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Charges for Health Services in a Northwest Missouri County

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CONTENTS

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Charges for Health Services in a Northwest Missouri County

EDWARD W. HASSINGER AND ROBERT L. MCNAMARA

INTRODUCTION

This is the second of three reports on Harrison County which attempt to present a comprehensive picture of health practices in that county. It also parallels a report for Laclede County dealing with charges for health services.[1]

Personal health costs account for about 5 percent of all family expenditures in the United States. These costs, however, are unevenly distributed among families. They amount to nothing for some and constitute a major burden for others. Also, in many cases medical expenses are not anticipated and often not planned for. In this report costs for physician and hospital services are considered and also methods of meeting these costs.

The methodology for this study was detailed in a previous report.[2] Briefly, data are from a random sample of open-country households in Harrison County, Missouri. Interviews were conducted with at least one adult member of the household during the fall of 1956. In all, 152 interviews were completed.

The County

Harrison County is located in Northwest Missouri, and is an area of commercial agriculture and family farms. A major consideration for its selection was that it is a core county of social area AB_2 according to Gregory's delineation of the state.[3] In 1954, the level of living of farm operators in the county, as measured by the Hagood Index, was very close to the State's average.[4] The population of the county had declined almost 15 percent from 1940 to 1950, numbering 14,107 in 1950. The one urban place in the county had a population of 2714 in 1950; it had barely held its own in population since 1940. Two hospitals were

[1] Missouri AES Res. Bul. 668.

[2] Missouri AES Res. Bul. 720.

[3] Cecil L. Gregory, *Rural Social Areas in Missouri,* AES Res. Bul. 665, University of Missouri, April 1958, p. 12.

[4] Margaret Jarman Hagood, Gladys K. Bowles, and Robert R. Mount, *Farm-Operator Family Level-of-Living Indexes For Counties of the United States 1945, 1950, and 1954,* U.S.D.A. Agricultural Marketing Service, Statistical Bul. 204, March 1957, p. 49.

Harrison County index score equaled 137, the average for the state was 135.

located in the largest center; Reid (osteopathic) with 14 beds, and Noll Memorial (medical) with 26 beds. Fifteen physicians were located in the county; six were medical doctors, and nine were doctors of osteopathy.

CHARGES FOR PHYSICIAN AND HOSPITAL SERVICES

Physician and hospital services are major items in the cost of illness. Most of these costs are paid by individual families, although some are met through public and private agencies or are absorbed as free care by the physician or hospital. The charges reported here include those that the families were obligated to pay. This did not include costs of public facilities such as Veterans Administration Hospitals or charity cases. It did include unpaid bills, costs met through insurance, and charges to public assistance recipients where budgetary provisions had been arranged for health expenditures.

For the 152 households in the sample, the total charges reported for physician and hospital services were $12,890 for the year ending September 1, 1956. This was an average of $85 per household. These households spent $8207 for physician services and $4683 for hospital services, averaging $54 and $31 per household respectively.

The costs of physician and hospital services, however, were not distributed evenly throughout the households. Fifteen pecent of them had no costs during the year and 58 percent had costs of under $50. The median was $32; when this is compared to the mean of $85 the uneven distribution of costs is apparent.

A further demonstration of this point is seen in Table 1. Twenty percent of the charges for physician's services was accounted for by 4 percent of the

TABLE 1--CHARGES FOR PHYSICIAN AND HOSPITAL SERVICES FOR HOUSEHOLDS WITH CHARGES OF $200 OR MORE

Service	Number	Charges
Physician		
Total	152	$ 8,207
$200 or more	6	$ 1,670
Percent of total	4	20
Hospital		
Total	152	$ 4,683
$200	7	$ 2,064
Percent of total	5	44
Combined Physician and Hospital		
Total	152	$12,890
$200	21	$ 7,429
Percent of total	14	58

households with charges of $200 or more. Hospital charges were even more concentrated in that 5 percent of the households accounted for 44 percent of the hospital charges. When hospital and physician charges were combined, 14 percent of the households with $200 or more in charges accounted for 58 percent of the charges.

COMPARISON OF PHYSICIAN AND HOSPITAL CHARGES IN HARRISON COUNTY, MISSOURI, WITH OTHER SURVEYS

Charges for physician and hospital services can be compared with published figures from other surveys. The principal comparison presented is with the nationwide survey sponsored by the Health Information Foundation and conducted by the National Opinion Research Center in 1953.[5] Because of the time difference and certain differences in definitions, the nationwide survey is not strictly comparable to the Harrison County.[6] Later on in this section comparisons of charges are made with enrollees in health insurance plans which constitute populations that are quite different from Harrison County in residence characteristics.[7] Comparisons are also made with a sample from Laclede County, Missouri, which was selected in the same manner as the Harrison County sample and used the same data collecting methods.[8] There was a difference in time of one year between the two studies. It is *not* the principal purpose of this report to present a detailed comparison between Harrison and Laclede Counties, which is intended in a subsequent report. However, in presenting comparative data it would seem inappropriate not to include that data which was collected in a manner closest to that used in Harrison County.

Average charges for physician and hospital services

Table 2 presents a comparison of the average charges for physician services and for hospital services for Harrison County open-country households with Laclede County open-country households and various residential categories reported in the Nationwide Survey. Average charges for each household were lower in Harrison County than for any of the other samples used for comparison. They averaged $19 less than charges in Laclede County or in the rural-farm category of the Nationwide Survey. In the Harrison County open-country sample, physician services accounted for 64 percent of the physician-hospital charges as com-

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

[6]In the nationwide survey the family was the unit; in Harrison County it was the household—in the nationwide survey the residential categories were urban, rural non-farm, rural farm; in Harrison County an open-country sample was used, which included both rural non-farm and rural farm households but was predominantly rural farm.

[7]Odin W. Anderson, *Voluntary Health Insurance in Two Cities,* Harvard University Press, Cambridge, 1957.

