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Extent of Illness and Use of Health Services in a Northwest Missouri County

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Extent of Illness and Use of Health Services in a Northwest Missouri County

ROBERT L. MCNAMARA AND EDWARD W. HASSINGER

INTRODUCTION

This report deals with the extent of illness among open-country people in a Missouri area and with the volume and kind of health services they receive. This report is to be followed by others on the cost of health services, and on family health practices and relationships with physicians.

The research on which these reports are based provides portrayals of rural health situations in different areas or cultural settings in the state. Harrison County was selected as representative of an area comprising 16 counties in west, north central Missouri. An earlier series of reports¹ dealt with a south Missouri county representative of a contrasting cultural area.

Health is a key to a happy and productive life. Effectiveness at work, at home, or in the discharge of community responsibilities depends on one's health.

We have come increasingly to think of the well-being of the whole person rather than to be engrossed with his specific illness. It is possible and necessary to regard the health of a community or given area in like manner. Thus we arrive at a consideration of health as an important part of social organization. What an area has in the way of organization for the maintenance of health, what the extent of illness is, and the use of professional health services and facilities are questions of importance. To reveal these clearly for the purpose of paving the way to social action is a research function and a principal objective of this report.

Definitions

A person designated as *ill* in this report is one who is incapacitated and unable to perform his usual work for one or more days. This definition is synonymous with disabling illness and is intended to include persons who are "confined" or who are severely limited in their movements.

¹Missouri Agricultural Experiment Station Bulletins No. 647, 653, 668, 699.

Chronic illness refers to a more generalized condition of disability and partial disability. Persons who are chronically ill may be intermittently ill and at times may be well enough to carry on their usual work. Their impairments or deviations from normal are permanent and leave residual disabilities.² Physical defects, such as loss of limb, sight, and hearing, and mental defects were not considered as chronic illnesses. Persons reporting chronic illness, for example, asthma or rheumatism, may not be continuously ill and may be only occasionally hampered in their usual work. Therefore, some persons who report chronic illness may not be ill for a given period of observation.

Proportions of Ill People in the Population

At any given time we have among us a rather stable proportion of persons who are unable to carry on their usual work because of illness. The proportion varies around the figure of 5 percent. The 5 percent who are sick today may not be the same 5 percent who will be ill a month from now, or at any other time. Illness is a risk to which all are exposed, but the hazard is greater for some than for others.

Contributing to this variation are many factors including such obvious ones as age and sex. When we add to these, occupation, income, and other socio-economic considerations as well as different cultural notions on what constitutes health and how to maintain it, health conditions in a population, or in a society, take on an infinite variety. But since health programs are normally designed to meet the needs of an area rather than of a nation, it is more realistic to inquire into the day-to-day illness record of a specific population selected for its representation of a larger area. In this report, the population studied is that of open-country people of a north Missouri county.

The extent to which illness strikes a rural population and the use country people make of organized medical services, are items of information basic to appraisal of social organization for the maintenance of health.

Not everyone uses doctors and hospitals to the same extent. The patterns of reported illness do point up the groupings within a population wherein health problems lie. Therefore, the investigators in analyzing the data available to them sought to find "clusters" of social and economic characteristics associated with illness.

Some reports of illness for which no professional care is received are to be expected, just as a physician's advice may be sought when illness is not believed to be present. Moreover, some illnesses are of a more serious nature than others, but we are dealing here, in effect, with people's own decisions as to when they are ill and whether a doctor should be consulted. Consequently, many illnesses reported are often not verified by professional diagnosis. Nevertheless, these are significant responses because they effectively determine such family matters as

²*Proceedings of the Conference on Preventive Aspects of Chronic Disease*. March 12-14, 1951. Baltimore Commission on Chronic Illness, p. 14.

the amount of time lost from usual work or employment, or whether a child will be kept in school. In short, illness may be solid reality to a family whether or not the nature of the condition is scientifically established. Beyond this are the considerations of how easily a physician's services may be obtained, the probable cost, misgivings of what will be learned about the illness, and the extent of belief in and reliance upon self-medication and folk practices. These are some of the factors at work in the complex of conditions affecting the reporting of illness and what is to be done about it.

