People and Their Hospital Insurance

Comparisons of the uninsured, those with one policy, and those with multiple coverage

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INTRODUCTION AND HIGHLIGHTS

IN RECENT YEARS there has been increased interest expressed by providers, administrators, and financiers of health services in the extent and adequacy of voluntary health insurance. With the growth in numbers of persons covered by the multitude of insuring agencies, there has also been concern over the increasing probability that some individuals are covered by more than one policy for the same risk. Consequently, in the case of illness, they might be encouraged to use an "excessive" amount of health services and perhaps even reap a "profit" from their insurance.

The nature of the problem and alternative solutions have been discussed by several authors.[1] However, until very recently major policy decisions in this area were, by necessity, based on rather gross estimates of the amount and nature of multiple coverage or on "informed opinions" of leaders in the insurance industry.[2] Furthermore, little was known of the characteristics of those individuals and family units holding multiple health insurance coverage, or whether this additional coverage was associated with a higher level of use of facilities and services.

The purpose of this report is to provide additional information on some of the relationships between hospital insurance coverage and characteristics of the population. The data used here are from the most recent study

[1] Elizabeth Luck, "The Problem of Duplicate Coverage and Overinsurance," *Inquiry*, Vol. 1, No. 1 (August, 1963), pp. 21–34.

Willian. H. Wandel, "Overinsurance in Health Insurance," *Journal of Risk and Insurance*, Vol. 32, No. 3 (September, 1965) pp. 427–434.

American Life Convention–Life Insurance Assoc. of America Joint General Bulletin. 970, "Group Health Insurance Aspects of Overinsurance Against Hospital, Surgical and Medical Expenses (Part 1)," Nov. 30, 1961 (processed), and Joint General Bulletin 1015 (Part 2), Dec. 8, 1962 (processed).

[2] An excellent review of the methodological problems involved in arriving at an accurate estimate of the extent of multiple coverage in the country is contained in: Louis S. Reed, *The Extent of Health Insurance Coverage in the United States* (Office of Research and Statistics, Social Security Administration, U.S. Department of Health, Education, and Welfare, Research Report No. 10 [Washington, D.C.: U.S. Government Printing Office, 1965]).

of medical care and costs for American families conducted jointly by Health Information Foundation and National Opinion Research Center early in 1964. These families constituted an area probability sample of the civilian non-institutionalized population of the United States.[3] In addition to the interview information, verifying health insurance data were collected from insuring organizations and employers.[4] This verification process was financed by the Blue Cross Association.

Earlier reports on nationwide surveys by the National Center for Health Statistics, Health Information Foundation, Social Security Administration and the Health Insurance Institute have compared the characteristics of people with and without health insurance[5] or have compared persons who have single coverage with those who have multiple coverage.[6] In the study to be reported here people with no hospital insurance (the uninsured), one policy (singles), and multiple coverage (multiples) are considered simultaneously. It was a premise of the study that some of the same characteristics that differentiate the insured from the uninsured might distinguish those having multiple coverage from those who hold single coverage. A more complete picture of health insurance patterns would thus be formed by studying the three groups at the same time.

This report delineates the extent and nature of health insurance coverage held by the population, including the number of policies, type of insurer, method of enrollment, and employer contribution to premium cost for group policies. Comparisons are then made among the uninsured, singles, and multiples according to two basic dimensions. First, socio-demographic characteristics such as age, sex and income of each group are considered. Then, the actual use of health services, expenditures for hospital care, and health insurance benefits received are compared for each group.

[3] A description of the study as a whole is found in Ronald Andersen and Odin W. Anderson, *A Decade of Personal Health Services: Trends in Use and Expenditures*, (Chicago: University of Chicago Press, 1967). The study was financed through Public Health Service Grant HM 00298.

[4] The detailed methodology for this report is found in the Appendix.

[5] Odin W. Anderson and Jacob J. Feldman, *Family Medical Costs and Voluntary Health Insurance: A Nationwide Survey* (New York: McGraw Hill, Inc., 1956).

U.S. National Health Survey, *Interim Report on Health Insurance, United States, July–December 1959* (U.S. Department of Health, Education and Welfare, Public Health Service Pub. No. 584-B-26 [Washington, D.C.: U.S. Government Printing Office]).

Agnes W. Brewster and L. N. Kramer, "Health Insurance and Hospital Use Related to Marital Status," *Public Health Reports*, Vol. 74, No. 8 (U.S. Department of Health, Education and Welfare, Public Health Service [Washington, D.C., August, 1959]).

Health Insurance Institute, *A Profile of the Health Insurance Public*, (New York: Health Insurance Institute, 1959).

Odin W. Anderson, Patricia Collette, and Jacob J. Feldman, *Changes in Family Medical Care Expenditures and Voluntary Health Insurance*, (Cambridge, Mass.: Harvard University Press, 1963).

National Center for Health Statistics, *Health Insurance Coverage: United States—July 1962–June 1963*, (U.S. Department of Health, Education and Welfare, Public Health Service Pub. No. 1000, Series 10 - No. 11 Washington, D.C.: U.S. Government Printing Office, August, 1964).

National Center for Health Statistics, *Medical Care, Health Status and Family Income*, (U.S. Department of Health, Education and Welfare, Public Health Service Pub. No. 1000, Series 10 - No. 9 [Washington, D.C.: U.S. Government Printing Office, May, 1964]).

Health Information Foundation, "Trends in Voluntary Health Insurance," *Progress in Health Services*, Vol. 15, No. 1 (January–February, 1966).

[6] National Center for Health Statistics, *Health Insurance: Type of Insuring Organization and Multiple Coverage, United States—July 1962–June 1963*, (U.S. Department of Health, Education and Welfare, Public Health Service Pub. No. 1000, Series 10 - No. 16 [Washington, D.C.: U.S. Government Printing Office, April, 1965]).

HIGHLIGHTS

Multiple insurance coverage

1. Seven per cent of the civilian, noninstitutionalized population were covered simultaneously by two or more basic hospital insurance policies in 1963. Of all those with basic hospital coverage, 11 per cent were covered by two or more policies.

2. If people with multiple coverage had group and non-group insurance in the same proportions as did those with one policy we would expect only 5 per cent of them to have two or more *non-group* policies. Actually, 18 per cent of the multiples had non-group coverage only.

3. If people with multiple coverage had Blue Cross and private insurance in the same proportions as did those with one policy we would expect 40 per cent to have a Blue Cross/private combination and 20 per cent would be expected to have two or more private policies. Actually, 49 per cent of those with multiple coverage had combination coverage and 36 per cent had private insurance only.

4. Persons covered by group insurance for which the employer paid the entire premium were twice as likely to have multiple coverage as were people covered by group insurance for which the employer paid only part or none of the premium.

Socio-demographic characteristics

1. The multiples included proportionately more older people than did the other groups; the uninsured had more people 65 and over but fewer 35–64 years of age than did the singles.

2. The uninsured had lower incomes, less education and a larger proportion of non-whites than did the singles and multiples. The latter two groups were similar to each other in these respects with the multiples showing slightly higher incomes.

3. With respect to family structure, more of the uninsured than of the other groups were children of the family head or "other relatives" while the multiples contained the largest proportion of heads and heads' spouses. The uninsured included relatively large proportions of people from families in which the head was either under 30 or 65 and over. The multiples included the largest portions of people from families in which the head was 45 or over.

