

THE FINANCING OF NATIONAL HEALTH INSURANCE

PREPARED UNDER A GRANT FROM THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

**BRIDGER M. MITCHELL
WILLIAM B. SCHWARTZ**

**R-1711-HEW
MAY 1976**

Rand
SANTA MONICA, CA. 90406

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PREFACE

A major issue in the debate over national health insurance (NHI) centers on the degree to which NHI legislation should be used to redistribute income. The present report casts new light on this problem by providing a quantitative analysis of the income redistribution produced by four prototypical bills currently before the Congress.

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An abbreviated version of this report appears in *Science*, May 14, 1976.

SUMMARY

The way in which the costs of a national health insurance (NHI) program are to be distributed among various income groups has become a central issue in the debate over health insurance legislation. Since there has been no previous quantitative analysis of this issue, we begin this study by analyzing the tax burden and redistribution of income that would be produced by four prototypical NHI bills: the Administration, Kennedy-Mills, Corman-Kennedy, and Long-Ribicoff bills. We then examine the value judgments that are reflected in the financing provisions of the various bills and identify both areas of agreement and of unresolved controversy among the sponsors of health insurance legislation. Finally, we consider the philosophical disagreement between proponents of a payroll tax and of a premium and bring into view possible areas for compromise between opposing factions.

DESCRIPTION OF THE PROTOTYPICAL BILLS

The Administration and Kennedy-Mills bills have important similarities in that they cover a comprehensive range of health care services and require nearly identical out-of-pocket payments by the individual seeking care. Each bill would require total tax revenues of some \$45 billion for fiscal year 1975 to fund the health care of persons under age 65. The two bills differ significantly, however, in their financing: The Administration bill would rely principally on premiums, whereas the Kennedy-Mills bill would rely primarily on a payroll tax; in each case, costs would be shared by employees and their employers.

The Corman-Kennedy bill provides a mix of services similar to those of the Administration and Kennedy-Mills bills, but eliminates all out-of-pocket payments. The total tax revenues needed would be \$64 billion, half to be raised by payroll taxes and the other half by income taxes.

The Long-Ribicoff bill differs sharply from the other three bills in the coverage that it provides. Workers earning more than \$5000 per year are protected only against "catastrophic" health care costs; the bill presumes that all those above the \$5000 level will continue to purchase private coverage for basic health care services. However, families earning less than \$5000 per year would be provided not only with catastrophic protection but also with comprehensive coverage for basic services; as a result, their out-of-pocket payments would be nominal. The required tax revenue of \$16 billion (to be raised by income and payroll taxes) is substantially less than under the other three bills.

DISTRIBUTION OF TAX BURDEN AND OUT-OF-POCKET EXPENSES

Our analysis of the distribution of the tax burden and of out-of-pocket payments under each bill has focused on a family of four with one full-time wage earner. Under

any given bill, the *tax burden* is determined by the combination of premiums, payroll taxes, and income taxes that is used to raise the revenues needed to pay for the mandated insurance benefits. The level of *out-of-pocket payments* is determined by the coinsurance and deductible provisions of a particular proposal. Together these costs represent the *total burden* of a health insurance program.

The total burden across income groups that would result from each legislative proposal can be summarized as follows:

1. The total burden on middle-income families under the Administration, Kennedy-Mills, and Corman-Kennedy bills would be of roughly the same magnitude, about \$1000 per year at an income level of \$12,000 to \$15,000 per year.
2. The total burden on low-income working families would be substantially greater under the Administration bill than under the Kennedy-Mills and Corman-Kennedy bills. At an income level of \$3000, the burden would be over \$600 under the Administration bill, compared with a burden of less than \$200 under the other two bills.
3. The total burden at high-income levels would be substantially larger under the Corman-Kennedy bill than under either the Administration bill or the Kennedy-Mills bill. At an income level of \$50,000, for example, the burden would be nearly twice as large: \$4000 vs. \$2200 and \$2500, respectively.
4. The Long-Ribicoff bill, because it provides nearly complete coverage for low-income families but only "catastrophic" benefits for the rest of the population, would impose a total burden of only about \$100 on families earning less than \$5000. The total burden on higher-income families would be similar to that of the Administration bill.

REDISTRIBUTION OF INCOME

The redistribution of income created by health insurance financing can be measured by comparing the value of the health services that a family consumes with the total burden of payments that it must make. When the consumption of services is greater than the burden of payments, a net gain in income results; whereas if the total burden exceeds consumption, there is a net loss. Each bill would cause some redistribution of income beyond that produced by current public financing of health care programs. The additional redistribution that each bill would generate differs sharply: The Administration and Long-Ribicoff bills would produce a negligible increment of income redistribution; the Kennedy-Mills bill, a moderate increment; and the Corman-Kennedy bill, a very large increment. For example, at an income level of \$50,000 per year, the Corman-Kennedy bill would cause an incremental loss of nearly \$2000 per family, whereas the other two bills would produce incremental losses of only \$200 to \$600.

IMPLICATIONS OF THE FINANCING PROVISIONS

Our analysis of the financing provisions of the prototypical bills reveals areas of both consensus and controversy among NHI proponents. There is widespread

consensus on three principal points: (1) low-income individuals should have improved access to health care, and this goal should be achieved by reducing out-of-pocket payments for health services; (2) the tax burden on the poor should be kept at a low level, and the costs of subsidizing such favorable tax treatment should be distributed progressively by use of the income tax; and (3) individuals at all income levels should be provided with protection against "catastrophic" health care expenditures.

Continued controversy over NHI financing revolves around two major issues. The first involves the extent to which additional national resources should be expended on the health care of families above the lowest income levels. Differences of opinion on this issue are reflected in the level of out-of-pocket payments required under a given program. Among the four prototypical proposals, the Long-Ribicoff bill produces the smallest increase in national expenditures (\$3 billion) and the Corman-Kennedy bill the largest (\$13 billion). The second issue concerns the extent to which, for any given level of spending on health care, an NHI program should redistribute income. Here, controversy is sharpest between advocates of a premium-based program (Administration), who wish to minimize redistribution of income, and advocates of a payroll tax approach (Kennedy-Mills bill), who seek to shift income toward those at lower earnings levels.

Our analysis of the Administration and Kennedy-Mills proposals indicates that, contrary to generally held views, each bill imposes a similar tax burden on middle- and upper-income taxpayers. Our analysis further indicates that, under the Administration bill, a subsidy designed to reduce the premium payments of those earning less than \$12,000 to the level imposed by a payroll tax program would only slightly increase the burden on middle- and upper-income taxpayers. This finding suggests that resolution of the political stalemate over national health insurance might be achieved through the adoption of a subsidized premium program. Under such a compromise, premium advocates would agree to a moderate degree of additional income redistribution in order to preserve administration of the program by private insurers, while payroll tax advocates would yield on their goal of public insurance in order to reduce the financial burden on lower-income families.

ACKNOWLEDGMENTS

The authors are indebted to J. P. Newhouse of the Rand research staff for his continued support and critical advice over the course of this research, to A. J. Alexander, G. V. Bass, L. E. Lynn (Harvard University), C. E. Phelps, and M. A. Rockwell for helpful comments and reviews of drafts, and to B. M. Mori and S. Yamasaki for research assistance.

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I. INTRODUCTION

The decision on how to finance a national health insurance program will have important political and social consequences, and the choice of a funding mechanism has therefore become the subject of major controversy. The method of financing will, for example, determine whether the public or the private sector will have primary responsibility for the new program. If premiums paid by employers and employees are the principal source of revenues, the program will be operated by private insurance companies; but if a payroll tax is the major revenue source, managerial responsibilities will be shifted to a government agency.

Of even broader social significance are two other issues related to financing. First, how much of the nation's resources should be allocated to the health sector? Monies spent on delivery of health care are, of course, not available for other important national needs. Second, how are the costs of a new insurance program to be shared and to what extent will such a program serve to redistribute income from the more to the less affluent?

The extent to which the total national resources allocated to health care should be increased has been widely discussed [10, 16] and will not be considered in detail here. Instead, we will analyze the financing provisions of major health insurance bills before the Congress to bring into view both the distribution of costs and benefits under each type of proposed legislation and the social impact of alternative financing mechanisms.

Our analysis will be carried out in several steps: First, we will compute the tax burden and out-of-pocket expenses imposed across income groups by four prototypical bills. Second, we will estimate anticipated consumption of health services at various income levels and will present detailed data on the degree of income redistribution that each bill will produce. Third, we will examine the value judgments that underlie the various financing proposals and identify key points of consensus and controversy. Finally, we will compare the effects of the major bills and propose a compromise that may help to resolve the controversy over how to finance national health insurance.

II. BASIC CONCEPTS IN THE FINANCING OF NATIONAL HEALTH INSURANCE

The total cost (dollar burden) of a national health insurance program can be financed by two components. The first, consisting of *tax payments*, provides a pool of revenue from which the insurance plan pays a portion of the patient's health care costs. The second, consisting of *out-of-pocket payments*, represents the expenditures that the patient must make when he obtains services (only one major bill, as will be discussed later, has no requirement for cost-sharing by patients).

To raise revenues for the tax portion of a national health insurance bill, three mechanisms are under consideration: an income tax, a payroll tax, and a premium.¹ As shown in Fig. 1, each raises a different amount of revenue from various income groups. For this reason, the choice of a given tax, or combination of taxes, is an important determinant of the income redistribution that will be produced by any insurance program. A *premium* imposes a burden that is constant across income groups (horizontal line in Fig. 1) because it is set at a level equal to anticipated insurance benefits.² A *payroll tax* imposes a burden that rises in proportion to earnings up to some maximum level (in this example \$17,000), after which no further payment is exacted. An *income tax* imposes a burden that rises progressively as a function of income and therefore produces the greatest degree of income redistribution.

None of the proposed NHI bills, it should be noted, envisions using a single tax to finance a national health insurance program; each bill proposes that either a payroll tax or a premium provide between 50 and 80 percent of the revenues, and that the income tax provide the remainder. The proportion of total revenues raised by income taxes will, of course, be the most important determinant of the degree to which a bill causes income redistribution.

The second major component of dollar burden, the individual's out-of-pocket payments, will be determined by the coinsurance and deductible provisions of a given proposal. A *coinsurance* provision requires that a patient pay some fixed percentage of each dollar spent on health services. A *deductible* provision requires that he pay all costs up to a specified amount before his insurance coverage becomes effective. Each NHI bill that requires such payments provides for a reduced amount of cost-sharing by low-income families; this reduction in out-of-pocket payments serves as a second mechanism (along with taxes) for redistributing income.

¹ Premiums have been included as a form of taxation because the financial inducements for an employee to join a mandated program are such that almost all the working population could be expected to participate. Note that we use the term "income tax" to denote the sources of general revenues—personal income and corporate profits taxes—that would fund most NHI proposals (see Appendix A).

² Premiums are not set at a single level for the entire population but rather at a level equal to the benefits that the insurer expects to pay to a particular group of employees. For this reason, there will be some variation around a mean value such as that shown in Fig. 1.

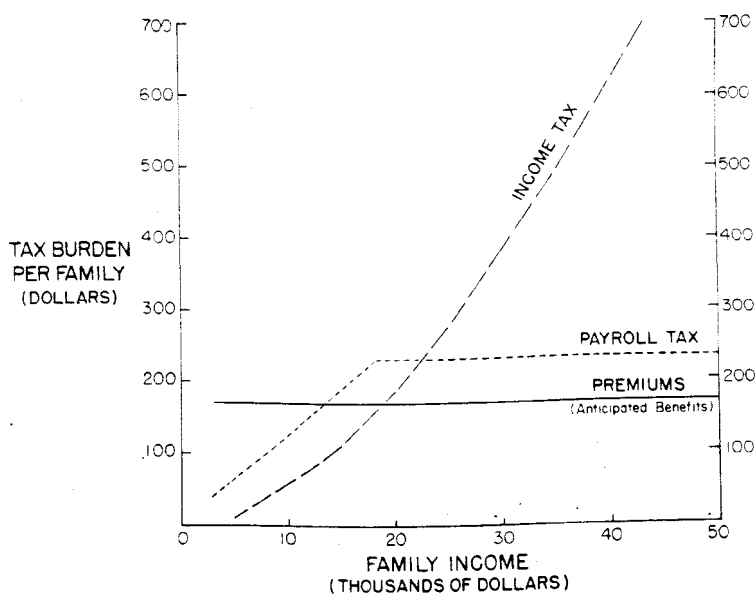


Fig. 1—Tax burden across income groups imposed by a payroll tax, an income tax, and a premium in order to raise \$10 billion of revenue

In this and succeeding figures, the curves represent the tax burden on a family of four with a full-time wage earner ("reference family"). The "income tax" curve includes the burden of both the personal income tax and the corporate profits tax (see Appendix A). The payments shown in the figure, if multiplied by the number of families at every income level, would not total to \$10 billion because such a calculation does not include payments made by single persons or by families of a composition different from that of the reference family.

