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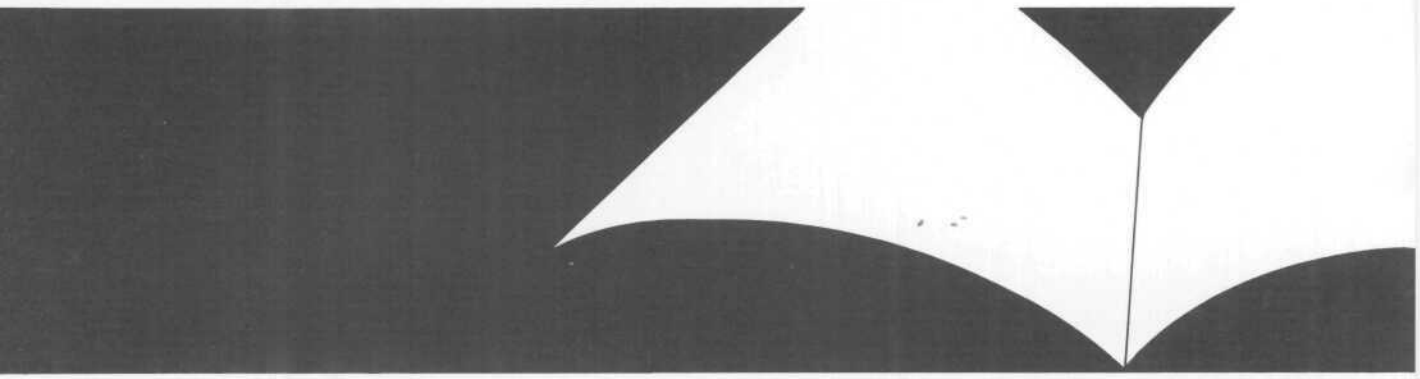

Catastrophic Health Insurance

January
1977

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

CATASTROPHIC HEALTH INSURANCE

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Congressional Budget Office

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PREFACE

The 95th Congress is likely to consider expanding the federal role in financing health care services. Expansion could take the form of a national health insurance plan covering all persons for a broad range of services, or it could involve selective extensions of coverage by type of risk insured or by population group protected. The decision whether to extend coverage--and if so how--will be based on various considerations. These include the nature and severity of needs so far not met by public or private insurance programs, the total and federal budget costs of various options, and the probable impact each would have on inflation and overall spending in the health care sector of the economy.

One widely discussed alternative for selectively extended coverage is catastrophic health insurance. This Budget Issue Paper examines the frequency and origins of "catastrophic" expenses; the extent to which they are currently met through public programs and private insurance; and various proposals for insuring catastrophic costs. A companion paper on long term care explores another selective coverage option.

This report was prepared by Susanne A. Stoiber of the Human Resources Division of the Congressional Budget Office, under the supervision of Stanley S. Wallack and C. William Fischer. The author wishes to acknowledge the assistance of M. Eugene Moyer of the Social Security Administration National Health Insurance Modeling Team; Charles E. Phelps of the Rand Corporation; Gordon R. Trapnell, consulting actuary; and Lorna Blumen, formerly with the Human Resources Division. The paper was edited by Mary Richardson Boo and prepared for publication under the supervision of Johanna Zacharias. Toni Wright typed the manuscript.

Alice M. Rivlin
Director

January 1977

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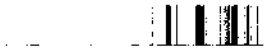

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SUMMARY

Public concern over what has been popularly termed "catastrophic" health care costs has increased in recent years. The growth of private insurance with extremely high coverage limits, the adoption in five states of public catastrophic health insurance plans, and the introduction of several catastrophic health insurance bills in the U.S. Congress are all signs of this increased concern.

In considering whether it would be appropriate or desirable to adopt a national catastrophic health insurance plan, the Congress has been handicapped by lack of information in several areas. These include the magnitude and distribution of "catastrophic costs;" the extent to which public and private insurance plans are already covering such costs; and the possible impact of alternative catastrophic health insurance plans on the health care system and on the federal budget. This paper explores these issues.

MAGNITUDE AND DISTRIBUTION OF CATASTROPHIC COSTS

The magnitude and distribution of catastrophic costs depend on how "catastrophe" is defined. For purposes of determining whether individuals are entitled to insurance benefits or tax relief, two methods have been used most commonly to gauge whether a medical event is catastrophic. One measure has been large absolute expenditures; the other has been expenditures that are large relative to an individual's income. The first type of measurement--large absolute expenditures--is typically used in traditional private insurance plans and in a number of public programs modeled on private insurance. The second standard of measurement--expenditures that are large relative to an individual's income--has been used only in government. This standard is the basis upon which medical expenses which exceed 3 percent of adjusted gross income are allowed as a federal tax deduction.

If a large expenditure definition is used, the problem takes one form. In fiscal year 1978, an estimated 2.4 million persons under the age of 65 will incur expenses that exceed $5,000. Their aggregate expenses over that amount are estimated at $13.1 billion. This is the type of catastrophic cost problem which is most dramatic because it often is associated with life-threatening events, and thus captures public attention. It is also the one that most significantly affects middle-income families.

If an income-related definition is applied, a different type of problem appears. An estimated 21.4 million families will incur medical expenses exceeding 15 percent of their income in 1978. These do not necessarily constitute "catastrophic" expenses, however, because almost 90 percent of those costs will be met by private insurance or public programs. The proportion of the expenses that might be considered catastrophic are those which the family must pay directly (these are called out-of-pocket expenses). An estimated 6.9 million families will have out-of-pocket expenses that total more than 15 percent of income. Most of these (4.1 million) are low-income families. For low-income families, the aggregate expense over the catastrophic threshold is estimated at $2.3 billion.

Whether the income-related or large-expenditure definition of catastrophic is used, the most significant catastrophic expense problem is long-term care. In fiscal year 1978, an estimated 1.3 million persons will be residents of nursing homes for six months or longer, at an aggregate cost of about $14.7 billion. Almost 55 percent of that cost, or $8 billion, will be paid directly by consumers. Most residents of nursing homes have modest incomes, so the expense is large not only in absolute terms but also relative to income.

ADEQUACY OF PROTECTION AGAINST CATASTROPHIC COSTS

Consumers have three major sources of assistance in meeting the cost of health care: private insurance, public programs, and tax subsidies. Collectively, these sources significantly reduce the percent of medical ex-

penses that are paid directly by the consumer and thus the incidence of costs that are catastrophic to the person involved. Some problems remain, however. Four of the most significant are:

-- Coverage is uneven. An estimated 18 million persons are totally without protection under either private insurance or public programs.

-- Certain services are excluded from coverage. Both public and private insurance plans fail to include certain types of services or insure them very inadequately.

-- Some insurance plans do not adequately cover high expenses. An estimated 37 million persons are covered under insurance plans that do not adequately cover high expenses or long hospital stays.

-- Tax subsidies do not effectively assist lower-income families. Tax subsidies are effective in mitigating the impact of high out-of-pocket expenses for middle-income families when insurance is inadequate, but they provide only marginal assistance to lower-income families.

The lack of adequate basic insurance coverage for almost a third of families with incomes below the national median, and the failure of both public and private health insurance programs to cover certain types of services result in two kinds of catastrophic out-of-pocket expenses: the cost of long-term care for the aged; and average or normal expenses that consume an unreasonable proportion of low-income families' resources.

Unusually large expenses (except those that result from long-term care and mental illness) generally appear to be met through existing private insurance and public programs. Major medical insurance has improved markedly over the last five years, and the 103 million persons estimated to have major medical insurance are reasonably well protected against high expenses, especially those resulting from hospitalization. Medicare adequately covers most

hospital costs for the aged and disabled, but both groups can experience high out-of-pocket expenses for non-hospital services. The following table shows the number of persons at various levels of protection against catastrophic expenses.

Numbers of Persons Classified by Adequacy of Their Protection Against Catastrophic Costs in Fiscal Year 1978

Numbers of Persons (in millions)	Status of Protection
18 The uninsured--not eligible for aid from non-insurance sources	Unprotected
19 a/ Families with incomes of less than $10,000 holding only individual private policies	Least Adequate
26 The aged and disabled on medicare	Less than Adequate Protection
37.5 a/ Basic hospital with no major medical insurance	Less than Adequate Protection
24 Medicaid population	Adequate Protection
103 Major medical, comprehensive major medical, members of HMOs.	Good Protection

a/ These categories overlap.

PROPOSALS FOR CATASTROPHIC INSURANCE

It is difficult to design a uniform catastrophic insurance plan that meets all of the cost problems without becoming, in effect, a comprehensive national health insurance program. The drafters of catastrophic plans have therefore been forced to emphasize certain coverage objectives and to de-emphasize others, or to create a plan with different benefit packages tailored to the special needs of target groups. Also, finding the most effective means of filling the gaps is not the sole criterion that must be considered. Other important policy considerations include:

- o Adequacy and fair distribution of benefits
- o Compatibility with basic insurance
- o Simplicity and economy of administration
- o Impact on inflation
- o Impact on federal budget

Long-term nursing home care has generally been excluded from catastrophic insurance plans despite the obvious need for assistance in financing such care. The reason is that long-term care poses a host of complex social and and administrative problems that are not present in financing other types of health services. Including long-term nursing home care in a catastrophic plan would greatly complicate the financial and administrative arrangements necessary to handle other strictly financial catastrophic cost problems. Long-term care protection is therefore not included in the proposals discussed in this paper. 1/

1/ This problem and alternative approaches to solving it are treated in another Budget Issue Paper, "Long-term Care," to be published by the Congressional Budget Office.

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Three catastrophic protection plans that reflect the major types of approaches that have been proposed are outlined below. A fourth alternative, a uniform national program to address the specific problems of both low- and middle-income families is included to illustrate the extremely high costs of such a program.

Alternative One: A Traditional Insurance Plan

An insurance plan designed to operate as a supplement to basic private insurance and medicare fits the most common concept about catastrophic insurance. Such a plan would finance only very high expenses--not the average expenses of low-income families without public or private insurance protection. It would be beneficial primarily to middle-income families who have health insurance or other resources to meet expenses below the catastrophic protection threshold. The plan illustrated would extend medicare benefits both by removing all limits on hospital and nursing home care and by placing a $250 limit on cost-sharing for non-hospital services. For the population not covered by medicare, the plan would pay for all hospital care after 150 days and all medical expenses that exceed $2,000. Medicaid would remain unchanged.

The total cost of this plan is estimated at $13.0 to $14.0 billion in fiscal year 1978, the net additional cost to the federal government at $12.0 to $13.0 billion.

Alternative Two: An Income-related Plan with Fixed Maximum Liability

An income-related plan designed to cover all out-of-pocket medical expenses in excess of a designated proportion of income--for example, all expenses that exceed 15 percent of family income--would provide universal catastrophic protection. Such a plan would respond to the most pressing problems of low-income families not covered by private insurance or medicaid. However, these families would still be required to commit a substantial share of their resources to purchasing medical care. This kind of plan would leave some middle- and higher-income families with a potential liability for out-of-pocket costs so high

that they would be likely to retain private coverage. The total fiscal year 1978 cost of this plan is estimated at $16.4 billion, the net additional cost to the federal government at $14.9 billion.

Alternative Three: A Mixed Traditional and Income-related Plan

A plan designed to pay the total expenses of low-income families and the exceptionally high expenses of medicare beneficiaries, as well as to encourage improvements in catastrophic protection through private insurance for middle-income families would address the major coverage problems on a categorical basis. Certain groups would not be fully protected against catastrophic costs under this plan and the entire population would not be covered by uniform benefits. A plan of this kind would not guarantee protection against high expenses for middle-income persons, nor would it assist persons near the poverty line who are unable to purchase adequate private coverage because of pre-existing health problems. The fiscal year 1978 total program cost of this plan is estimated at $32.6 billion. The net additional cost to the federal government is estimated to be about $24 billion.

Alternative Four

A uniform and universal plan can be designed to deal with the specific catastrophic expense problems of both low-income and middle-income families through a single program. Such a plan was proposed in 1973 by the Department of Health, Education, and Welfare (HEW). However, any plan encompassing all of the objectives in a uniform national program produces what would actually be an extremely expensive comprehensive national health insurance plan with an estimated total program cost of $129 billion in fiscal year 1978. The net additional cost to the federal government is estimated at $79 billion. A uniform national program is included here solely to illustrate that addressing the special catastrophic cost problems of low- and middle-income families simultaneously would result in a significant increase in federal expenditures. The in-

crease could be moderated by reducing the level of protection. The plan illustrated covers approximately 95 percent of a family's health expenses (excluding long-term care).

The following table outlines the major provisions of the three catastrophic plans, and also includes a plan similar to the HEW proposal. It assesses the adequacy of each in meeting the major catastrophic cost problems and in fulfilling the policy objectives mentioned above. Estimates are given for total program costs and their net federal budget impact. The estimates assume that all plans would be financed through federal revenues.