4. The uninsured included the largest proportions of rural-farm people and those from the South and the West. The singles and multiples tended to be similar, having proportionately more urban people and those from the Northeast and North Central.

Health behavior of the uninsured and persons with single and multiple hospital insurance coverage

1. Use of health services appears to be directly related to the number of hospital policies held. Six per cent of the uninsured, 9 per cent of the singles and 14 per cent of the multiples were hospitalized at least once for conditions other than pregnancy during 1963. Fifty-seven per cent of the uninsured, 70 per cent of the singles and 79 per cent of the multiples saw a doctor during the survey year. Twenty-eight per cent of the uninsured, 45 per cent of the singles and 50 per cent of the multiples visited a dentist's office during 1963 although dental care was largely uninsured. These relationships were affected in part by the age and income structure of each group but tended to remain even after these other factors were taken into account.

2. The likelihood of incurring hospital expense and the subsequent level of hospital charges were also found to be directly related to the number of policies held. Thirteen per cent of the uninsured, 19 per cent of the singles and 25 per cent of the multiples incurred hospital expense during 1963.[7] Sixteen per cent of the uninsured, 29 per cent of the singles and 44 per cent of the multiples with hospital expenses had charges of $200 or more. Again, differential age and income structure of the three groups explained some but not all of the differences found.

3. Fifty-three per cent of the multiples incurring hospital charges for which they received benefits had their total bill paid by insurance compared to 39 per cent of the singles. There was no difference in the proportion of multiples and singles having the total bill paid when the hospital charges were less than $200, but when hospital charges exceeded $200, 54 per cent of the multiples compared to 25 per cent of the singles received benefits covering the total bill.

4. People in the sample receiving hospital insurance benefits which exceeded hospital charges still had total aggregate expenditures for health services which were greater than the total aggregate health insurance benefits they received.

[7] The percentages with hospital expenses exceed the percentages hospitalized because "hospital expenses" as defined in this study include charges for both inpatient and hospital outpatient care.

II

MULTIPLE INSURANCE COVERAGE

This chapter provides a brief overview of the extent and nature of hospital insurance coverage in the sample. Particular attention is given to the relationship between single and multiple hospital insurance coverage and such factors as type of carrier, method of enrollment and portion of the premium paid by the employer. A sample member was defined as insured if on December 31, 1963, he was covered by insurance specifically designed to cover the expenses of medical care.

Multiple coverage was defined as coverage by two or more policies providing the same *type* of benefits, separated here into hospital, medical-surgical, and major medical.[1] For example, in order for a person to be defined as having multiple hospital coverage, he would have to be covered by two or more policies, each providing basic benefits against hospital costs. A major medical policy including a deductible and coinsurance would be defined as providing major medical coverage but not hospital coverage. Hence, a person covered simultaneously by one basic hospital policy and one major medical policy would still have only single hospital coverage. Every person with multiple coverage would necessarily have at least two policies. However, two policies providing different types of benefits would not constitute multiple coverage.

The extent of multiple coverage is indicated in Table 1. Of all persons in the sample, seven per cent were covered by two or more basic hospitalization policies, six per cent were covered by two or more basic medical-surgical policies, and one per cent had more than one major medical policy. Of all persons *with basic hospital insurance*, 11 per cent were covered by two or more such policies. Nine per cent of all persons with medical-surgical insurance had multiple coverage, and approximately four per cent

[1] This definition of "multiple coverage" generally corresponds to that used by the National Health Survey. See Series 10—No. 16, pp. 1, 5. In other sources, such coverage is sometimes defined as "duplicate coverage". See, for example, Elizabeth Luck, p. 21.

of all persons with major medical insurance were covered by more than one policy.[2]

TABLE 1

NUMBER OF SEPARATE HEALTH INSURANCE POLICIES PER PERSON BY TYPE OF POLICY

NUMBER OF POLICIES	TYPE OF POLICY		
	Per Cent Hospital[a]	Per Cent Medical-Surgical[a]	Per Cent Major Medical
None	35	38	78
1	58	57	22
2 or more	7	6	1
Total[b]	100	101	101
N[c]	(7803)	(7803)	(7803)

[a] Excludes major medical policies which do not have basic benefits attached.

[b] In this and subsequent tables the cumulative per cent may not equal 100 because of rounding.

[c] In this and subsequent tables "N" refers to number of observations upon which percentages are based.

Only basic hospital insurance will be considered for the description and analysis of individuals according to number of policies they hold. While the extent of multiple coverage for medical-surgical care is slightly less than that for hospital care, the patterns are very similar so that generalizations can be made from one type of coverage to the other.

Table 2 shows that people with one hospital policy were much more likely to be enrolled through a group than to carry their insurance directly. "All group" coverage is the most common form of multiple hospital insurance followed by "group/nongroup" combinations and "all nongroup," in that order.

[2] For the purposes of this analysis, when major medical and basic hospital benefits were combined in the same policy, it was treated as one basic hospitalization policy; 18 per cent of the population had at least one such policy. A major medical policy which did not include basic hospital benefits was not defined as a basic hospitalization policy; 4 per cent of the sample have at least one "major medical only" policy. Thus, it was possible for a person in this analysis to be categorized as having no hospital insurance who had major medical coverage, providing he had no other basic policy. Such people differ from others in this category who had neither basic nor major medical coverage. However, the number of such people was relatively small. In order to apply our classification of multiple, single and no coverage, using basic hospital policies, to the entire sample, persons with major medical insurance only were considered uninsured with regard to hospital coverage.

TABLE 2

METHOD OF ENROLLMENT BY NUMBER OF HOSPITAL POLICIES

ENROLLMENT	NUMBER OF POLICIES	
	Per Cent One	Per Cent Two or More
Group	77	44
Group/non-group	–	35
Non-group	22	18
NA[a]	1	3
Total	100	100
N	(4503)	(542)

[a] In this and subsequent tables NA refers to sample persons for whom all information was not provided in the interview and was not determined through verification procedures.

While nongroup enrollment is less frequent than group enrollment among people having either single or multiple coverage, it is found more often in multiple than in single coverage. If people with multiple coverage had group and nongroup insurance in the same proportions as did those with one policy, we would expect only 5 per cent to have two or more nongroup policies. In fact, Table 2 shows 18 per cent have such coverage. Conversely, we would expect almost 60 per cent of those with multiple insurance to have two or more group policies while actually only 44 per cent have group coverage only.

This finding that people with multiple insurance purchase proportionately more non-group insurance than do those with single coverage seems to indicate that some multiple coverage results directly from the individual's own initiative rather than family membership in two or more groups offering health insurance coverage. These data, however, do not indicate to what extent a second policy simply offers supplementary protection against charges not covered by the first and to what extent it actually duplicates benefits provided by the first policy.

Table 3 indicates that among persons with only one hospitalization policy, the extent of Blue Cross and private insurance coverage is similar. About one-half of all multiple coverage involves a combination of Blue Cross and private insurance while most of the rest is completely private insurance. Instances of duplicate coverage through Blue Cross only are found infrequently.[3] The relatively large "other" categories include those

[3] Although there is a small proportion of the population covered under more than one Blue Cross policy, it is virtually impossible for payment for hospital care to be made more than once, since the provider of care is directly reimbursed by the local Blue Cross Plan.

enrolled in independent plans, those eligible under the Dependents' Medical Care Program of the U.S. Armed Forces and instances where one or more carriers for an individual in the sample could not be determined.