[8]Missouri AES Res. Bul. 668.

TABLE 2--CHARGES REPORTED FOR PHYSICIAN AND HOSPITAL SERVICES FOR HARRISON COUNTY COMPARED TO CHARGES REPORTED FOR LACLEDE COUNTY AND FOR A NATIONWIDE SURVEY*

	Average Charges per Family (Household)** by Place of Residence													
	Harrison County, Missouri-1956 (Households)**		Laclede County Missouri-1955 (Households)**		Nationwide Survey - NORC 1953 (Families)**									
Type of Service	Open-Country		Open-Country		All Areas		Urban (1 million or more)		Other Urban Areas		Rural Non-Farm		Rural Farm	
	Charges	% of Total	Charges	% of Total	Charges	% of Total	Charges	% of Total	Charges	% of Total	Charges	% of Total	Charges	% of Total
Physician Service	$54	64	$60	58	$78	66	$91	70	$74	63	$79	65	$69	66
Hospital Service	31	36	44	42	41	34	39	30	44	37	42	35	35	34
Total	85	100	104	100	119	100	130	100	118	100	121	100	104	100

*Odin W. Anderson with Jacob J. Feldman, Family Medical Costs and Voluntary Health Insurance: A Nationwide Survey, McGraw-Hill, New York, 1956; data from Table A-17, page 116. (The research was sponsored by Health Information Foundation, conducted by the National Opinion Research Center.)

**The unit in Harrison and Laclede Counties was the household; it was the family in the Nationwide Survey.

pared with 58 percent in the Laclede County open-country sample and 66 percent in the Nationwide sample.

Distribution of charges for physician and hospital services

Perhaps more informative than average charges is the distribution of charges of households for physician and hospital services. In Tables 3 and 4 these charges are compared for the Harrison County open-country sample, the Laclede County open-country sample, the Nationwide sample, and enrollees in three different health insurance plans in two different cities.

The distribution of charges for physician services (Table 3) indicates that the Harrison County open-country sample had relatively fewer households with no charges and with high charges ($195 or more). Only 15 percent of the households in the Harrison County survey reported no charges at all, compared with 22 percent in the Laclede survey, 25 percent in the Nationwide Survey, and 17, 20, and 24 percent for enrollees in the three health insurance plans. At the high extreme of the distribution, the Harrison County sample also had the lowest proportion of households of any of the distributions examined.

When charges for hospital services for the various surveys are examined in Table 4, it is seen that the percentage of households with no charges for hospital services was quite similar for all the distributions, approaching three-fourths of the households in each case. Again, the Harrison County distribution showed relatively fewer households with highest charges, although the distributions of charges for hospital services in all the surveys examined were quite similar. The general similarity of distribution of charges is perhaps more meaningful than the difference in average costs because, especially in a small sample, one or two extremely high expenditures can materially affect the average.

PHYSICIAN AND HOSPITAL CHARGES ACCORDING TO CHARACTERISTICS OF HOUSEHOLDS

In this section, charges for combined physician and hospital services are considered in relation to selected socio-economic characteristics of the households. The factors considered are: income, level of living, age, size, and education.

The percentage distribution of charges for all households is shown in Table 5. The reader may use this distribution as a standard to compare with any of the following distributions in Table 6 through 10.

It should be pointed out that charges for health services are not an accurate indication of illness in a population or any category thereof. As a case in point it was reported in another bulletin in this series that the oldest households used few services relative to the number of days of illness they had.[9]

[9]Missouri AES Res. Bul. 720.

TABLE 3--PERCENTAGE DISTRIBUTIONS OF PHYSICIAN CHARGES COMPARING HARRISON COUNTY WITH OTHER SURVEYS

Charges	Harrison County Open-Country Households (N=152)	Laclede-1 County Open-Country Households (N=152)	Nationwide-2 Survey-NORC* (N=2809)	Birmingham-3 BC/BS Enrollees (N=945)	Boston-3 BC/BS Enrollees (N=1183)	Aetna-3 Employed Groups (N=356)
	Percent	Percent	Percent	Percent	Percent	Percent
None	15	22	25	17	20	24
$1-44	43	45	30*	34	37	34
$45-94	22	14	17*	18	13	16
$95-194	16	10	15	18	16	13
$195-294	2	5		7	6	7
$295-394	2	3	11	3	3	3
$395 or more	-	1		3	4	3
not stated	-	-	1	1	2	1
Total**	100	100	99	101	101	101

*The categories for the Nationwide Survey were $1-45 and $46-94.
**Percentages may total more or less than 100 due to rounding.

Sources:

1. Agricultural Experiment Station Research Bulletin 668, University of Missouri, Columbia, Missouri, June 1958; Table 3, page 8.
2. Odin W. Anderson with Jacob J. Feldman, Family Medical Costs and Voluntary Health Insurance: A Nationwide Survey, McGraw-Hill, New York, 1956; Table A-41, page 140.
3. Odin W. Anderson, Voluntary Health Insurance in Two Cities, Harvard University Press, Cambridge, 1957; Table A-13, page 72.

TABLE 4--PERCENTAGE DISTRIBUTION OF HOSPITAL CHARGES -- COMPARING HARRISON COUNTY WITH OTHER SURVEYS

Charges	Harrison County Open-Country Households (N=152)	Laclede-1 County Open-Country Households (N=152)	Nationwide-2 Survey-NORC* (N=2809)	Birmingham-3 BC/BS Enrollees (N=945)	Boston-3 BC/BS Enrollees (N=1183)	Aetna-3 Employed Groups (N=356)
	Percent	Percent	Percent	Percent	Percent	Percent
None	74	73	74	73	72	70
$1-44	7	5	4	4	4	8
$45-94	5	9	7	5	4	3
$95-194	9	5	8	11	10	9
$195-294	3	5	6	3	4	5
$295-394	1	2		2	2	2
$395 or more	1	1		2	4	2
Total**	100	100	99	100	100	99

*The categories for the Nationwide Survey were $1-45 and $46-94.
**Percentages may total more or less than 100 due to rounding.