III. THE TAX BURDEN AND INCOME REDISTRIBUTION PRODUCED BY FOUR PROTOTYPICAL NATIONAL HEALTH INSURANCE BILLS

In this section, we will examine the tax burden, out-of-pocket costs, and effects on income distribution of four prototypical health insurance proposals: the Administration, Kennedy-Mills, Corman-Kennedy, and Long-Ribicoff bills. The specific proposals may, of course, be modified or resubmitted in somewhat different form, but the basic character of each is such that in the aggregate they embrace the full range of options likely to be considered by the Congress, both in terms of the extent and generosity of coverage and the nature of the financing mechanisms.

Throughout the discussion we will direct primary attention to the effects of the proposed legislation on the under-65 working population, using as our reference unit a family of four with one full-time worker. The effects on those other than our reference family, and the costs of care for those over age 65, will be dealt with briefly later. All dollar values are expressed in terms of fiscal year 1975.³

ADMINISTRATION, KENNEDY-MILLS, AND CORMAN-KENNEDY BILLS

The Administration, Kennedy-Mills, and Corman-Kennedy bills will be considered together because the fundamental features of each are sufficiently similar (see Table 1) that they lend themselves to convenient cross-comparison. All three bills (unlike the Long-Ribicoff bill, which will be discussed later) mandate a nearly identical package of basic health services for the entire population: hospital care, physicians' services, and laboratory and radiological studies. Moreover, because services provided by the bills are so extensive, each would largely replace both existing private insurance coverage and current Medicaid plans for low-income groups.

There are, by contrast, substantial differences in the financing provisions of the three bills. As shown in Fig. 2, the Corman-Kennedy bill and the Kennedy-Mills bill derive half or more of their revenues from a payroll tax, whereas the Administration bill relies primarily on a premium. Furthermore, although each plan uses the income tax to raise a portion of its required revenues, the Corman-Kennedy bill depends more heavily on the income tax than do the others.

The provisions for out-of-pocket payments also differ among the three. The Corman-Kennedy bill has no cost-sharing requirement, whereas both the Kennedy-Mills and Administration bills have a deductible provision (\$150 per person), as well as a coinsurance clause that requires payment of 25 percent of all costs incurred after the deductible is satisfied. Each of these latter proposals does, however, set an

³ We have projected all values to fiscal year 1975 on the basis of the rate of inflation that was occurring in the health sector immediately prior to 1975 (see Appendix B). Our projections thus incorporate lower rates of price and wage increases than have actually occurred in the last year; the values shown are, therefore, approximately 3 percent too low. To preserve comparability among the bills, we have removed the costs of long-term nursing home and custodial care from all of our estimates.

Table 1

CHARACTERISTICS OF PROTOTYPICAL NATIONAL HEALTH INSURANCE BILLS

	Administration Bill	Kennedy-Mills Bill	Corman-Kennedy Bill	Long-Ribicoff Bill ^a
General approach	<ol style="list-style-type: none"> Employers required to offer comprehensive private insurance. Federal/state "assisted plan" provides coverage of low-income families and nonworkers, with cost sharing subsidies at low incomes. Medicare plan for the aged. 	<ol style="list-style-type: none"> Federal plan for the general population, with reduced cost sharing for low-income persons. Medicare plan for the aged. 	<ol style="list-style-type: none"> Single federal plan that pays all costs of health care for entire population (both over and under age 65). 	<ol style="list-style-type: none"> Federal "catastrophic" insurance for entire population. Federal plan, with comprehensive benefits for low-income families. Medicare plan for the aged.
Financing of benefits	<ol style="list-style-type: none"> Premiums paid by employer and employee. Under assisted plan, no employee premium payments below income of \$5,000 (employer premium payment continues). Subsidy financed from general revenues. 	<ol style="list-style-type: none"> Payroll tax of broadened scope applied to earned and unearned income up to income level of \$20,000 per family. General revenues to finance reduced cost sharing. 	<ol style="list-style-type: none"> Payroll tax of broadened scope (50%). Federal general revenues (50%). 	<ol style="list-style-type: none"> Payroll tax to finance catastrophic plan. General revenues to finance low-income plan.
Cost sharing provisions	<ol style="list-style-type: none"> Employer Plans <ol style="list-style-type: none"> Deductible of \$150 per person before benefits commence; maximum of 3 deductibles per family. Separate \$50 deductible per person for drug expenditures. Coinurance payment of 25%. Maximum out-of-pocket payments of \$1500 per family. State-Assisted Plans <ol style="list-style-type: none"> Deductible, coinsurance, and maximum payments are reduced for families with incomes of less than \$7500. 	<ol style="list-style-type: none"> Deductible of \$150 per person; maximum of 2 deductibles per family. Coinurance payments of 25%. Maximum out-of-pocket payments of \$1000 per family. Reduced cost-sharing below \$8800 family income; no cost-sharing below \$4800 income. 	<ol style="list-style-type: none"> No cost sharing. 	<ol style="list-style-type: none"> Catastrophic Plan <ol style="list-style-type: none"> Hospital inpatient coverage after first 60 days of care; then \$21 per day copayment. Physician, laboratory, X-ray, home health services coverage after \$2000 of expenditure; then 20% coinsurance payment. Maximum out-of-pocket payments of \$1000 per person after catastrophic coverage begins. Low-Income Plan <ol style="list-style-type: none"> Families at incomes below \$1800 pay \$3 per physician visit. All other services are covered in full.
Covered services	<ol style="list-style-type: none"> Hospital and skilled nursing facilities. Physician, laboratory, and X-ray services. Prescription drugs. Maternity and well-child care. Limited care for mental illness. Dental, vision, hearing, services for children under age 13. 	<ol style="list-style-type: none"> Hospital and skilled nursing facilities. Physician, laboratory, and X-ray services. Drugs for chronic conditions. Maternity, well-child care. Limited care for mental illness. Dental, vision, hearing, for children under age 13. 	<ol style="list-style-type: none"> Hospital and skilled nursing facilities. Physician, laboratory, and X-ray services. Drugs (limited if prescribed by private physician). Maternity, well-child care. Dental care to age 25 (phased in over first 5 years of program). Vision services (limited). Limited care for mental illness. 	<ol style="list-style-type: none"> Hospital, skilled-nursing and intermediate care facilities. Physician, laboratory, and X-ray services. Maternity and well-baby care. Limited care for mental illness.

SOURCE: U.S. Department of Health, Education, and Welfare, *National Health Insurance Proposals*, DHEW Publication No. (SSA) 75-11920 (1974).

^aA revised version of the Long-Ribicoff bill, introduced October 3, 1975, eliminates copayments and cost-sharing for catastrophic benefits. It also gives employers the option of providing premium financed private catastrophic coverage in lieu of making payroll tax payments to the federal program for catastrophic coverage.

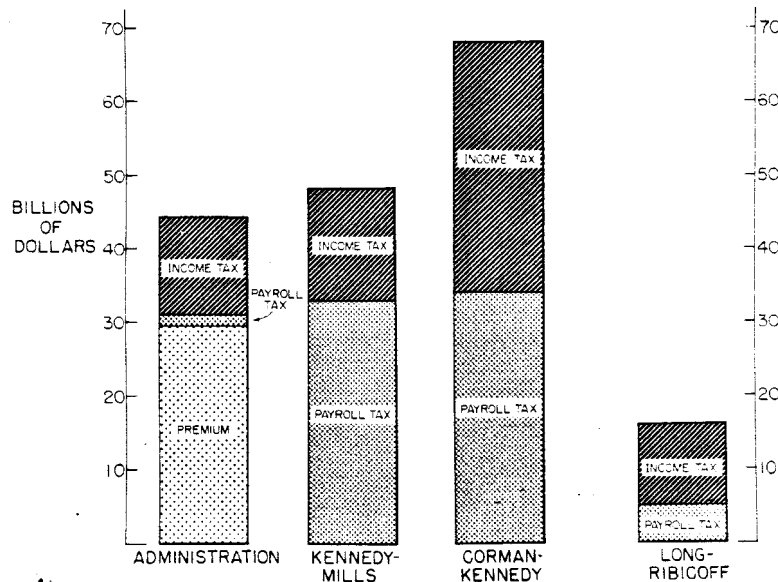


Fig. 2—Tax burden imposed on the nation by each of four prototypical health insurance bills under consideration by the Congress

The income-tax component includes the funding of existing health care programs that would be continued, as well as of new services specified under each bill. The small payroll-tax component under the Administration bill is used to finance the program for care of the disabled (see Appendix C).

upper limit on out-of-pocket payments: \$1000 in the Kennedy-Mills bill and \$1500 in the Administration bill.

Tax Burden

As shown in Fig. 2, the total tax burden for the health care of the under-65 population is very similar under both the Kennedy-Mills and Administration bills, amounting in each case to some \$45 billion (based on the cost of medical services in 1975). By contrast, the burden imposed by the Corman-Kennedy bill is much larger, amounting to \$68 billion.⁴

Table 2 and Figs. 3 and 4 demonstrate that, although the total tax burden imposed by the Administration and Kennedy-Mills bills is nearly the same for both bills, the way in which the burden is distributed across income groups under the two bills is very different.⁵ Only at an income level in the range of \$15,000 per year is the impact of the two bills similar; at lower-income levels, the Administration bill

⁴ In brief, the values for the tax burden were obtained as follows: Total expenditures were first estimated for the year 1975, and the anticipated increase in expenditures caused by reduced out-of-pocket payments ("induced demand") was calculated for each bill. From these figures, the total costs of the program were estimated, and the tax burden imposed by the bill was then determined. To obtain the tax burden at each income level, the appropriate tax rates were applied to the total tax burden (see Appendices B and C).

⁵ For every bill, the employer's portion of a premium and of a payroll tax is shown as a burden on the employee because in the long run the employer will, in nearly all instances, be able to shift these costs to his workers (see Appendix E).

Table 2

**TAX BURDEN AT REPRESENTATIVE INCOME LEVELS UNDER FOUR
PROTOTYPICAL BILLS BEFORE THE CONGRESS^a**
(FAMILY OF FOUR WITH ONE FULL-TIME WORKER)

Family Income	Prototypical Bills			
	Administration	Kennedy-Mills	Corman-Kennedy	Long-Ribicoff
\$ 3,000	\$ 460	\$ 130	\$ 190	\$ 25
6,000	640	280	410	65
9,000	690	450	660	120
12,000	730	600	880	170
15,000	780	780	1140	230
20,000	880	1080	1570	310
30,000	1140	1410	2240	530
40,000	1450	1760	3030	790
50,000	1780	2140	3880	1070

NOTE: The values shown in this and subsequent tables in the text have been rounded to the nearest \$5 when they are under \$100, and to the nearest \$10 when they are over \$100.

^aCalculation of the tax rates and tax burden for each income group is described in Appendices A and C. The "income tax" component of the tax burden includes the indirect burden of the corporate profits tax, as well as the direct burden of the personal income tax. Under the Administration bill, the abrupt reduction in the tax burden below a \$5000 income is accounted for by the elimination of the employee's share of the premium.

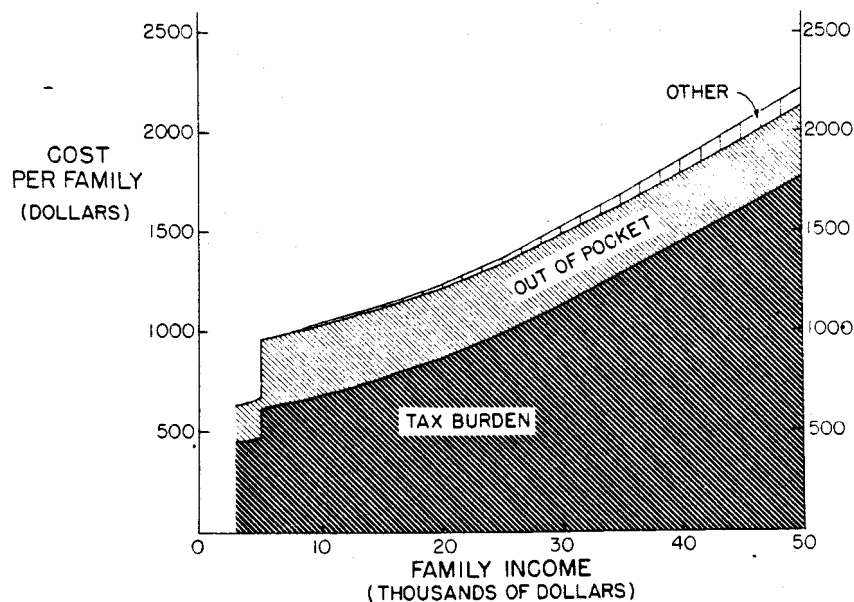


Fig. 3—Administration bill: tax burden, out-of-pocket payments, and "other" costs across income groups

The "income tax" component of the tax burden in this and succeeding figures includes both personal income and corporate profits taxes (see Appendix A). The abrupt reduction in tax burden and out-of-pocket payments below an income level of \$5000 is accounted for by the elimination of the employee's share of the premium and by provisions for reduced cost-sharing.