Setting for the Study

Identification of the county: Harrison County is located in the northwestern part of Missouri in an area generally characterized by diversified farming. In 1950, the population of the county was about 14,000 and of this total about 3,000 people lived in the only urban center, an additional 3,000 were residents of 10 smaller towns and villages, and about 8,000 people were living on farms. In the urban center which is also the county seat are situated the two hospitals, the county's only dentists, and 9 of the 15 physicians practicing in the county. At the time of the Agricultural Census in 1954, there were about 2200 farms in the county, about 300 fewer than in 1950. Harrison County has been losing population for some decades, largely accounted for by decline of farm population. Nevertheless, the county is a relatively prosperous area, farms are commonly mechanized, and their average size is about 200 acres. The level of living for the farm operator families in 1954 was 137, or 2 points above the average for the state as measured by the percentage of farms with electricity, telephones, automobiles, and average value of products marketed.³ The small towns and the county seat are farm service centers and there is a relatively small amount of nonfarm employment. There is little commuting to nonfarm jobs, either within the county or to cities outside. St Joseph and Kansas City are 80 and 100 miles distant, respectively.

The topography ranges from gently rolling to hilly. The strongly sloping hill land is most extensive in the northwestern part of the county. The majority of the land is used for pasture and meadow, as all of the physical conditions are favorable for a type of farming based on livestock production. The upland soils of the county, mainly Shelby loam and Grundy silt loam, are derived from glacial till and loess. They are dominantly dark brown in color, and where not eroded, are very productive.

Average annual precipitation was 33.9 inches for the 1908-1955 period and the growing season averages about 180 days.

³Hagood, Margaret J., Bowles, Gladys K., and Mount, Robert R., "Farm Operator Family Level-of-Living Indexes for Counties of the U. S. 1945, 1950, and 1954." U. S. Dept. of Agriculture, Agricultural Marketing Service, Statistical Bulletin 204, March 1957.

Selection of the Sample⁴

Households for study were selected by random sampling from a detailed listing of every apparently occupied open-country household. Incorporated places and certain other concentrations of nonfarm residences were omitted.

The intent was to locate and obtain an interview from each of the 155 sample households. Where a selected house was found unoccupied, the rule was to obtain an interview from the nearest occupied dwelling. Interviews were conducted with a responsible adult, usually the homemaker.

The schedule (see Appendix) included identifying information for each members of the household; descriptive items for the home, farm or other residence, and income and family living information. The principal part of the schedule was devoted to questions on the extent of illness, the volume and kinds of health services received, the costs and methods of paying for health services, family health practices such as self-medication and reliance on folk medicine, the dietary situation, designation of a family doctor, and opinions held toward professional health personnel and health institutions. The schedule had been thoroughly pre-tested and revised before being put into use.

Interviews were completed with 152 households over a four-week period in the fall of 1956. Three households declined interview and 26 households were found to be vacant requiring substitution of the nearest occupied household.

A most important consideration is the sample's similarity to the population from which it is drawn. There is no published census count of the open-country segment of the population to offer age-sex and other comparisons with the sample. The rural-farm and rural-nonfarm enumerations from the 1950 Census for Harrison County are shown in Table 1 along with the study-sample as constituted by age and sex. Although the sample is neither strictly farm nor nonfarm, it has a predominance of farm households so should agree more closely with the 1950 farm than with the nonfarm counts. The 1956 sample could not be expected to agree with the 1950 counts by residence in any case, but it is important to note that there is reasonable correspondence. The sample is actually very similar to the rural-farm population of 1950 except that a considerably larger proportion of elderly people were included in the study. When compared with the rural nonfarm population the sample yielded much higher proportions of young people and much lower proportions of the aged. As stated earlier, the

⁴The steps in household selection were as follows: (a) Beginning with the upper-left corner of a county highway map (furnished by the Missouri State Highway Department), each one-mile square section was numbered consecutively left to right by tiers. This procedure yielded sections numbered from 1 through 711. (b) Beginning with section 1 and proceeding in order, the household locations as plotted on the map were in turn numbered consecutively in left to right order. This step yielded households numbered from 1 through 2334. (c) Each fifteenth household was selected for interview. Thus, the first household to fall in the sample was the 15th dwelling in the total array; the second household was the 30th dwelling of the entire listing; and so on until the 155th household was drawn.

TABLE 1--COMPARISON OF AGE AND SEX DISTRIBUTIONS FOR THE RURAL FARM AND RURAL NONFARM POPULATIONS, 1950, WITH A SAMPLE OF OPEN-COUNTRY HOUSEHOLDS, 1956, HARRISON COUNTY, MISSOURI

Age and Sex	Rural-farm	Rural-nonfarm	Sample
All ages	100.0	100.0	100.0
Male	52.5	46.4	53.6
Female	47.5	53.6	46.4
Under 15	28.6	17.5	26.3
Male	15.2	8.6	14.5
Female	13.4	8.9	11.8
15-64	61.5	56.1	60.5
Male	31.5	26.1	31.4
Female	30.0	30.0	29.1
65 and over	9.9	26.4	13.2
Male	5.8	11.7	7.5
Female	4.1	14.7	5.5
Number	8166	3227	491

sample did not include selections from the small towns of the county where relatively few youth and relatively many elderly people, particularly aged widows, reside.