POTENTIAL IMPACT ON THE HEALTH CARE SYSTEM

There is every indication that the supply of medical services will expand rapidly to meet whatever demand is generated by a new insurance system. The experience of the last fifteen years with the expansion of private health insurance coverage, as well as the passage of medicare and medicaid, suggests that adoption of catastrophic health insurance (or comprehensive national health insurance) will stimulate the expansion of expensive treatments and facilities, particularly hospitals.

This expansion will result from the extension of third-party payments, which have the effect of removing constraints on the demand for services by consumers and also services generated by providers. During a serious illness, the patient and his family are likely to seek medical treatment regardless of cost or inconvenience. Expensive techniques and services will be adopted as rapidly as there is demand for them and funds are available to pay the cost.

The development of high-cost, technology intensive treatments has already increased the proportion of health expenditures devoted to catastrophic illness. A comparison of the proportion of insurance payments generated by persons with exceptionally high expenses in 1970 and 1975 shows a pronounced trend toward spending a larger proportion of the health care dollar on persons with very high expenses.

This trend suggests that the federal government, in deciding on the type and level of health insurance support, may ultimately have to make a choice. The basic options are either to spend money on preventive and maintenance-of-health services, which could significantly reduce the incidence of illness at a low per-person cost; or to underwrite high-cost treatment; but with the likely result of increasing sick persons' lifespans only marginally.

CATASTROPHIC INSURANCE OPTIONS

	Alternative 1	Alternative 2
Description of Plan	Separate plans for aged and nonaged to supplement medicare and average private insurance. Over-65 Plan Removes all limits on medicare hospital coverage and coinsurance and places a $250 limit on SMI coinsurance. Under-65 Plan Pays all hospital costs after 150th day; medical expenses in excess of $2,000. Financed through federal taxes. Administered by the Social Security Administration.	Covers all out-of-pocket medical expenses (except those for long-term care) which exceed 15 percent of a family's gross income. Financed through federal general tax revenues. Administered by the Social Security Administration.
Primary Beneficiaries and Persons Not Assisted	Primary Beneficiaries 26 million aged and disabled on medicare. 103 million persons with major medical coverage and 22 million middle-income families with basic hospital insurance. Persons Not Significantly Assisted 26 million persons without insurance and 19 million families with incomes below the national median who hold individual insurance policies.	Primary Beneficiaries 26 million persons now uninsured. 19 million low-income persons who hold individual insurance policies. 26 million aged and disabled on medicare. All persons receive some protection although middle-income families would probably continue to rely primarily on private insurance.
Impact on Other Policy Objectives	Benefits regressive. Compatible with basic insurance. Relatively simple and inexpensive to administer. Marginal increase in inflationary pressures.	Benefits proportional and targeted to meet greatest need. Difficult to integrate with basic insurance. Relatively complex and expensive to administer because of income-tested benefits.
Fiscal Year 1978 Cost Estimate	Total Program Cost - $13 to $14 billion. Net New Cost to federal government - $12.0 to $12.5 billion.	Total Program Cost - $16.4 billion. Net New Cost to federal government - $12.2 billion.

Alternative 3	Alternative 4
Federalized medicaid program for low-income families (entitlement at $4,800 for family of four) universal spend-down. Extension of medicare benefits as described in alternative no. 1. Tax advantages revoked for private insurance that fails to meet federal catastrophic protection standards. Financed by federal tax revenues; states retain current medicaid support obligations; but contributions frozen at 1978 levels.	HEW "Mega" Proposal. Comprehensive coverage for low-income families; catastrophic protection against large expenses for all persons. This plan addresses all major catastrophic cost problems except long-term care.
Primary Beneficiaries 16.2 million low-income persons not currently on medicaid or holding individual insurance policies. 1.4 million lower-middle income families with very high expenses. 26 million aged and disabled on medicare and medicaid. Persons Marginally Assisted 103 million persons with major medical insurance. 22 million middle-income families with basic insurance if tax penalty results in improved coverage. Persons Losing Protection Persons currently eligible for medicaid; not eligible under new standards. 22 million middle-income families with basic insurance if tax penalty results in loss of coverage.	Primary Beneficiaries 26 million persons currently uninsured. 19 million low-income persons with individual policies. 26 million aged and disabled on medicare. The entire population would be protected against all health expenses (excluding those for nursing home care) which exceed approximately 4 to 6 percent of family income. For some higher income families, protection would be generally less adequate than current private insurance.
Benefits targeted to greatest need. Compatible with basic insurance. Reasonably uncomplicated to administer because income-testing is minimized. Moderately high increase in inflationary pressures.	Benefits progressive for lowest-income families; proportional for remainder of population; targeted to greatest need. Assumes elimination of most other insurance; thus not difficult to integrate. Complex and expensive to administer because of almost universal income-testing and administration of income-related cost-sharing. Large increase in inflationary pressures.
Total Cost - $32.6 billion. Net New Cost to federal government - $20 to $21 billion	Total Program Cost - $129.0 billion. Net New Cost to federal government - $79 to $80 billion if wholly tax financed.

INTRODUCTION

Almost every American family, except the very wealthy, risks financial ruin from large, uninsured medical expenses. In popular terminology, such medical expenses have become known as "catastrophic."

Public concern over catastrophic health care costs is reflected in the recent growth of private major medical insurance with extremely high coverage limits, the adoption in five states of public catastrophic insurance plans, and the introduction of several catastrophic insurance bills in the U.S. Congress. However, little information has been available to aid policy-makers in judging whether the problem is severe enough to be made a high priority for federal government action and what that action should be. Important unanswered questions include:

- What are the magnitude and distribution of "catastrophic" costs?
- To what extent are private insurance plans and public programs providing protection against these costs?
- Are existing insurance arrangements inadequate and what alternative programs might be adopted?
- Could alternative plans fill the major gaps in coverage and at what cost?
- What effects might a federal catastrophic insurance plan have on the health care system?
- Should catastrophic protection be the highest priority for new federal health expenditures?

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This paper explores these questions and provides information to illuminate the current policy debate over catastrophic health insurance. That debate is likely to intensify as very high expenditures increasingly dominate overall health care spending, and as national health resources are increasingly concentrated on a small proportion of the population. These expenditure trends will spur consideration of the immediate problem of financing high costs and the longer-range question of whether many of the high-cost services are socially desirable.

CHAPTER I THE MAGNITUDE AND DISTRIBUTION OF CATASTROPHIC COSTS

DEFINING A "CATASTROPHE"

The term "catastrophic" implies a sudden and unpredictable misfortune having grave consequences for the affected person, but it is extremely difficult to isolate the point along a continuum at which high, but normal, health care expenses become catastrophic.

Two methods have been commonly used to determine whether a medical event is catastrophic for purposes of entitlement to insurance benefits or tax relief. The first method defines a catastrophe in terms of large absolute expenditures; the second measures expenditures in relation to individual income. The first measurement --large absolute expenditures--is typical of traditional private insurance plans and public programs modeled on private insurance. The second measurement--expenditures that are large relative to individual income--has been used only in government.

The magnitude and distribution of catastrophic costs are largely dependent upon which measurement is used to define a catastrophe. For example, an estimated 2.5 million persons under age 65 will have medical expenses in excess of $5,000 in fiscal year 1978. In contrast, an estimated 12.3 million families will have non-insured expenses that exceed 10 percent of their income.

The definition of catastrophe will also have an important impact on how resources are allocated among types of services and different population groups. The impact of each of four major definitions of catastrophe is discussed in the following chapters.

Traditional Insurance Definition

Large absolute expenditures, the traditional insurance definition of catastrophe, have been measured in various ways. One measure specifies a fixed expenditures within a

stipulated period of time as the threshold for catastrophic cost--for example, $2,000, $5,000, or $10,000 per year. A variation of this method determines the threshold by specifying a certain amount of service within a stipulated period, such as a specified number of hospital days per year. Both the fixed expenditure and fixed utilization concepts have been incorporated in the catastrophic protection section of a Senate bill, "Catastrophic Health Insurance and Medical Assistance Reform Act" (S. 2470, 94th Congress), sponsored by Senators Russell Long (D-Louisiana), Abraham Ribicoff (D-Connecticut), and others.

The fixed utilization concept presumes that large expenditures have been incurred after a specified amount of service has been received. Specific diseases have also been presumed to entail catastrophic expenses. For example, the Social Security Amendments of 1972 (Public Law 92-603) extended medicare coverage to persons suffering from end-stage renal disease (kidney failure).

The distribution of gross benefits under either a fixed expenditure or fixed utilization plan is likely to be regressive.

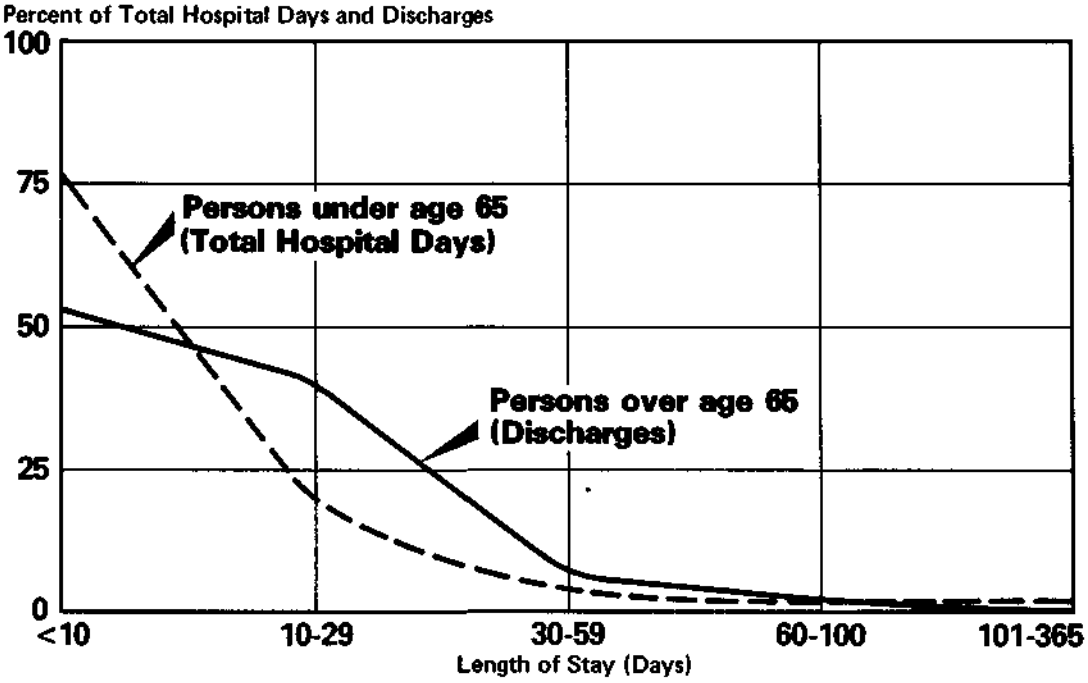
Utilization of Services Definition

Definitions of catastrophe that hinge on utilization of services usually refer only to institutional care in hospitals and nursing homes. Figures 1 and 2 highlight the difference between the lengths of stay in hospitals and nursing homes projected for fiscal year 1978. For both the aged and the non-aged, most hospital stays will last less than 10 days. More than 90 percent will end before the 30th day; and less than 1 percent will exceed 100 days. In contrast, only 11 percent of nursing home stays will end before the 30th day, and almost three-quarters will exceed 100 days.

If 60 days of care is used as the threshold of catastrophic cost, persons hospitalized for at least this length of time will have aggregate expenses estimated at $4.1 billion in fiscal year 1978. If the same measure is used for nursing homes, persons admitted for more than 60 days will have aggregate expenses estimated at $17.7 billion. Long hospital stays represent a small proportion

Figure 1.