TABLE 3

TYPE OF CARRIER BY NUMBER OF HOSPITAL POLICIES

CARRIER	NUMBER OF POLICIES	
	Per Cent One	Per Cent Two or More
Blue Cross[a]	44	3
Blue Cross/private	–	49
Private	45	36
Other[b]	11	13
Total	100	101
N	(4503)	(542)

[a] Includes Blue Shield providing hospital benefits.
[b] Includes persons having one or more unknown carriers, independent carriers, or insurance through the Dependents' Medical Care Program of the U.S. Armed Forces.

Private insurance is found considerably more often among people with multiple coverage than is Blue Cross. This is, of course, at least partially due to the direct hospital reimbursement principle built into Blue Cross. If people with multiple coverage had Blue Cross and private insurance in the same proportions as did those with one policy we would expect 19 per cent to have two or more Blue Cross policies. Actually, only 3 per cent have more than one Blue Cross policy. In contrast 40 per cent would be expected to have a Blue Cross/private combination and 20 per cent would be expected to have two or more private policies while in reality 49 per cent had combination coverage and 36 per cent had private insurance only.

Table 4 permits a simultaneous examination of the relationship between method of enrollment, type of carrier and multiple hospital coverage. The Blue Cross/private combination coverage is found most frequently among people with "all group" and also "group/nongroup" enrollment. For each type of enrollment about one-half of the people have both a Blue Cross policy and a private policy while somewhat less than one-third have two or more private policies. However, among people with nongroup policies only, private insurance is the dominant form of coverage. Thus, 68 per cent have two or more private policies while only 28 per cent have a Blue Cross/private combination.

TABLE 4

TYPE OF CARRIER FOR PEOPLE WITH MULTIPLE HOSPITAL COVERAGE BY METHOD OF ENROLLMENT

CARRIER	METHOD OF ENROLLMENT		
	Per Cent Group	Per Cent Group/ Non group	Per Cent Non group
Blue Cross	5	2	0
Blue Cross /private	49	55	28
Private	31	28	68
Other	15	15	5
Total	100	100	101
N	(241)	(191)	(96)

Evidently people who have one policy through work (a group policy) and purchase another policy directly have proportions of Blue Cross and private insurance quite similar to those who have multiple coverage through two or more group policies. However, those who have multiple coverage through two or more directly purchased policies are much more likely to have only private insurance with no Blue Cross coverage.

As we have seen, the most common method of enrollment for health insurance is through some group. The group is usually a work group providing coverage for employees and their dependents. Of all people reporting health insurance coverage, nearly three-fourths are insured through a work group. In addition to providing a means for enrollment, employers are paying directly an increasing portion of the premium for this insurance. In 1953, 59 per cent of all families with group insurance had all or part of the premium paid by employers.[4] This proportion increased to 70 per cent in 1958 and 79 per cent in 1963.[5]

Since employer contributions are such an important and growing portion of health insurance premium payments, the relationship between employer contribution and number of policies carried is of special interest. Are persons with hospital coverage paid for by the employer more likely to have additional hospital coverage than are those people with work group coverage where the employer does not contribute to the premium cost? Considering only those persons with some health insurance coverage through a work group, the following proportions have two or more basic hospital policies according to magnitude of employer contribution:

[4] Anderson and Feldman, p. 20.

[5] Anderson, Collette, and Feldman, p. 10.

Employer contribution	Per cent of persons in respective categories with two or more-hospital policies
Person is covered by at least one group health insurance policy for which employer pays entire premium	16
Person is covered by at least one group health insurance policy for which employer pays part of the premium but none for which employer pays total premium	9
Person is covered by work group health insurance but employer does not contribute to cost of premium	8

These findings indicate that persons covered by group insurance for which the employer pays all of the premium are more likely to have multiple coverage than persons who have only part of the premium paid or who do not have employers contributing to premium cost. The proportion of the former group with multiple insurance is twice that of the latter groups. There may be an incentive to increase the amount of coverage when the cost of one policy is not borne directly by the individual or his family. If this is the case, the extent of duplicate coverage may increase as employers take over larger proportions of premium costs.

III

SOCIO-DEMOGRAPHIC CHARACTERISTICS

This chapter examines the extent to which people without basic hospital insurance differ in socio-demographic characteristics from those with one policy and those with multiple coverage. How do these groups, defined in terms of number of hospital insurance policies held, compare with respect to age and sex, socio-economic characteristics, family structure, and place of residence.

Age and Sex

In 1963, the uninsured and the singles included proportionately more children than did the multiples. Thirty-nine per cent of the uninsured and 38 per cent of the singles were under 18 years of age compared to 27 per cent of the multiples (Table 5). The former groups also included more young adults 18–34 years of age.

TABLE 5

AGE AND SEX OF THE UNINSURED, SINGLES, AND MULTIPLES

Age and Sex	Per Cent Uninsured	Per Cent Single	Per Cent Multiple
Under 18.....	39	38	27
18–34.....	24	23	18
35–64.....	26	32	42
65 and over.....	12	7	13
Total.....	101	100	100
Male.....	49	49	44
Female.....	51	51	56
Total.....	100	100	100
N.....	(2758)	(4503)	(542)

However, the percentage of adults 35–64 increased as the number of policies increased. Thus, 26 per cent of the uninsured, 32 per cent of the

singles and 42 per cent of the multiples were 35–64. The older age composition of the multiples is also reflected by the finding that 13 per cent of them were 65 or over compared to 7 per cent of the singles. It should be noted that a relatively large proportion of the uninsured were also 65 or over (12 per cent).[1]

A number of factors probably contributed to the large proportion of persons 65 and over found among the uninsured, including lack of access to group coverage through work groups and limited purchasing power.

The multiples included large portions of people in their latter working years (35–64) when they have greatest access to work group coverage and also, conceivably, are in a better position financially to purchase additional coverage. In addition, the multiples included a large proportion of persons 65 and over who may, from a rational perspective, be purchasing more coverage in response to the greater risks of sickness they bear. In addition the coverage in 1963 of older people tended to be nongroup and was less comprehensive than for the rest of the population covered in large part through group enrollment. Thus, additional policies might have been purchased by the aged in an attempt to reach a benefit level comparable to the rest of the population.

The uninsured and the singles did not differ with respect to sex composition (Table 5). However, the multiples included proportionately more females than did the other two groups (56 per cent vs. 51 per cent). The tendency for working wives to have multiple coverage based on inclusion in their husbands' policies as well as coverage through their own work group might contribute to this difference. Among wives of "working age" (18–64) 51 per cent of those with multiple coverage were employed compared to 36 per cent of wives uninsured or covered by one policy.

Socio-economic Characteristics

Included under the general category of socio-economic characteristics for purposes of this analysis are family income, years of education for family head, and race. Table 6 shows that uninsured persons were considerably more likely to have low incomes than were people with some hospital insurance. Forty-three per cent of the uninsured had family incomes under $4,000 compared to only 14 per cent of those with one policy and 12 per cent of those with two or more. These income differences undoubtedly reflect a number of circumstances only one of which is greater purchasing power represented by higher family incomes. Others include age composition, access to insurance and evaluation of insurance, all of which are associated with income.