Sources:

1. Agricultural Experiment Station Research Bulletin 668, University of Missouri, Columbia, Missouri, June 1958; Table 3, page 8.
2. Odin W. Anderson with Jacob J. Feldman, Family Medical Costs and Voluntary Health Insurance: A Nationwide Survey, McGraw-Hill, New York, 1956; Table A-41, page 140.
3. Odin W. Anderson, Voluntary Health Insurance in Two Cities, Harvard University Press, Cambridge, 1957; Table A-13, page 72.

TABLE 5--PERCENTAGE DISTRIBUTION OF COMBINED PHYSICIAN AND HOSPITAL CHARGES FOR OPEN-COUNTRY HOUSEHOLDS, HARRISON COUNTY

Combined Charges Physician and Hospital Services	Households
	Percent (N=152)
None	15
Under $50	43
$50-99	17
$100-199	11
$200-499	12
$500 and over	2
Total	100

Income

There did not appear to be much difference in the distributions of charges on the basis of net household income. A slightly larger proportion in the lowest income category reported no charges or charges under $50 than in the highest income category (64 percent to 54 percent). The proportion with charges of $200 or more was almost the same for all three income categories. (Table 6) It is not possible to say to what extent the low income may be attributed to poor health, but where illness strikes the breadwinner it has an effect upon income.

TABLE 6--PERCENTAGE DISTRIBUTION OF PHYSICIAN AND HOSPITAL CHARGES BY NET INCOME OF THE HOUSEHOLDS

Charges	Net Income for Households*		
	Under $1000	$1000-$3000	$3000 and over
	Percent (N=31)	Percent (N=65)	Percent (N=50)
None	19	15	12
Under $50	45	38	44
$50 - 99	13	20	18
$100 - 199	7	14	10
$200 - 499	13	11	14
$500 and over	3	2	2
Total	100	100	100

*Six did not answer this question.

Level of Living

Income may not be a sensitive index of economic position in rural areas from year to year and from one age category to another. (Older people, for example, may have low income but high economic resources.) Another index of economic position was obtained from a level of living score based on possession of material items. Seventy percent of the households with the lowest level of living scores had no charges or charges of less than $50, compared with 43 percent with the highest level of living scores. (Table 7) Households with the highest level of living scores also had the largest proportion in the higher charges categories.

TABLE 7--PERCENTAGE DISTRIBUTION OF PHYSICIAN AND HOSPITAL CHARGES BY LEVEL OF LIVING SCORE OF HOUSEHOLD

Charges	Level of Living Score		
	Under 14	14-16	17 and over
	Percent (N=30)	Percent (N=73)	Percent (N=49)
None	23	15	12
Under $50	47	49	31
$50 - 99	17	12	25
$100 - 199	3	12	14
$200 - 499	7	11	16
$500 and over	3	1	2
Total	100	100	100

Age of Household Head

The youngest households were most likely to have some expenses for physicians or hospital services. Only 8 percent of households with heads under 45 years of age were without some physicians or hospital obligations. In the oldest households one-quarter were without such charges. The youngest households were also over-represented in the medium-high categories, ($100 to $500) but were not represented at all in the highest category (over $500). (Table 8)

Number in the Household

Only one of the 28 households with five or more members was without physicians or hospital expenses during the survey year. On the other hand, more than one-quarter of the one- and two-member households had no charges (Table 9). Also, 39 percent of the largest households had no charges or charges under $50 compared with 72 percent of the smallest households. None of the largest households were in the highest category, although they were over-represented in the $100-199 and the $200-499 categories.

TABLE 8--PERCENTAGE DISTRIBUTION OF PHYSICIAN AND HOSPITAL CHARGE BY AGE OF HEAD OF HOUSEHOLD

Charges	Age of Head		
	Under 45	45 - 64	65+
	Percent (N=48)	Percent (N=68)	Percent (N=36)
None	8	15	25
Under $50	41	45	38
$50 - 99	15	16	22
$100 - 199	15	12	6
$200 - 499	21	9	6
$500 and over	--	3	3
Total	100	100	100

TABLE 9--PERCENTAGE DISTRIBUTION OF PHYSICIAN AND HOSPITAL CHARGES BY NUMBER IN HOUSEHOLD

Charges	Number		
	1 - 2	3 - 4	5+
	Percent (N=65)	Percent (N=59)	Percent (N=28)
None	26	8	3
Under $50	46	42	36
$50 - 99	14	17	25
$100 - 199	6	14	18
$200 - 499	5	17	18
$500 and over	3	2	--
Total	100	100	100

Education of Household Head

The proportion of households without physicians or hospital charges did not vary much with the education of the head of the household. There was some tendency for those in the middle education category to have lower charges and for those households in which the head had a high school education or more to have relatively high charges. However, education showed no clear pattern of association with charges. (Table 10)

Interrelationship of Selected Socio-Economic Variables in Physician and Hospital Charges

Here combinations of variables as they relate to charges are considered. Three variables were used; namely, income, age of head, and size of household.

The charges categories were reduced from six to two. This was done because of the small number of cases in some cells resulting from imposing controls and in order to reduce the visual complication of the tables. Even so, the numbers are small in some cells and interpretation must be cautious. Percentages were not computed in cells where the number of cases was under ten.