Other characteristics of the population, shown below, indicate that in the ways available for comparison, the sample is a close representation of the open-country population.

TABLE 2--COMPARISON OF SELECTED SOCIO-ECONOMIC VARIABLES FOR THE RURAL FARM AND RURAL NONFARM POPULATION, 1950, WITH A SAMPLE OF OPEN-COUNTRY HOUSEHOLDS, 1956, HARRISON COUNTY, MISSOURI

Item	Rural-farm	Rural-nonfarm	Sample
Median age (years)	32.2	46.4	38.3
Percent high school graduates	27.1	24.8	30.9
Median school year completed	8.8	8.7	8.6
Percent of dwellings with:			
1-2 persons	38.4	62.2	42.7
3-5 persons	51.2	33.8	48.7
6 or more persons	10.4	4.0	8.6
Percent dwellings with running water piped into house	19.1	25.6	33.6

RESULTS OF STUDY

General Pattern of Extent of Illness and Use of Health Services

Reports were gathered from 152 households comprising 491 persons. A total of 909 days of illness was reported for the three months preceding interview, and during the 12 months prior to interview there were 2165 doctor calls and 331 days of hospital care for the sample households. (Table 3)

TABLE 3--ILLNESS AND USE OF SELECTED HEALTH SERVICES
BY YOUNGER AND OLDER HOUSEHOLDS

Age of house- hold head	House- holds	Number of persons	Days ill*	Doctor calls	Days in hospital	Annual rate per 1000 persons		
						Days ill	Doctor calls	Days in hospital
Total	152	491	909	2,165	331	7,405	4,409	674
Younger	84	328	299	1,195	203	3,646	3,643	619
Older	68	163	610	970	128	14,969	5,951	785

*Three months.

Close examination of the Harrison County materials has revealed a heavy concentration of physician and hospital care and of disabling sickness in a very few households. For example, ten homes received about 30 percent of the total doctor calls; 13 homes accounted for two-thirds of the hospital days reported; and 21 homes reported about 85 percent of the illness. On the other hand, 22 homes reported no physicians service; and two-thirds of the families had neither used hospital service, nor reported sickness of a disabling nature.

The financial aspects of the health situation are equally striking in the tendency toward concentration. These open-country people spent \$8200 for physicians' services in one year or an average of about \$54 per household. But only six households (those with costs of \$200 or more) accounted for about 20 percent of the total expenditures and 25 households had no doctor bills. In the case of hospitalization, the total cost was about \$4700 averaging about \$31 for each home. However, 21 households, (those with costs of \$200 or more) accounted for about 60 percent of the hospital costs, while 109 households had no hospitalization during the year.

Illness, physician care, and hospital services tend to spread over a population in time so those who received little care in a given year may receive more services another year. Aside from this, illness and health services appear to concentrate in a few households. The extent to which such "high risk" households occur in a population is important for the planning of health services. It could have direct effect on the need for specific types of physician services and for

hospital beds.

Among the factors in household composition that influence the extent of illness and the use of health services are age, education, income, and level of living. For example, as people reach the older ages, sickness is more common among them; their use of health services is not dependent upon illness alone but also upon their recognition of the value of seeking professional advice and care along with the availability of such care and the ability to purchase it. Chronic illness, particularly, is more prevalent at the older ages. Such health conditions of a prolonged and persistent nature may be reflected in high illness rates but may not be closely associated with the use of health services.

All this is not meant to imply that only a small minority of the population is involved in sickness and professional care. Each person is exposed to the risk of becoming ill, or of suffering accidents or other mishaps. Evidence is provided by the fact that of the 152 homes visited in Harrison County, 130 had used a doctor within the past year, a proportion well above the national average. An additional 18 households had used a doctor within five years, and every household in the sample had used a doctor's services at one time or another.