Hospital Length of Stay Fiscal Year 1978 Projections



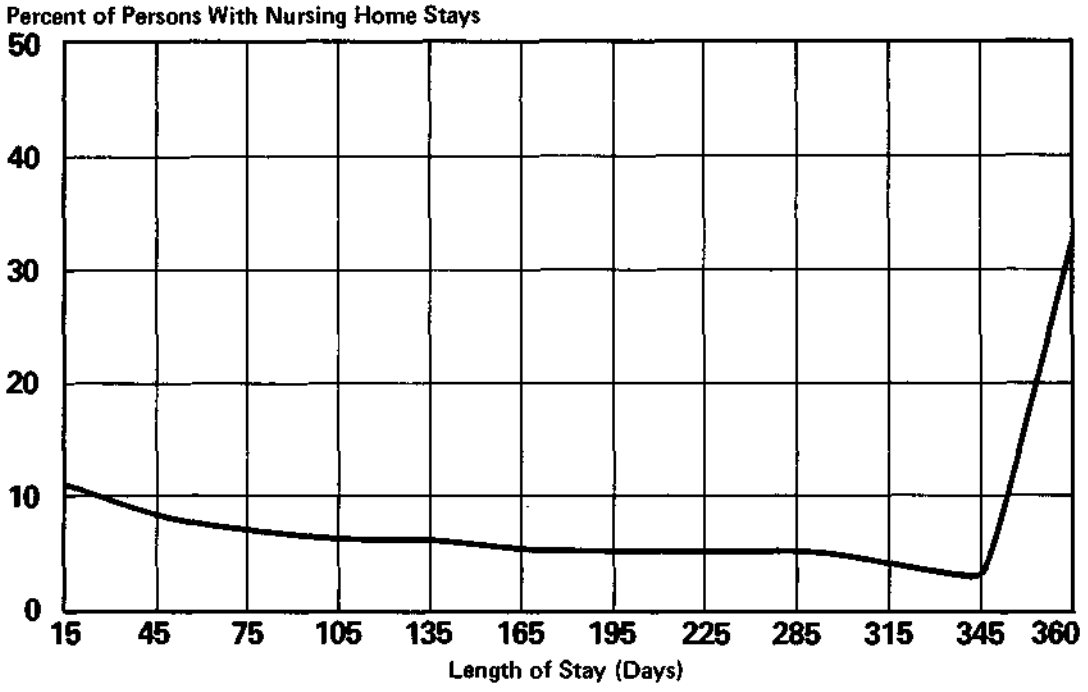
Source: CBO calculation based on data furnished by the Social Security Administration National Health Insurance Modeling Team and the General Accounting Office.

of total hospital costs while long stays generate a large majority of total nursing home costs, illustrating that different utilization measures are appropriate for different types of services. 1/

1/ See appendix for tables detailing the distribution of lengths of stay and associated costs for short-term hospitals and nursing homes.

Figure 2.

Nursing Home Length of Stay: Fiscal Year 1978 Projections



Source: Calculated from data furnished by ABT Associates

Uniform Expenditure Definitions

If a uniform expenditure standard is used to measure a catastrophe, the exact incidence rate will depend on the threshold level selected. The Long-Ribicoff bill stipulates $2,000 for non-hospital medical expenses; others have proposed $5,000 for total expenses. For purposes of illustration, $5,000 will be used in this discussion.

An estimated 2.6 million persons (or 1.25 percent of the total population) incurred medical expenses in excess

of $5,000 in 1974. 2/ Aggregate expenses attributable to these people totaled $21.4 billion or about 20 percent of total national expenditures for health. 3/

Almost half of the individuals with expenditures exceeding $5,000 were in the institutionalized population. (In this context, the term "institutionalized population" refers only to persons in long-term care facilities: nursing homes, psychiatric hospitals, chronic disease and tuberculosis hospitals. It does not include persons in short-term general hospitals.)

The institutionalized catastrophic population is predominantly aged and female. Most are in nursing homes. In fiscal year 1974, catastrophic cases as measured by the expenditure of $5,000 accounted for 67 percent of total nursing home costs. It is estimated that by fiscal year 1978, 90 percent of all persons admitted to nursing homes will incur charges in excess of $5,000.

Thus, the largest group with catastrophic costs measured by large expenditures is aged persons in long-term care institutions. However, by 1978, a significant number of the non-aged, non-institutionalized population is also likely to have expenses of $5,000 or more. Projections for fiscal year 1978 indicate that an estimated 2.5 million persons under age 65 will have total hospital and non-hospital expenses in excess of $5,000 (see Table 1). The aggregate expenses incurred are estimated at $25.6 billion --approximately $13.1 billion of which represent expenses

2/ Data are not available from which to estimate the proportion of 1978 expenditures for the entire population that are attributable to persons spending $5,000 or more. Therefore 1974 data are used in this illustration, although other estimates in the paper are for fiscal year 1978.

3/ Howard Birnbaum (Abt Associates), Every Person's Guide to Catastrophic Expense Statistics, 1976. (Prepared under contract to the Department of Health, Education, and Welfare, National Center for Health Statistics Research. HRA Contract 230-75-141.)

in excess of the $5,000 catastrophic threshold. According to the projections, two-thirds of catastrophic expenses for this age group will be related to stays in short-term general hospitals.

Table 1. DISTRIBUTION OF TOTAL EXPENDITURES[a/] FOR POPULATION UNDER AGE 65 (Fiscal Year 1978 Projections)

Expenses Per Capita	Number of Persons (in Millions)	Aggregate Expense (in Billions of Dollars)
None	68.0	
<$100	77.6	5.3
100-500	22.3	6.2
500-1,000	12.6	9.1
1,000-2,500	12.9	20.2
2,500-5,000	4.5	15.5
5,000 and over	2.5	25.6
Totals	200.4	81.9

SOURCE: Calculated from data furnished by the Social Security Administration National Health Insurance Modeling Team.

a/ Hospital, physician, outpatient, other professional services (except dental care), and prescription drugs.

The expenditure distribution shown in Table 1 illustrates the episodic nature of health spending by the under-65 population. About three-quarters of this age group are estimated to have fiscal year 1978 expenses of less than $100; the few persons with exceptionally high expenses account for a very large proportion of all spending by the non-aged. Using the $5,000 expenditure measure, an estimated 1.3 percent of the non-aged population will account for more than 30 percent of all health expenditures incurred

by this group. Comparable distribution of expenditure data does not exist for the aged, but available information suggests that persons over age 65 have much higher continuing or average expenses.

Income-related Definitions

Most people think of catastrophic expenses in terms of a family's income or other resources, such as insurance. This income-related definition is the basis upon which medical expenses that exceed 3 percent of adjusted gross income are allowed as federal tax deductions.

The expenditure level most frequently used to designate the threshold level of catastrophic cost is 10 to 15 percent of family income. 4/ A variation of this method is the "protected income" concept. Under this concept, a base income level is assumed to be the minimum necessary for family needs exclusive of medical care costs. Expenditures are deemed catastrophic when health-related expenses reduce family income below the protected level. This is the basis for entitlement to medicaid benefits under current "spend-down" provisions and in the federalized medicaid section of the Long-Ribicoff bill.

The distribution of catastrophic expenses using a percent-of-income test is substantially different from the distribution using either utilization or absolute expenditure tests. As Table 2 illustrates, an estimated 21.4 million families (or about 28 percent of all families) will have expenses for medical care which exceed 15 percent of family income in fiscal year 1978. Not all of these costs will be paid by the family directly; almost 90 percent will be paid from third-party sources (private insurance, public programs, philanthropy, industry).

4/ Economists Charles Phelps, Karen Davis, and political scientist Theodore Marmor have used 10 percent of income as the threshold of catastrophic expenditures. Senator William Brock (R-Tennessee) introduced a tax credit bill (S. 1528, 94th Congress) for medical expenses in excess of 15 percent of adjusted gross income (less personal exemptions of $750 per person which would bring the threshold below 15 percent).

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Table 2. A PERCENT OF INCOME DISTRIBUTION OF FAMILY HEALTH EXPENSES (In Excess of 15 Percent of Gross Income) (Civilian Noninstitutionalized Population - Fiscal Year 1978 Projections)

Family Income	Total Expenses (Insured and Noninsured		Outlays (Total Expenses Net of Third-Party Payments)	
	Number of Families (in millions)	Aggregate Expense in Excess of Threshold (in billions of dollars)	Number of Families (in millions)	Aggregate Expense in Excess of Threshold (in billions of dollars
$5,000	8.0	16.0	4.1	2.3
5,000 - 10,000	5.4	11.0	1.5	1.3
10,000 - 20,000	6.1	17.0	1.0	1.0
20,000+	1.9	14.6	0.4	1.7
Totals[a/]	21.4	58.8	6.9	6.3

SOURCE: CBO Projection based on the 1970 CHAS/NORC Survey and on data supplied by the Social Security Administration National Health Insurance Modeling Team.

a. Components may not add to totals because of rounding.

In order to assess the actual impact of these expenses on the family, the measure of catastrophe is usually not gross expenditures, but the net out-of-pocket cost after any applicable insurance or other third-party payments have been made. For purposes of this discussion, out-of-pocket expenses that exceed 15 percent of family income will be considered catastrophic.

Using this measure, an estimated 6.9 million families will have out-of-pocket expenses for medical care that exceed 15 percent of their gross income in fiscal year 1978. These families represent about 9 percent of the total number of families projected for that year. About 28.0 percent of families with incomes of less than $5,000 will have catastrophic expenses by this definition, compared with about

0.2 percent of families with incomes in excess of $20,000 (see Table 2). This difference illustrates the superiority of insurance coverage held by higher-income families. Current tax policy is partially responsible for the better coverage of high-income families because the tax deduction allowed for insurance purchase is more valuable to them than to low-income families.

The expenses that will place an estimated 4.1 million low-income families in the catastrophic category using this income-related definition are usually not large dollar expenditures. A substantial number of low-income families have expenses that might be considered average or normal by absolute national standards but are catastrophic in relation to low income.

A catastrophic protection plan based on the above or other income-related standards could be more progressive in its distribution of benefits than a fixed-expenditure or utilization plan. However, the entitlement and benefit provisions alone will not determine whether a plan will be regressive, proportional, or progressive. The financing mechanism chosen will also have a great impact on the distributional effects of the program.

THE CAUSES OF CATASTROPHIC EXPENSES

The frequency and nature of catastrophic expenses vary significantly according to the standard of measurement used. This suggests that it may be difficult to achieve agreement upon a single definition of catastrophe to determine the distribution of catastrophic insurance or tax benefits. Depending on the definition used, there are three types of catastrophic expenses.

- Long-Term Care. Using any of the definitions of catastrophe, long-term care, affecting primarily the aged, is the most frequent cause of catastrophic expenses.

- High Dollar Expenditures. Infrequent high expenses (primarily for hospital care), accounting for almost one-third of all health care costs, characterize the expenditure patterns of the non-aged, although continuing expenses for this population group are generally very low.

- High Expenditures Relative to Family Income. These expenditures are incurred primarily by low-income families. Middle- and high-income families are usually unaffected because average dollar expenditures are not large and because the large expenses are usually insured.

CHAPTER II PRIVATE INSURANCE PLANS AND PUBLIC PROGRAMS: ADEQUATE PROTECTION AGAINST CATASTROPHIC COSTS?

The consumer has three major sources of assistance in financing health care expenses. Private health insurance, government programs, and tax subsidies have all reduced the proportion of total health care expenses paid directly out-of-pocket, thus reducing the financial impact of illness. Direct payment plans (both public programs and private insurance) operate in a substantially different way from tax subsidies, so they will be discussed separately here. However, the overall effectiveness of protection against catastrophic expense requires an assessment of the interaction between these two forms of assistance.

DIRECT PAYMENT PLANS: THE GROWTH OF THIRD-PARTY COVERAGE

Third-party payments (those made on behalf of individuals by government, private insurance, philanthropy, and industry) have grown sharply in the last twenty-six years. In fiscal year 1950, the consumer paid 68.0 percent of his health bill directly. Private insurance paid only 8.5 percent and public programs 20.2 percent. By fiscal year 1978, consumer out-of-pocket spending is projected to drop to 29.0 percent, with private insurance paying 31.0 percent and public programs 39.0 percent.

Despite this substantial growth in public and private insurance coverage, few families are fully protected against every contingency. Some families are uninsured or seriously underinsured. In addition, the growth in benefit payments has not been evenly distributed across services. The increase in third-party payments is largely attributable to improved hospital coverage. Today, government programs (federal, state, and local) account for

Table 3. FISCAL YEAR 1978 ESTIMATE OF HEALTH EXPENDITURES[a/]
(in Billions of Dollars)

Source of Payment	Totals	Type of Expenditure: Long-term Hospital Care	Psychiatric Hospital Care	Short-term Inpatient Care	Outpatient Care
Consumer out-of pocket	$ 49.2	$ 0.2	$ 0.8	$ 5.1	$ 1.4
Private Insurance	46.0	0.2	1.4	25.9	1.4
Federal Programs[b/]	43.9	0.8	2.1	25.5	2.6
State and Local Government Programs [c/]	18.4	0.7	4.2	4.3	2.8
Philanthropy	1.2	0.02	0.06	0.5	0.4
Totals	$158.7	$ 2.0	$ 8.7	$61.3	$ 8.7

a/ Calculated from data furnished by the Social Security Administration National Health Insurance Modeling Team.

b/ Medicare, medicaid, Department of Defense, Veterans Administration, categorical health programs and workmen's compensation.

Table 3. (continued)

Source of Payment	Type of Expenditure: Physician Services	Dental	Other Professional Services	Eyeglasses	Nursing Home Care	Drugs
Consumer out-of-pocket	$ 10.6	$ 8.6	$ 2.3	$ 2.9	$ 9.6	$ 7.6
Private insurance	13.8	1.3	0.4	0.02	0.1	1.2
Federal Programs b/	6.7	0.4	0.5	0.07	4.6	0.6
State and Local Government Programs c/	2.0	0.3	0.2	0.05	3.4	0.5
Philanthropy	0.02	0	0.07	0	0.08	0
Totals	$ 33.1	$10.6	$ 3.5	$ 3.1	$17.9	$ 9.9

c/ Medicaid, other state and local programs (such as municipal hospitals and mental institutions), workmen's compensation.