TABLE 10--PERCENTAGE DISTRIBUTION OF PHYSICIAN AND HOSPITAL CHARGE BY EDUCATION OF HEAD OF HOUSEHOLD

Charges	Grade Completed		
	Under 8	8 - 11	12+
	Percent (N=26)	Percent (N=81)	Percent (N=45)
None	11	17	13
Under $50	39	51	31
$50 - 99	31	12	18
$100 - 199	11	9	16
$200 - 499	4	9	22
$500 and over	4	2	--
Total	100	100	100

Table 11 shows the relationship of income and charges when age of the head of the household is held constant. In the youngest age category there was no difference in the proportion of households with charges under $50 on the basis of income of $1000-2999 or $3000 or more. In the middle age category (45-64 years), the lowest income grouping had the highest proportion of households with charges under $50. But moving down the table to the oldest age catgory (65+), the largest proportion of low physician and hospital charges occurred in the highest income grouping. In other words, there appears to be some tendency for low income and higher physician and hospital charges to go together in the oldest households. One explanation for this might be that illness in this age grouping more directly affects income of the household.

In Table 12, the relationship of number of members and charges is considered when age of the household head is held constant. Small households, whether in the middle or oldest age grouping (there were only five small households in the youngest age grouping), were likely to have low charges. In the youngest households, size, (three to four or five or more members) was not related to the proportion with low charges for physician and hospital services.

The concentration of low charges in the small households is also seen when this relationship is examined with income held constant in Table 13. The highest proportion of households in the higher charges category occurred where high income and large households coincided. However, the number of cases in this cell was so small that great confidence in the reliability of the relationship was not justified.

TABLE 11--CHARGES FOR PHYSICIAN AND HOSPITAL SERVICES BY NET INCOME OF HOUSEHOLDS WITH AGE OF HOUSEHOLD HEADS CONTROLLED

	Net Income		
	$1000	$1000-2999	$3000+
	Percent (N=2)	Percent (N=23)	Percent (N=23)
Age of household head under 45 years			
Charges under $50	--	52	48
$50 or more	--	48	52
	Percent (N=18)	Percent (N=30)	Percent (N=15)
Age of household head 45-64 years			
Charges under $50	72	53	53
$50 or more	28	47	47
	Percent (N=11)	Percent (N=12)	Percent (N=12)
Age of household head 65 years or over			
Charges under $50	55	58	75
$50 or more	45	42	25

*Income not reported for 6 households.

TABLE 12--CHARGES FOR PHYSICIAN AND HOSPITAL SERVICES BY SIZE OF HOUSEHOLD WITH AGE OF HOUSEHOLD HEADS CONTROLLED

	Number of Members in Household		
	1 - 2	3 - 4	5 or more
	Percent (N=5)	Percent (N=24)	Percent (N=19)
Age of household head under 45 years			
Charges under $50	--	46	47
$50 or more	--	54	53
	Percent (N=33)	Percent (N=26)	Percent (N=9)
Age of household head 45-64 years			
Charges under $50	73	58	--
$50 or more	27	42	--
	Percent (N=27)	Percent (N=9)	Percent (N=0)
Age of household head 65 years or over			
Charges under $50	71	--	--
$50 or more	29	--	--

TABLE 13--CHARGES FOR PHYSICIAN AND HOSPITAL SERVICES BY SIZE WITH NET INCOME OF HOUSEHOLDS CONTROLLED

	Number of members in household		
	1 - 2	3 - 4	5 or more
	Percent (N=17)	Percent (N=11)	Percent (N=3)
Net Income under $1000			
Charges under $50	71	64	--
$50 or more	29	36	--
	Percent (N=26)	Percent (N=25)	Percent (N=14)
Net Income $1000-$2,999			
Charges under $50	69	32	64
$50 or more	31	68	36
	Percent (N=18)	Percent (N=21)	Percent (N=11)
Net Income $3,000 or more			
Charges under $50	77	62	9
$50 or more	23	38	91

PAYING FOR HEALTH SERVICES

To a certain extent the public has assumed the responsibility of providing and maintaining a healthy and safe environment in which to live. Public health agencies work principally in this area. On the other hand, responsibility for the ill person remains largely with the family. This is reflected in the expenditures that have been examined and is an important consideration in meeting these obligations. Basically, a family may meet its health costs by direct payment for services rendered, or by some prepaid arrangement. The medical profession and hospitals also have traditionally absorbed a part of these obligations as unpaid bills. Even in the days of widespread health insurance, most health costs are paid directly by the family, sometimes using credit or borrowing in the process. In the United States in 1953 about 20 percent of the personal health costs were met through voluntary health insurance.[10]

Paying a Hypothetical Medical Bill of $100, $500, $1000

Respondents in each household were asked how they would meet hypothetical medical bills of progressively greater amounts, assuming they had no health insurance. Table 14 shows the methods of payment indicated for costs progressing from $100 to $500 to $1000.

As the amount of the medical bill increased, the proportion of households that would be able to meet it from savings and current income declined from

[10]U. S. Department of Health, Education, and Welfare, "Voluntary Insurance Against Sickness: 1948-53 Estimates", *Social Security Bulletin*, December 1954, page 9.

TABLE 14--PERCENTAGE DISTRIBUTION OF METHODS OF PAYING HYPOTHETICAL CHARGES OF $100, $500, $1,000 FOR PHYSICIAN AND/OR HOSPITAL SERVICES* HARRISON COUNTY

Method of Payment	Amount of Hypothetical Charges		
	$100	$500	$1000
	Percent (N=152)	Percent (N=152)	Percent (N=152)
Savings and/or current income	79	41	12
Installments and/or borrowing	17	49	66
Sell assets	3	7	9
Couldn't pay	1	3	7
Don't know	--	--	4
No answer	1	1	2
Total**	101	101	100

*Respondents were asked to assume that the household had no health insurance.

**Percentages may total more or less than 100 due to rounding.

79 percent for $100 charges to 12 percent for $1000 charges. These families would for the most part turn to credit in the form of installment paying or borrowing to meet the larger bills. Even for the higher charges, few responded that they could not pay, although, at the $1000 level, about 10 percent would be forced to sell some of their assets.