Age and Household Size as Factors in Illness and Health Care

Age: It is well known that age is associated with illness, physician care, and hospital service. The conditions reported and health services received were consistently at higher rates for elderly people. The household reports were separated into two groups to observe these differences: (1) those with male heads under 55, and (2) those with male heads at least 55 years of age. Households without male heads were classified by the age of female heads. The number of households divides rather equally on this basis, although the younger households have a population double that of the older households. For the younger households the annual rate of illness (3.6 days per person) and of doctor calls (3.6 calls per person) are equal while for the older households about 15 days of illness were reported per person annually but only about six physician calls. This wide difference is probably due to the very high incidence of chronic illness within older households, amounting to more than one-half of the older sample as is shown in Table 10, page 17. The nature of the illness sustained is further differentiated by the ratio of days ill to days in the hospital for the two types of households. Younger households reported about six days of illness for each day of hospital care; older households reported nearly 20 days of illness for each day of hospital service (Table 3).

Another arrangement of the reports demonstrated the relationship between age and health in a more striking way (Table 4). In this case only the youngest and oldest households were considered; the young group constitutes households with male heads under 45 years of age while an older group comprises only those households with heads at least 65 years of age. The two groups provided

TABLE 4--ANNUAL RATES OF ILLNESS AND USE OF HEALTH SERVICE
BY SELECTED TYPES OF HOUSEHOLDS

Age of head	Households	Persons represented	Annual Rate per 1000 persons		
			Days ill	Doctor calls	Hospital days
Total	84	279	9,160	4,410	860
Under 45	48	198	3,440	3,240	750
65 and over	36	81	23,200	7,270	1,110

by this procedure are in sharp contrast. The young households are large and include many young children while the others are small households and have a preponderance of elderly people.

Here, it is seen that the youngest households remain with relatively low rates of illness and services much as was described for the younger group in the previous discussion. But persons living in the oldest households have on the average more than three weeks of disabling illness annually. Putting it another way, these households with elderly heads who constitute about one-sixth of the sample population account for fully one-half of the illness, one-fourth of the doctor calls, and one-fourth of the days of hospital care.

The oldest households had a ratio of over three days of illness for each doctor call, and for the youngest households there was about a one-to-one relationship. A number of factors could influence this difference. Sickness in the oldest households more often involves long-continued illness with origins dating back years before; illness of young people is more likely to be of an acute nature and of short duration. The relatively close agreement of days of illness with doctor calls in the case of young households reflects the concern our society has for the health of youth—a concern that is apparently not deemed so urgent for the health of older people. The “aches and pains” of elderly people may even be taken for granted as a natural consequence of advancing years. In contrast, the sudden appearance of high fever in a child may motivate parents to call quickly for professional advice and care.

When the households are arranged according to both age and income, it is possible to place more exactly the relative “loads” of illness and the age-income situations in which health services are used. When \$3000 is taken as the division point between low and high incomes, this sample shows that about two-thirds of the households had low incomes and that the low incomes are relatively more numerous with advancing age of household heads. For example among the oldest households (head 65 or older), 12 of the 35 had less than \$1000 income during the year preceding interview, and only 3 had incomes of as much as \$5000.

Obviously, these incomes do not permit extensive purchase of physician care and hospital service; in the absence of a systematic program for the medical care of indigents, many of these older people must go without such care. Their

need for medical care is apparently greater because illness is more common among them, the annual average for the oldest households being about 23 days per person. In this connection perhaps the most significant point is the relationship between illness and use of physician for the different age-income groupings (Table 5). If days of illness reported can be taken as a crude measure of

TABLE 5--ILLNESS AND USE OF DOCTOR BY AGE OF HOUSEHOLD HEAD AND BY INCOME

Age of Head (years)	Low Income ¹				High Income ¹			
	House-holds	Persons	Days Ill ²	Doctor Calls	House-holds	Persons	Days Ill ²	Doctor Calls
Under 45	25	104	484	297	23	94	196	344
45 - 64	48	143	960	666	15	57	88	234
65 and over	23	51	1776	398	12	28	104	193
Total	96	298	3220	1361	50	179	388	771

¹Exclusive of 6 households for which income was not reported. Incomes under \$3000 are termed "low" while incomes of \$3000 and over are "high".

²Illness records were obtained for a 3-month period, the quarterly volume of ill days is here placed on an annual basis.

need for medical care, then clearly low income households should have reported about 90 percent of the doctor calls, which is about 40 percent higher than what they actually received. The disparity is particularly apparent among the "oldest" households with low income where illness is heavily concentrated. To say that much illness is reported which does not require medical attention, especially among elderly people, is not a conclusive explanation because where incomes are high, doctor calls accumulate to about twice the number of days reported ill and the relationship holds among the elderly as well as among the younger households. The pattern of illness and use of doctor is portrayed graphically in Figure 1.