52 percent of all payments to hospitals. Private insurance pays almost 38 percent; consumers pay 9 percent directly. 5/

Although hospital care accounts for about 44 percent of health expenditures and, together with nursing home care, is the most frequent cause of large expenditures, the cost of non-institutional services can become catastrophic. Most of these costs will be paid directly by the consumer. Table 3 estimates the payment source for major types of health expenditures in fiscal year 1978, assuming no change in current law or policy.

Aggregate estimates of insured and non-insured expenses obscure extreme variations in individual cases. An estimated 26 million people in fiscal year 1978 (12 percent of the U.S. population) will have no insurance coverage through private insurance or public insurance programs such as medicare and medicaid. The uninsured are largely self-employed; work for an employer with a small low-wage work force; are in poor health; in school; or unemployed. 6/

5/ Social Security Bulletin, March 1976, Vol. 39, No. 3. These percentages understate the true extent of consumer liability for out-of-pocket hospital expenses. The understatement occurs because hospital "bad debts" are spread across third-party payment sources; thus, charges that were originally an out-of-pocket liability are ultimately recorded as third-party payments. Also, aggregate estimates that group community hospitals with long-term care hospitals and federal and state institutions mask the actual extent of consumer cost-sharing in private community hospitals because there is usually no consumer cost-sharing in federal and state institutions.

6/ The uninsured give various reasons for not obtaining coverage. When queried in the 1974 Health Interview Survey, 40 percent indicated they could not afford insurance; 32 percent said that other aid was available (presumably from direct care programs such as the Veterans Administration or through Workmen's Compensation). See appendix for table detailing results of survey.

An estimated 8 million of the uninsured have other sources of aid (for example, the Veterans Administration system). Thus, 18 million people may be considered totally unprotected.

Table 4 illustrates the projected insurance status of the U.S. population in fiscal year 1978 according to family income and source of insurance coverage. Almost 53 percent of the uninsured will have incomes estimated to be $5,000 to $10,000 in fiscal year 1978. These families are usually not eligible for medicaid benefits 7/ and presumably have limited resources to meet exceptional medical expenses.

Another 29 million people are estimated to hold only individual (non-group) policies (see Table 4), which usually offer protection inferior to that provided in group policies. About 67 percent (or 19.4 million) of persons insured exclusively through non-group policies will have a projected fiscal year 1978 family income of less than $10,000.

In fiscal year 1978, an estimated 37 million persons will be unprotected against catastrophic expenses. They consist of the uninsured not eligible for aid from non-insurance sources such as the Veterans Administration, medicaid, and workmen's compensation (18 million), and persons with family incomes of less than $10,000 holding only individual insurance policies (19.4 million). The remainder of the population has some protection against catastrophic expenses, although the adequacy of that protection varies substantially with the source of coverage.

7/ Thirty-one states operate a "medically needy" program which may reach some families in these income ranges. Also, through the medicaid "spend down" provisions, families who have medical expenses large enough to reduce their income (net of medical expenses) to the income eligibility level of the medically needy (or cash assistance recipients) may qualify for medicaid benefits.

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Table 4. PUBLIC AND PRIVATE INSURANCE HOLDINGS BY SOURCE OF INSURANCE AND FAMILY INCOME, FISCAL YEAR 1978 PROJECTIONS a/ (persons in millions)

Family Income	No Insurance	Medicaid	Medicare	Employer Group	Employer Group + Nongroup	Other Group	Other Group + Nongroup	Individual
$5,000	6.3	12.2	6.9	5.5	.8	0.6	0.2	9.9
5,000 - 9,999	13.7	6.1	6.7	38.7	1.7	0.5	0.2	9.5
10,000 - 19,999	3.4	6.0	6.8	65.5	4.1	1.5	0.1	6.6
20,000 - 29,999	1.4	0.0	5.4	8.9	0.1	0.1	0.0	2.0
30,000 and over	1.2	0.0	.2	2.3	0.1	0.4	0.2	0.8
Totals	26.0	24.4	26.0	120.9	6.8	3.1	.7	28.8

SOURCE: CBO Projection based on the 1970 CHAS/NORC survey; the CBO TRIM Model; and Preliminary data from the January - March 1976 Health Interview Survey.

a/ Totals exceed 1978 population projections because of duplicate counts in some categories (e.g., an estimated 4 million medicare beneficiaries also receive medicaid benefits). However, the "individual" category includes solely persons estimated to hold only an individual policy.

Adequacy of Overall Protection

The combination of public direct-care programs, public insurance plans, and private insurance fails to provide universal protection against catastrophically high out-of-pocket costs.

Table 5 illustrates the level of protection against catastrophic expenses provided by major public and private insurance. (Population totals exceed the projected fiscal year 1978 population because of duplicate counting in certain categories.)

Table 5. NUMBERS OF PERSONS CLASSIFIED BY ADEQUACY OF PROTECTION AGAINST CATASTROPHIC COSTS IN FISCAL YEAR 1978

18 Million Persons The uninsured--not eligible for aid from noninsurance sources	Unprotected
19 Million Persons a/ Families with incomes of less than $10,000 holding only individual private policies	Least Adequate Protection
26 Million Persons a/ The aged and disabled on medicare	Less than Adequate Protection
38 Million Persons a/ Basic hospital with no major medical insurance	Less than Adequate Protection
24 Million Persons Medicaid population	Adequate Protection
103 Million Persons Major medical, comprehensive major medical, members of HMOs	Good Protection

a/ These categories overlap.

The following section discusses in detail the adequacy of public and private catastrophic protection.

Private Health Insurance

There are three types of private health insurance: basic hospital coverage, major medical, and comprehensive major medical.

Basic hospital coverage insures a limited range of benefits. The number of insured days of hospital care and the maximum amounts paid for each kind of service are specified. Coverage varies widely among basic plans; some insure 15 days of hospital care a year, others 365 days.

Major medical insurance is usually intended to supplement basic hospital coverage. If purchased alone, without basic underlying coverage, it is often referred to as "catastrophic" insurance. Major medical insurance covers a broad range of expenses and involves a large deductible 8/ and relatively high maximum benefit payment limits. This type of plan usually specifies the fraction of the entire bill, up to the benefit limit, that will be paid by insurance (usually 80 percent).

Comprehensive major medical insurance integrates basic hospital coverage and major medical. It involves relatively low deductible levels, like basic hospital coverage, and high maximum payment limits, like major medical policies. 9/

8/ A deductible is the amount of covered medical expense that must be incurred by the insured before benefits become payable by the insurer. Deductibles are usually in the amount of $50, $75, or $100, but can range to $1,000 in catastrophic policies.

9/ For purposes of this analysis, persons enrolled in Health Maintenance Organizations are considered to have comprehensive major medical insurance.

Generally, families with major medical or comprehensive major medical insurance are more adequately protected against both general and catastrophic expenses than families holding only basic hospital coverage. An estimated 103 million persons will have major medical or comprehensive policies in fiscal year 1978; an estimated 37.5 million will have basic hospital insurance with no major medical coverage.

Major Medical Insurance. The catastrophic expense protection provided under major medical and comprehensive major insurance or through health maintenance organizations (group practice plans) is very extensive. This type of insurance has been improved so substantially in the last five years that enrollees are unlikely to suffer catastrophic expenses for services covered by their insurance. 10/ In fiscal year 1978, 36.7 million persons with major medical insurance are estimated to have unlimited coverage, or policies with coverage limits of $250,000 or $1 million. The average benefit under policies held by the 66.7 million persons whose major medical insurance has a maximum payment limit is estimated at $112,000 in that year. In fiscal year 1970, the average payment limit for such policies is estimated to have been about $11,000. Even families thus insured, however, are vulnerable to catastrophic expenses arising from non-insured services, particularly nursing home care, mental health services, drugs, and dental services.

Major medical coverage is closely correlated with income. Families with fiscal year 1978 incomes above $10,000 are more likely to hold this type of coverage than those earning less than $10,000. Table 6 shows fiscal year 1978 projections of major medical coverage by family income.

10/ This statement should be qualified by noting that some comprehensive and major medical policies place no limit on beneficiary cost-sharing. Thus some persons in this group may incur catastrophic expenses through high co-payments.

Table 6. PRIVATE MAJOR MEDICAL COVERAGE (by Family Income - Fiscal Year 1978 Projections)

Family Income	Number of Persons with coverage (in millions)	Percent of Persons at Income Level with Coverage	Persons with Maximum Payment Limits on Coverage (in millions)	Persons with Unlimited Coverage (in millions)
<$5,000	6.6	15.6	3.6	3.0
5,000-9,999	31.8	44.6	19.7	12.1
10,000-19,999	54.8	61.3	36.8	18.0
20,000-29,999	7.2	56.7	4.6	2.6
30,000 and over	3.0	69.8	2.0	1.0
Totals	103.4		66.7	36.7

SOURCE: Projections based upon the 1970 CHAS/NORC Survey and a special survey of employer group insurance made by the Department of Labor in 1975.

Basic Hospital Insurance. Basic hospital insurance provides less adequate catastrophic protection than major medical insurance. Basic policies expose insured persons to two risks not faced under major medical coverage. The first risk is that they may exhaust their benefits; the second is that the benefits paid by their plan may be substantially less than the actual charges for services.

Table 7 shows that over 92 percent of those estimated to have basic hospital without major medical coverage in fiscal year 1978 will be insured for a limited number of days of hospital care. These 45 million people risk exhausting their hospital benefits. The actual risk is relatively small because the average number of days insured under a policy that limits days of coverage is estimated

at 207 in fiscal year 1978. 11/

The risk of incurring catastrophic expenses through inadequate benefit payments is much greater. Many basic plans have very low reimbursement limits for hospital charges, and beneficiaries are liable for large out-of-pocket costs for both hospital room and board and for ancillary charges.

Table 7. PERSONS WITH BASIC HOSPITAL INSURANCE AND NO MAJOR MEDICAL INSURANCE, PROJECTED FOR FISCAL YEAR 1978 (by Income Class)

Family Income	Persons Covered (in millions)	Persons with Limited Days of Coverage (in millions)	Persons with Unlimited Coverage (in millions)
<$5,000	3.3	2.9	0.4
5,000-9,999	11.9	10.6	1.3
10,000-19,999	19.2	18.0	1.2
20,000-29,999	3.0	2.9	0.1
30,000+	0.1	0.1	0.0

SOURCE: CBO projections based upon the 1970 CHAS/NORC survey and a special survey of employer group insurance made by the Department of Labor in 1975.

11/ If persons with basic hospital insurance and no major medical coverage are neither more nor less likely to have a long hospital stay than the remainder of the under-65 population, approximately 138,000 persons under 65 with basic hospital coverage are likely to exhaust their hospital insurance benefits in fiscal year 1978.

There are two basic types of insurance payments for hospital care. The first is referred to as a "service benefit," and pays the full cost, whatever a particular hospital's actual charges may be. The second, referred to as "indemnity" coverage, stipulates the maximum payment for room and board or ancillary charges, regardless of the hospital's actual charge. Persons with service benefits are better protected against catastrophic hospital expenses than those with indemnity coverage.

Of the estimated 37.5 million people in fiscal year 1978 who hold basic hospital insurance with no major medical coverage, about 69 percent are estimated to have service benefits and 31 percent indemnity coverage. The proportion of the families with indemnity coverage decreases as incomes rise. 12/ The average maximum payments made under indemnity coverage are also closely correlated with income, increasing as family incomes rise. 13/

The American Hospital Association considers insurance to be adequate if it pays 75 percent of hospital charges. However, the average room and board maximum under indemnity policies in fiscal year 1978 is estimated at $71, or 62 percent of hospital room and board charges

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12/ This decrease reverses for families earning more than $30,000, the overwhelming majority of whom hold indemnity policies. The benefit levels provided under policies held by these higher-income families are substantially better than those of lower-income beneficiaries. See appendix for table detailing distribution of hospital benefit payments by family income.

13/ The average value of indemnity protection for hospital room and board charges in fiscal year 1978 is estimated at $62 for persons with family income of less than $5,000 and $100 for persons with family income of $30,000 or more. The average charge for hospital room and board in fiscal year 1978 is estimated at $113. Therefore, the estimated 3 million persons with coverage limits of $62 can expect to pay almost half the room and board charges out-of-pocket, while the 0.2 million with coverage limits of $100 will be personally responsible for about 15 percent of the cost.

projected for that year. Therefore, a majority of the 12.2 million persons with indemnity coverage and no major medical insurance should be considered to have inadequate protection for even a short hospital stay. The problem of inadequate indemnity payments is likely to diminish in the next three to five years, however, as the trend away from cash indemnity to full service benefits continues.