The responses were analyzed according to income of the household. The method of meeting hypothetical health charges was closely related to the income of the households, as can be seen in Table 15. In the lowest income grouping, fewer than one-half could pay the $100 bill from savings or current income and almost one-fourth said that they would be unable to pay a bill of $1000 at all. In the income grouping of $3000 or more almost all would pay a bill of $100 out of savings or current income, but two-thirds would use credit for charges amounting to $1000. Only one respondent in this income category indicated the family would be unable to pay a bill of $1000.

How Health Charges Were Paid

During the survey year, only about one-fourth of the households had bills as large as the smallest hypothetical bill ($100). The methods used to pay the actual bills were similar in their distribution to the responses to the hypothetical question at the $100 level in that savings and current income was the most frequent method used (Table 16). Reportedly little use was made of borrowing or installment payments. Even the few reported unpaid bills were not necessarily bad debts; for instance, one family was waiting for insurance to meet their obligations. However, there may have been unpaid bills not reported to the interviewers.

TABLE 15--PERCENTAGE DISTRIBUITON OF METHODS OF PAYING HYPOTHETICAL CHARGES OF $100, $500, AND $1,000 FOR PHYSICIAN AND/OR HOSPITAL SERVICES WHEN INCOME OF HOUSEHOLDS WAS CONTROLLED*

Method of Payment	Amount of Hypothetical Charges $100	$500	$1000
	Percent** (N=31)	Percent** (N=31)	Percent** (N=31)
Income under $1000			
Savings and/or current income	45	16	3
Installments and/or borrowing	39	52	52
Sell assets	10	16	19
Couldn't pay	3	13	23
Don't know	--	--	--
No answer	3	3	3
	Percent (N=65)	Percent (N=65)	Percent (N=65)
Income $1000 - $3000			
Savings and/or current income	80	29	8
Installments and/or borrowing	19	66	72
Sell assets	2	3	8
Couldn't pay	--	--	3
Don't know	--	2	9
No answer	--	--	--
	Percent (N=56)	Percent (N=56)	Percent (N=56)
Income $3000 or more			
Savings and/or current income	96	68	21
Installments and/or borrowing	4	28	68
Sell assets	--	4	5
Couldn't pay	--	--	2
Don't know	--	--	--
No answer	--	--	4

*Respondents were asked to assume that the household had no health insurance.

**Percentages may total more or less than 100 due to rounding.

Table 16 also shows that 31 percent of the households with hospital costs were at least partially covered by health insurance. Since one-third of all households in the sample had health insurance, it does not appear that the number of households with hospital experience was over-represented among those with health insurance.

TABLE 16--METHODS OF MEETING PHYSICIANS AND HOSPITAL CHARGES HARRISON COUNTY

Method of Payment	Households	
	Physician Charges	Hospital Charges
	Percent* (N=129)	Percent* (N=42)
Insurance	15	31
Savings and/or current income	92	67
Installment	3	2
Borrow	--	2
Public Agency	1	--
Unpaid	2	7
Other	7	12

*The percentages total more than 100 because some households reported more than one method.

Note: Twenty-three reported no doctor bill; 110 reported no hospital bill.

HEALTH INSURANCE

Health insurance warrants a more searching examination because of its great importance in health economics. When the first prepaid plan for hospital care was inaugurated at Baylor University Hospital in Dallas, it could not have been expected that 30 years later more than two-thirds of the families of the nation would be enrolled in some type of prepaid health plan and that major concern would be expressed because the other one-third was not so protected. In this period, voluntary health insurance has emerged from a number of possible approaches as the principal instrument of planning for the payment for health care in this country. Recently, it was estimated that at least 1150 different organizations were providing voluntary health insurance in the United States.[11] The development has not been uniform, and health insurance plans are still undergoing changes. The trend is toward increasing the number of persons insurable and broadening the areas of service covered by insurance. We may probably look forward to a time when the best experience with voluntary health insurance will provide greater uniformity in health plans.[12]

[11]U. S. Department of Health, Education, and Welfare in a report prepared for the Committee on Ways and Means of the House of Representatives, *Hospitalization Insurance for OASDI Beneficiaries.* U. S. Printing Office, Washington, D. C., April 3, 1959, p. 47.

[12]Among other proposals either given consideration or tried are compulsory health insurance (government administered), group health plans, and health cooperatives.

Enrollment in Health Insurance

In 1958, 69 percent of the families in the United States had at least one member covered by some type of health insurance.[13] For certain categories of the population, coverage was considerably higher. For example, 75 percent of the families in cities of a million or more had some coverage, and 93 percent of the families of workers employed in transportation, communication, and public utilities had some coverage.[14] Among the categories of the population that were under-represented in health insurance enrollment were the elderly, low income families, and the rural-farm population.

For the nation, it appeared that the proportion of families in the rural farm population with health insurance coverage had not increased appreciably from 1953 to 1958. The Health Information Foundation reported 45 and 46 percent of the families in the rural farm population covered in those years. Since the enrollment went up for the population as a whole (from 63 to 69 percent of the families), the farm population lagged even further than it had five years earlier.[15]

In Harrison County among the open-country sample, about one household in three had some health insurance protection. This was far below figures for the nation as a whole and also below national figures for the rural-farm population.

Type of Enrollment

A basic distinction in health insurance plans is whether enrollment is on a group or non-group basis. Group insurance is issued to existing groups with the provision that a substantial proportion of the membership participates. This type of enrollment has administrative and actuarial advantages which often reflect price and coverage advantages for those insured. Group plans, however, may lack flexibility and by definition they exclude persons not in insurable groups.

Employee-groups are the most important channels for acquiring voluntary health insurance. In 1954, it was estimated that 62 percent of the population in the United States was employed in groups of five or more, or were dependents of such employed persons and therefore eligible for insurance as members of employee-groups.[16] The importance of employee-group enrollment is underlined by the fact that in 1954, 89 percent of Blue Cross enrollees were members, or former members, of employee-groups.[17] And it was recently estimated that

[13]Health Information Foundation, "Voluntary Health Insurance: 1953 and 1958", *Progress in Health Services*, Vol. VIII, No. 5, May 1959, page 1.