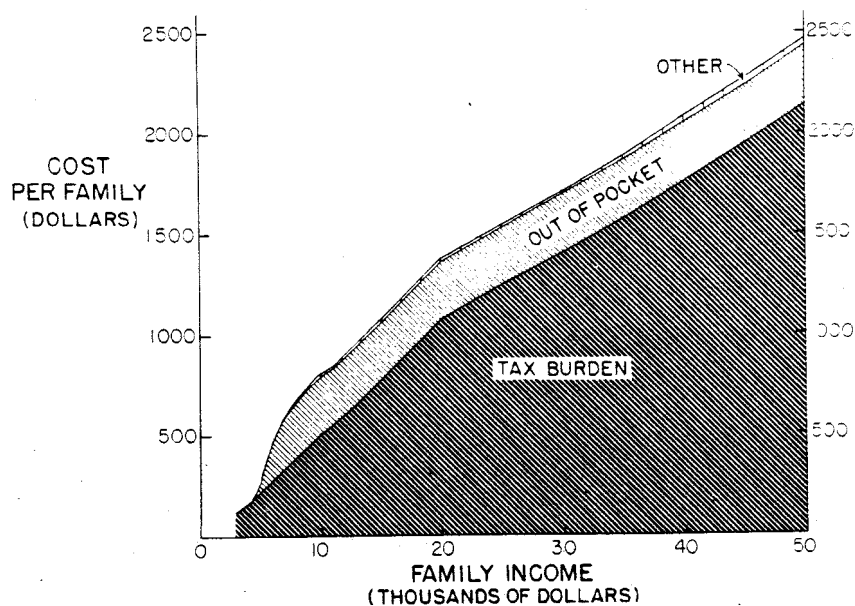


Fig. 4—Kennedy-Mills bill: tax burden, out-of-pocket payments, and “other” costs across income groups

is considerably more burdensome than the Kennedy-Mills bill (by \$300 to \$400), whereas at higher-income levels, the situation is reversed.

The Corman-Kennedy bill, although it raises approximately 50 percent more total revenue than the other bills, places a much smaller burden on low-income families than does the Administration bill; this burden, moreover, is only slightly larger than that imposed under the Kennedy-Mills bill (see Fig. 5 and Table 2). At high-income levels, on the other hand, the tax burden imposed by the Corman-Kennedy bill is approximately twice as large as that imposed by the other two proposals; e.g., at an income level of \$50,000 per year, the tax burden is nearly \$4000 as compared with approximately \$2000 under both the Administration and Kennedy-Mills bills.

Out-of-Pocket Expenses

As shown in the middle sections of Figs. 3 and 4, the average out-of-pocket expenditures at all income levels above \$10,000 are similar under the Kennedy-Mills and the Administration bills, amounting in each case to some \$300 (see Appendix D). Out-of-pocket payments for low-income families (those earning less than \$5000) are reduced to approximately \$200 under the Administration bill and are eliminated under the Kennedy-Mills bill. As mentioned earlier, under the Corman-Kennedy bill, there are no out-of-pocket expenses for any income group.

Total Burden

In Figs. 3 through 5, the top curves represent the total dollar burden across

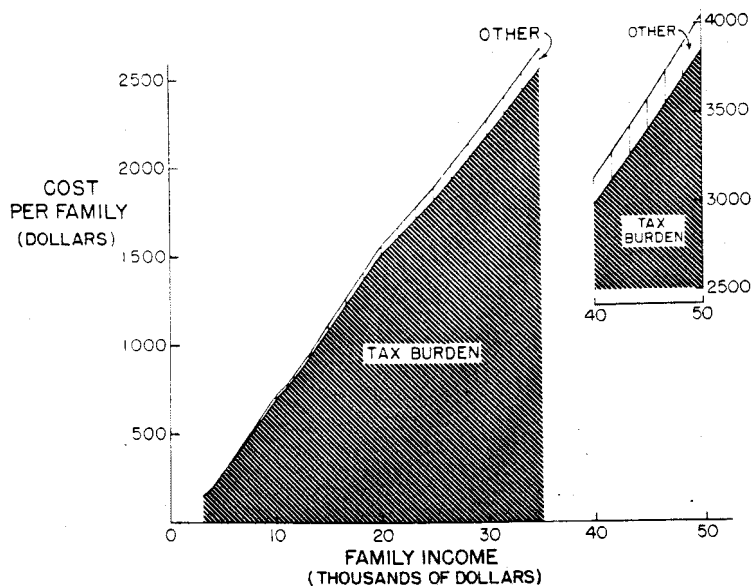


Fig. 5—Corman-Kennedy bill: tax burden, out-of-pocket payments, and “other” costs across income groups

income groups under each bill. Total burden, as shown in each figure, consists of the tax burden, out-of-pocket payments, and a small “other” component required for the support of government programs which provide services that would otherwise be made available through a national health insurance plan (e.g., Maternal and Child Health and Veterans Administration programs).

Three features of these figures and of Table 3 are of particular note:

1. *The total burden on middle-income families under the Administration, Kennedy-Mills, and Corman-Kennedy bills is of roughly the same magnitude; e.g., at an income level of \$12,000 to \$15,000, the total payments under all three are in the range of \$1000 per year.*
2. *The total burden on low-income working families is much greater under the Administration bill than under the other two bills; e.g., at an income level of \$3000, total payments are over \$600 under the Administration bill as compared with payments of less than \$200 under each of the other two bills.*
3. *The total burden at high-income levels is substantially larger under the Corman-Kennedy bill than under either the Administration or the Kennedy-Mills bills; e.g., at an income level of \$50,000, payments are nearly twice as large (\$4100 vs. \$2200 and \$2500, respectively).*

Income Redistribution

A family's net gain or loss of income under a given health insurance plan is determined by the difference between the value of health services that it uses and the costs it incurs in acquiring care (taxes, out-of-pocket costs, and “other” expen-

Table 3

TOTAL BURDEN (TAX + OUT-OF-POCKET PAYMENTS + OTHER COSTS) ACROSS
INCOME LEVELS UNDER FOUR PROTOTYPICAL BILLS BEFORE THE CONGRESS^a
(FAMILY OF FOUR WITH ONE FULL-TIME WORKER)

Family Income	Disposable Family Income ^b	Prototypical Bills			
		Administration	Kennedy-Mills	Corman-Kennedy	Long-Ribicoff
\$ 3,000	\$ 2,410	\$ 640	\$ 130	\$ 190	\$ 40
6,000	4,700	990	490	410	590
9,000	6,960	1040	750	670	870
12,000	9,260	1090	900	900	990
15,000	11,550	1140	1070	1170	1060
20,000	15,280	1240	1380	1610	1150
30,000	22,380	1520	1720	2320	1420
40,000	29,440	1860	2080	3180	1730
50,000	36,050	2220	2470	4080	2070

^aCalculation of out-of-pocket payments is described in Appendix D. The income tax component of the tax burden includes the indirect burden of the corporate profits tax, as well as the direct burden of the personal income tax.

^bCalculated from total effective tax rates in 1966 for federal, state, and local taxes, variant 1c, Table 4-8 in [19]. These rates include the individual income tax, corporate income tax, property tax, sales and excise taxes, payroll taxes, and personal property and motor vehicle taxes.

ses).⁶ Figures 6 and 7 define the pattern of income redistribution produced by the Administration, Kennedy-Mills, and Corman-Kennedy bills; the cross-hatched areas indicate net gains of income and the shaded areas, net losses. The line representing consumption of services under a given bill is an approximation that reflects the effects of many factors, including the extent of services covered, amount of cost-sharing required under the bill, and level of education and ease of access to care (see Appendix D). The line representing total burden is taken from Figs. 3 through 5.

As is apparent from the figures and Table 4, the earnings level at which a family switches from a position of net gain of income to net loss varies markedly among the bills. Under the Administration bill (Fig. 6), the switch occurs at a low income, approximately \$5000 per year, with the result that most working families emerge as net losers. (This net loss on the part of nearly all working families serves chiefly to subsidize services for low-income families without a full-time worker.) Under the Kennedy-Mills bill (Fig. 6), the switch occurs at approximately \$11,000, meaning that nearly all low-income families are net gainers at the expense of those in middle- and upper-income groups. Under the Corman-Kennedy bill, which relies more heavily on the income tax than do the other two bills, the shift from gain to loss occurs at a still higher level, about \$15,000 (Fig. 7). Furthermore, the net loss at higher-income levels under the Corman-Kennedy bill is considerably greater than under the other two proposals. For example, at an income level of \$50,000 per year, the net loss of \$2900 is nearly twice as large as that exacted by the Administration or the Kennedy-Mills bills (\$1300 and \$1600, respectively).

⁶ In terms of welfare economics, our measure of income redistribution overstates benefits to the extent that a family, if given the chance, would purchase less coverage than that mandated.

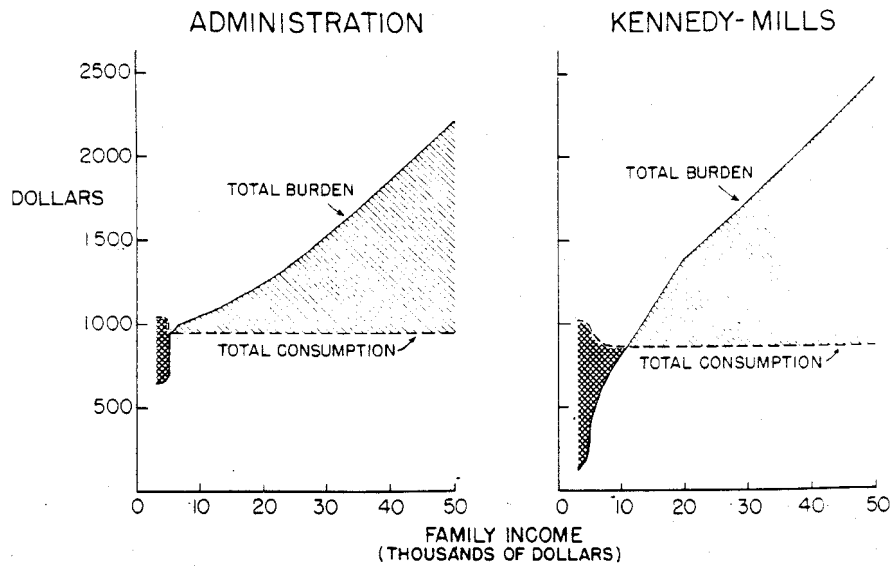


Fig. 6—Income redistribution under the Administration bill and the Kennedy-Mills bill

The cross-hatched area below the "total consumption" line represents net gains of income and the shaded area above the consumption line represents net losses. The average total consumption of services has been assumed constant, except for low-income groups (see Appendix D). The higher values shown for the total consumption of low-income families are accounted for by reduced requirements for out-of-pocket payments by such families.

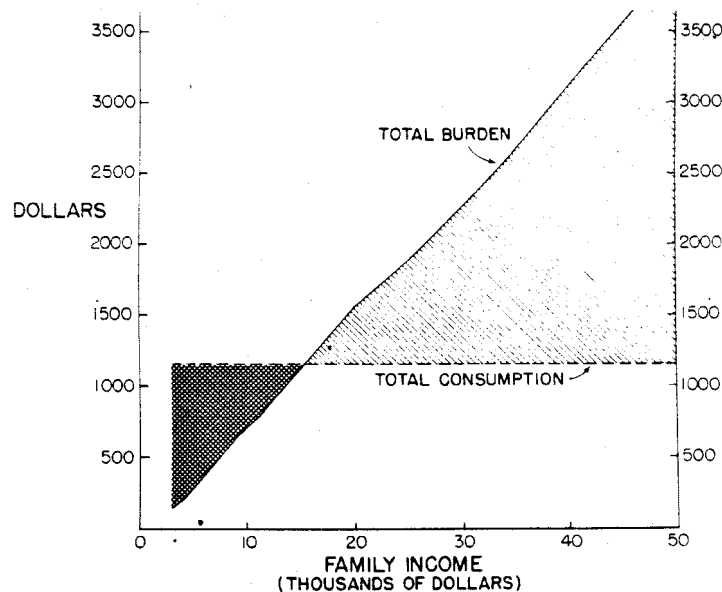


Fig. 7—Income redistribution under the Corman-Kennedy bill

The cross-hatched area below the "total consumption" line represents net gains of income, and the shaded area above the consumption line represents net losses. Because the bill has no cost-sharing provisions, the average total consumption of services has been assumed constant for all income groups (see Appendix D).

Table 4
INCOME REDISTRIBUTION UNDER THE ADMINISTRATION, KENNEDY-MILLS,
AND CORMAN-KENNEDY BILLS
(FAMILY OF FOUR WITH ONE FULL-TIME WORKER)

Family Income	Redistribution ^a			Incremental Redistribution ^b		
	Administration	Kennedy-Mills	Corman-Kennedy	Administration	Kennedy-Mills	Corman-Kennedy
\$ 3,000	\$ +400	\$ +890	\$ +960	\$ +410	\$ +900	\$ +970
6,000	-40	+430	+740	-5	+470	+780
9,000	-90	+110	+480	-15	+190	+560
12,000	-140	-40	+250	-20	+80	+370
15,000	-190	-210	-10	-30	-50	+150
20,000	-300	-520	-450	-50	-270	-210
30,000	-580	-860	-1170	-100	-380	-690
40,000	-910	-1220	-2020	-170	-470	-1270
50,000	-1270	-1610	-2930	-230	-570	-1890

^aRedistribution (net gain or net loss) is equal to total consumption less total burden. The computation of total consumption is described in Appendix D.