Public Programs

Two types of government programs provide assistance in financing health care: direct care programs and third-party reimbursement plans. Under the first category, the government (federal or state) organizes and provides services directly. The largest direct care systems are state long-term care institutions (psychiatric and chronic disease hospitals) and the federal hospital systems for veterans, Indians, and Alaskan natives. Government third-party reimbursement plans are modeled on private health insurance, paying private providers on behalf of public program beneficiaries. Major third-party reimbursement plans include medicare, medicaid, and CHAMPUS. 14/

Direct Care Programs. Direct care programs, especially the Veterans Administration system and state long-term care facilities, are an important source of care for persons with catastrophically high expenses and inadequate resources to seek treatment in private facilities.

14/ CHAMPUS (Civilian Health and Medical Program of the United States) is operated by the Department of Defense to finance health expenses for military dependents and retirees of the Armed Services.

A large proportion of care provided in Veterans Administration hospitals could be described as catastrophic protection for uninsured veterans or for those whose illnesses require treatments not usually covered under private policies. 15/ The Veterans Administration hospital system thus provides an important source of protection against catastrophic expenses for veterans with a service-connected disability (2.2 million persons in 1975), for veterans over the age of 65, and for other veterans who cannot afford private care.

State long-term care institutions, particularly psychiatric hospitals, are a similar source of free care for indigent patients and persons without private insurance coverage for mental illness. 16/ Almost three-quarters of all psychiatric hospital care is financed through government programs, the remaining 26 percent through private insurance (17 percent) and direct consumer payments (9 percent).

Third-party Reimbursement Programs. The two major government third-party reimbursement plans are medicare and medicaid.

15/ A 1974 Veterans Administration survey on one week's hospital admissions found that 68 percent of all veterans admitted had neither public nor private health insurance. Similarly, almost one-third of the fiscal year 1974 VA patient census were veterans admitted for psychiatric care--a service not usually covered under private insurance.

16/ According to the 1970 census, 63 percent of persons institutionalized in state and county psychiatric facilities had no income before admission.

Medicare provides health insurance coverage for the aged, the disabled, and persons suffering from chronic renal disease. The program has two parts. Hospital Insurance (HI) is provided to all eligible Social Security beneficiaries meeting one of three criteria: attaining age 65; meeting Social Security's definition of total and permanent disability; or suffering from chronic renal disease. Supplementary Medical Insurance (SMI) is an optional supplement designed to pay part of non-hospital expenses. The Social Security Administration estimates that in fiscal year 1978 the HI program will cover 23.6 million aged, 2.4 million disabled, and 24,000 renal disease patients. A slightly smaller number will participate in SMI.

The medicare HI program provides adequate protection against catastrophic hospital costs for most beneficiaries. A 1971 survey based on a 1 percent sample of medicare beneficiaries using hospital services found that the program provided coverage for about 97 percent of all hospital days (excluding deductible and coinsurance charges). 17/ Medicare HI coinsurance (the patient's portion of the cost) can be burdensome to the long-stay patient because beneficiary co-payments start on the 61st day and increase with length of stay. However, about 95 percent of medicare hospital stays end at least two weeks before the 61st day. Over a five-year period (1966-1971), only 0.3 percent of hospitalized medicare beneficiaries are estimated to have exhausted their HI benefits.

Catastrophic protection under the SMI program is less adequate. SMI beneficiaries must pay 20 percent of all covered expenses, with no payment maximum. This required cost-sharing can cause substantial out-of-pocket spending for some beneficiaries. Beneficiaries are also responsible for provider charges that exceed the "reasonable" limit set by medicare. These excess charges are estimated to reach about $0.8 billion in fiscal year 1978.

17/ Preliminary data from an unpublished study.

Because of the cost-sharing requirements under HI and SMI and large expenditures made for non-covered services, medicare pays for only about 42.0 percent of the health expenditures of the aged. Approximately one-fifth of the aged receive medicaid benefits to supplement medicare. The combination of medicare, medicaid, and supplementary private insurance pays 71.0 percent of the health expenses of the aged. The distribution for the disabled is assumed to be about the same.

There are no data to indicate the extent to which out-of-pocket spending by the aged and disabled covers routine expenses, or those classified as catastrophic under a high expenditure test. Therefore, no precise judgment can be made about the adequacy of medicare protection against high dollar expenditures.

Medicaid is designed to help specified groups of low-income people: the low-income aged, blind, and disabled; and families receiving payments under the Aid to Families with Dependent Children program. Thirty-one states have also included other needy persons not qualified for cash assistance. However, because primary eligibility is tied to welfare, significant numbers of poor persons are not eligible for benefits. In 1975, an estimated 8 to 10 million persons with incomes below the poverty level were excluded from the program. The primary groups of low-income people not eligible for medicaid are single individuals and families without children. An estimated 24.4 million people will receive benefits under the program in fiscal year 1978.

Medicaid is intended to provide full protection against both routine and catastrophic expenses, although the exact benefit package varies by state. There is no cost-sharing and providers are not allowed to bill the patient for charges in excess of those reimbursed under medicaid. Recipients are responsible for the full cost of non-covered services. These costs can be substantial in some states.

In the 31 states that include medically-needy persons in addition to the mandatory cash-assistance recipients, medicaid theoretically provides catastrophic pro-

tection for non-poor families with exceptionally high medical expenses. There is evidence, however, that this protection operates very erratically. A 1975 study of the spend-down program found that in one state less than 5 percent of those eligible received benefits under the program. 18/

The largest population group qualifying for benefits under the medically-needy program is aged persons in need of long-term nursing home care. As a result, the primary contribution of medicaid to financing catastrophic expenses is through the payment of long-term nursing home costs. Medicaid is the only major third-party reimbursement plan, public or private, that provides substantial coverage for long-term nursing home care. Estimates for fiscal year 1978 are that medicaid will pay about 45 percent of all nursing home costs.

Tax Subsidies for Medical Care

Medical care is subsidized through the tax system by allowing individual taxpayers to (1) exclude from taxable income the contributions for health insurance premiums made in their behalf by employers and (2) claim medical expenses (including health insurance premiums up to $150) as an itemized deduction. The federal individual income tax revenue lost by these provisions is estimated to be $4.7 billion for the exclusion and $2.3 billion for the deduction in fiscal year 1978.

The exclusion provision is designed to encourage the purchase of health insurance in general, but its effect on catastrophic insurance is unclear. The deduction provision, on the other hand, is intended specifically to subsidize high expenses (those exceeding 3 percent of adjusted gross income). The medical expense deduction provides a tax saving only to taxpayers who itemize deductions. Lower-income taxpayers tend to take the standard deduction and therefore cannot take advantage of the medical deduction. The value of the deduction to the itemizing taxpayer depends upon his marginal tax rate.

18/ Evaluation of the Medicaid Spend-Down. Urban Systems Research and Engineering, Inc., HEW Contract No. SRS-74-58.

The medical expense deduction is effective in providing catastrophic expense protection primarily to families in higher income brackets. A study of 1970 taxpayers found that the frequency of high real costs to the high-income (over $15,000) taxpayer is cut in half as a result of the deductible, but drops only from 9.1 to 7.5 percent for the low-income ($3,000 to $5,000) taxpayer. 19/

19/ Bridger Mitchell and Ron Vogel, "Health and Taxes: An Assessment of the Medical Deduction," The Southern Economic Journal, Vol. XLI, No. 4, April 1976.

CHAPTER III WHAT PROGRAMS MIGHT BE ADOPTED TO FILL THE GAPS?

Designing a Plan to Meet Policy Objectives

Constructing a single uniform catastrophic protection package to cover all the risks is almost impossible. The major stumbling block is the necessity that it be a limited catastrophic protection scheme and not a comprehensive plan.

Covering all the diverse risks that create catastrophic expenses is relatively simple under a comprehensive plan that pays for most health expenses. It is less feasible when the object is to pay for only a small portion of costs as in a catastrophic plan. Moreover, finding the most effective means of "filling the gap" for the consumer is not the sole criterion to be considered. Other policy objectives are important:

1. Adequacy and Fair Distribution of Benefits. If the plan is publicly financed, financial assistance should be the same for persons in similar circumstances, and benefits should be adequate to prevent financial hardship.

2. Compatibility with Basic Insurance. Because a catastrophic insurance plan does not pay all costs, but only those in excess of a catastrophic threshold, the plan should integrate basic and catastrophic coverage.

3. Simplicity and Economy of Administration. The structure of the plan should not be too complicated to be clearly understood and appropriately used by consumers and providers. It should be designed for economy of administration and to reduce opportunities for fraud and abuse.

4. Minimizing Inflationary Pressures. The plan should attempt to minimize the addition of new inflationary pressures on health care services. Any new insurance plan or tax credit that increases the extent of third-party payments will increase demand and stimulate a higher rate of inflation than would be expected under current policy. However, certain types of third-party payments are likely to be more inflationary than others.

Devising a uniform catastrophic protection plan which adequately fills the main coverage gaps and meets all of these objectives is very difficult. For example, a plan modeled on traditional private insurance (with fixed deductibles for utilization or expenditures) can be readily designed for compatibility with basic insurance and relative economy of administration. Assuring that such a plan would provide an equal measure of protection to all persons is much more difficult, since some beneficiaries will have no basic insurance and others will have coverage of varying degrees of adequacy.

A fixed deductible plan could be designed to pay for unusual expenses that are not met through private insurance. But such a plan would not help low-income families whose routine expenses are high relative to family income (unless the deductible is set so low that the plan is effectively comprehensive rather than catastrophic insurance).

An income-related plan can be targeted to meet individual need and would therefore be the best means of meeting the catastrophic expense problems of low-income families. However, such a plan would be complex and expensive to administer because both income and expenditures would have to be verified. The plan might also invite confusion regarding eligibility, and would be hard to integrate with basic insurance.

Effect of Induced Demand on Program Costs

The design of a particular catastrophic insurance program--the population groups and expenses covered, the administrative structure and reimbursement mechanisms employed--will determine the program's impact on such factors as consumer demand, provider behavior, and the use of health care resources. The interaction of these factors will, in turn, be a major determinant of total program costs.

A program decreasing consumer out-of-pocket costs will increase demand for services. Therefore, a program that covers previously uninsured people or that pays for services the consumer previously financed directly will increase

demand a great deal more than a plan that only marginally extends present coverage. For this reason, consumer cost-sharing through deductibles and coinsurance are sometimes used as mechanisms to regulate the level of consumer demand.

Improvements in third-party coverage also have an impact on provider behavior. When insurance coverage increases, so do provider charges. This occurs even when the supply of providers is fully adequate to satisfy the higher level of consumer demand. Extensions of third-party reimbursement also generate more provider-initiated services. Consumers are not inclined to question the necessity of these additional services because third-party payments insulate them from the direct cost.

Increases in the quantity of services generated by consumers and providers and the higher level of provider charges resulting from new insurance are collectively called "induced demand." As the term implies, these are new costs created or induced by the insurance plan. Induced demand does not refer to current expenditures that are absorbed by the new insurance plan, called "transfer costs." (See appendix for a discussion of assumptions used in computing induced demand.) The administrative structure and reimbursement mechanisms used in a program greatly influence the degree to which potential induced costs generated by new insurance coverage are realized.

POLICY ALTERNATIVES FOR CATASTROPHIC INSURANCE

The difficulty of satisfying in one plan all of the objectives outlined has forced drafters of catastrophic insurance plans to set priorities. Three prototype catastrophic plans, each illustrating a different emphasis of objectives, are presented below. In addition, a plan that deals simultaneously with all of the major catastrophic cost problems is presented for comparison.

1. A traditional insurance plan.

2. A fixed-percent-of-income maximum-liability plan.

3. A mixed traditional and income-related plan.

4. A graduated-percent-of-income maximum-liability plan.

Long-term nursing home coverage has been excluded in each plan, despite the fact that nursing home care is the major cause of catastrophic expenses among the aged. The financing of long-term care poses many complex social and administrative problems not involved in the financing of other types of health care. Some of these problems stem from the peculiar nature of the service, which is often more custodial or residential than strictly medical. Thus, judgments must be made about the extent to which a health insurance benefit should subsidize the care, and to what extent other forms of housing, income assistance, or social services are more appropriate.

Additional problems arise from the nature of the population group that requires long-term care. Seventy-five percent of persons in nursing homes are over the age of 75; about 40 percent are more than 85 years old. Many have no close family members and are not competent to manage their own affairs. Close supervision is necessary to assure that funds are not misused and that the most suitable level of care is provided.

Although the inclusion of long-term care in a catastrophic plan would greatly complicate the financial and administrative arrangements required to handle other, solely financial, catastrophic cost problems, the issue of how to finance long-term care should be considered concurrently with proposals for other catastrophic protection.20/

Alternative One. A Traditional Insurance Plan

A traditional insurance fixed-expenditure catastropic plan designed to operate as a supplement to basic private insurance, medicare, and medicaid would not attempt to

20/ For a discussion of long-term care options, see CBO 1977 Budget Issue Paper "Long-Term Care."

finance "first dollar expenses" 21/ or to provide protection to persons with inadequate private insurance. Instead, it would be a purely catastrophic supplement to average private coverage. It could logically provide separate benefits for the medicare and non-medicare populations because of significant differences in their basic insurance benefits.