[14]Ibid, page 2.

[15]Anderson with Feldman, *op. cit.* page 16. Health Information Foundation, *op. cit.* pages 1 and 2.

[16]Sol Levine, Odin W. Anderson, and Gerald Gordon, *Non-Group Enrollment for Health Insurance*, Harvard University Press, Cambridge, 1957, p. 13.

[17]Ibid. p. 13.

about three-fourths of the health insurance coverage in the nation "derives from employee benefit plans under collective-bargaining arrangements or established unilaterally by the employers."[18]

There are certain automatic features associated with employee-group plans. In Health Information's Nationwide Survey conducted in 1953, it was found that employers met at least part of the cost of 59 percent of the policies held through work-groups (they met the entire cost of 10 percent.).[19] Even when the entire cost is paid by the worker, collection through payroll deduction entails a minimum of responsibility on the part of the enrollee after the initial decision to purchase insurance.

Attempts have been made to provide group insurance to other than employee-groups. In rural areas, farm organizations have been utilized for this purpose. For example, since 1938 Missouri group enrollment in Blue Cross has been offered through the Missouri Farm Bureau. In 1959, over 60,000 persons were covered by the Blue Cross plan in 99 counties in the state through Farm Bureau enrollment.[20]

Attempts have also been made in rural areas to enroll localities (communities) as groups. Success was reported in this type of enrollment in North Carolina[21] and in the Cincinnati area of the Blus Cross Plan.[22]

Even though there has been some progress in group enrollment among rural-farm people, they are enrolled in non-group plans to a greater extent than are other residential categories.[23] This was markedly the case among the open-country sample in Harrison County, where 86 percent of the households with health insurance were enrolled in non-group plans.

The explanation for the relatively low number of rural-farm residents having health insurance may be related in some ways to differences of income and perhaps to differences in outlook concerning insurance; however, an obvious reason is the advantage that employee-groups have as mechanisms for enrollment. And in those cases where employers pay a substantial part of the insurance costs, the differences in enrollment can be attributed to institutional arrangements rather than to differences in individual abilities or decisions.

The high proportion enrolled in non-group plans in rural-farm areas in general and in open-country Harrison County in particular, raises a further question concerning adequacy of coverage. There is some evidence that equal cover-

[18]U. S. Department of Health, Education, and Welfare, *Hospitalization Insurance for OASDI Beneficiaries, op. cit.*, p. 42.

[19]Anderson with Feldman, *op. cit.*, p. 20.

[20]Members of the Farm Bureau are not necessarily rural farm residents.

[21]Donald G. Hay and C. Horace Hamilton, *Acceptance of Voluntary Health Insurance in Four Rural Communities of Haywood County, North Carolina, 1953*, Progress Report RS-24, AES North Carolina State College, Raleigh, North Carolina.

[22]Levine, Anderson, and Gordon, *op. cit.*, p. 45.

[23]Anderson with Feldman, *op. cit.*, p. 104.

age is not received at the same cost from non-group plans as from group plans.[24] Also, group plans negotiated by employers and often by labor unions are likely to be given close scrutiny by legal and other talent of those organizations. Most individuals do not possess the resources or the inclination for such investigation. But merely possessing a health insurance policy is no assurance of adequate protection against cost of illness. Such things as maximum daily coverage, waiting periods, exclusions, and other qualifications are important considerations. It was not encouraging, therefore, that in Harrison County about one-half of the respondents in households having insurance said they did not know what payments were made for hospitalization, and about 80 percent said they did not know what payments were made for physician's services (Table 17).

Since a large proportion of the open country people must make judgements concerning the adequacy of the health insurance policies they buy, it seems that educational efforts in this area would be appropriate.

TABLE 17--KNOWLEDGE OF PAYMENT BY INSURANCE FOR HOSPITALIZATION AND PHYSICIAN CARE FOR HOUSEHOLD WITH HEALTH INSURANCE

Response	Households with Health Insurance	
	Do you know what payments are made by insurance for hospitalization?	Do you know what payments are made by insurance for physician's care?
	Percent (N=49)*	Percent (N=49)*
Does know	49	18
Does not know	43	49
Some idea but not certain	8	33
Total	100	100

*No answer for one household with insurance.

Use of Health Insurance

As was pointed out previously, 31 percent of the households having hospital charges during the survey year and 15 percent of the households having physician's charges used health insurance to cover at least part of those expenses. Of the households that had health insurance at the time of the survey, 64 percent had used it at some time, and 90 percent of them reported satisfaction with the insurance when used. However, apparently many who discontinued health insurance did so because of dissatisfaction.

[24]Levine, Anderson, and Gordon, *op. cit.*, pp. 13-25.

Length of Time Households Had Health Insurance

Experience with health insurance among the families in the sample was fairly long-standing. Of the households with health insurance, almost half of them had held it for five years or longer, and 16 percent for ten years or longer. On the other hand, 18 percent were recent purchasers, having their health insurance less than three years.

Influences in Buying Health Insurance

Respondents were asked, "How did you come to buy health insurance—where did you get the idea and information about it?" Some reported more than one influence. The most striking point in Table 18 is the large proportion of households that were influenced by salesmen. Many of these salesmen were from outside the community and sold from house to house. For example, one respondent reported, "A guy came along selling it. I wasn't too thrilled over it myself." Or in another case, "There was a salesman came through; he sold quite a bit around here—we hadn't thought too much about it."