^bThe incremental increases in income distribution produced by each bill are calculated by subtracting the tax burden of current public health care programs from the total values for redistribution shown in the left half of the table. (This calculation assumes that the benefits of current health care programs such as Medicaid flow to those who are earning less than \$3000 or who are working less than full time (see Appendix B).)

Finally, we should emphasize that a major portion of the net losses at the upper-income levels does not, in fact, represent a new burden created by the bills. Because each bill would continue to redistribute income to low-income, nonworking families who now receive benefits from existing programs such as Medicaid and neighborhood health centers, the *increment in redistribution* would in every instance be appreciably less than the *total redistribution* (see Table 4). As a result, under the Administration bill, there is virtually no incremental loss of income among families earning between \$5000 and \$30,000; and even at earnings levels above \$30,000, the changes are small, amounting to no more than \$100 or \$200. Under the Kennedy-Mills bill, the changes are more substantial, but only the Corman-Kennedy bill produces a major incremental change, e.g., a loss of approximately \$2000 at an income level of \$50,000.⁷

LONG-RIBICOFF BILL

We have reserved the Long-Ribicoff bill (Fig. 8) for separate discussion, because, unlike the other three bills, it would have no effect on the basic insurance coverage of the great majority of families. Families earning more than \$4800 a year will receive coverage that consists solely of protection against massive ("catastrophic") expenditures; benefits will become available only after out-of-pocket or private insurance payments in a given year have reached a level of \$2000 to \$6000, depending on the type of medical expenses (see Table 1). The typical family earning more than \$4800 can therefore be expected to maintain its existing private coverage for basic health care services and to face the same high level of out-of-pocket expenditures as it does at present.⁸ Families earning less than \$4800 per year will receive quite different treatment in that they are excused from essentially all out-of-pocket payments and are thus provided with full insurance coverage.⁹

Tax Burden

The tax burden under the Long-Ribicoff bill is highly progressive because two-thirds of the funds are derived from the income tax (see Table 2 and Fig. 8). As a consequence, families in low-income brackets will pay less than \$100 per year in taxes, whereas those in high-income brackets will pay as much as \$1000 per year. (The revised version of the Long-Ribicoff bill, introduced in October 1975, would eliminate cost-sharing for catastrophic coverage and thereby increase the tax burden shown in the tables and figures by about 5 percent.)

Income Redistribution

The largest fraction of the tax revenues raised by the Long-Ribicoff bill will

⁷ Because of the technique used in our calculations, the difference in the amount of redistribution produced by the Corman-Kennedy bill is understated by a small amount. This understatement occurs because the Corman-Kennedy bill shifts the state-funded portion of the current Medicaid program to federal taxpayers, whereas under the Administration and Kennedy-Mills bills, the revenues for funding the Medicaid program would continue to be raised by somewhat less progressive state taxes.

⁸ Under the Long-Ribicoff bill, some 40 percent of out-of-pocket expenses would be in the form of premium payments for voluntary insurance.

⁹ The Long-Ribicoff bill also provides that if a family earning more than \$4800 spends all of its income in excess of that amount on medical care, it is then entitled to full coverage for the remainder of that year. This provision will be of benefit to only a small number of families (see Appendix D).

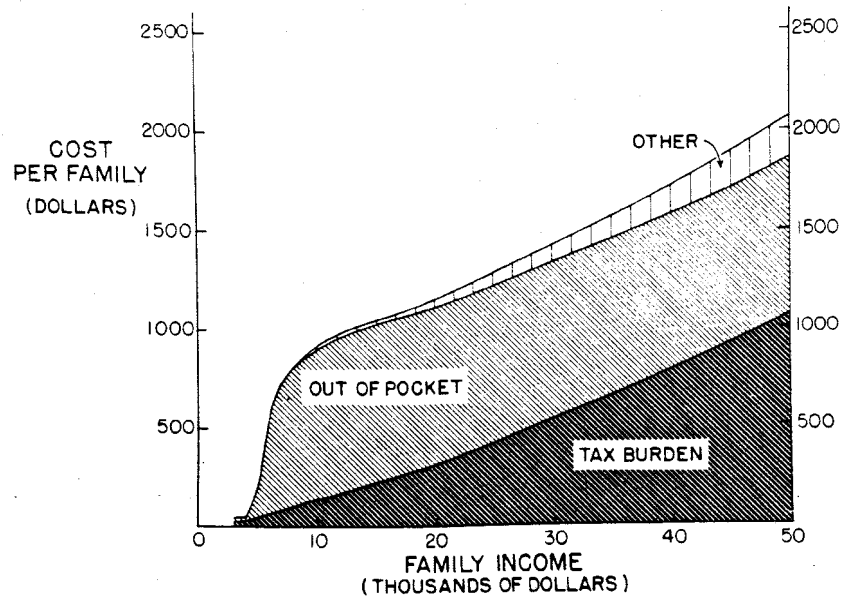


Fig. 8—Long-Ribicoff bill: tax burden, out-of-pocket payments, and “other” costs across income groups

subsidize the health care of low-income groups. Families below the \$4800 earnings level will be net gainers to the extent of approximately \$900 per year. Middle- and upper-income families, except for the 1 to 2 percent suffering catastrophic illness, will face a net loss of income. However, because the health care of many low-income, nonworking families is already heavily subsidized by public funds, the incremental effect of the Long-Ribicoff bill on income redistribution of middle- and upper-income families will be quite small, amounting to a net loss of \$50 at an income level of \$20,000 and \$170 at a level of \$50,000.

EFFECT OF PROPOSED LEGISLATION ON OTHER THAN A FAMILY OF FOUR WITH A FULL-TIME WORKER

In the following paragraphs, we briefly examine the effects of the proposed legislation on single individuals, on families without a full-time worker, and on the over-65 population.

Single individuals: Under all bills, single individuals will incur smaller net gains (or larger net losses) than will families at the same income level; although a single individual consumes fewer services than a family, he pays a similar amount of income and payroll taxes. The Administration bill is less discriminatory toward individuals than are the other proposals, because it reduces a single person's premium to reflect his smaller anticipated benefits.

Families without a full-time worker: Families without a full-time worker will be in a favorable position under all the proposed bills. Such families, because they

have limited incomes, will typically pay little tax and will not be required to make appreciable out-of-pocket payments (see Appendix D). As a result, they will be net gainers in amounts ranging from \$800 to \$1200. For nonworking families who are not covered by Medicaid or other public programs, nearly all of this gain will represent an increment in income redistribution. Families that are presently covered by public programs will have an incremental gain that is dependent on the extent to which their current benefits are improved. In states with generous Medicaid benefits, the incremental gain will be small; in other states, the incremental gains will be more substantial.

The over-65 age group: Under all bills, the cost of the program for the over-65 age group will be borne almost entirely by the under-65 working population, as is now the case with Medicare. The reason is as follows: Although most of those now retired paid taxes into the Medicare account during their working years, these monies have not been accumulated and are therefore not available to pay the promised benefits. Instead, current payroll taxes and income taxes from the under-65 population are, and will be, used to pay such commitments. We have, however, excluded these costs from our analysis of income redistribution because those who are now supporting the program can look forward to being the beneficiaries of similar payments by the next generation of workers. (The problem of demographic changes that may invalidate this assumption is beyond the scope of the present report.)

Total expenditures on health care for the elderly under each of the four major bills are strikingly similar, ranging from \$21 billion to \$24 billion per year (see Appendix B). This similarity results from the fact that each bill, in essence, continues the Medicare program and simply mandates a slight expansion of existing benefits.

EFFECT OF EACH BILL ON NATIONAL EXPENDITURES AND ON THE FEDERAL BUDGET

The upper half of Fig. 9 shows the amount by which each of the four bills can be expected to increase *total national expenditures* on health services, i.e., on the care of those over as well as under the age of 65. These new expenditures range from a low of \$3 billion under the Long-Ribicoff bill to a high of \$13 billion under the Corman-Kennedy bill. (Our calculations ignore the price increases that can be expected to occur in response to an increased demand for care [13, 16].)

The effects of the bills on the *federal budget* are shown in the lower half of Fig. 9. In several instances, the budgetary changes are substantially larger than the changes in national expenditures. The explanation lies in the fact that increases in the federal budget are determined largely by the choice of a taxing mechanism (income taxes and payroll taxes appear on the budget but premiums do not), whereas increases in actual expenditures are determined solely by the degree to which a particular bill reduces out-of-pocket payments and thus stimulates use of services.

A comparison of the Administration and Kennedy-Mills bills dramatically illustrates how particular tax choices have different effects on the budget. The two bills, as has been pointed out, mandate similar reductions in out-of-pocket payments and would therefore induce nearly identical new expenditures of some \$5 billion to \$6

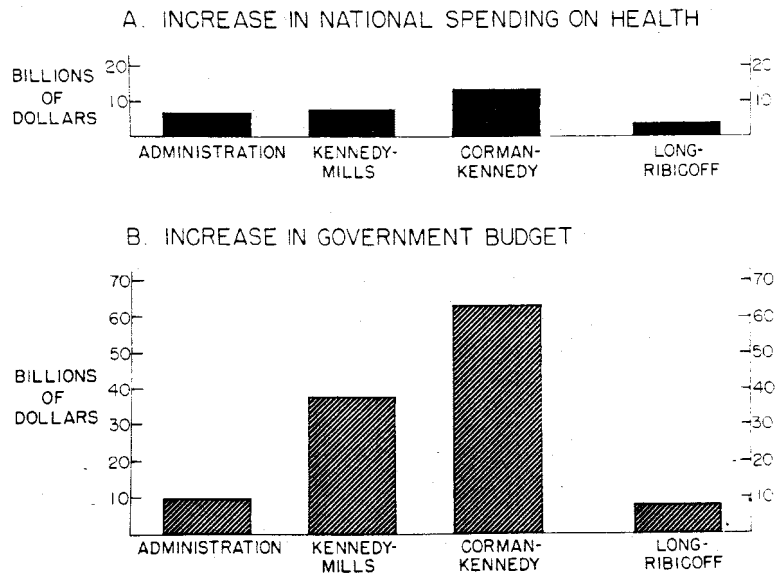


Fig. 9—Increase in national spending on health services and increase in the government budget under each of four prototypical health insurance bills before the Congress

The values shown in the figure include increased expenditures for both those over and under the age of 65. The data do not include any correction for the rise in the unit price of services that will be produced by the increased demand for care.

billion. However, the Administration bill would have a relatively small effect on the budget because it raises some 70 percent of its revenues by means of a premium, whereas the Kennedy-Mills bill would have a substantial impact because it raises the same fraction of its revenues by a payroll tax. In the case of the Corman-Kennedy bill, the massive increase in the Federal budget of approximately \$64 billion results from both the choice of financing mechanisms (payroll taxes and income taxes) and the shifting of all current out-of-pocket payments to the public sector.

RELIABILITY OF ESTIMATES

Our estimates of the total costs of each bill, and of the distribution of costs and benefits under each, rest on a large number of detailed calculations (see Appendices). In this section we briefly consider how the uncertainty surrounding these estimates affects our conclusions concerning income redistribution.

The estimates of *total costs* are subject to the most uncertainty because we cannot precisely calculate the amount by which each program will increase demand for care, and because there is no satisfactory method of estimating how much the price of medical services will be increased by a given change in demand.

The distribution of costs by income group can be estimated more reliably because the calculations are based on extensive data defining tax payments at each level of income. The estimates of distribution of benefits by income group are less precise, however, because there are only fragmentary data defining the way in which additional insurance coverage influences the consumption of services at various income levels.

Fortunately, these uncertainties do not significantly affect our estimates of the income redistribution produced by any given bill. Because total costs are equal to total consumption, any adjustment in the level of total consumption would produce offsetting adjustments in the distribution of both dollar burden and consumption (Figs. 6 and 7) and would thus have little effect on the pattern of income redistribution.

IV. IMPLICATIONS OF THE FINANCING PROVISIONS

Any national health insurance plan reflects a set of values about society's responsibility for providing access to health care and about the appropriate way to distribute the costs of medical services. A comparison of the proposals presently being considered by the Congress demonstrates that lawmakers are approaching a consensus with respect to certain key values, while others remain in contention. In this section, we will compare the philosophies underlying the prototypical bills in order to both illuminate areas of agreement among various political factions and to identify issues around which controversy still exists.

The individual bills, although they differ appreciably in their definitions of who is poor, all reflect the view that access to health services by persons of low income should be at least equal to that of the rest of the population. Each bill attempts to achieve this goal by reducing or eliminating out-of-pocket payments by the poor and thus largely removing financial barriers to care. The bills, in addition, reflect the consensus that the tax contributions of the poor should be kept at a low level,¹⁰ and that the burden of subsidizing such favorable tax treatment should be distributed in a progressive fashion by the use of the income tax.

Finally, all the bills reflect the view that the entire population should be provided with protection against major financial loss due to catastrophic illness. The extent of the "catastrophic" coverage varies markedly among the proposals, but each ensures, as a minimum, that a family's health expenditures in a given year will not exceed several thousands of dollars.