General Coverage Plan. A plan for the non-medicare population could cover all short-term inpatient hospital care in excess of 150 days, and non-hospital expenses (excluding dental care and nursing home care) in excess of $2,000 a year per person. Coverage would remain in effect until the persons had been out of the hospital for six months or without non-hospital expenses in excess of $100 per month for six consecutive months. The program would be administered by the Social Security Administration through its network of medicare fiscal agents. Only the person incurring catastrophic expenses would become entitled to coverage, not the entire family.

The rationale for these coverage limits is that 150 days of hospital care comfortably brackets the minimum average coverage level of basic private hospital insurance. The plan assumes that inadequate basic coverage will be upgraded to meet most of the cost of hospital expenses below the catastrophic threshold. The $2,000 expenditure requirement for non-hospital care is chosen somewhat arbitrarily because data are lacking on the percent of non-hospital charges incurred by insured persons and subsequently paid by insurance. The $2,000 limit assumes that approximately 50 percent of non-hospital charges will be paid directly by the insured person.

21/ "First dollar" coverage in health insurance refers to a plan which begins to pay benefits from the first dollar of charges the beneficiary incurs. In practice, this has usually come to mean that the plan pays 80 percent or 100 percent of charges after the beneficiary pays a relatively small deductible--for example, $75 or $100.

Medicare Supplementary Plan. This plan, designed as a supplement to medicare, would remove all limits on hospital and skilled nursing home benefits and eliminate hospital and skilled nursing home coinsurance. A limit of $250 per person would be placed on cost-sharing under Supplementary Medical Insurance (SMI).

The advantages of a traditional insurance plan in terms of the policy and coverage objectives stated may be summarized as follows:

-- It would provide catastrophic coverage for large expenses without disrupting basic insurance arrangements.

-- It would be relatively simple and inexpensive to administer because of the standardized deductibles and because the number of persons who would enter the plan each year would be relatively small.

-- It would not be conducive to beneficiary fraud or administrative bias because of the uniform delineation of the catastrophic threshold.

However, the plan would provide no significant assistance to low-income families who are uninsured or inadequately insured. The distribution of benefits is regressive, providing proportionately better protection to higher-income families.

The fiscal year 1978 transfer costs (current expenditures absorbed by the new plan) of the general plan are estimated at $7.1 billion and the administration costs at $0.5 billion. The transfer costs of the medicare supplementary plan are estimated at $1.5 billion, the administrative costs at $0.1 billion. The induced costs of a plan of this kind would be relatively low for two reasons. First, it offers only a marginal increase in existing insurance protection. Second, at these spending levels, care tends to be furnished whether or not the direct financial resources of the consumer are sufficient to pay for it. Thus, much of the induced cost under this plan is payment

of bad debts. The induced costs of the general coverage plan are estimated at $3.3 billion; the medicare supplementary plan at $0.8 billion.

The total cost of the program in fiscal year 1978 is estimated at $13.0 to $14.0 billion. The net additional cost to the federal government would be lower--in the range of $12.0 to $13.0 billion. The offset estimates are imprecise because as no date are available on the composition of the health expenses claimed under the tax deduction; it is impossible to estimate with any precision the extent to which the plan would decrease the amount of tax revenue lost because of the deduction.

A less expensive version of the traditional insurance plan could be devised by altering the deductible requirements. Increasing the hospital deductible from 150 to 200 or even 250 days would make virtually no difference in program costs. However, increasing the non-hospital deductible from $2,000 to $5,000 would decrease transfer costs under the general plan by $3.7 billion. Similarly, increasing the SMI coinsurance maximum under the medicare supplementary plan to $500 would decrease transfer costs by $0.25 billion.

Alternative Two. A Fixed-percent-of-income Plan

An income-related plan designed to pay all expenses in excess of a designated percent of family income could operate in several ways. One approach would be to set the same deductible requirement for all families; for example, the family would have to spend 15 percent of their income on health care before the insurance became effective. A second approach would apply a sliding scale to the percent of income devoted to medical expenses before insurance became effective. For example, families earning less than $10,000 might be required to spend 5 percent of their income, from $10,000 to $20,000, 10 percent of income, and so on. The system could be further elaborated by income-related coinsurance. For purposes of this analysis, however, a fixed-percent-of-income approach without coinsurance is used.

The plan illustrated under this approach covers any individual or family for the full amount of non-insured medical expenses (excluding long-term nursing home care and care in state long-term and psychiatric hospitals) in excess of 15 percent of family income. If the plan were operated as an insurance program, any family with expenses over the threshold could apply for coverage. If it were operated as a refundable tax credit, the family could elect to have the credit applied to their tax liability, or to have an excess refunded in advance. In either case, the current tax deduction for expenses exceeding 3 percent of adjusted gross income would be eliminated. The cost estimates assume that the plan will operate as insurance; estimates would be higher if the plan operated as a tax credit.

In fiscal year 1978, an estimated 7 million families would qualify for benefits under such a plan if existing public insurance programs and private insurance arrangements remain unaltered. It is unlikely, however, that all low-income families would continue to purchase private insurance, since the premiums would be almost as expensive as the 15 percent spending requirement, or deductible, under the public catastrophic program. Thus, a large number of families with incomes of less than $10,000 would probably rely entirely on the catastrophic insurance program. This is particularly true for those who hold only individual (non-group) policies.

The response of families insured through employer-subsidized group plans is more difficult to predict. Union negotiators would probably try to have current premium payments transferred to wages or other fringe benefits if the public program benefits duplicated the benefits of private insurance plans. However, the varying liability of different employees for deductible payments (which under the public plan would depend not only on the employee's wages, but on total family income) would continue to make a standard insurance package desirable.

The preference of middle-income families for comprehensive (or "first dollar") protection must also be considered. Health insurance is used by many of these families as a means of enforced saving or prepaying routine and pre-

dictable expenses. It is likely that many would continue to so use it, even if the result were higher average out-of-pocket costs than they would incur if they relied wholly on the public catastrophic insurance program.

The estimated number of families benefiting from the fixed-percent-of-income program could range as high as 10 to 15 million in fiscal year 1978. If medicaid were eliminated and replaced by the new program, the number of families receiving benefits would increase by an additional 11 million. For purposes of cost estimating, this illustration assumes that all current public programs are retained.

The primary advantage of a fixed-percent-of-income plan is that benefits would be targeted at individual need. Therefore, assistance would be provided in equal proportions to families at different income levels. In practice, about 75 percent of benefit payments would be made on behalf of families with incomes below the national median.

The plan's disadvantages may be summarized as follows:

(1) Targeting benefits (through income and expenditure verification) is a complex and expensive administrative process.

(2) Income-related benefits create incentives for consumers to misrepresent income to gain fraudulent entry into the program.

(3) Integrating the catastrophic plan with basic insurance benefits would be difficult and would require ongoing disclosure of family income data to provide insurance companies to assure that private insurance liability limits are not exceeded. Such disclosures may be regarded by some as an invasion of privacy. There would probably be many multiple payments to providers because health insurers have rarely exercised their present right to coordinate benefits among private insurers--a much simpler task than coordinating with benefits from an income-related catastrophic plan.

The fiscal year 1978 transfer costs of the plan are estimated at $14.5 billion; administrative costs at $1.5 billion and induced costs at $1.8 billion ($1.4 billion of these induced costs are attributable to medicaid as a result of increasing medicaid reimbursement to medicare levels. Thus, only $0.4 billion of the induced costs are strictly attributable to the catastrophic plan. State governments would pay 45 percent or $0.6 billion of the medicaid induced costs.) The total program cost is therefore an estimated $16.4 billion. The net additional cost to the federal government is estimated at $14.9 billion (assuming the elimination of the current tax subsidy for expenses which exceed 15 percent of adjusted gross income).

Although this plan produces a positive induced demand factor which increases the direct cost of the federal catastrophic program, it is estimated to have a gross negative effect on total spending of -$2.3 billion. This reduction in spending is not reflected in the cost of the program because it would occur in private spending outside the program. This occurs primarily because the design of the insurance plan makes it attractive for many families to drop private insurance coverage and self-insure for expenses up to 15 percent of their income. A reduction in third-party protection is assumed to reduce demand substantially. If this assumption is valid, a catastrophic insurance plan of this nature would reduce overall national spending for health services by $0.5 billion (induced program demand of +$1.8 billion minus an off-program reduction in spending of -$2.3 billion).

The transfer costs of the plan depend on the deductible level chosen. If, for example, the deductible level is set at 20 percent of income instead of 15 percent, the transfer costs would be reduced from $15.7 billion to $11.5 billion.

Alternative Three. A Mixed Traditional and Income-related Plan

A third approach combines elements of traditional fixed-deductible insurance and income-related protection. Rather than establishing a uniform benefit for the entire population, it responds selectively to the major catastrophic cost problems.

The plan has three parts. The first would federalize medicaid with nationally determined eligibility and income standards. For purposes of illustration, the eligibility criteria used will be $4,800 for a family of four (with increments of $500 for each additional family member). Families with incomes in excess of these amounts would become eligible for benefits when health-related expenses reduced their income to the protected level. The second part would extend medicare benefits as in the medicare supplementary plan described above. The third part would alter federal tax policy to prohibit employers from claiming the cost of health insurance benefits as a tax deduction and individuals from claiming the $150 insurance premium deduction unless the insurance provides specified catastrophic benefits.

The advantages of this plan are that it addresses directly the problems of low-income and aged persons, provides a universal catastrophic protection plan by means of the medicaid spend-down, and encourages the improvement of catastrophic protection under private insurance. The segregation of coverage for the aged and poor largely avoids the problem of integrating basic and catastrophic coverage, since the medicaid population would presumably drop private coverage. The plan would be relatively uncomplicated and inexpensive to administer, although the spend-down provisions would present the same administrative problems as the income-related plans.

Among the disadvantages are that catastrophic protection for middle-income families is simply encouraged, not guaranteed. However, the catastrophic insurance already held by these families is very good, so the lack of a mandatory extension of coverage may not leave a significant gap in protection. A more serious problem is that, aside from residual medicaid spend-down eligibility, no assistance is provided to non-poor families who are unable to obtain adequate private coverage because of pre-existing health problems. Another disadvantage is that the lack of a uniform and universal system could cause public program beneficiaries to be treated as "second class" patients in some instances. This is currently a widespread problem affecting medicaid patients.

The fiscal year 1978 transfer costs of this federalized medicaid plan are estimated at $22.8 billion, administrative costs at $1.6 billion, and induced costs at $5.8 billion. The extended medicare plan has a total cost of $2.4 billion. Therefore, the total cost in fiscal year 1978 is estimated at $32.6 billion. This estimate assumes that the increase in tax subsidies to employers who upgrade their insurance to meet catastrophic standards is approximately offset by a decrease in subsidies to individual taxpayers who will no longer be able to claim a deduction for catastrophic expenses and to employers who drop insurance altogether rather than upgrade it to meet federal standards.

The net additional cost to the federal government in fiscal year 1978 is estimated at about $24 billion if states are required to maintain their current dollar level support for medicaid. It is likely, however, that the cost would be significantly higher because the federalized medicaid income-eligibility level would probably be set at the estimated fiscal year 1978 poverty level, rather than the eligibility level of $4,800 for a family of four. Assuming that the 1978 poverty standard is used, transfer costs of the federalized medicaid program are estimated at $29.0 billion.

Alternative Four. Graduated-percent-of-income Maximum-liability Plan

None of the three limited catastrophic plans outlined above fully meets all of the major catastrophic cost problems. A uniform and universal plan can be designed to deal with the specific problems of both low-income and middle-income families through a single program. Such a plan was proposed by the Department of HEW in 1973 as part of the Mega Proposal.

However, encompassing all of the catastrophic coverage objectives in a uniform national program produces what is actually a comprehensive national health insurance plan. It is included in this comparison solely to illustrate that fully and simultaneously addressing the special catastrophic cost problems of low- and middle-income families cannot be accomplished without a significant increase in expenditures.

This illustration uses an average family expenditure level of about 5 percent of income for medical care except for families below the poverty level, who would be excused from all payment. The high coverage levels are intended to discourage the purchase of additional insurance; the cost-sharing provisions would not present an undue hardship to any family but would discourage unnecessary utilization of services and keep consumers aware of provider charges, thus reducing induced demand.

Graduated-percent-of-income catastrophic insurance

Family Income Level	Family Pays	of Bills Up to	Plus	of Additional Bills Amounting to	Maximum Liability
$3,000	0.0				
3,000-4,999	0.0				
5,000-7,499	20%	$ 750		0.0	$ 150
7,500-9,999	50%	750		0.0	375
10,000-14,999	50%	1,000	25%	$ 500	875
20,000-24,999	85%	1,000	25%	600	1,000
25,000-29,999	100%	1,000	25%	1,000	1,250
30,000-49,999	100%	1,000	25%	2,000	1,500
$50,000 and over	100%	2,000	25%	2,000	2,500

The program could be administered as either a public or mixed public-private insurance plan. A family with out-of-pocket expenses in excess of the indicated income-related thresholds could request coverage, and the plan would pay all expenses subject to the indicated cost-sharing. The program could be administered directly by the federal government or by private insurance carriers. In the latter case, income testing would still necessarily be a government function. The original HEW proposal suggested the use of government insurance vouchers that could be redeemed through designated private insurance carriers.