Not many had obtained insurance through employment. This points up the difference in method of acquiring health insurance between employed groups and the self-employed. In open-country areas where there is more off-farm work, one would expect employment to be a greater influence. This was in fact true in Laclede County, where 36 percent of the households had been influenced through their employment to buy health insurance.[25]

TABLE 18--INFLUENCES REPORTED IN BUYING HEALTH INSURANCE

Influence	Households with Health Insurance	
	Number	Percent*
Through employment	4	8
Talked with associates	5	10
Friends	2	
Relatives	3	
Endorsed by bank	3	6
Advertisement	6	12
Direct mail	3	
Radio	1	
Magazine	2	
Salesman	32	64
Felt Need	9	18
Illness made need apparent	1	
Getting older	2	
Nature of work	1	
General need	5	
'No Answer' and 'Don't Know'	4	8

*The percentages total more than 100 because some households reported more than one influence.

[25]Missouri AES Res. Bul. 668, p. 20.

The decision to buy health insurance may have been affected by such immediate influences as a salesman describing the benefits of a particular policy, or an advertisement in a magazine, but the process was undoubtedly more complex than that. Some knowledge of health insurance was universal in the households interviewed. In some cases the decision to buy health insurance seems to have been opportunistic. For example, one respondent said, "The agent came around—we had been talking before he came. [We are] getting to the age where we might need it and everything is so high." Or another, "I was here alone and needed extra protection—never was much for insurance."

Discontinuing Health Insurance

Although the number of households having health insurance was relatively low, a larger proportion had owned health insurance at some time. Eighty-four of the 152 households (56 percent) reported either having health insurance at the present or in the past. In the sample, 49 households or one-third had discontinued a health insurance policy that they once had. Of those, 34 were without coverage at the time of the interviews.

The most common reason given for discontinuing health insurance was dissatisfaction with the insurance. The second most important reason was some variation on the cost theme. Among other reasons mentioned were changing employment, cancellation by the company, and that the family's financial situation was secure enough to allow them to dispense with insurance (Table 19).

TABLE 19--REASONS FOR DISCONTINUING HEALTH INSURANCE

Reason	Households	
	Number	Percent*
Not satisfied with policy	25	51
Cost	11	22
Left job	5	10
Went to army	1	2
Thought another policy better	2	4
Cancelled by the company	2	4
Neglect	2	4
Believed cheaper not to have insurance	4	8

*Percentages total more than 100 because some households reported more than one reason.

Some of the replies recorded by the interviewers indicate the thinking of respondents who dropped health insurance. Among those who said that cost was the reason, the following comments were made:

"We kept it for a year, but couldn't keep up payments."

"Didn't know that it took so much to keep it up. In a few years we could pay a hospital bill as easily as insurance."

"Too high, couldn't keep up payments."

A large proportion discontinued insurance because it didn't pay as they thought it should. Some of the comments of people who gave this reason follow:

"We felt we didn't get our money's worth. Mr. ——— broke his finger but since he was not a hospital patient the insurance didn't cover it."

"There was a difference in what we expected and what we got."

"Wasn't satisfied when I had a hospital bill. It didn't pay enough [we] figured [we] could do just as well by saving."

In a number of cases the respondents indicated that they thought the salesman had misrepresented the policy. This may or may not have been the case, but as part of the beliefs of the respondents it represented a barrier to accepting health insurance:

"The insurance didn't pay what the agent said."

"The salesman told us it would pay more."

One respondent said tersely that he "decided the policy was sort of a joke and dropped it."

The tabulation of reasons for discontinuing health insurance reinforced by the comments recorded above indicate that there was considerable lack of knowledge concerning health insurance coverage and that this in many cases led to disillusionment and discontinuance of insurance.

It is interesting to examine the socio-economic characteristics of households that had discontinued health insurance and had not resumed it at the time of the survey. It must be pointed out, however, that the characteristics are those at the time of the survey, not at the time the insurance was discontinued. For education of the male head this would make no difference, and a certain stability of income can probably be assumed. The age of the male head at the time of the survey would always overstate the age at time of discontinuance of insurance.

Table 20 compares the socio-economic characteristics of those households that had retained and those that had discontinued health insurance. It represents all those households that had had experience with health insurance. If we had supposed that the oldest households were more likely to discontinue health insurance than the younger households, we were wrong. It appears from the figures that the oldest households were among the least likely to drop health insurance. Also, households in the lowest education grouping (which overlaps the oldest age grouping) were under-represented among those that discontinued health insurance. Those in the lowest income grouping were somewhat more likely to have discontinued insurance. This suggests that discontinuance of health insurance was not always or even principally a forced choice (as dictated by cost

TABLE 20--PERCENTAGE DISTRIBUTION OF SOCIO-ECONOMIC CHARACTERISTICS OF HOUSEHOLDS THAT DISCONTINUED HEALTH INSURANCE WITHOUT RESUMING IT COMPARED TO HOUSEHOLDS IN THE SAMPLE WITH HEALTH INSURANCE

Characteristics	Households discontinuing health insurance	Households with health insurance
	Percent (N=34)	Percent (N=50)
Age of head		
Under 45	41	26
45 - 64	47	50
65+	12	24
Education of head		
Under 8	3	18
8 - 11	59	50
12+	38	32
Income		
Under $1000	24	18
$1000 - $3000	41	42
$3000+	32	38
N.A.	3	2

or age) but often a considered option. This is further supported by the reasons given for discontinuing policies where the major reason given was dissatisfaction with the policy.