Beyond the areas of consensus there are, however, important areas of controversy. The first of these centers on how much more of the nation's resources should be devoted to providing care to the general population, i.e., to all those who are in other than very low income groups. The divergent views on this issue are reflected in the degree to which each bill reduces out-of-pocket payments by the nonpoor and thus stimulates their use of services. The Long-Ribicoff bill, by leaving current methods of payment unchanged (save for catastrophic illness), provides almost no stimulus to consumption. The Corman-Kennedy bill, by eliminating all out-of-pocket payments, encourages the maximum use of services. Between the two are the Administration and Kennedy-Mills bills, each of which includes a moderate coinsurance and deductible provision.

The value judgments lying behind these financing provisions are fundamentally different. At one end of the spectrum, as exemplified by the full-coverage provisions of the Corman-Kennedy bill, are those who feel that "health care is a right"—that access to health services should neither be limited nor rationed by price. Many who hold this view also believe that early and regular use of health services will help to prevent later serious illness and, therefore, that the use of ambulatory care should be encouraged.

At the other pole, as exemplified by the provisions of the Long-Ribicoff bill, are

¹⁰ The Administration bill reduces the burden on low-income families to a lesser degree than the other bills because it does not relieve the employer of his share of a premium payment (75 percent of the total, or \$450); and because the employer will very likely pass this cost on to his employee, the employer's payment represents a continued burden on the worker (see Appendix E).

those who see no justification for a societal decision to commit additional resources to the care of the general population, except for the treatment of catastrophic illness. Some who hold this view argue that such resources could be better spent on pollution control, housing, or education. Others maintain that the decisions to spend more on health care rather than on other goods and services should remain with the individual and not be brought into the public domain. Analysis of this complex controversy lies beyond the scope of this report, but is discussed in detail elsewhere [10, 16].

Controversy also exists across a second major dimension of the financing problem; there is sharp disagreement along the political spectrum over how the burden of total health expenditures, once decided upon, should be distributed. This conflict of views can be seen in the contrasting financing provisions of the Kennedy-Mills and Administration bills. These bills, as mentioned earlier, are similar in that they cover a nearly identical package of basic health services, mandate virtually the same deductible and coinsurance payments, and will require nearly the same tax revenues. They differ importantly, however, in that the Kennedy-Mills bill relies on a payroll tax, whereas the Administration bill uses a premium to fund virtually all program costs other than those for the poor. The payroll tax strategy is designed to limit the burden on the less affluent and to use the financing provisions of the program as a means of effecting income redistribution. The premium strategy, on the other hand, is aimed at avoiding significant redistributive effects by linking the size of tax payments to anticipated benefits.¹¹

Economic analysis cannot, of course, determine what amount of income redistribution is appropriate for society; this issue can only be resolved through the political process. However, by bringing into focus the practical consequences that flow from a given financing proposal, analysis can facilitate both dialogue and compromise. For example, payroll tax advocates and premium advocates appear to be so far apart on basic goals that the possibility of reconciling their differences seems remote. When, however, the competing approaches are examined in terms of the tax burden that each imposes on middle- and upper-income taxpayers, the differences, expressed as a proportion of income, prove to be surprisingly small (see Table 2). Indeed, the data suggest that despite the controversy over principle, compromise on a financing strategy may be possible.

To this end, let us consider the consequences, under the Administration bill, of using a premium subsidy to reduce the burden on families earning less than \$12,000 to the level that would be produced by a payroll tax program. The notable finding, as shown in Table 5, is that such a subsidy would cause relatively minor increases in the tax burden on middle- and upper-income families. The cost to those earning between \$12,000 and \$25,000 would only be \$50 to \$150 per year; to those in higher-income brackets, it would be no more than an additional \$200 to \$400 per year.¹² (In the case of the Corman-Kennedy bill, replacement of the payroll tax by a subsidized premium of similar design would have only a slightly larger effect.)

¹¹ The Administration bill does, however, provide a partial premium subsidy for those earning less than \$5000 per year and thus redistributes income to a small extent.

¹² The practical implementation of a subsidized premium program might take one of several forms. One approach would be to mandate the provision of a standard group insurance policy by employers but at the same time to subsidize low-income employees and their employers by providing each with credits against their income tax payments. For those low-income workers whose tax credit was larger than the income tax that they owed, a refund would be paid by the government.

Table 5

EFFECTS ON TAX BURDEN OF SUBSTITUTING A SUBSIDIZED
PREMIUM FOR THE MANDATED PREMIUM
IN THE ADMINISTRATION BILL
(FAMILY OF FOUR WITH ONE FULL-TIME WORKER)

Family Income	Mandated Premium ^a	Subsidized Premium ^b
\$ 3,000	\$ 460	\$ 130
6,000	640	290
9,000	690	470
12,000	730	650
15,000	780	840
20,000	880	980
30,000	1140	1340
40,000	1450	1770
50,000	1780	2230

NOTE: All values include a 0.22 percent payroll tax on earnings up to \$14,100 which would fund the current disability program under Medicare.

^aPremium of \$600 plus 7.46 percent income surtax.

^bPremium graduated from \$0 to \$600 plus 10.42 percent income surtax (see Appendix A).

The degree of additional income redistribution is small enough (some \$5 billion in the aggregate) that premium advocates might accept it, provided they received in return a concession from the payroll tax supporters. The desired concession would almost certainly relate to the government's role in the administration of an NHI program. Many premium supporters object to a payroll tax, not only because of its effect on income distribution, but also because they believe that it would lead to government domination of the health care sector and sharply diminish the role for private enterprise. Because payroll tax revenues become part of the federal budget, the NHI program would be administered and controlled by a government agency such as the Social Security Administration; the private insurance industry would be excluded from underwriting health insurance, and would retain, at most, a role in the processing of claims. Furthermore, government administration of an NHI program would almost inevitably lead to a major expansion in federal control of both the price of health services and the terms under which health care is provided. A subsidized premium program would, on the other hand, allow health insurance to remain in the private sector.

Supporters of the payroll tax would, of course, favor the added income redistribution from a "subsidized premium" but might not feel that this is sufficient compensation to justify a major concession on government control. Many payroll tax supporters believe, albeit on the basis of weak evidence, that the government could operate an insurance program more efficiently than private insurers and that many of the ills of the health care system can be solved only by increased government

regulation.¹³ Thus a premium-based program, even if appropriately subsidized, will still be viewed by some payroll-tax advocates as basically unacceptable. It should be noted, however, that a "subsidized premium" does overcome a serious objection that can be leveled at an ordinary premium program: An ordinary premium imposes a larger tax burden on the employer of low-income workers than does a payroll tax and thus acts as an important disincentive to the hiring of low-wage employees (see Appendix E).¹⁴ Under a subsidized program, both the employer's and the employee's premiums are reduced to the level imposed by a payroll tax, and this disincentive is removed [12].

We do not mean to suggest that the only way for advocates of alternative financing strategies to resolve their differences is through the use of a subsidized premium. Other compromises may well be possible. For example, another promising approach might utilize a combination of premiums and payroll taxes as a means of increasing the role of government while still leaving a significant portion of control in the private sector.

To summarize: In the present study we have developed a conceptual framework for the analysis of national health insurance financing and have defined the extent to which prototypical legislative proposals would redistribute income. Our analysis of the various proposals has made it clear that there is broad political agreement on the need to provide universal protection against the expense of catastrophic illness and to make health care more accessible to the poor.

Despite this consensus, important unresolved issues have led to a deadlock among proponents of various national health insurance bills. Controversy centers on several questions: How large a role should government play in the administration of a national program? How much of the nation's resources should be devoted to health care? To what degree should an NHI bill serve to redistribute income?

In an attempt to resolve the present stalemate, it is likely that new legislative proposals will emerge that will incorporate combinations of taxes and out-of-pocket payments significantly different from those embodied in our four prototypical bills. We believe that the quantitative evaluation of such proposals, using the techniques described here, will yield insights that can promote rational political dialogue and thus can help to resolve the current controversy over national health insurance.

¹³ Government agencies presently have lower claims-processing costs per dollar of benefits paid than do private insurers, but because of differences in program characteristics, such as the size of the average government claims, it is not clear that public agencies are inherently more efficient [2]. In fact, a recent study comparing the processing of an identical profile of Medicare claims by private firms and by the Social Security Administration indicates that costs per claim are lower under private administration [31].

It is frequently argued that a considerable savings would result under public administration of an NHI program because the government does not need to earn a profit whereas a private insurer must. However, the apparent savings that a public program enjoys by foregoing a profit are deceptive; in raising capital, public agencies incur expenses that are analogous to payments by private insurers to their investors (profits). However, in the case of the government, these expenses are obscured because, for example, the interest on borrowed funds (e.g., government bonds) does not appear in the agency's budget.

On the other hand, the administrative costs of Medicare and Medicaid programs are inflated relative to those of private insurers, because they include expenses for regulatory functions that are not performed by private companies. It should be noted, however, that the value of such regulation has been seriously questioned [11, 17, 18, 21].

¹⁴ A related objection to a premium-based program—namely, that it discourages the hiring of illness-prone workers—can be overcome by pooling the insurance risks of employees of smaller firms into larger statistical groups (see Appendix E).

Appendix A

CALCULATION OF THE TAX BURDENS ASSOCIATED WITH RAISING \$10 BILLION OF REVENUE

In this appendix we will calculate, for a theoretic program requiring \$10 billion of revenue, the tax burdens at each level of family income created by a payroll tax, an income tax, and a premium. Because each tax has a different effect on the various components of income, we must first determine the components of income at each level of total family income.

SOURCES OF INCOME AT VARIOUS FAMILY INCOME LEVELS

The total income of families may be divided into three categories: (1) *wages* (including income from self-employment), which are subject to both income and payroll taxes; (2) *property income* (rents, interest, dividends, capital gains, etc.), which is subject only to income taxes; and (3) *nontaxable income* (interest on tax-exempt bonds, social security payments, etc.).

Our calculation of the sources of income at a given income level will focus on a family of four persons with one full-time worker, the standard reference unit throughout our analysis. Because statistics on each component of income are not readily available, we have had to estimate income sources as follows:

For incomes below \$10,000, we have assumed that wages constitute approximately 97 percent of total income and that property income accounts for the remaining 3 percent [22, 24]. For incomes above \$10,000, the calculation must be carried out differently because property income is of increasing importance and because nontaxable income becomes a significant component. We estimate, on the basis of 1971 statistics for joint income tax returns [29], that as income increases from \$10,000 to \$50,000 the percent of total income derived from property rises from 3 percent to 16 percent. Using data from the 1970 Current Population Survey [24], we estimate that, over the same income range, nontaxable income constitutes 2 percent to 3 percent of total money income.

SOURCES OF TAX REVENUES

There are three major sources of tax revenues: payroll taxes, premiums, and general revenues. *Payroll taxes* apply to wages and salaries and to income from self-employment. The payroll taxes paid by a family at any given income level are determined by multiplying the payroll tax rate times the wage component of income for that family. However, wages in excess of a predetermined level (e.g., \$17,000) are not subject to the tax. *Premiums* are collected as a fixed amount per worker, with the costs divided between the employer and employee. *General revenues* are obtained from a variety of taxes levied by federal and state governments. At the federal level,

these revenues consist primarily of personal income, corporate profits, and excise taxes. At the state level, they consist primarily of personal income and sales taxes. In our analysis, we will refer to all of these sources of revenue as "income taxes" because the bulk of all funds that would be raised for a national health insurance program would derive from federal personal income and corporate profits taxes. For this same reason, we have calculated the tax burden across income groups for the "income tax" category by application of the federal tax rates appropriate to personal income and corporate profits taxes.

Our estimates of the revenues that would be raised by payroll and income taxes have been based on government projections made in 1974. These forecasts assumed that approximately normal levels of employment would exist in 1975 and therefore reflect the tax burdens that would result during periods of regular economic activity rather than under recessionary conditions.

Tax Burden of a Family of Four with One Full-Time Wage Earner (Table A.1)

Payroll Tax. As described below, we have estimated that for fiscal year 1975, the total amount of taxable wages (i.e., all wages not in excess of \$17,000, the reference level used in Fig. 1) is \$734 billion.¹⁵ A payroll tax of 1 percent on this sum would therefore yield \$7.34 billion in revenue, and a tax rate of 1.36 percent¹⁶ would be necessary to raise \$10 billion of revenue.

To obtain the value for the total amount of *taxable* wages, we have carried out the following calculations: First we determined total wages by combining the wages of all workers now subject to a payroll tax [23] and the wages of individuals (many federal, state, and local government employees) not now subject to payroll taxes. Because total wages are calculated for a calendar year, rather than for the fiscal year 1975 used in our analysis, we have adjusted our estimated value to the year July 1974 - June 1975, using the projected rate of growth during this period [23]. From this adjusted total, we subtracted earnings in excess of the maximum taxable level of \$17,000 to obtain total *taxable* earnings. This latter calculation is based on data defining the distribution of earnings above and below the taxable maximum as reported by the Social Security Administration for currently taxed workers [23].

Income Tax. To determine the burden across income groups, we must determine, first, the *total income tax revenues* for 1975 and, second, the *surtax rate* that would be required to raise the additional \$10 billion of revenue. The burden on an individual family can then be readily calculated by determining current income tax

¹⁵ We have selected a maximum taxable earnings level of \$17,000 to describe the workings of a payroll tax because it is intermediate between the current maximum level (\$15,300) and the highest level proposed in the bills considered in the text (\$20,000).