The advantages of this type of plan are that it adequately meets the major catastrophic needs of both low- and middle-income families. It also solves the problem of inte-

grating basic and catastrophic coverage (except for families at the highest income levels, for whom a privately purchased comprehensive insurance plan would cost less than the deductible and coinsurance required under this plan).

The primary disadvantage of the plan is its administrative complexity. Keeping track of each family's deductible and coinsurance requirements, which might change several times in a year, would be expensive. The time needed to record expenditures, to compute the required cost-sharing, if any, and to bill the family for its share of the cost would necessarily result in many hundreds of thousands of incorrect billings. Retroactive adjustments would be a continuous and expensive process.

The estimated fiscal year 1978 transfer costs of the plan are $100.7 billion, transferred administrative costs are $8.1 billion, and induced administrative costs, $4.2 billion. Induced service costs are estimated at $16.0 billion. The total program cost is therefore estimated at $129.0 billion. The plan would eliminate medicare and most of medicaid (a residual medicaid plan would be necessary to finance long-term care, resulting in offsets estimated at $49 to $50 billion in fiscal year 1978. Therefore, the net additional cost to the federal government (assuming the program is wholly tax-financed) is estimated at $79 to $80 billion.

All the plans described here have been discussed without reference to specific funding mechanisms. Those operated by the government could be financed entirely through general revenues, through payroll taxes, or through a combination of tax sources. If operated as private insurance programs, some of the plans could be financed largely through employer-employee insurance premium contributions, with general revenue subsidies. The impact on the federal budget would vary depending on the extent to which the plans are tax- or premium-financed. However, for purposes of estimating cost, all the plans described are assumed to be tax-financed.

The financing mechanism chosen will have a great impact on the overall distributional effects of the program. It should be emphasized, therefore, that the distribution of benefits described under each option presents only part of the information necessary to assess the overall income distribution effects of that option. This paper does not assess the distributional impact of various financing options. 22/

The difficulty of constructing an insurance program or tax credit that adequately addresses the major catastrophic needs but does not become, in practice, a comprehensive protection plan, raises the question of whether limited catastrophic protection is a sensible concept. Programs that meet most or all of the catastrophic coverage requirements are so close to being a comprehensive protection plan that they should be evaluated in the context of comprehensive, rather than catastrophic insurance.

22/ For a discussion of the distributional effects of financing mechanisms and benefits under major national health insurance programs, see Bridger M. Mitchell, "The Financing of National Health Insurance," Science, May 14, 1976, Vol. 192, pp. 621-636.

CHAPTER IV ADOPTING A PLAN: POTENTIAL EFFECTS ON HEALTH CARE AND FEDERAL PRIORITIES

Fifteen years' experience with private health insurance coverage, medicare, and medicaid suggests that catastrophic health insurance (or comprehensive national health insurance) would stimulate the use of high-cost treatments and the growth of expensive facilities, particulary hospitals. The extension of third-party payments removes market constraints on consumer demand for services and the provision of services; the increase in demand is likely to be especially significant in the case of catastrophic illnesses because the patient and his family are likely to seek services without regard to cost or inconvenience.

The supply of medical services will probably expand rapidly to meet whatever demand is generated by a new insurance system. Expensive techniques and services will be adopted as rapidly as there are funds to pay for them. In 1972, for example, an estimated 8,000 persons were on renal dialysis in the United States at a cost of about $160 million. In fiscal year 1978, following the extension of medicare benefits to persons suffering from end-stage renal disease, the number of persons on dialysis will have increased by 150 percent to 20,000, at an estimated cost of $420 million. By 1980, the medicare renal program is projected to cost about $1 billion.

The renal dialysis precedent suggests that the costs implied in an expansion of high technology treatments are very substantial. The National Academy of Sciences estimated in 1973 that the cost of treating end-stage heart disease by implanting an artificial heart could range from $600 million to $1.75 billion. Inflated to 1978 costs, the range would be from $1.39 billion to $4.0 billion. 23/ Similar costs are associated with novel treatments for other chronic diseases.

23/ Institute of Medicine, Disease by Disease Toward National Health Insurance, National Academy of Sciences, June 1973.

There is evidence to indicate that the proportion of health expenditures devoted to catastrophic illness is already growing rapidly, partly because of the development of high-cost treatments. A comparison of the proportion of insurance payments generated by persons with exceptionally high expenses in 1970 and 1975 shows a marked trend toward spending a larger proportion of the health care dollar on persons with catastrophic illnesses. 24/

Figure 3 illustrates the increase between 1970 and 1975 in the proportion of total expenditures exceeding certain catastrophic levels by employees of the Metropolitan Life Insurance Company. To make the comparison meaningful, 1970 expenditures are inflated to 1975 price levels. The figure shows that when the $5,000 expenditure definition is used, 22.5 percent of total spending in 1970 was for catastrophic illnesses. In 1975, the proportion was 28.1 percent.

In only five years, using the $5,000 definition, real expenditures for persons with catastrophic illness increased by 25 percent. The rate of increase at the $10,000 definition level was an even more dramatic 61 percent; at the $15,000 level, it was 105 percent. There is no reason to believe that the expenditures generated by the Metropolitan Life employees differ significantly from those of the population at large.

Huge expenditures are directed toward catastrophic cases, but treatment is often for patients in the end stages of terminal illness and, it may be argued, is only marginally effective. For the patient, his doctor, and his family, even a marginal extension of life--whatever financial cost--is generally considered worthwhile, but society may be forced to view the question differently. The problem of resource allocation is not peculiar to a

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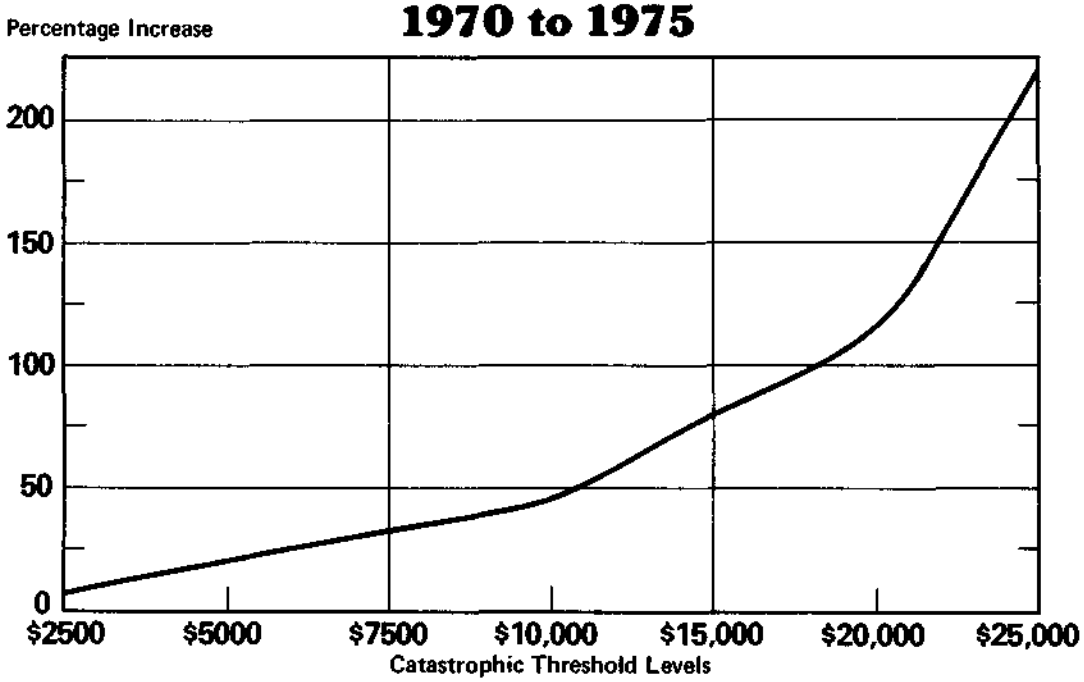
24/ Gordon R. Trapnell, "The Increasing Cost of Catastrophic Illness," paper presented at the American Public Health Association Convention, 1976. The work reported was prepared under contract to the National Center for Health Services Research.

Figure 3.

Representative Increase in Catastrophic Expenses as a Proportion of Total Expenses 1970 to 1975



Source: Gordon R. Trapnell
Data from the Metropolitan Life Insurance Company Employee Group Health Insurance Plan

purely catastrophic insurance program but is common to all national health insurance proposals and to the extension of private health insurance to meet catastrophic costs.

If very substantial increases in health-care spending are to be avoided, it may be necessary to establish priorities among types of care. This may ultimately imply the need to choose between federal expenditures for preventive, health-maintaining services and high-cost services for persons whose lifespan may be only marginally increased.

APPENDIX

ESTIMATES OF INDUCED COSTS

The methodology followed to estimate induced costs is essentially the same as that described in "A Comparison of the Costs of Major National Health Insurance Proposals." 1/ Some modifications to that methodology were necessary to accommodate features of uniform maximum liability insurance plan, which limits the maximum that any individual or family can pay out-of-pocket to 15 percent of their income. This proposal would discourage the purchase of private health insurance to pay the cost of relatively small bills and hence reduce the overall spending for health care services. The change made in the methodology for estimating induced services was simply to assume that the process is reversible; that is, that a transfer from an insurance program to payment out-of-pocket will decrease the use of health care services by as much as an increase in such insurance coverage would have been assumed to increase such use. 2/ The essentials of this methodology are summarized below as it affects the proposals for catastrophic health insurance examined in the CBO analysis.

Payment of Bad Debts and Unbilled Services

A national health insurance plan will pay all bills for services covered by the program. In the absence of such a program, many services which are not covered by insurance will not be fully billed to patients, or if billed will not be fully paid. Many physicians and other practitioners do not bill the full charge to low-income persons who are not eligible for medicaid. If insured,

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1/ Prepared for the Office of the Secretary, H.E.W., under contract No. HEW-OS-74-138 by Gordon R. Trapnell Consulting Actuaries, September 1976.

2/ This proposition is of course an empirical hypothesis that needs to be established or disproved. Here it is simply an assumption.

the insurance payment is often taken as full compensation without any attempt to collect any cost sharing (deductibles, coinsurance, co-payments, etc.). Similar discounts may be given to friends of those with especially large bills. Some institutions do not bill the full cost of services. If the majority of services of such institutions are covered by a national health insurance plan, however, charges will be raised to the full level of cost that would be recognized by such a program.

Many services billed by both institutions and practitioners are not paid. Bad debts of hospitals run approximately 5 percent. Many physicians do not collect 5 percent to 15 percent of their bills. Further losses are incurred by discounting uncollected bills to collection agencies or lawyers.

Such bad debts and unbilled charges for services directly covered by an insurance plan will be paid, and such payment will increase overall spending for health care. Since bad debts are a higher proportion of charges for services for those with catastrophic claims, a catastrophic health insurance plan will pay for a larger proportion of bad debts and unbilled charges than other proposals.

Increased Use of Services

If a health care service is paid for by a third party (insurance plan, government program, etc.), then patients will use more services. This phenomenon has been widely discussed in the health economics literature as a demand response to lowering the effective price paid by consumers. The increase in services is assumed to be a function of the amount transferred from (or to) direct payment, bad debts, or unbilled charges to an insurance or government program.

Full Payment for Services Now Paid for Through State Medicaid Programs

Reimbursement rates under many state medicaid programs are substantially lower than the payment rates in the medicare program which is specified to be the reimbursement basis used by the options for catastrophic illness discussed in this paper. Absorption of these services into one of the plans analyzed will increase the level of payment to providers. Such increase is a new cost of health care.

Excess of Charges Over Reasonable Charges on Assigned Claims

Each of the plans analyzed in this paper would pay reasonable charges as defined in the medicare program. Physicians would be prohibited from collecting any excess of actual charges over "reasonable charges" if they accept assignment for the insurance payment. Reasonable charges are less than actual charges primarily for two reasons:

(a) Reasonable charges are determined from data that are one and a half years old on the average at the time applied. Since the level of physician fees has been rising rapidly, reasonable charges are substantially lower than actual charges.

(b) Since 1973 increases in reasonable charges have been limited to an economic index compiled on the basis of physician costs. The base was 1973, a time at which physician fees had been decreased by compliance with the cost control program.

It is estimated that in 1978, reasonable charges will average approximately 80 percent of actual charges of physicians. Those physicians who do not accept assignments

may not bill patients for the other 20 percent. 3/ In order to estimate the effect of this provision, it is assumed that physicians accept assignment on 50 percent of their services, the same proportion as in the present medicare program. It is further assumed that supplemental insurance will not pay such excess of actual over reasonable charges. Finally, it is assumed that the rate of bad debts among such excess charges is twice that for other physician bills paid out-of-pocket.