[1] Since this study was completed, Medicare has come into effect, providing hospital coverage for virtually the entire population 65 and over.

Singles and multiples were similar with respect to income. Multiples may have slightly higher incomes, as 59 per cent of them had incomes of $7,000 or more compared to 53 per cent of the singles.

TABLE 6

SOCIO-ECONOMIC CHARACTERISTICS OF THE UNINSURED, SINGLES, AND MULTIPLES

Socio-economic Characteristics	Per Cent Uninsured	Per Cent Single	Per Cent Multiple
Family income			
$0–3,999	43	14	12
$4,000–6,999	28	33	29
$7,000 or more	28	53	59
Total	99	100	100
Education of family head[a]			
0–8	44	24	25
9–11	20	19	17
12	21	31	29
13 or more	15	27	30
Total	100	101	101
Race[b]			
White	75	90	89
Non-white	25	10	11
Total	100	100	100
N	(2758)	(4503)	(542)

[a] Excludes 352 NA.
[b] Excludes 96 NA.

Further analysis showed that the income differences between the multiples and the singles were accounted for mostly by people over 65. That is, older people with multiple coverage had considerably higher incomes than older people with one policy. Thus among persons 65 and over, 65 per cent of the multiples had incomes of $4,000 or more compared to 41 per cent of the singles. That older people with multiple coverage tend to have higher incomes than those with one policy may indicate that multiples can afford to purchase added protection more easily. That the difference in income between singles and multiples for other age groups is negligible might show that multiple coverage is related less to purchasing power for younger people and related more to such factors as multiple group memberships.

People without hospital insurance lived in households where the head had less education than did persons with hospital insurance (Table 6). Forty-four per cent of the uninsured lived in homes where the head had eight years education or less compared to 24 per cent of the singles and 25 per cent of the multiples. At the upper end of the education scale 15

per cent of the uninsured compared to 27 per cent of those with single coverage and 30 per cent of those with multiple coverage were members of families in which the head completed at least one year of college. Thus, these data show striking differences in education between the insured and uninsured. In contrast, within the insured group little difference is noted between singles and multiples.

One question is whether the educational differences between the insured and the uninsured simply reflect income differences, since the two measures are highly correlated, or whether educational differences remain ever after we attempt to "take into account" income differences. We found that at all income levels considerable differences in educational level continue to exist between the insured and the uninsured. Apparently insurance status and education have relationships which are independent of income level.

The uninsured population contains a substantially higher proportion of non-whites than the insured population (Table 6). The proportions of non-whites among singles and multiples was similar. Thus one-fourth of the uninsured compared to one-tenth of the insured were non-white. Again, it might be asked if these differences do not simply reflect the different income distributions found among the white and non-white populations. However, at every income level the non-whites comprised a greater proportion of the uninsured than of the insured.

In general these data show that with respect to socio-economic characteristics the uninsured population in 1963 had a considerably different composition than did the insured population. In contrast, within the insured population the singles and the multiples were quite similar to each other. Only among people 65 or over did we find substantial differences with the multiples tending to have higher family income than the singles.

Family Structure

Family structure is defined primarily in terms of the characteristics of the head of the sample member's family. Characteristics of the head of the family are important because the majority of hospital policies written are for family coverage with the family head as the main subscriber. Variables considered include relation of the individual to the family head, age and sex of family head, and the usual activity of the family's main wage earner.

Table 7 indicates that the insured included proportionately more family heads or their spouses than did the uninsured. The uninsured in turn are more likely to be children and other relatives living in the same household. These same distinctions separate the singles from the multiples. For example, 28 per cent of the uninsured were family heads compared to 31 per cent of the singles and 36 per cent of the multiples. Conversely the percent-

age who were children of the head dropped from 45 per cent of the uninsured to 43 per cent of the singles and 33 per cent of those with two or more policies.

TABLE 7

FAMILY STRUCTURE OF THE UNINSURED, SINGLES, AND MULTIPLES

Family Structure	Per Cent Uninsured	Per Cent Single	Per Cent Multiple
Relation to family head			
Head	28	31	36
Spouse	19	24	29
Child of head	45	43	33
Other relative	8	2	2
Total	100	100	100
Age of family head[a]			
Less than 30	16	14	11
30–44	35	46	35
45–64	36	32	40
65 or over	13	9	15
Total	100	101	101
Sex of family head			
Male	83	91	85
Female	17	9	15
Total	100	100	100
Activity of family main earner[b]			
Employed full time	65	86	82
Not employed full time	35	14	18
Total	100	100	100
N	(2758)	(4503)	(542)

[a] Excludes 48 NA.
[b] Excludes 25 NA.

The majority of family members who were other relatives (i.e., not heads, spouses, or their children) were 65 or over. Comparing the insured and uninsured groups for persons 65 and over it is found that the uninsured group contained proportionately more "other relatives" than did the insured. Twenty-five per cent of those without insurance were "other" relatives compared to 10 per cent of those with one policy and 9 per cent of those with two or more policies.

These data, then, show that family position is an important characteristic for differentiating the groups under consideration. The uninsured include the largest proportions of children and "other relatives," followed in order by singles and multiples. Both children and others probably have less access to health insurance and less independent purchasing power within the family. Children may be defined as in less "need" of insurance by certain

families and their participation in group insurance is more likely to be optional than participation by the household head. Also, there is often additional cost to the family (beyond the cost for the household head or spouse) to insure children, which might inhibit coverage in some instances. Other relatives are less likely to be eligible for coverage under family policies, and the family may feel less responsible for providing insurance for these marginal members than for nuclear family members including head, spouse, and children.

Table 7 shows that the uninsured included the largest proportion of people from families with heads under 30, a smaller than expected proportion with heads 30–44 and slightly greater than expected proportions with older heads. The group with single coverage includes the greatest proportion of people with heads 30–44 and fewer people than expected with heads in other age groups. The multiples include more people with heads in the two older age categories than do the other groups.

The uninsured with heads under 30 may be people from families who are not yet in employment positions which offer insurance to the family or do not feel well enough established financially to purchase their own coverage. The large proportion of people with one policy from families with the head 30–44 probably indicate the extent of health insurance provisions available through the place of work. The relatively large number of people from families with the head 45 or over who have multiple coverage probably in part reflects the family life cycle stage when the wife returns to work and thus the possibility of multiple group coverage results. In addition these families are more likely to be in a better position financially to purchase a second policy. Among families with heads 65 and over group coverage was more difficult to obtain in 1963. Such families might have been purchasing two nongroup policies to make their benefits more comprehensive and might also have felt the necessity for more insurance with increasing age and associated increase in illness.

Both the uninsured and the multiples had higher proportions of people living in families with female heads. As Table 7 shows, 17 per cent of the uninsured, 9 per cent of the singles and 15 per cent of the multiples came from families with female heads. The findings for the uninsured and those with single coverage were expected since families with female heads are usually in a less advantageous position economically and might be less able to afford health insurance. The high percentage of persons with multiple insurance in families with female heads was in part related to the large number of aged widows found in this group.

Work status of the family main wage earner is an important consideration in comparing insured and uninsured groups because of the volume of

insurance purchased through work group enrollment. The uninsured included larger proportions of individuals from families with heads who do not work full time than do the groups with hospital insurance. Relatively little difference is found between the singles and the multiples in this respect (Table 7). Individuals from families with heads working full time make up 86 per cent of the singles and 82 per cent of the multiples compared to 65 per cent of the uninsured.