¹⁶ The payroll tax rate of 1.36 percent applied to wages of \$734 billion is derived from a convenient simplification of a two-phase process by which \$10 billion would actually be raised. Taxable wages include, as mentioned earlier, two components: monies earned by wage earners (\$707 billion) and monies earned by the self-employed (\$43 billion). The various health insurance bills specify that, in raising any stated amount of revenue, the self-employed are to pay a payroll tax that is 50 to 63 percent as great as the amount paid by wage-earners and their employers. Thus, for the purpose of raising \$10 billion, we estimate that payroll tax revenues will be $1.36 \times \$707$ billion from wage earners and $0.63 \times 1.36 \times \43 billion from the self-employed. This sum is equal to $1.36 \times \$734$ billion and justifies the use of one convenient tax rate, 1.36 percent, for all wage earners.

Table A.1

TAX BURDENS ACROSS INCOME GROUPS RESULTING FROM
THE USE OF A PAYROLL TAX, AN INCOME TAX,
OR A PREMIUM TO RAISE \$10 BILLION OF REVENUE
(FAMILY OF FOUR WITH ONE FULL-TIME WAGE EARNER)

Family Income	Payroll Tax ^a	Income Tax ^b	Premium ^c
\$ 3,000	\$ 41	\$ 0	\$170
6,000	79	20	170
9,000	118	51	170
12,000	152	79	170
15,000	190	113	170
20,000	231	186	170
30,000	231	382	170
40,000	231	616	170
50,000	231	865	170

^a1.36 percent payroll tax on earnings up to \$17,000.

^b5.65 percent surtax includes the indirect burden of the corporate profits tax, as well as the direct burden of the personal income tax.

^cPremium of \$170.20 per family and \$68.08 per individual.

payments (personal income and corporate¹⁷) at a given income level and multiplying this amount by the surtax rate.

Personal and corporate income taxes are estimated in the 1975 United States Budget [30] to yield \$177 billion. Thus, with a uniform percentage increase in all personal and corporate tax payments, a surtax of 5.65 percent would be necessary in order to raise \$10 billion. Current income tax payments for a family with four dependents earning less than \$10,000 have been calculated on the basis of the statutory rates in the 1974 income tax tables because most low-income families file returns with standard, rather than itemized, deductions. At higher-income levels, itemized deductions significantly reduce the tax liability of many families, and in estimating current tax payments for higher-income families we have therefore used average tax payments for joint returns [29].

Premiums. To calculate the size of the premium required to raise \$10 billion, we assume that the premium for single individuals is 40 percent of the premium for family coverage, a value that roughly reflects the actuarial difference in average

¹⁷ Although corporate profits taxes are levied on corporations, the weight of economic evidence indicates that they are indirectly paid by the individuals who, as a consequence of such taxes, receive lower incomes from owning property than they would otherwise receive[5]. Assuming that an increase in corporate profits taxes proportionately reduces the incomes of all owners of property, we obtain the burden of the corporate profits tax by calculating the ratio of corporate profits taxes per dollar of total property income (reported in 1971 personal income tax returns) and multiplying this ratio by the property income component at each level of family income. We should note, however, that under circumstances in which corporations are able to raise prices to recapture some part of their tax payments, the burden on property owners is reduced at the expense of the consumer. Under such conditions, the net result is a somewhat larger burden on low-income groups and a reduced burden on upper-income groups. If as much as one-half of the profits tax is recaptured in this way, the tax burden on the lowest-income families under the Corman-Kennedy bill would be increased by 7 percent and that on families with a \$50,000 income would be reduced by 5 percent.

benefits. (This difference in premium rates is, in fact, specified in the language of the Administration bill.) The pool of persons under age 65 who would be paying premiums consists of 48.9 million families and 24.6 million individuals.¹⁸ To raise \$10 billion from this population, family premiums of \$170 and individual premiums of \$68 (40 percent of \$170) would be required.

Premium Subsidies. The total amount of revenue needed to subsidize premiums depends on three factors: the particular subsidy schedule that is to be used, the number of families and individuals at each step of the schedule, and the amount of the standard (unsubsidized) premium. For the plan discussed in the text, we used a graduated five-step subsidy schedule that provides a 100 percent subsidy at an income below \$2500 and an 80 percent subsidy at incomes between \$2500 and \$5000, with the subsidy declining to a final value of 20 percent at income levels between \$10,000 and \$12,500. Families with incomes above \$12,500 are assumed to pay a standard premium.

The number of families and of single individuals in each income bracket over the subsidized range was taken from the "Administration Proposal" of the HEW Report to the Congress [26]. For the \$10,000 to \$12,500 group, the data were supplemented by income distribution figures from the 1970 Current Population Survey [24].

To calculate the total tax subsidy that would be required under our theoretical program, we multiply the number of families at each step of the subsidy schedule by the dollar amount of subsidy for that step and then add the further dollar cost (calculated in an analogous fashion) that would be required to provide a similar subsidy for single individuals. This calculation indicates that to raise \$10 billion for a subsidized premium program (based on a \$170 standard premium for families above \$12,500 income), a \$3.1 billion contribution from other tax revenues would be required.

The Tax Burden of Single Individuals and of Families with Other Than Four Member and One Full-Time Wage Earner

In the following discussion, we consider the tax burden on families of a composition different from that of our reference family (four members with one wage earner).

Families with Four Members and Two or More Wage Earners. Under an income tax program, a family with two or more wage earners will have the same tax burden as will a one-earner family with the same income. Under a payroll tax program, each of the earners will face a tax on his wages; thus, the family unit will carry a greater tax burden than the reference family if combined family income exceeds the maximum for individual taxable earnings (e.g., \$17,000).¹⁹ Under a premium-based program, the multiple-earner family will bear a larger burden than the reference family unless the earner who does not purchase the family's policy is offered a higher wage, or other compensation, in lieu of the employer's mandated share of the premium.

¹⁸ HEW Report to the Congress [26] "Administration Proposal" appendix, Table 2.1. Persons covered by military programs have been excluded.

¹⁹ Under the modified payroll tax of the Kennedy-Mills bill, families with the same income are taxed equally regardless of the number of workers in the family.

Families with One Wage-Earner but with Other Than Four Members.

The burden under an income tax program on such a family will differ from that of the reference family to a slight extent as a function of the number of personal exemptions to which the family unit is entitled. In the case of a payroll tax or a premium program, there will be no difference in the tax burden.

Single individuals. Under an income tax program, a single individual will have a different burden than will the reference family because he will have no exemptions for dependents and because the basic income tax rates that he must pay are set at a higher level. Under a payroll tax program, however, he will face the same burden as the reference family. As mentioned earlier, the premium for single persons under a premium program will be about 40 percent of the amount paid by the reference family.

Appendix B

TOTAL COSTS UNDER FOUR PROTOTYPICAL NATIONAL HEALTH INSURANCE BILLS

The total costs to the nation (tax + out-of-pocket payments + "other" expenditures) under the four prototypical NHI bills (i.e., costs for both the over- and the under-65 population) have been taken from projections of the HEW Report to the Congress for the fiscal year 1975 [26]. The analytic basis for these estimates is unfortunately not publicly available. However, using data on elasticity of demand in both the ambulatory and hospital sectors, other workers have arrived at independent estimates of the increase in expenditure that are consistent with the HEW values [1]. In any event, because the relative importance of each source of financing within a given bill would not be changed significantly by the use of different total-cost estimates, any errors in the HEW totals would have only a minor effect on our calculations of income redistribution.

To make the four bills more nearly comparable for purposes of our analysis, we have excluded the costs of long-term care (nursing home and custodial) from the bills (Long-Ribicoff and Kennedy-Mills) that provide such services. However, even after such exclusions there remain some differences in the services covered by the various bills (e.g., prescription drugs). For this reason the most accurate comparison of total national spending on health care under each bill can be obtained by adding the increased spending produced by each bill (Fig. 9) to the baseline level of spending on the same services in the absence of new legislation.

BASIS OF THE HEW COST ESTIMATES

As a point of departure in estimating the total costs of each of the major health insurance bills, the HEW Report uses as a "baseline" the projected expenditure on health care in the year 1975 that would occur in the absence of new legislation.

To obtain the 1975 baseline value, the report makes an upward adjustment in the 1973 data on total health expenditures (the last data that were available to the analysts), using a growth factor of 12 percent per year to account for both anticipated higher utilization and higher unit costs of health services.

The bills would add to these baseline expenditures because each would reduce cost-sharing from present levels and thus would in themselves cause a further increase in demand for care, as well as a further rise in the unit price of services. The size of the added expenditures that would result has been estimated by HEW in the following way [26]. On the basis of the cost-sharing provisions and the benefits specified in a given bill, an estimate was made of the fraction of current out-of-pocket payments that would be transferred to the insurer. For each dollar of such transfer, \$0.50 of new spending has been added to reflect the effects of the resulting increased demand [26]. Increases in the reimbursement rates under the Medicaid program would add further to the total; in some instances, Medicaid expenditures can be expected to rise by as much as 35 percent over current levels as a result of the easing of present severe limits on payments to physicians and hospitals.

We should also note, however, that the HEW cost estimates incorporate several factors that can be expected to partially offset the increased expenditure described above. Under some bills, prospective budgeting requirements for hospitals would reduce expenditures on inpatient care by as much as 5 percent below the level that would otherwise result from increased demand. Restrictions on physician payments can be expected to have the further effect of reducing the cost of professional services by as much as 4 percent.

INCREASES IN NATIONAL SPENDING AND IN THE FEDERAL BUDGET

The values shown in Fig. 9 and Table B.1 for increases in national spending on health services were computed as the differences between total anticipated costs under a given bill and baseline expenditures on services covered by the bill (excluding long-term care) during the year 1975. In similar fashion, increases in the government budget were calculated as the differences between tax revenues required under each bill and projected 1975 tax revenues in the absence of new legislation.²⁰

Table B.1

INCREASES IN NATIONAL SPENDING AND IN THE GOVERNMENT BUDGET FOR HEALTH SERVICES UNDER FOUR PROTOTYPICAL BILLS^a
(\$ BILLIONS)

Type-of Increase	Administration	Kennedy-Mills	Corman-Kennedy	Long-Ribicoff
In national spending	6.5	7.3	12.9	3.4
In the government budget ^b	9.5	37.5	63.5	7.5

^aCosts for the population over and under 65 years combined.

^bValues for the increase in the government budget include changes in state, as well as federal spending.

TOTAL COSTS FOR THE AGED AND FOR THE UNDER-65 POPULATION

Because the data in the HEW Report for three of the four bills are not separated by age group, it has been necessary to estimate for each bill the division of the total costs for care of those over and under the age of 65. To obtain total costs for the population over age 65, we have taken the baseline expenditure for the aged and have added it to the induced expenditure, using the HEW methodology described in the previous section. For the Kennedy-Mills bill, however, the HEW study separate-

²⁰ The Administration bill, by increasing employer premium payments, will eventually cause a reduction in tax revenues and thus have an additional effect on the federal budget not shown in Fig. 9. This effect is a consequence of the fact that employers will hold down wage increases, which are taxable, to compensate for the higher, but tax-exempt, premium payments they are required to make (see Appendix E). The reduction in tax revenues that will result is estimated at \$3 billion (expressed in terms of 1975 revenues) in [12].

ly reports the estimated increases in spending for the aged; therefore, for that bill it has not been necessary to use the procedure just described.

To obtain the total costs for the under-65 population, we subtracted the costs attributable to the population over age 65 from the total expenditures under a given bill.

TAX PAYMENTS AND OUT-OF-POCKET PAYMENTS FOR THE AGED AND FOR THE UNDER-65 POPULATION

Tax payments, the costs that are prepaid under the terms of a given health insurance bill, consist of (1) taxes paid to finance government expenditures on covered services; (2) premiums paid for government health insurance (such as coverage for physicians' services under Medicare); and (3) premiums paid by employers and employees under an employer-mandated premium program. *Out-of-pocket payments* consist of payments made directly by patients to providers and also of premiums paid for supplementary (nonmandated) insurance.

Over-65 Population

The tax revenues that support care of the over-65 population consist entirely of Medicare premiums and of general revenues and payroll taxes that fund such care under the Medicare and state Medicaid programs. For the Long-Ribicoff, Administration, and Kennedy-Mills bills, we have obtained estimates of these revenues from the HEW Report [26]. To calculate out-of-pocket payments by the aged, we have subtracted total tax revenues used to fund the program from the total costs of the program (see Table B.2). In the case of the Corman-Kennedy bill, tax costs are nearly equal to total costs because there are virtually no out-of-pocket payments.²¹

Under-65 Population

To obtain the tax payments for the under-65 population, we have subtracted, for each bill, the tax payments for the aged program from the tax payments for the entire population. To obtain the value for tax payments in the special case of the Administration bill, we have added to the income tax, payroll tax, and Medicare premiums the sum of (a) employer and employee-paid premiums and (b) premiums paid into the plan for low-income individuals and families. The HEW Report estimates that total employer- and employee-paid premiums will be \$28.9 billion under the Administration bill. From this value we have subtracted an estimated \$4.7 billion for the services and the more complete coverage that are not mandated but that would be purchased under some employer plans. Premiums for the low-income plan are reported separately by HEW as \$5.3 billion.