Diversion of Philanthropic Contributions

Many medical institutions rely on voluntary contributions to pay for a significant share of furnishing services that will be reimbursed through a new program. Since program funds will be available, such donations will no longer be needed for their present purpose. To a large extent, however, such funds will be spent for some other health purpose. This diversion of philanthropic contributions to new purposes constitutes a new spending for health.

Maintenance of Federal Facilities

Many of the services presently furnished through the Veterans Administration and Public Health Service hospitals and facilities will be covered under one of the options analyzed. As a result of the availability of the new funds many persons will obtain health care in private facilities. It is unlikely, however, that spending for federal facilities will be reduced in proportion to this transfer of services elsewhere. New types of services will be furnished. Further, overhead costs will be a higher proportion of total spending.

3/ In addition, many patients will not pay for such charges billed after the government has determined that such charges are "unreasonable."

Administrative Costs

Payment for services must be processed through a new insurance program rather than directly out-of-pocket (or non-payment due to bad debts or unbilled charges). Such processing is a new cost resulting from the proposal. Costs will be increased if new functions must be performed. For example, it may be necessary to collect more elaborate data than maintained typically by private health insurers or to determine the income of each claimant under the program in order to determine his cost-sharing. 4/ On the other hand, to the extent that individual insurance is replaced by group insurance or a government program with a similar level of processing--the overall spending for administration will be reduced.

The base used to estimate the administrative costs of the proposal is the processing cost in the present medicare program. These costs were adjusted for the average size of claims and the proportions of hospital, medical, drugs, etc., for aged and disabled persons as compared to the general population.

Induced Costs

The induced costs were divided into those that will be paid for directly by one of the programs set up under the options analyzed and those that would be borne by the general public. For example, the programs would in general bear most of the cost of new services furnished, bad debts and unbilled charges paid, and the higher payment level for services formerly paid for medicaid. The excess of actual over reasonable charges on assigned claims, however, reduces the payments that otherwise would have

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4/ For example, the comprehensive health insurance option would require the determination of the income for virtually all persons with covered services under the program.

be paid out-of-pocket and do not affect program costs. Similarly, redundant federal facilities and the diversion of philanthropic donations increase spending outside of such programs. Most of the induced administrative costs is borne directly by the programs.

Table A-1. DISTRIBUTION OF HOSPITAL EXPENDITURES IN SHORT-TERM NONFEDERAL HOSPITALS (by Size of Individual Expenditures) FISCAL YEAR 1978 PROJECTIONS FOR POPULATION UNDER AGE 65

Per Capita Expenditure	Number of Persons (in millions)	Aggregate Charges Attributable to Persons with Expenses Indicated (billions of dollars)
$100 - 500	2.75	$ 0.5
500 - 1,000	6.6	4.4
1,000 - 2,500	7.1	9.0
2,500 - 5,000	2.3	10.4
5,000 and over	1.3	13.3

SOURCE: Calculated from data furnished by the Social Security Administration National Health Insurance Modeling Team.

Table A-2. DISTRIBUTION OF HOSPITAL EXPENDITURES IN SHORT-TERM NONFEDERAL HOSPITALS (by Size of Charges Associated with Individual Admissions) FISCAL YEAR 1978 PROJECTIONS - POPULATION OVER AGE 65

Expense Per Admission	Number of Admissions (in millions)	Aggregate Charges Associated with Admissions (billions of dollars)
<$500	0.4	$ 0.2
500 - 1,000	0.8	0.6
1,000 - 2,500	3.5	5.4
2,500 - 5,000	2.2	7.4
5,000 and over	1.4	8.2

SOURCE: Calculated from data furnished by the Social Security Administration National Health Insurance Modeling Team and medicare length of stay distribution data furnished by the General Accounting Office.

Table A-3. LENGTH OF STAY AND COSTS IN NURSING HOMES
FISCAL YEAR 1978 PROJECTIONS

Length of Stay	Midpoint	Average Per Diem	Cost Per Person Per Year	Number of People	Cost Per Year All Persons (in millions)
1 - 30 (days)	15	41.54	623	248,044	154,531
1 - 2 (months)	45	41.54	1,869	174,759	326,625
2 - 3	75	41.54	3,116	166,865	519,951
3 - 4	105	40.14	4,215	142,066	598,808
4 - 5	135	40.14	5,419	126,274	684,279
5 - 6	165	40.14	6,623	118,379	784,024
6 - 7	195	38.30	7,469	118,379	884,173
7 - 8	225	38.30	8,618	105,979	913,327
8 - 9	255	38.30	8,618	109,370	942,551
9 - 10	285	38.30	10,196	93,578	954,121
10 - 11	315	38.30	12,065	82,293	992,865
11 - 12	345	38.30	13,214	73,284	968,375
1 year or more	360	35.34	12,722	717,636	9,129,765
			Total		17,953,395

SOURCE: Calculated from distribution data furnished by Abt Associates. The data were produced by Abt Associates under contract to the National Center for Health Services Research.

Table A-4. THE COST OF HOSPITAL CARE: BY LENGTH OF STAY - FISCAL YEAR 1978 PROJECTIONS
(Civilian Noninstitutionalized Population Under Age 65)

	Days of Inpatient Hospital Care				
	Under 10	10-29	30-59	60-100	101-365+
Number of Persons (in millions)	15.3	3.8	0.8	0.1	0.9
Total Hospital Charges Attributable to Persons with Indicated Length of Stay (billions of dollars)	14.7	12.5	6.1	2.6	1.7

SOURCE: Calculated from data furnished by the HEW National Health Insurance Modeling Team.

Table A-5. THE COST OF HOSPITAL CARE: BY LENGTH OF STAY - FISCAL YEAR 1978 PROJECTIONS
NONINSTITUTIONALIZED POPULATION OVER AGE 65 IN NON-FEDERAL HOSPITALS

	Days of Inpatient Care				
	Under 10	10-29	30-59	60-100	101-365+
Number of Episodes (in millions)	4.3	3.2	0.5	0.07	0.01
Total Costs Attributable to Such Lengths of Stay (billions of dollars)	5.4	11.6	4.0	0.7	0.3

SOURCE: Calculated from unpublished medicare hospital length-of-stay data obtained from the General Accounting Office.

Table A-6. THE UNINSURED: WHY THEY DON'T HAVE COVERAGE

Family Income (persons under age 65 - 1974)	Cannot Afford a/	Other Aid Available b/	Insurance Not Obtainable	Does Not Believe in Insurance	Dissatisfied with Previous Insurance	Other	Unknown
	(Percent of Families in Income Class)						
<$3,000	47.8	34.9	2.2	7.0	1.1	6.0	1.1
3,000-4,999	44.6	36.2	2.3	8.1	1.9	6.0	0.9
5,000-6,999	45.0	30.5	2.2	9.2	1.9	10.0	1.2
7,000-9,999	42.7	27.3	1.5	11.2	2.6	13.5	1.2
10,000-14,999	31.4	31.1	1.6	13.6	2.1	17.9	2.3
15,000	20.6	34.5	1.8	15.7	3.9	20.3	3.3
All Incomes	40.2	31.9	2.0	10.5	2.2	11.3	1.9

SOURCE: 1974 Health Interview Survey (unpublished data).

a/ In most cases, this answer probably means that they are "high risks" and therefore would have insurance premiums substantially higher than the average individual policy premium.

b/ Veterans Administration, Medicaid, Workmen's Compensation, other state aid programs.

Table A-7. NATURE OF HOSPITAL INSURANCE BENEFITS (Basic Hospital Insurance - No Major Medical) FISCAL YEAR 1978 PROJECTIONS

Family Income	Service Benefits (Semi-Private Room or Ward) (in millions of persons)	Indemnity Coverage	Average Room and Board Limit Under Indemnity Plans
<$5,000	1.3	2	$ 62
5,000-9,999	7.4	4.5	71
10,000-19,999	14.8	4.4	76
20,000-29,999	2.7	0.3	89
30,000 and over	0.001	0.01	99

SOURCE: Calculated from the 1970 CHAS/NORC survey and a 1975 survey of employer group health insurance made by the U.S. Department of Labor.

Table A-8. MAXIMUM ON ANNUAL FAMILY INCOME GOVERNING FEDERAL FINANCIAL PARTICIPATION IN PAYMENTS FOR MEDICALLY NEEDY INDIVIDUALS UNDER TITLE XIX OF THE SOCIAL SECURITY ACT, JULY 1975

State	Number of persons in family				
	1	2	3	4	5
Arkansas	(2/)	$2,000	$2,200	$2,400	$2,700
California	$2,400	3,800	4,700	5,600	6,400
Connecticut	1,700	4,500	5,600	6,500	7,300
District of Columbia	(2/)	(2/)	(2/)	(2/)	(2/)
Guam	(2/)	(2/)	(2/)	(2/)	(2/)
Hawaii	(2/)	5,800	6,900	8,000	9,100
Illinois	(2/)	3,500	4,200	5,100	6,000
Kansas	3,500	4,300	5,200	5,700	6,200
Kentucky	1,200	2,200	3,000	3,800	4,400
Maine	2,000	2,100	2,900	3,600	4,200
Maryland	1,800	2,500	3,200	3,900	4,500
Massachusetts	3,800	4,400	5,100	5,900	6,700
Michigan	(2/)	4,400	5,400	6,400	7,500
Minnesota	(2/)	4,400	5,300	6,200	7,000
Montana	(2/)	3,500	4,000	4,500	5,000
Nebraska	(2/)	3,400	4,000	4,500	5,100
New Hampshire	3,700	4,300	5,000	5,600	6,200
New York	(2/)	4,400	5,400	6,400	7,600
North Carolina	2,000	2,600	3,000	3,200	3,600
North Dakota	(2/)	3,600	4,600	5,600	6,300
Oklahoma	(2/)	2,800	3,500	4,300	4,900
Pennsylvania	(2/)	3,900	4,800	5,600	6,400
Puerto Rico	(2/)	(2/)	(2/)	(2/)	(2/)
Rhode Island	(2/)	3,800	4,500	5,200	5,800
Tennessee	(2/)	1,600	1,900	2,200	2,400
Utah	(2/)	3,200	4,100	4,900	6,000
Vermont	(2/)	4,300	5,200	5,900	6,700
Virgin Islands	(2/)	(2/)	(2/)	(2/)	(2/)
Virginia	(2/)	3,600	4,300	5,000	6,000
Washington	2,900	4,200	5,100	6,000	6,800
West Virginia	(2/)	2,700	3,300	4,000	4,100
Wisconsin	(2/)	4,700	5,500	6,500	7,500

NOTE: States not shown do not provide care for the medically needy under Title XIX, Medicaid.

1/ Connecticut--11, $600; $12, $600; 13, $800; 14, $1000; 15, $900; Illinois--$800 to $900; Washington--1, $500; 12 and 14, $400; 13, 15, and 17, $300; 16 and 18, $200.

2/ Data not reported.

6	7	8	9	10	Additional Amount for each Additional Person
$2,900	$3,200	$3,400	$3,600	$3,900	--
7,200	7,900	8,600	9,300	10,000	--
8,200	9,100	10,000	10,800	11,600	(1/)
(2/)	(2/)	(2/)	(2/)	(2/)	(2/)
(2/)	(2/)	(2/)	(2/)	(2/)	(2/)
10,300	11,600	12,300	13,000	13,700	$600
6,900	7,700	8,200	9,000	9,700	(1/)
6,900	7,500	8,000	8,500	9,000	--
5,000	5,600	5,600	5,600	5,600	--
4,900	5,600	6,300	7,000	7,700	700
5,000	5,600	6,100	6,600	7,200	600
7,500	8,300	9,100	9,800	10,600	800
8,500	9,500	10,500	11,400	12,400	1,000
7,700	8,500	9,100	9,800	10,300	600
5,600	6,100	6,600	7,100	7,600	500
5,600	6,200	6,800	7,300	7,900	600
7,000	7,600	8,600	9,100	9,800	700
8,800	9,800	10,800	11,800	12,800	800
3,800	4,100	4,300	4,400	4,700	300
7,000	7,400	7,800	8,100	8,400	400
5,600	6,200	6,700	7,200	7,200	--
6,900	7,700	8,500	9,300	10,100	600
(2/)	(2/)	(2/)	(2/)	(2/)	(2/)
6,600	7,300	8,200	8,900	9,500	800
2,700	2,900	3,200	3,400	3,700	300
7,100	7,500	7,900	8,400	8,800	400
7,300	8,100	8,800	9,600	10,300	800
(2/)	(2/)	(2/)	(2/)	(2/)	(2/)
6,500	7,200	7,900	8,500	9,200	700
7,700	8,600	9,100	9,600	10,000	(1/)
4,100	4,100	4,100	4,100	4,100	--
8,200	8,900	9,300	9,700	10,000	300

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