$2,342	1.9%	\$10,085	7.5%	\$13,574	10.3%
1 b (\$75,440-96,122)	1,040	1.2	2,323	2.8	5,772	6.8	9,136	10.8
2 (\$55,790-75,439)	970	1.5	2,188	3.4	4,148	6.4	7,305	11.3
3 (\$45,112-55,789)	842	1.7	1,976	4.0	3,054	6.1	5,871	11.8
4 (\$36,792-45,111)	761	1.9	1,883	4.6	2,319	5.7	4,963	12.2
5 (\$30,254-36,791)	804	2.4	1,663	5.0	1,863	5.6	4,330	12.9
6 (\$23,851-30,253)	626	2.3	1,469	5.5	1,396	5.2	3,491	13.0
7 (\$18,558-23,850)	529	2.5	1,245	5.9	1,042	4.9	2,817	13.3
8 (\$12,842-18,557)	529	3.3	930	5.9	693	4.4	2,152	13.7
9 (\$6,877-12,841)	558	5.9	599	6.1	398	4.1	1,555	16.1
10 Lowest 10% (Below \$6,877)	360	9.8	247	6.7	251	7.8	857	24.3
Average, All Nonelderly Families	\$712	3.2%	\$1,471	4.9%	\$2,345	5.7%	\$4,529	13.8%
Ratio (9/1a) ³	6.6		3.2		0.6		1.6	
Total Funds From This Source as a Percent of Total Expenditures	21%		31%		49%		100%	

Notes: ¹All premium expenditures, including Medicare, minus tax savings.

²Tax revenues spent on health care plus tax expenditures.

³The ratio of low-income families (ninth decile) to the top five percent.

faced a more regressive distribution of the costs. Seniors paid much more out of pocket than did the nonelderly. The average elderly family's out-of-pocket expenditure was \$1,239, compared to \$7 12 for the nonelderly. Elderly low-income families made out-of-pocket expenditures which, as a share of income, were over eight times those made by high-income elderly. The ratio for the nonelderly was 6.6. Seniors also faced a more regressive distribution of premium costs. While the elderly paid, on average, slightly less through premiums than the nonelderly, \$1,407 compared to \$1.47 1, the distribution of premium costs was more regressive for the elderly.

The last row in Tables 8 and 9 shows, the distribution of health care spending among the three types of funding. Nonelderly families made 49 percent of their health care purchases through the public sector. Premiums accounted for 31 percent, and just 21 percent of health care was purchased out of pocket.¹⁷ The picture for elderly families is quite different. Their lower incomes and lower consumption levels meant lower taxes. Just 25 percent of expenditures by the elderly occurred through the public sector. Premiums accounted for 34 percent, similar to the nonelderly. But fully 41 percent of spending was done out of pocket, and out-of-pocket spending for the elderly was even more regressive than for the nonelderly.

Conclusion

The U.S. spends a huge sum of money for health care, all of it ultimately paid by families. Costs are high, and the distribution of this spending is very regressive. In 1987, low-income families spent over 20 percent of income for health care, while families with the highest incomes paid about 10 percent. Low-income families paid over twice the share of income for health care as did high-income families.

Out-of-pocket spending was the most regressive type of financing with low-income families paying a share of income which was over eight times the share paid by those with high incomes. This occurred even though spending by the poor was limited by their low incomes. Premium expenditures were also regressively distributed with low-income families paying a share of income nearly four times the level paid by high-income families. But this picture was complicated by the uninsured, who spent nothing on premiums, thereby making the distribution less regressive than it would have been if everyone had insurance. Among only those families that did have insurance, the share of income spent on premiums by the poor was nearly five times the share paid by the wealthy.

Overall, health care spending financed through taxes is progressive. However, taxes at the state level are regressive, since the states raise more revenue through regressive sales and excise taxes than through more progressive income taxes. At the

federal level, income taxes are progressive. The incidence of payroll taxes in 1987 was nearly flat.

As a share of income, health costs for the elderly were higher than for the nonelderly. Seniors also faced a more regressive distribution of spending. In large part this was due to large, out-of-pocket expenditures which accounted for **41** percent of all health care spending by the elderly, compared to **21** percent for the nonelderly.

There are many possible goals of health care financing. This analysis has focused on equity. Some would argue that other goals such as cost containment or severing the link with employment should also receive high priority. For the foreseeable future, health care will continue to be funded through all of the sources examined here: out-of-pocket spending, premiums, and taxes. Within this mix of financing, there must be balance between competing goals. However, we argue that equity in health care financing has been a neglected consideration. In the current evaluations of health-financing proposals, concern with equity should be central.