The relationships of number of policies and work status of family principal wage earner change considerably for those 65 and over. At this latter age level the uninsured group includes a larger proportion of those with a main wage earner working full time than does the insured group. This may reflect economic hardship which forces an elderly main wage earner to work full time. Those families with an elderly principal wage earner not working full time may well be better off financially.

In sum, these findings indicate that the family structure of insured people differs from that of the uninsured. In addition, family characteristics appear to differentiate to a greater extent than did socio-economic variables, singles from multiples.

Place of Residence

The uninsured population included proportionately more rural farm persons than did the singles and the multiples (Table 8). Conversely, the multiples included more urban persons than did the singles, with the uninsured including the smallest proportion of urbanites. Thus, the proportion of rural farm persons decreased from 16 per cent of the uninsured to 7 per cent of the singles and 4 per cent of the multiples while the proportion among "other" urban increased from 45 per cent of the uninsured to 47 per cent of the singles to 55 per cent of the multiples.

TABLE 8

PLACE OF RESIDENCE OF THE UNINSURED, SINGLES, AND MULTIPLES

Place of Residence	Per Cent Uninsured	Per Cent Single	Per Cent Multiple
Urban-rural			
Large urban[a]	17	22	22
Other urban	45	47	55
Rural non-farm	22	24	19
Rural farm	16	7	4
Total	100	100	100
Region			
Northeast	14	24	25
North central	24	31	29
South	40	29	32
West	23	15	13
Total	101	99	99
N	(2758)	(4503)	(542)

[a] Persons living in the urban areas of the 10 largest standard metropolitan statistical areas.

The primary factor related to the above distributions is probably the occupational structure. People employed in agriculture are less likely to have the opportunity to enroll in work group insurance than are people employed in any other major industry. Consequently rural people, who are most likely to be employed in agricultural pursuits, are least likely to have group insurance, which is the dominant form in this country. In addition, individuals residing in rural areas have generally been less favorably inclined toward health insurance in the past than the urban population. While the areas are becoming more similar, this carry-over might have some influence on the distributions of coverage presented.

Turning from rural-urban differences to region of the country, Table 8 shows that the uninsured population had larger percentages from the South and West and smaller percentages from the Northeast and North Central than did the insured population. The singles and the multiples had proportions similar to each other from each area. Thus, thirty-eight percent of the uninsured were from the two "northern regions" compared to 55 per cent of the singles and 54 per cent of the multiples.

These differences are not simply the results of differences in age or income among the regions. For every age group and for all income levels except the highest one, the general patterns described above remained. The only exception is for persons with family incomes of $7,000 or more. Here, the proportion of people from the South in the uninsured group (26 per cent) is no greater than the proportion of the single group (26 per cent)

and is, in fact, lower than the proportion of the multiple insurance group (32 per cent).

The distribution of people from the South is probably in part related to the relatively large portion of non-whites found there. These people tended to have low incomes and also low levels of insurance coverage. Fewer Southern non-whites were found in the family income group of $7,000 or more. The South is not disproportionately represented in the uninsured group at this income level.

Urban-rural and regional differences between the insured and uninsured populations are shown here to be quite pronounced. Considerable difference was also found between the singles and the multiples with regard to urban-rural differences but were less pronounced with regard to region of residence.

IV

HEALTH BEHAVIOR

In the last chapter we found that the uninsured, singles, and multiples differ from each other with respect to some basic socio-demographic characteristics. A subsequent question is, are differences also found in the realm of actual health behavior where we might expect both the background characteristics discussed earlier and type of insurance coverage to play some part? "Health behavior" is broadly defined here in terms of use of health services, expenditures for hospital care and insurance benefits for hospital care.

Use of Health Services

The three measures of health service use considered here are hospitalization, visits to a doctor and visits to a dentist. The first is the service actually covered by hospital insurance and is most likely to be associated with more "serious" conditions by the lay population as well as providers of health services. Physician care, for the most part, is not covered by basic hospital insurance but most people with hospital insurance have associated medical-surgical coverage which pays for some types of physician services, primarily those provided in the hospital. Physician care is, of course, also associated with serious illness, but in addition, is also often provided for less serious, more "routine" conditions, and for "preventive" purposes. Finally, dental care is generally not covered by any type of insurance and of types of services discussed is generally defined by the population as least "necessary" and most "elective." It is included here to give us some idea of the relative use by the uninsured, singles, and multiples of an "elective" service which is generally not directly affected by the health insurance mechanism.

Our measure of hospitalization is whether or not the person was admitted to a hospital or related institution during 1963. Admissions for obstetrical care are excluded from this analysis. Table 9 shows that the mul-

tiples were over twice as likely as the uninsured to be hospitalized during 1963 with the singles in between. The proportions of each group hospitalized were: 14 per cent for the multiples, 9 per cent for the singles and 6 per cent for the uninsured.

TABLE 9

USE OF HEALTH SERVICES BY THE UNINSURED, SINGLES, AND MULTIPLES DURING 1963

TYPE OF SERVICE	PER CENT USING SERVICE DURING 1963		
	Uninsured	Single	Multiple
Hospitalization.....	6	9	14
Physician.....	57	70	79
Dentist[a].....	28	45	50
N.....	(2758)	(4503)	(542)

[a] Excludes 24 NA.

The previous chapter showed that the groups differed with respect to age and income distribution. Might these differences be related to the rather striking differences in hospital use shown above? In fact, differences were observed at every income level but were *greatest* for persons with family incomes of less than $4,000. At this income level 6 per cent of uninsured were hospitalized compared to 14 per cent of the singles and 20 per cent of the multiples. A further interesting point regarding this exploration of low income persons is that all of the difference described above was found among people under 65. In other words, there was no difference in hospital use among the uninsured, singles, and multiples for people 65 or over with incomes of less than $4,000. In general, differences in hospital use among the uninsured, singles, and multiples continued to exist, with the one exception noted above, when an attempt was made to take into account the differences in incomes of the groups.

Turning to the influence of age distributions on hospital use patterns, no difference was found between the insured and uninsured for children 0–17. Five per cent of the uninsured were hospitalized as were 6 per cent of the singles and 5 per cent of the multiples. Differences in use for adults similar to those for the population as a whole were found, however.

These differences were greatest for working age people 18–64. For this age group 5 per cent of the uninsured compared to 10 per cent of the singles and 18 per cent of the multiples were hospitalized during 1963. For those 65 and over a greater proportion of the insured than of the uninsured were hospitalized, but such proportions for the singles and multiples were the same.

In sum the variance in hospital use by the uninsured, singles, and multiples was found in part to be a function of age distribution of each group, since children from each group had similar use rates. However, differences continued to exist among adult members of each group.

For physician care, the measure of use employed was whether or not a person visited a physician's office or clinic or was seen by a physician in the hospital or at home during 1963. Table 9 shows definite differences in physician use among the groups. The proportion seeing a physician increases from 57 per cent of the uninsured to 70 per cent of the singles and 79 per cent of the multiples. Age and income distributions of each group did not affect the direction of the trends shown above. For every age and family income level, those with no hospital insurance were least likely to see a doctor while those with two or more policies were most likely to do so.