Finally, we have calculated the out-of-pocket payments for the under-65 population by subtracting the tax payments from the total expenditures for this group.

²¹ Payments for some few services will not be reimbursed by the Corman-Kennedy bill and will therefore be paid out of pocket. For example, payments by the patient will be required for services provided by small hospitals not meeting the review standards of the bill and by surgeons without Board certification. However, to simplify the presentation in the text, we have shown these expenditures as a component of tax burden. In the aggregate, these nonreimbursed costs will amount to approximately \$3.5 billion. We have divided these out-of-pocket costs between the aged and under-65 population groups in proportion to the total health care costs of each (see Table B.2).

Table B.2

**AGGREGATE TAX BURDEN, OUT-OF-POCKET PAYMENTS, AND OTHER EXPENDITURES
FOR SERVICES COVERED UNDER EACH PROTOTYPICAL NHI BILL
(\$ BILLIONS)**

Funding	Administration	Kennedy-Mills	Corman-Kennedy	Long-Ribicoff
	Under-65 Population			
NHI program:				
Tax burden	44.2	48.1	68.2	16.0
Out-of-pocket payments	<u>22.2</u>	<u>13.2</u>	<u>2.6</u>	<u>53.8</u>
Total ^a	66.4	61.3	70.8	69.8
Other public programs	1.1	0.4	0.7	2.4
	Over-65 Population			
NHI program:				
Tax burden	16.8	16.1	22.8	17.2
Out-of-pocket payments	<u>3.1</u>	<u>3.0</u>	<u>0.9</u>	<u>3.9</u>
Total ^a	19.9	19.1	23.7	21.1
Other public programs	1.1	1.7	0.7	2.4

^aBecause of differences in the services covered, a comparison of the total costs of each bill does not indicate the exact differences in total spending produced by the various bills.

COSTS OF OTHER GOVERNMENT HEALTH PROGRAMS

By providing additional health insurance coverage for most or all of the population, each of the major NHI bills would reduce the expenditures on health services by government agencies such as the Veterans Administration, Maternal and Child Health programs, Neighborhood Health Centers, and local public hospitals. The new level of spending for these programs under each bill is estimated in the HEW study, but only for the Kennedy-Mills bill is the decrease in spending for the aged separately reported. For the Administration, Corman-Kennedy, and Long-Ribicoff bills we have divided such expenditures equally between the aged and the under-65 population on the grounds that the aged (although they comprise less than half of the persons using government-provided medical services) consume a disproportionately large share of the available care.

Appendix C

TAX REVENUES FROM EACH SOURCE OF FINANCING FOR PROTOTYPICAL NATIONAL HEALTH INSURANCE BILLS (UNDER-65 POPULATION)

In Appendix B, we calculated the total tax revenue required to finance each NHI bill. In this appendix, we will describe how the financing burden under each bill is divided between payroll taxes, income taxes, and premiums, and then calculate the tax rates and premium level required to yield the necessary funds to finance the benefits for the under-65 population (see Table C.1). (As noted in the text, we have considered the financing of the program for the over-65 population to be an intergenerational transfer and therefore do not include the additional tax burden that it creates.) When the requisite tax rates are known for a given bill, we can also determine the burden for an employed worker at each level of family income. These latter calculations are similar to those already described in Appendix A.

Before considering the specific financing requirements of the four bills, we must deal with the special problem of financing the care of the disabled under the age of 65, e.g., care of persons requiring renal transplantation or chronic dialysis. Presently, such care is funded under special provisions of the Medicare program through a combination of payroll and income taxes and, except in the case of the Corman-Kennedy bill, the same financing mechanisms would be continued under each of the proposed bills. Thus, of the \$2 billion cost projected by HEW for this category of expenditures in 1975, \$1.5 billion would be financed by the Medicare payroll tax (requiring a tax rate of 0.23 percent) and \$0.5 billion from income taxes. The Corman-Kennedy bill would include the costs of care for the disabled in the single national program.

Table C.1

SOURCES OF TAX REVENUE FOR FINANCING EXPENDITURES FOR THE UNDER-65
POPULATION UNDER THE PROTOTYPICAL BILLS
(\$ BILLIONS)

Revenue Source	Administration	Kennedy-Mills	Corman-Kennedy	Long-Ribicoff
Payroll tax	1.5	33.0	34.1	4.9
Income tax	13.2	15.1	34.1	11.1
Premiums	29.5	0	0	0
Total	44.2	48.1	68.2	16.0

ADMINISTRATION BILL

The revenues that would be raised by the premium portion of the Administration bill can be calculated by summing the values obtained through (a) multiplying the number of families expected to enroll in employer plans [26] by the average premium of \$600 (estimated by HEW [26]) and (b) multiplying the number of single individuals expected to enroll by the average premium of \$240. From this calculation, we estimate total premium revenues from participants in employer plans at \$24.2 billion.²² In addition to this amount, families and individuals with low incomes or who are not employed full time would pay subsidized premiums estimated at \$5.3 billion [26] in order to participate in government-assisted plans that have reduced cost-sharing.

The 0.23 percent payroll tax rate would yield an additional \$1.5 billion required for continuation of the care for the disabled program. Thus, premiums and payroll tax revenues together would account for \$31 billion of the \$44.2 billion required for this bill (see Appendix B). The remaining \$13.2 billion required for premium subsidies and reduced cost-sharing would be raised by a 7.46 percent income surtax.

KENNEDY-MILLS BILL

The bill specifies a 4 percent payroll tax on wages, a 2.5 percent tax on self employment and property income, and a 1 percent tax on government assistance payments. These rates would apply to total family income up to a maximum of \$20,000 rather than to the earnings of each worker. The HEW Report estimates that in fiscal 1975 the broadened payroll tax would yield \$31.5 billion. Financing of the program for the disabled would add 0.23 percent to the tax rate, making a total payroll tax of 4.23 percent.²³ This tax would provide \$33 billion of the \$48.1 billion in total revenue to be spent on the under-65 population (see Appendix B). The remaining \$15.1 billion would be raised from income taxes by an 8.53 percent surtax.

CORMAN-KENNEDY BILL

Total tax payments for the under-65 program are \$68.2 billion (see Appendix B), which, according to the language of the bill, are to be divided equally between payroll and income taxes. We estimate, however, that payroll taxes sufficient to raise one-half (\$34.1 billion) of the total revenue for the care of the under-65 population alone will require a higher payroll tax rate than the 4.5 percent specified in the bill for the financing of the combined expenditures. Using the method described in Appendix A, we calculate that what is needed is a 5.05 percent payroll tax rate on earnings up to the maximum-earnings level of \$17,625 specified in the bill.²⁴ The remaining revenue, also \$34.1 billion, requires a 19.27 percent surtax on general revenues.

²² The costs of employer-mandated premiums are considered more fully in [12].

²³ The 0.23 percent tax for care of the disabled applies to the first \$14,100 earnings only.

²⁴ This calculation takes into account provisions in the bill for reduced taxation of self-employed persons, employees of state and local governments, and owners of property. For each special group, the rates specified in the bill have been increased by the same percentage factor (5.05/4.5) as that used in the case of wage and salary workers.

LONG-RIBICOFF BILL

For the "catastrophic" portion of the program, the bill specifies a 0.6 percent payroll tax (0.3 percent for self-employed persons) on earnings up to \$14,100 for workers presently taxed under the social security program. This tax rate would yield \$3.8 billion, of which \$3.4 billion would finance benefits for the under-65 population and \$400 million would finance benefits for the aged. These benefits for the under-65 population would require a payroll tax rate of 0.54 percent. The 0.23 percent payroll tax for care of the disabled (*vide supra*) would increase the total payroll tax for the under-65 program to 0.77 percent; this tax rate would provide \$4.9 billion of the \$16 billion tax payments required under the bill (see Appendix B). The remaining \$11.1 billion, the amount needed to fund the extensive coverage for low-income families, would be financed from income taxes. To raise this latter amount of revenue, a 6.25 percent surtax on the income tax would be required, a value that is derived by dividing \$11.1 billion by the \$177 billion of total revenue projected from income taxes (see Appendix A). (The additional benefits provided in the revised Long-Ribicoff bill, introduced in October 1975, would increase calculated costs by about 5 percent.)

Appendix D

CALCULATION OF TOTAL CONSUMPTION OF HEALTH SERVICES AT VARIOUS INCOME LEVELS (UNDER-65 POPULATION)

To calculate the total consumption of services (equal to the average insurance reimbursement plus out-of-pocket payments) at various income levels, we divide families into two groups—those earning more than \$10,000 per year and those earning less. Throughout our analysis we will make the simplifying assumption that all families earning over \$10,000 per year will, under any given NHI bill, have the same level of consumption. The reasoning is as follows: All proposed NHI bills specify the same degree of cost-sharing at income levels above \$10,000. Evidence from existing insurance programs indicates that when families in such an income range face the same cost-sharing requirements, consumption of services does not vary significantly as a function of the specific income level [1,7,8]. The somewhat greater total consumption of services by higher-income families is largely due to the tendency of higher-income families to purchase more insurance, which, by reducing their out-of-pocket payments, encourages greater use of services.²⁵

The situation in the under \$10,000 group differs in that it is too complex to allow any generalization that would apply to each NHI bill because (a) under all NHI bills, cost-sharing at lower-income levels is either reduced or eliminated and the demand for services is thereby increased; and (b) in low-income groups, the demand for services at any level of cost-sharing (or even if there is no cost-sharing) is affected by factors such as a low educational level, poor health status, and reduced access to care.

ADMINISTRATION BILL

The Administration bill requires each employer to offer all of his employees and their dependents a health insurance policy that has standardized benefits. The average premium estimated for this coverage is \$600.²⁶ Employer-mandated policies also have a cost-sharing provision that requires of all families, regardless of income, a 25 percent coinsurance payment after a deductible of \$150 per person has been satisfied. The maximum out-of-pocket payment under the bill is set at \$1500 per family. Prescription drugs are subject to a separate \$50 deductible.

Income groups above \$10,000: For these families, the *average benefits* per family are assumed to be \$540 plus \$60 of administrative costs, for a total premium of \$600.

To estimate out-of-pocket payments, we have used actuarial data from a group

²⁵ Under any NHI bill that requires cost-sharing, some families will purchase supplementary insurance and thus reduce their cost-sharing below that prescribed in the national plan. Such families will have a slight increase in their average total consumption [14, 15].

²⁶ Six hundred dollars is an "average" premium because the actual cost to the employer will depend on the age and health experience of his work force.

health insurance plan for federal employees,²⁷ because this plan has premium and cost-sharing requirements similar to those of the Administration bill. Analysis of these data indicate that 37 cents of each dollar of total consumption is paid for out of pocket.²⁸ Using the value of 37 cents, we obtain an estimate of \$345 for out-of-pocket payments by our reference family under the Administration bill. *Total consumption* is therefore equal to \$600 (premium) plus \$345 (out of pocket), for a total of \$945.

Income groups below \$10,000: The Administration bill provides all families whose income is below \$10,000 with the opportunity of enrolling in a government-assisted plan having reduced cost-sharing requirements. However, to join such an assisted plan and to obtain these more generous benefits, families with incomes between \$5000 and \$10,000 would have to pay a larger premium than would be required under an employer plan; for this reason, only the relatively few families who anticipate quite large medical bills will find it financially advantageous to choose the assisted plan. We have therefore assumed in our analysis that families with incomes between \$5000 and \$10,000 will, as will higher-income families, enroll in an employer plan.

Families with incomes below \$5000 can, under the Administration bill, join an assisted plan without paying a premium, but their employers' premium payment will be unchanged. Such families will prefer the assisted plan, not only because of the premium forgiveness, but because their cost-sharing is much reduced (a \$50 deductible per person and a 15 percent coinsurance rate, with an overall limit on cost-sharing of 9 percent of family income; prescription drug expenditures are subject to a separate \$25 deductible per person²⁹).

The reduced cost-sharing provisions for low-income families mandated by this and other bills would, of course, increase total consumption of services. To estimate the increases that would result under each bill, we proceeded as follows: First, we calculated that if cost-sharing were eliminated entirely, total consumption would increase by 20 percent over the level to be anticipated under the employer plan of the Administration bill. We arrived at this value in the following way. Available evidence indicates that a full-coverage plan would increase demand by 15 to 23 percent over a plan with a 25 percent coinsurance provision and no deductible [16]. Because the Administration bill contains a \$150 deductible in addition to the 25 percent coinsurance, the increase in demand with a shift to full coverage should be slightly greater than that calculated in [16]; for this reason we have assumed an average value of 20 percent.

Second, to estimate the increased consumption that would result from the reduction, but not total elimination, of cost-sharing, we revised the 20 percent value downward and assumed that as the fraction of total spending reimbursed by the insurance plan increases, total consumption will increase proportionately, reaching the full 20 percent value only when spending is fully reimbursed.

²⁷ Annual utilization reports for the Indemnity Benefit Plan, reported to the U.S. Civil Service Commission, Washington, D.C. For details of the benefits and cost-sharing, see [25].

²⁸ The proportion of total consumption that must be paid out of pocket varies with the level and distribution of family health expenses. We have calculated the different levels of total consumption according to the probability of their occurrence. By averaging the out-of-pocket expenses that this calculation yields, we obtained the value of 37 cents per dollar of total consumption.