Equity can be improved by making the distribution within each funding source less regressive. There are numerous policies which could begin to move us in this direction. Some possibilities include lower limits on cost-sharing obligations, or subsidies for all premium purchases, not just those by employers. Equity can also be enhanced by changing the mix of funding-by reducing out-of-pocket spending and premiums, and by raising the portion of health care financed through the least regressive taxes.

In this paper, we have quantified what is all too well known by Americans struggling to pay for health care. The current financing system is highly regressive, and this is particularly true for out-of-pocket spending and premiums, which together account for 55 percent of all health care expenditures. As potential solutions to the health care crisis are considered, improving equity in the distribution of health care spending should be an important goal.

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Appendix

To obtain data by family income decile on all the types of health spending, it was necessary to use data from three different sources. The primary data set came from the National Medical Expenditure Survey (NMES) which was conducted in 1987 by the Agency for Health Care Policy and Research of the U.S. Department of Health and Human Services. NMES provides a nationally representative sample of the civilian, noninstitutionalized population. During a series of five visits over the course of the year, interviewers obtained information on the use of health services and on expenditures. Employers, unions, and other groups that provided health insurance to survey participants, as well as insurance companies, were also surveyed for information on premium costs. Because there was no premium information obtained on 38 percent of policyholders, we imputed premiums for these records.

NMES is unquestionably the best source of health expenditure data. However, the disadvantage of using this survey is that it is only conducted once every 10 years. In future work, we will estimate the distribution of family health expenditures across the income spectrum for 1992, by using these 1987 data and incorporating changes in health care financing and utilization patterns that have occurred in the interim. (For similar research based on the 1977 NMES, see Cantor (1990) .) We will then examine the effects of various health-financing proposals on the 1992 baseline distribution.

The NMES, however, provides no information on health care purchased through income, sales, or excise taxes. Since the health care purchased with tax revenues accounts for over one-quarter of all health care spending, it should not be omitted. We calculated the incidence of payroll taxes from the NMES wage data and used the 1987 Consumer Expenditure Survey (CEX) to derive the incidence of sales and excise taxes. The CEX provides nationally representative data on consumption of all types. We statistically matched consumer units in the CEX with families in NMES using family income, age of household reference person (above or below 65), family size, urban/rural location, and region of residence as match variables. Data on the share of income spent on a variety of consumption goods were assigned to similar families in the NMES.

Information on personal income taxes was obtained from the Internal Revenue Service's (IRS) 1987 Individual Tax Model (ITM).¹⁸ IRS data were also used to assign liabilities for some business taxes. A statistical match of the ITM and NMES could not be performed reliably at this time because data on components of income for NMES families have not yet been released. However, a matrix of filing units was created in the IRS data based on total income, structure of the filing unit, size of the

filing unit, and the number of tax filers in the filing unit age 65 and above. For each cell of the array, average marginal and effective tax rates, and the percent of income derived from capital were determined. After identifying filing units in NMES, a similar matrix based on the same set of variables was created. The cell-based averages from the IRS data were then applied to the corresponding NMES records.

Information on public sector revenues and their sources and public expenditures for health care is available for the federal government in the *Budget of the United States Government, Historical Statistics, FY1990* and for states and localities in the U.S. Department of Commerce's Census of Governments *Government Finances in 1986-87*. Having determined tax liabilities for each family in the NMES sample, and knowing the share of total revenues these liabilities comprise as well as the share of revenues expended for health care at each level of government, we were then able to calculate spending for health care through the tax system.

Endnotes

¹ Regressivity is a term that describes an expenditure pattern where as incomes rise (fall) across the income distribution, there is an associated decline (rise) in the share of income spent on health care. The opposite of regressivity is progressivity, where higher (lower) incomes are accompanied by larger (smaller) shares of income being spent.

² The best measure of family resources devoted to health care is health expenditures expressed as a share of lifetime average annual income (LAAI). LAAI smoothes out the highs and lows of current annual income and provides a better estimate of average annual spending. For example, for retired people who are dissaving (using savings to finance current consumption), current income is probably less than LAAI. People just entering the labor force usually earn less than LAAI while for others at the peak of their careers, current income exceeds LAAI. However, information on LAAI is not readily available. The second best measure of the share of resources devoted to health care would express health care spending as a share of annual consumption, since for any family or individual, this also fluctuates less over time than does current income. However, we also lack good consumption data. Thus, we are forced to measure spending as a share of income, but must do so with caution, since year-to-year fluctuations in income can cause spending shares to be over- or understated.