These data on physician care along with those on hospitalization, then, indicate that differences do exist among the uninsured, singles and multiples with regard to insured services most likely to be associated with serious illness (hospitalizations) and also more prevalent, less completely insured, services associated with "less serious" as well as "serious" conditions (physician care). In addition, such differences are not accounted for entirely by different distributions of basic characteristics such as age and family income.

Dental care is measured according to whether or not the individual visited a dentist's office during 1963. To reiterate, here we are dealing with a service which is, for all practical purposes, uninsured and in addition is assumed to be generally defined by society as less "necessary" and more "elective" than were those previously considered. Despite these differences the patterns of dental care use were in some respects similar to those found for other services. The per cent seeing a dentist increased from 28 per cent of the uninsured to 45 per cent of the singles and 50 per cent of the multiples. It should be noted that the large difference found was between the uninsured and the insured while the difference within the insured group between the singles and the multiples was considerably less.

However, an examination of different age groups shows that while use is very similar among people 18–64 for singles and multiples, considerable differences are found for those under 18 and those 65 and over. Thus for children under 18, 45 per cent of the singles saw a dentist compared to 57 per cent of the multiples and for people 65 and over 24 per cent of the singles compared to 33 per cent of the multiples saw a dentist during 1963. Thus, for all age groups large differences exist between the insured and uninsured, and for the young and the old some differences are found between the singles and the multiples. With regard to the latter finding, it

may be that dental care is defined as less of a necessity for the young and the old than for persons 18–64. If so, the increased proportions of the aged and the young found among the multiples as opposed to the singles may reflect general tendencies of the multiples to receive more elective care than people with only one policy.

High income people are much more likely to use dental services than are lower income groups. Since people with health insurance tend to have higher incomes than the uninsured it might be supposed that the differences in dental use reflect in large part income differentials. However, at every income level the insured person was more likely to see a dentist than was the uninsured. These differences were greater at the upper income levels than for persons with family incomes of less than $3,000. It should be remembered at this point that the service under consideration is not insured. Consequently, the great differences found at the middle and upper income levels may indicate general differences between the insured and the uninsured with regard to health attitudes and behavior. In contrast, the smaller differences for low income people may reflect a common "economic barrier" for all regardless of taste or preferences.

Expenditures for Hospital Care

This section will present briefly some patterns of charges incurred by the insured and uninsured. Two main questions are posed. First, what proportion of each group had hospital charges? And second, given the fact of hospital charges, how did the level of these charges compare from group to group? This study is based on actual expenditures only and no attempt was made to estimate the money value of "free care" received. It should be noted that people without health insurance are more likely to be low income people who receive care free of charge, and therefore the charges for the uninsured are less related to actual care received than are the charges for the singles and multiples.

Table 10 indicates that almost twice as large a proportion of the multiples incurred hospital charges during 1963 as did the uninsured. This proportion was also considerably larger than that for the singles. One-quarter of the multiples compared to 19 per cent of the singles and 13 per cent of the uninsured incurred some expense.

For every age group the proportion of persons with hospital charges tends to increase with the number of policies held, with one exception: there was no difference between the singles and multiples for persons 65 and over. There was also one exception to the general trend when separate income levels were examined. There was no difference in the per cent of singles and multiples having hospital charges in the middle income group

($4,000–$6,999). These exceptions serve to point out that while differences in expenditures are observed among all three groups, in general the differences between the uninsured and the other two groups are largest. The differences between the singles and the multiples are generally less defined and in some instances tend to disappear when additional variables are introduced into the analysis.

Differences in level of hospital expense as well as fact of expense are found among the groups (Table 10). For those people with hospital expense in the survey year, the percentage with expenses of $200 or more increased from 16 per cent of the uninsured to 29 per cent of the singles and 44 per cent of the multiples.

TABLE 10

EXPENDITURES FOR HOSPITAL CARE FOR THE UNINSURED, SINGLES, AND MULTIPLES DURING 1963

Expenditure	Per Cent Uninsured	Per Cent Single	Per Cent Multiple
Any expense during 1963[a]			
Yes	13	19	25
No	87	81	75
Total	100	100	100
N	(2758)	(4503)	(542)
Level of expense during 1963[b]			
$1–199	84	71	56
$200 or more	16	29	44
Total	100	100	100
N	(370)	(839)	(134)

[a] Includes expense for hospital outpatient as well as inpatient care.
[b] Includes only persons with hospital expense.

Such differences were found for every age group but were more pronounced for adults than for children. Taking income level into account we find two exceptions to the general pattern of number of policies held being directly related to level of expenditure. For persons with family incomes of less than $4,000 there was no difference between singles and multiples and for persons with incomes of $7,000 and more there was no difference between the uninsured and the singles. Regarding the first exception, the benefit provisions of policies purchased by the lowest income groups are generally not as extensive as those purchased by higher income groups. Even with two policies benefits might not equal usual expenditures so there would be no stimulus to add "elective" expenditures. With respect to the second exception, the lack of difference between those without insurance

and the singles might indicate that financial barriers are not so important for uninsured people of higher income levels.

Answers to the questions posed at the beginning of this section might be summarized as follows. Definite differences do exist among the uninsured, singles and multiples with respect to incurring hospital expenses, with each group in turn having a larger portion than the last experiencing charges during 1963. The differences tended to be greatest between the uninsured and the insured, especially when age and income composition were considered. Among persons with expenses there is rather definite evidence that level of expenditure increases with number of policies held. These relationships, however, are in part altered when the income distribution of each group is taken into account.

Insurance Benefits for Hospital Care

The analysis in this section is limited to persons with basic hospital insurance who incurred some hospital charges and received insurance benefits to cover such charges during 1963. Table 11 indicates that people with multiple coverage were more likely to have the total bill paid by insurance than were those with one policy. Fifty-three per cent of the multiples had benefits equal to or exceeding charges for hospital care compared to 39 per cent of the singles who had the total bill paid by insurance.

The trend of the last few years has been for all hospital insurance to pay an increasing portion of large hospital bills while the portion of smaller bills paid has actually declined. The fact that people with multiple coverage tend to incur higher charges, as shown above, might account for some of the difference found. In fact, Table 11 does show that for charges of less than $200 there is no difference in the proportion of singles and multiples having the total charge covered. In each case it is about one-half.

TABLE 11

HOSPITAL INSURANCE BENEFITS AS A PROPORTION OF HOSPITAL EXPENDITURE FOR SINGLES AND MULTIPLES HAVING CHARGES AND RECEIVING BENEFITS DURING 1963 BY LEVEL OF EXPENDITURE

Benefits as a Proportion of Expenditures	Per Cent Single	Per Cent Multiple
All expenditures		
Benefits less than charges	61	47
Benefits cover total charges	39	53
Total	100	100
N	(525)	(92)
Expenditures $1–199		
Benefits less than charges	51	49
Benefits cover total charges	49	51
Total	100	100
N	(296)	(35)
Expenditures $200 or more		
Benefits less than charges	75	46
Benefits cover total charges	25	54
Total	100	100
N	(229)	(57)

However, again viewing Table 11 it can be seen that among people with hospital expenditures of $200 or more a considerably greater portion of those with multiple coverage than with one policy had the total bill paid. Fifty-four per cent of the multiples compared to 25 per cent of the singles received benefits covering all charges. The actual expenditures of the multiples with hospital charges of $200 or more are higher on average than the actual expenditures of singles over $200. Such a variance in expenditures might account for some of the differences observed, since benefits as a per cent of expenditures increase with increasing expenditure. However, the magnitude of the difference is large enough to indicate that at higher levels of expenditure multiples probably do receive benefits which are more likely to cover all of their hospital charges than do singles.