Socio-economic Characteristics of Households With Health Insurance Compared to Those Without Health Insurance

Certain socio-economic characteristics such as income, size of household, age, and education are often thought to be associated with possessing health insurance. These relationships are summarized in Table 21. The remarkable thing about the distributions of these characteristics for households with and without health insurance is that they are so similar. This was quite unexpected. For example, it is almost axiomatic that older households are not covered to the extent that younger households are. This differential on the basis of age did not occur in the present sample. One can only speculate on the reasons. As was pointed out previously, the total national figures for health insurance are to a large extent a function of coverage through employee-groups. This partially explains the precipitous drop in health insurance at retirement age 65. Because employee-group insurance had so little effect upon the enrollment in this sample of households, this factor was virtually inoperative. Also, to an extent not true in the general population, these older households were made up of vigorous people who were generally active farm operators and therefore more likely to be insurable. Their less active neighbors had probably retired to town. The oldest

TABLE 21--PERCENTAGE DISTRIBUTION OF HOUSEHOLDS POSSESSING HEALTH INSURANCE BY SELECTED HOUSEHOLD CHARACTERISTICS

Household characteristic	Households	
	With health insurance	Without health insurance
	Percent (N=50)	Percent (N=102)
Net Income		
Under $1000	18	22
$1000 - $2999	42	43
$3000+	38	30
N.A.	2	5
	Percent (N=50)	Percent (N=102)
Number in Household		
1 - 2	44	42
3 - 4	36	40
5+	20	18
	Percent (N=50)	Percent (N=102)
Age of Head		
Under 45	26	34
45 - 64	50	42
65+	24	24
	Percent (N=50)	Percent (N=102)
Education of Head		
Under 8	18	17
8 - 11	50	54
12+	32	29

households were by no means relegated to the lowest income grouping, as they tended to be in Laclede County, but were about equally divided among the three income categories (under $1000, $1000-$2999, and $3000 and over). Therefore, a substantial proportion of the oldest households were financially able to pay for health insurance. There was perhaps a certain amount of opportunism involved, in that people expect more illness as they grow older and seek out insurance. To this point it was noted in Table 20 that relatively fewer of the oldest households discontinued health insurance policies.

To look at this question from a different point of view, it may be observed that the oldest households in this sample did not equal the enrollment of the national average for families 65 years or older.[26] The oldest households are in a relatively favorable position within this sample, but are in an unfavorable position when compared with those under 65 in the general population.

[26]U. S. Department of Health, Education, and Welfare, *Hospitalization Insurance for OASDI Beneficiaries, op. cit.*, p. 42.

While the above is an explanation of an unexpected finding, it does bring into focus a point sometimes not given sufficient attention in viewing the relationship between enrollment in health insurance and socio-economic characteristics of the population (especially income and age). That is, younger age (working age) and moderately high incomes (steady employment) are characteristic of persons in employee-groups where health insurance tends in some ways to be automatic.

The Relationship Between Possessing Health Insurance and (1) Income and, (2) Size of Household When Age of Household Head is Controlled.

In Tables 22 and 23, the relationship of possessing health insurance with income and size of household can be examined with age of the household head held constant. It can be seen from Table 22 that family income and possessing health insurance are most closely related for the age grouping 45-64. This age grouping may be thought of as having passed the uncertainties of youth in establishing a home and business, and not having reached the problem-period associated with older age. In this grouping, possession of health insurance went up regularly with an increase of income—from 28 percent for incomes under $1000 to 53 percent for incomes of $3000 or more. For households with the head under 45 years of age, a larger proportion in the highest income category had health insurance than in the middle income category, but the difference was not large (the lowest income category is disregarded because there were only two cases). For the oldest grouping, the progression of the percentage possessing health insurance with income was not regular. The largest proportion for the oldest household was in the middle income category.

Table 23 presents the relationship of the size of the household to possessing health insurance when age of the household head is controlled. In the un-

TABLE 22--POSSESSION OF HEALTH INSURANCE BY NET INCOME OF HOUSEHOLD, WITH AGE OF HOUSEHOLD HEAD CONTROLLED

Age of Household Heads	Net Income of Household						
	-$1000		$1000-$2999		$3000+		N.A.
	No.	Percent	No.	Percent	No.	Percent	No.
Under 45 years							
have insurance	1	--	5	22	7	30	--
do not have insurance	1	--	18	78	16	70	--
45-64 years							
have insurance	5	28	11	37	8	53	1
do not have insurance	13	72	19	63	7	47	4
65+ years							
have insurance	3	27	5	42	4	33	--
do not have insurance	8	73	7	58	8	67	1

TABLE 23--POSSESSION OF HEALTH INSURANCE BY SIZE OF HOUSEHOLD WITH AGE OF HOUSEHOLD HEAD CONTROLLED

Age of Household Heads	Number of Members in the Household					
	1-2		3-4		5+	
	No.	Percent	No.	Percent	No.	Percent
Under 45 years						
have insurance	2	--	5	21	6	32
do not have insurance	3	--	19	79	13	68
45-64 years						
have insurance	12	36	9	35	4	44
do not have insurance	21	64	17	65	5	56
65+ years						
have insurance	8	30	4	44	--	--
do not have insurance	19	70	5	56	--	--

der 45 years and the 45-64 years categories, the smallest percentage of households possessing health insurance is in the middle size households (3-4 members). There was some gravitation toward the larger households in each age grouping—for the percentage possessing health insurance, but there appeared to be no clear relationship.

The Relationship Between Possessing Health Insurance and Size of Household When Income is Controlled

Finally, the relationship of health insurance with size of household is considered when income is constant (Table 24). For incomes under $1000 there was little difference whether the size of the household was 1-2 or 3-4 members

TABLE 24--POSSESSION OF HEALTH INSURANCE BY SIZE OF HOUSEHOLD WITH INCOME OF HOUSEHOLD CONTROLLED

Net Income and Insurance Status	Members in Household					
	1-2		3-4		5+	
	No.	Percent	No.	Percent	No.	Percent
Under $1000						
have insurance	5	29	3	27	1	--
do not have insurance	12	71	8	73	2	--
$1000 - $3000						
have insurance	10	39	8	32	3	21
do not have insurance	16	61	17	68	11	79
$3000+						
have insurance	6	33	7	33	6	54
do not have insurance	12	67	14	67	5	46

(there were no households of five or more members in the lowest income bracket). For households with incomes of $1000-$3000 the proportion with health insurance went down as the number in the family went up. On the other hand, for households with an annual net income of $3000 or more, the largest households were also those with the highest proportion of health insurance. While the socio-economic factors considered here cannot be disregarded, they explained less of the variation in possessing health insurance among households within the sample than might have been expected.

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