We did however, correct for some of the income variability. In any year, some families that usually receive high incomes instead experience transient low or negative incomes due to capital losses. These families' incomes may place them in the lowest income decile, but their expenditure patterns are often little changed, paralleling those of wealthy families. In these cases, calculating shares of income spent on health care may be meaningless (for example, if incomes are zero or negative), or may greatly skew averages for low-income families in the tenth decile, since the expenditures may be large (typical of more wealthy families) but are calculated as a share of a very small income. Therefore, we have identified families with negative or very low incomes (below \$500) and their health care expenditure shares are not included in the tenth decile averages.

³ A complete accounting of family health expenditures includes not just direct purchases of health care, but also all health care spending which is funded by tax revenues and employer spending for health insurance. When these indirect health care costs are ultimately borne by the family, then these expenditures must be included in the families' health care purchases. In addition, since some taxes which finance health care are not routinely included in family income, for example, corporate income taxes, we must add the portion of these taxes which finances health care to family income as well.

A complete accounting of economic income includes noncash income such as fringe benefits, pension earnings, imputed rents, accrued capital gains, and the value of the noncash benefits from public programs such as food stamps and Medicaid. Including all these components would more heavily concentrate income in the upper brackets and increase the regressivity of the health care financing burden. However, we lack data on most of these income components. Therefore, we are including in

our calculation of income only those elements of economic income which are used to purchase health care.

⁴ In determining insurance status, the income share problems in the tenth decile which are mentioned above are no longer relevant. Therefore, we can look at the data for the tenth decile as representative of the lowest income families.

⁵ Lacking from the National Medical Expenditure Survey (NMES) household data and, therefore, not shown in any of the decile calculations in this report are out-of-pocket expenditures for nursing home care (\$19 billion in 1987) and nonprescription medicines (\$13 billion).

⁶ A family is considered to have health insurance if all family members are insured all year, either with private or public insurance.

⁷ People who hold this view make the point that during recent years as premiums have been rising rapidly and wages have been stagnant, it has been difficult to reduce wages to fully offset health costs. And many employers are reluctant to eliminate coverage since this benefit is important to workers. So, to attract and retain good employees, firms continue to provide insurance, even when not all the costs can be passed immediately through to workers in lower wages. If this view best describes what is actually happening, then it would be incorrect to place the entire cost burden of employer-sponsored insurance premiums on workers. Some of the costs would result in lower profits to firms or would be passed through to consumers in higher prices for goods and services.

⁸ Others have calculated the expenditures at \$45 billion. See citation in Feldstein (1988, p. 482).

⁹ The Medicare Part B premium is not a true premium since these payments cover less than the full cost of the program.

¹⁰ For example, assume total federal tax revenues were \$100, and of this total, \$20 (20 percent of the total) was spent on health care. A citizen whose federal income taxes were \$10, or one-tenth of total government revenues, would bear a health care expenditure of \$2, or 20 percent of the \$10 tax liability.

¹¹ We assign all federal health care spending to taxes and to fees and charges which the Census of Governments reports as specific to health care. However, deficit spending and other fees and charges are fungible revenue and may support health care, thus lowering and redistributing funding burdens in the current year.

¹² This study assumes that federal tax expenditures are offset by higher personal and corporate income taxes.

¹³ The self-employed were allowed to deduct from their income 25 percent of the cost of insurance purchased for themselves and their families.

¹⁴ Labor income in the NMES data set is undercounted, which makes calculating payroll tax liabilities very **difficult**.

¹⁵ The NMES provides data only on about three-quarters of the \$109 billion in out-of-pocket spending estimated by the U.S. Health Care Financing Administration. Since the NMES household survey does not include the institutionalized, it omits out-of-pocket spending for nursing homes (about \$19 billion in 1987) and it also omits spending for nonprescription medications (\$13 billion in 1987). Therefore, we cannot estimate the incidence of these expenditures. However, we have added \$32 billion to the total expenditures and total out-of-pocket spending.

¹⁶ An elderly family is one in which the reference person is age 65 or above. All other families are considered nonelderly.

¹⁷ This figure includes **71** percent of the \$32 billion not included in the NMES out-of-pocket totals. Of the \$80 billion in out-of-pocket spending that is accounted for in the NMES, 71 percent comes from the nonelderly. This same share of the \$32 billion increases nonelderly out-of-pocket spending by \$23 billion to \$79 billion.

¹⁸ Because of the major tax reform of 1986, estimates of income tax-based health care spending should be viewed with caution: the tax incidence of 1987 may be atypical of subsequent years.

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