In the introduction to this report it was stated that there was concern that multiple health insurance coverage might lead to "excessive" use of health services with people actually making a "profit" on their illness. While our sample is too small to provide definitive data regarding this point, a few selective findings might prove suggestive.

The sample for this study experienced 991 admissions to short-stay hospitals in 1963. Of these 48 (slightly less than 5 per cent) involved overpayment in the sense that hospital benefits exceeded hospital charges. The mean average overpayment for these admissions was $156.

While, in fact, some people were apparently reimbursed beyond the cost of a particular hospital admission, such information does not reflect the total expenditure and health insurance benefit picture for these people. For example, total expenditures for physician care for persons receiving "overpayments" for hospital admissions exceeded total health insurance benefits for physician care for this group by one-third. Even with the hospital benefit overpayments, this same group still had total expenditures for health services exceeding total health insurance benefits. Even if we fail to consider other "costs" of illness such as income loss and family disruption, these data do not seem to indicate that our health insurance benefit structure makes illness "desirable" or "profitable" for any significant segment of the insured population.

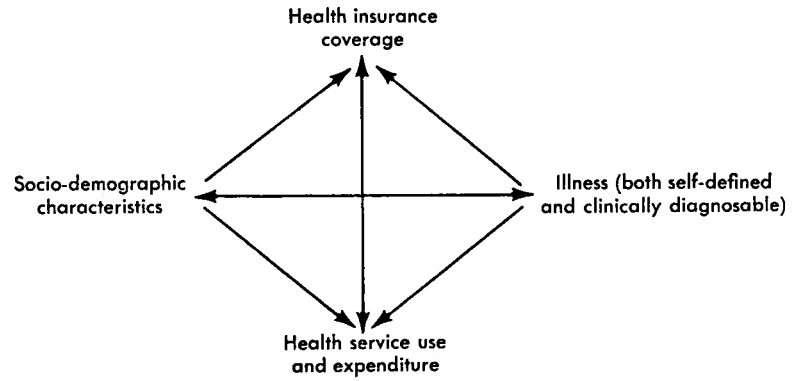
V

CONCLUSION

The data in this report leaves little doubt that the uninsured population differs from the insured in several important respects and that, within the latter group, there are differences between those with multiple and those with single coverage. Some of these differences are in terms of basic social and demographic characteristics such as income and age. Others are related to use of, and expenditure for health services.

To document such differences is a much simpler matter than to understand why they exist. Certainly, this report has made only preliminary and brief excursions into the "whys and wherefores." However, it has provided some clues which might aid us in developing a more systematic approach toward understanding the complex relationships involved.

The diagram below shows the main components of one such approach and their interrelationships: The nature of health insurance coverage for the individual is conceived of as part of an interacting system and consequently is both a determinant and a resultant within the system:



Socio-demographic characteristics are pictured as influencing the nature of health insurance coverage. For example, family income might determine the comprehensiveness of the coverage purchased by the family; or the number and type of jobs held by family members might determine whether or not the family has group coverage and whether or not any family members have multiple coverage. Illness too, both as it is defined by the family and as it might be measured by some objective criteria, is shown in the diagram to influence health insurance. Evidence from the study not presented in this report shows that people reporting the most "illness" are most likely to have multiple coverage. Finally, health service use and expenditures are portrayed as influencing health insurance. People who have experienced or expect high expenditures for health services may tend to purchase more insurance.

Turning to health insurance as a determinant, the arrows indicate that insurance influences use and expenditures, and vice-versa. For instance, the argument has sometimes been made that coverage of diagnostic services in the hospital leads to greater expenditures because people are more likely to be hospitalized for tests which could have been performed in a less expensive setting such as a doctor's office. As another example, multiple coverage has also been associated by many with "excessive" use of insured services.

The diagram also indicates that the components of the system modifying health insurance also affect each other which, of course, in terms of the system as a whole, might mean further modification of health insurance. For example, patterns of health service use and definitions of illness are in part determined by social characteristics such as income and education and associated attitudes and values with respect to health. In this scheme, health service use and definitions of illness might be considered as intervening variables which are modified by social characteristics and, in turn, alter health insurance coverage. Illness obviously affects the amount of health services used, but in addition alters socio-demographic characteristics. For instance, serious illness of the family main earner can result in considerable reduction of family income. This reduction in income might subsequently force the family to reduce its health insurance coverage.

This brief explanation of the diagram serves to point out the complex interrelationships which need to be considered to understand patterns of health insurance coverage and the relationships of such coverage to use. There are no simple "cause and effect" relationships here. Of course, some of the relationships mentioned are more important than others.

What we can say at this point is limited. Type and extent of health insurance coverage is in part a product of social and demographic factors.

However, this does not mean that some people with greater risk of illness or greater tendency to use health services do not seek to increase their coverage. Nor does it mean that use does not increase with increased coverage. We have seen that use patterns do differ according to level of coverage even when factors such as age and income are taken into account. Further theoretical and empirical work needs to be done to specify these relationships between amount and type of health insurance coverage and use of and expenditure for health services.

APPENDIX
METHODOLOGY

The first phase of the study involved personal interviews with representatives of the 2367 families selected in the nationwide sample in early 1964. Letters of introduction from Health Information Foundation and National Opinion Research Center explaining the nature and importance of the study preceded the interviewers' visits to respondents' homes. These letters stressed the importance of having available at the time of the interview health insurance records such as policies and certificates.

During the initial contact with the family the interviewer was instructed to make an appointment for a time when the family members most knowledgeable about use of health services and health insurance would be available. If important information could not be obtained during the first interview, interviewers were instructed to telephone later or make subsequent personal calls if necessary. The interviewer carried letters of endorsement from the American Medical Association, American Hospital Association, Blue Cross Association, and Health Insurance Association of America.

Interviewer training stressed the importance of obtaining accurate information about whether or not the family carried health insurance, the number of different policies held, the people covered by each policy, and the extent of health insurance benefits available. A special supplement to the interview schedule was constructed to facilitate the collection of these data. The interviewer was familiarized with the different types of health insurance and those policies which were *not* defined as health insurance by the study. The latter included accident-only policies, workmen's compensation insurance, and loss-of-income insurance with no separable payment for hospital expenses.[1]

[1] Armed Forces Dependents' Medical Care Program and disability policies which paid an additional benefit for each day the member was hospitalized were classified as health insurance. A sample member who died or became an institutional member during the survey year was classified according to his insurance status at the time he left the civilian non-institutionalized population.

In the coding phase of the study certain steps were taken to increase the accuracy of insurance information. If no insurance supplement was filled out, the coder was instructed to check the rest of the interview schedule for evidence of insurance. If evidence was found of insurance benefits or of a policy held previously, but dropped before the interview, as much information as could be obtained from the schedule was coded. Even when some health insurance was reported, the interview schedules were searched for evidence of additional plans in the family.