²⁹ Families with incomes of less than \$2500 will pay no deductible and only 10 percent coinsurance up to a maximum of 6 percent of income. The figures and tables in the text refer to families with a full-time worker, and we have therefore not made calculations for incomes less than \$3000.

To determine the fraction of total consumption attributable to out-of-pocket payments, we used the coinsurance and deductible provisions appropriate to each income level. For the Administration bill, families at a \$3000-income level will have a total consumption of \$1039 and average out-of-pocket expenses of \$179. Values for families at other income levels are shown in Table D.1.

KENNEDY-MILLS, CORMAN-KENNEDY, AND LONG-RIBICOFF BILLS

In the final sections of this appendix we will, by appropriate modification of the values from the Administration bill, calculate both total consumption and out-of-pocket costs for the remaining NHI bills. Two types of modification are required because (a) each bill covers a somewhat different mix of services, with the result that total spending on covered services will vary according to which services are included in the insurance plan; and (b) each bill reduces cost-sharing for some low-income families to a level below that required of such families under the Administration bill.

Kennedy-Mills Bill

Income Groups Above \$10,000: Under the Kennedy-Mills bill, the standard cost-sharing required of families earning above \$10,000 closely resembles that of the Administration bill; each bill requires 25 percent coinsurance payments after payment of a \$150 deductible. There is, however, a relatively minor difference in the deductible provisions of the two. The Kennedy-Mills bill provides that after each of two members of a family has incurred \$150 of expenses, the deductible for additional members is waived; whereas the Administration bill provides that the waiver will take effect only after each of three family members has incurred \$150 expenses.

Two larger differences in cost-sharing also exist. The first is that the Kennedy-Mills bill provides only limited coverage for prescription drugs, whereas the Administration bill provides comprehensive coverage. This latter coverage is, however, subject to a separate deductible of \$50 per person. The second is that the Kennedy-Mills bill limits total out-of-pocket expenses to a maximum of \$1000 rather than to the \$1500 maximum under the Administration bill.

We thus estimate that, at income levels above \$10,000, total consumption of the services covered under the Kennedy-Mills bill will be \$85 per family less than for the services covered under the Administration bill (\$860 as compared with \$945). The difference represents primarily drug expenses covered under the Administration bill.³⁰

To calculate out-of-pocket expenses, the actuarial data used for the Administration bill were adjusted to reflect the Kennedy-Mills limitations of two deductibles

³⁰ The figure of \$85 for a reference family is calculated by first apportioning the difference in total expenses covered by the two bills (\$5.1 billion) between individuals and families. The aggregate amount attributable to families (\$4.3 billion) is then divided by the number of families. This estimate takes into account the increased expenditure on physician services that can be expected to result from the slightly more generous cost-sharing features of the Kennedy-Mills bill.

Table D.1
ESTIMATES OF OUT-OF-POCKET PAYMENTS AND TOTAL CONSUMPTION FOR PROTOTYPICAL BILLS
(FAMILY OF FOUR WITH ONE FULL-TIME WORKER)

Family Income	Administration		Kennedy-Mills		Corman-Kennedy		Long Ribicoff	
	Out-of-Pocket Payments	Total Consumption	Out-of-Pocket Payments	Total Consumption	Out-of-Pocket Payments	Total Consumption	Out-of-Pocket Payments	Total Consumption
\$ 3,000	\$ 179	\$1039	\$ 0	\$1020	\$ 0	\$1155	\$ 20	\$963
4,000	194	1031	0	1020	0	1155	20	963
5,000	204	1026	52	996	0	1155	154	901
6,000	345	945	205	915	0	1155	518	860
7,000	345	945	260	881	0	1155	636	860
8,000	345	945	283	867	0	1155	698	860
9,000	345	945	293	860	0	1155	737	860
10,000	345	945	293	860	0	1155	763	860
11,000	345	945	293	860	0	1155	782	860
12,000 +	345	945	293	860	0	1155	795	860

per family and \$1000 of cost-sharing. From these calculations, we estimate that under the Kennedy-Mills bill, average out-of-pocket payment will be 34 cents per dollar of total consumption and that average total out-of-pocket expenses will be \$293.

Income groups below \$10,000: At incomes below \$10,000, the Kennedy-Mills bill maintains the 25 percent coinsurance and \$150 deductible provisions but reduces the maximum amount of out-of-pocket expenses in proportion to reduced family income. At incomes below \$4800, the effect of this provision is to completely eliminate out-of-pocket payments. At intermediate levels of income, we have assumed that reduced cost-sharing will lead to an increase in total consumption in proportion to the increased fraction of total spending that is reimbursed by the insurance plan. For low-income families with full coverage, we assume, as under the Corman-Kennedy bill, below, that total consumption will increase by 20 percent. The values for out-of-pocket payments and total consumption appear in Table D.1.

Corman-Kennedy Bill

The Corman-Kennedy bill eliminates all cost-sharing for covered services if such services are supplied by certified providers. Furthermore, the bill covers about 3 percent more of health care services than does the Administration bill. The differences in coverage occur primarily in the areas of dental, psychiatric, and skilled nursing home services.

To estimate total consumption under the bill, we first increased the \$945 figure for total consumption under the Administration bill by 3 percent to allow for the increased scope of services. We then increased this value by 20 percent to account for the increased demand that would be induced by a full-coverage plan. We arrived at this figure as described under the Administration bill above. From these calculations, we estimate that the combined effects of more extensive coverage of services and the elimination of cost sharing under the Corman-Kennedy bill will increase total consumption per family to \$1155.

It should be noted that the Corman-Kennedy bill, because it eliminates all cost-sharing, represents the one case in which we have assumed that the total consumption of health services among the poor will be approximately the same as among higher-income groups. The reasoning is as follows: In the absence of cost-sharing, financial considerations cannot be a direct factor in determining the amount of care a family will receive. Furthermore, although there are factors besides cost that tend to reduce the consumption of services by the poor, there are others that tend to offset this effect. On the one hand, poorer families are, on average, in worse health than the families at higher-income levels and are therefore predisposed to seek more frequent and costly health care. On the other hand, lower-income families tend to live in areas where physicians and hospital services are less readily accessible. Furthermore, probably because of a lower educational level, low-income families tend to make less use of available services [7,8] than higher-income families. As a first approximation, we have therefore assumed that these various factors roughly cancel each other and that if financial barriers to health care are eliminated, the poor will consume approximately the same amount of services as the rest of the population [7,8].

Long-Ribicoff Bill

The Long-Ribicoff bill consists of two basic components: "catastrophic" benefits for those earning over \$4800 per year, and virtually full coverage for families earning less than this amount. There is also a provision for special benefits for families who earn more than \$4800 but who spend all of their income in excess of \$4800 on medical care.

Income groups above \$4800: Because the Long-Ribicoff bill does not provide basic insurance coverage for families with an income above \$4800, total consumption of such families will be determined primarily by the amount of private insurance coverage they purchase. The extent of such private insurance now varies widely. On the average, however, it appears to be closely similar to the coverage proposed under the Kennedy-Mills bill for income groups above \$10,000, for which we have estimated an average consumption of \$860 per family. We have therefore used a value of \$860 as our estimate of the total consumption of services under the Long-Ribicoff bill for families earning more than \$4800.

Catastrophic benefits begin after an individual has incurred 60 days of hospitalization or \$2000 of other medical expenses. Coverage is then subject to a 20 percent coinsurance payment for physicians' services and to a copayment equal to one-fourth of the daily average room rate for inpatient services. Once the catastrophic coverage becomes effective, further out-of-pocket payments are limited to a maximum of \$1000 per person. (The revised bill, introduced in October 1975, eliminates these cost-sharing requirements.)

The total benefits for the under-65 population under the catastrophic plan are estimated by HEW to be \$3.2 billion (see Appendix C). Using actuarial data, we first apportioned this amount between families and single individuals and then divided total benefits for families by the number of families covered, obtaining an estimate of \$65 for the average catastrophic benefits for a family of four under the bill. Out-of-pocket expenses therefore consist of total consumption (\$860) less average catastrophic benefits (\$65), or \$795. Families with private insurance policies will, of course, meet a portion of these expenses through insurance reimbursements.

At income levels above \$4800, the Long-Ribicoff bill also provides that if a family first spends all of its income in excess of \$4800 on medical care, it then obtains full coverage under the low-income plan for any further health care expenses incurred during the remainder of the year. To assess the impact of this provision, we used data on total consumption among families who have basic private insurance similar to that mandated under the Administration bill, and calculated the proportion of families at each income level above \$4800 who would be eligible for full coverage. We then estimated the increase in the total consumption of such families. The resulting values for total consumption and for out-of-pocket expenses appear in Table D.1, and in Fig. 8 of the text. As can be seen, except for families with incomes only modestly above \$4800, this "spenddown" provision reduces average out-of-pocket expenses only slightly.

Income groups below \$4800: Below a family income level of \$4800, the bill provides for essentially full coverage; the only cost-sharing requirement is a \$3 payment for each of the first 10 visits to a physician's office. The coverage is, however, somewhat less complete than that provided to low-income families under either the Kennedy-Mills bill or the Administration bill, because the Long-Ribicoff bill does not include reimbursement for prescription drugs or for dental or eye care for children.

To estimate total consumption for the under \$4800 income groups, we made two calculations. First, we subtracted an average of \$125 per family from the benefits package in the Administration bill to adjust for the estimated \$7.5 billion in drug, dental, and eye care expenses not covered under the Long-Ribicoff bill. Second, we increased the level of total consumption in proportion to the increased fraction of total consumption that is reimbursed by the plan. These procedures yielded an estimate of \$963 of total consumption for families earning less than \$4800. We estimate that out-of-pocket expenses resulting from the \$3 per visit payments required of low-income families will average \$20 per year per family.

INCOME REDISTRIBUTION

To calculate the net gain or loss, and therefore the total amount of income redistribution, at each level of family income (see Table 4), we subtracted from total consumption under each bill the total dollar burden imposed by the bill (tax burden, out-of-pocket payments, and "other" costs). To determine the incremental amount of income redistribution produced by each bill, we subtracted from each family's total tax burden the tax burden of current government programs. For the under-65 population, such programs total \$13.1 billion [26], of which \$11.6 billion is financed from income taxes and \$1.5 billion (for the care provided under the program for the disabled) from payroll taxes.

Appendix E

THE IMPLICATION FOR THE EMPLOYEE OF THE EMPLOYER'S SHARE OF A PAYROLL TAX OR PREMIUM

In our calculations of tax burden, we have assumed that the entire burden of a payroll tax or of a premium-based program is borne by the employee, i.e., we have not subtracted the payroll or premium contribution that must be made by the employer under each of the proposed national health insurance plans. To represent the burden in this way may, on the face of it, seem incorrect. The evidence is convincing, however, that the tax burden placed on the employer is, over the long run, shifted back to the employee [4, 6, 20]. This shifting is accomplished by the employer's failure to increase wages at the rate that he would in the absence of the new insurance costs that he has been forced to assume. Thus, in the analysis of the specific bills before the Congress, we have assumed a new steady state in which a pass-back of the employer's share to the employee has occurred. (For a quantitative analysis of the short-term effects of mandated premiums on employment, see [12].)

It should be noted, however, that in the case of the low-income worker, i.e., the individual at, or only slightly above, the minimum wage, the employer may have difficulty in passing back his share of the burden. If the legal minimum wage rises in proportion to the sum of the rate of inflation and the rate of increase in workers' productivity, the employer will not be able to slow the rate at which he increases wages and will thus have no opportunity to recapture his payments. Under such circumstances, the burden shown in the figures for families with incomes below \$5000 is overstated by a considerable amount.

If the employer is unable to shift the burden, there are important consequences for minimum-wage employees. Although those who are working will have a lower burden than we have shown, there will now be a strong economic incentive for the employer to avoid hiring minimum-wage workers. Instead, he will turn either to new technology or to more highly paid, but more productive, employees to whom he can pass on his insurance costs. In such circumstances, a premium will have a more deleterious effect on employment of low-income workers than will a payroll tax.³¹ This differential effect on the hiring of low-income workers can, however, be reduced or eliminated by a "subsidized premium" program, provided a portion of the subsidy is paid directly to the employer to offset the premiums he must pay for his low-wage employees.

Premiums also have a further effect on the labor market that is different from that of a payroll tax. Premiums are set by private insurers on the basis of the amount of illness experienced by a firm's employees: thus, to keep their labor costs down, employers will tend not to hire individuals who have major health problems. This problem, although potentially troublesome, can be dealt with by appropriate

³¹ To illustrate this point, consider a theoretical program designed to raise \$10 billion by use of either a payroll tax or a premium, with three-fourths of the tax to be paid by the employer. If such a program were funded by a payroll tax, the employer's contribution for an employee earning \$4000 would be approximately \$40 per year, whereas if the program were funded by a premium, the cost to the employer would be almost \$130 per year.

legislative provisions. For example, by pooling the health risks of employees of several companies into larger groups for purposes of setting premiums, the risk involved in hiring employees with health problems can be so diffused that there will be no disincentive to the hiring of illness-prone individuals. The payroll tax has no negative effect on hiring, since the burden imposed on the employer is related only to an employee's earnings.

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