Every effort was made at this stage to eliminate all policies recorded which did not meet our definition of health insurance. Problem cases were referred to the coding supervisor or to the study director. In total, 2,657 separate plans or policies mentioned during the interviews were accepted as health insurance policies held at some time during the survey year by members of the 2,367 families in the study.[2]

Verification of Insurance Data

In the fall of 1964 a verification procedure was carried out to substantiate information provided by family members and to gather additional details concerning the coverage. Mail questionnaires were sent to insurers or employers, depending upon the type of coverage, accompanied by appropriate letters of endorsement from Blue Cross Association, the National Association of Blue Shield Plans, American Medical Association, American Hospital Association, Group Health Association of America, or Health Insurance Association of America. Initially, for all reported Blue Cross and Blue Shield coverage, both group and nongroup, the individual Plans were contacted. For independent and private insurance coverage, the carriers were contacted in the case of nongroup enrollment, and employers were contacted for group enrollment. Follow-up letters and questionnaires were sent to those who failed to respond.

[2] The following sources were used to aid in recording types of insurer:

Argus Chart of Health Insurance: 1964 (66th ed.; New York: The National Underwriter Company, 1964).

Blue Cross Guide (Chicago, Illinois: Blue Cross Association, 1963).

Directory of Blue Shield Plans (Chicago, Illinois: National Association of Blue Shield Plans, 1963).

The Spectator, Health Insurance Index Supplement: 1964, Seventy-Fourth Annual Issue (Philadelphia, Pennsylvania: Chilton Company, 1964).

Independent Health Insurance Plans: 1962 (U.S. Department of Health, Education, and Welfare, Social Security Administration [Washington, D.C.: U.S. Government Printing Office, 1962]).

Donald G. Hay, Louis S. Reed, Robert E. Melia, *Independent Health Insurance Plans in the United States: 1961* (U.S. Department of Health, Education, and Welfare, Social Security Administration, Research Report No. 2 [Washington, D.C.: U.S. Government Printing Office, 1963]).

Report on the Commission on Medical Care Plans: Part II (Chicago, Illinois: American Medical Association, 1958).

Response from employers was especially low. Consequently, private insurance companies and independent plans were later contacted regarding group coverage where employers had failed to respond. In a final attempt to increase the validated portion, postcards were substituted for the longer mail questionnaire and were sent to employers in all cases of reported group coverage without validation.

Another phase of the study involved verifying information concerning reported hospital admissions with the particular hospital specified by the respondent. Data on insurance benefits were also collected during this process; these were used to verify the fact of insurance coverage and in some cases led to the discovery of additional coverage.

Additional policies were also discovered during the insurance verification, as, for instance, when an employer provided information on major medical coverage in addition to the basic coverage reported by the respondent. The original 2,657 policies recorded during the initial coding plus an additional 42 discovered during verification brought the total number of policies to 2,699.

The result of the verification procedure for these policies is shown in Table A.

TABLE A

RESULTS OF THE VERIFICATION OF HEALTH INSURANCE COVERAGE

Results of Verification	Per Cent	
Verified by third party as health insurance	72[a]	
Source of verification:		
Blue Cross–Blue Shield		26
Private insurance		22
Employer or union		17
Hospital		5
Independent plan		3
Response from third party but no verification of health insurance	10[a]	
No record of coverage		8
Indication that coverage was not health insurance		1
Impossible to tell if health insurance in effect		[b]
Written refusal to cooperate		[b]
No response from third party	17	
Questionnaire not sent due to insufficient information or clerical error		9
No reply to questionnaire		8
Armed Forces Dependents' Medical Care Program (no verification attempted)	1	
Total	100	
N	(2699)	

[a] Subcomponents do not add to total due to rounding.
[b] Less than ½ of 1 per cent.

Of the total number of health insurance policies specified in the household interview, written verification was received for 72 per cent that the policy was in fact health insurance and was in effect during 1963. A report received from a self-insured employer or union was classified as an independent plan verification.

For 10 per cent of the policies, a response was received from a third party which did not verify the health insurance reported. In most of these cases the third party reported no record of coverage, which might indicate that no health insurance existed or that the third party was unable to locate the policy with the information provided. A "no record" response also resulted when the wrong source was contacted. In many cases where information regarding the carrier was not clear, several different sources were contacted in an effort to verify the coverage. In a few cases insurance was reported as being in effect but the information provided indicated that it was not health insurance as defined in this study.

No response was received from any third party for 17 per cent of the policies. This nonresponse was roughly equally divided between those cases in which verification was attempted and no reply was received from a third party and those where no verification was attempted because there was not sufficient information to send out a questionnaire or the policy was not followed up due to a processing error.

Resulting Best Data for the Analysis

Data from the family interview were compared with those obtained from the verification and decisions were made about what information was most accurate. The resulting best data provided the basic source of health insurance information used for the study as a whole and for the analysis of multiple coverage. The most basic question to be answered by the comparison of family and third party data was whether or not a policy should be accepted for subsequent processing.

The decision-making process used to arrive at the "best" data was a tedious, complicated combination of computer, card system and manual operations. In general, data from the verification were assumed to be more valid than respondent information when the two conflicted. However, in a few cases respondent data were judged more accurate.

Decisions were sometimes based on whether or not the respondent provided a policy or certificate at the time of the interview, whether the policy had provided benefits during the survey year, the general validity of the interview as judged by the interviewer, our estimates of the validity of the interview, and the apparent care and effort taken on the part of the third party to provide accurate, complete information.

A policy was not rejected unless there was substantial evidence that it did not meet the criteria of acceptability. Information most often used to reject a policy was that a third party reported the insurance in question was not health insurance, that the policy was health insurance but was not in effect during 1963, or that a person was a member of a group but did not get health insurance through the group as he reported. Since a third party report of "no record of coverage" did not necessarily mean no such coverage existed, such policies were rejected only when family information appeared to be unreliable or questionable. The number of policies rejected as a result of the verification process was 101.

For the 2,598 policies accepted for the final analysis, further comparisons of information provided by families and third parties were made to provide even more accurate and complete information. Included were type of carrier (Blue Cross, private insurance, independent), type of enrollment (group, non-group) and type of coverage (hospital, surgical, regular medical, major medical), respondent premium, and employer contribution to premium cost.

At the time of interview the respondents were asked to provide evidence that each policy reported was in existence and in effect. This evidence might take the form of the policy itself or a certificate or membership card. Such evidence, when no outside information was received, provided some verification of the verbal report by the respondent. The levels of verification for the 2,598 policies accepted for the analysis is broken down as follows:

	Per Cent
Independent verification from a third party.....	75
Policy or certificate provided by respondent.....	15[a]
Only verbal report by respondent.....	10

[a] Includes Armed Forces Dependents' Medical Care Program.

It should be remembered that this verification could only be based on initial information provided by respondents. While much inaccurate reporting by respondents was corrected by these verification procedures, some health insurance was most likely not reported by the respondent and not discovered by the verification. It was concluded from a methodological check of underreporting in the 1953 HIF-NORC Study that "it is scarcely possible that more than 2 per cent of the individuals in the sample who were classified as not having insurance actually had group hospital insurance through their place of employment. The underestimate for the sample

due to this factor is probably considerably less than 2 per cent."[3] Procedures in the latest study have not changed enough to suppose that the evaluation of underreporting in 1963 would be different.

[3] Anderson and Feldman, p. 235.