Size of household: Presenting the data by household size is another way of demonstrating the influence of age on illness and use of health services. Thus, as seen in Table 6, the one and two-person households comprise about 40 percent of the total and include 124 persons of whom 37 percent are older people, at least 65 years of age. At the other extreme, in the 28 largest households with five or more members each, there were no persons as old as 65 years. The median ages of the various sizes of households also show striking differences; the smallest households have a median age of 61 years while the largest households have a median age of only 15 years.

During the year preceding the interviews, nearly 2200 physician calls were reported for 491 persons in the sample households or a physician call rate of

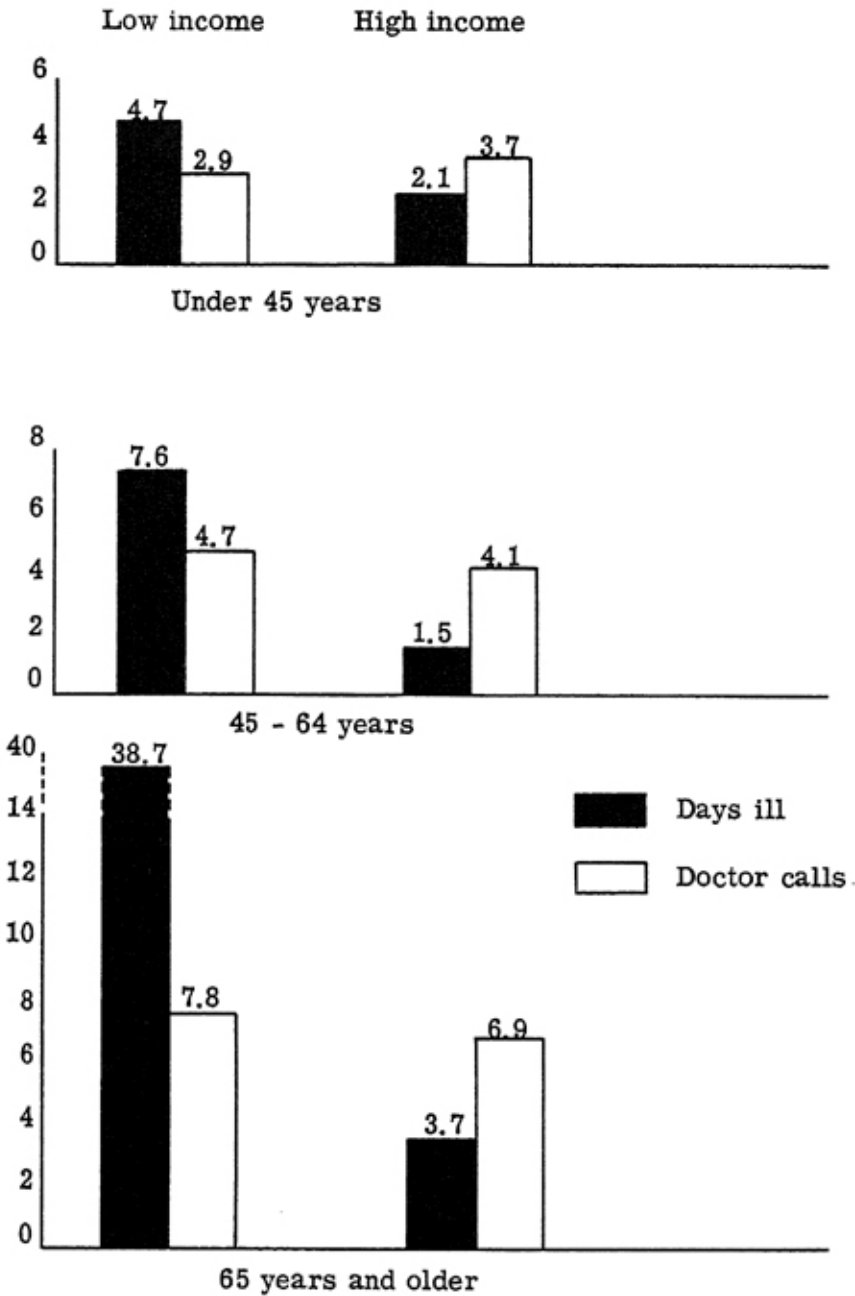


Figure 1—Annual days of illness and doctor calls per person by age of household head and by income.

4409 per 1000 persons. Physician call rates per person residing in households of various sizes range from a high of nearly six for the smallest family groups to a low of about two for members of the largest family groups. Arranging the material in another way, a rate of nearly six calls for the one and two-person households, where the aged comprise more than one-third of the population, contrasts with under four calls for members of all other households, where older persons constitute only about 5 percent of the population.

Hospital usage is, however, not similarly concentrated among the older persons despite their greater prevalence of illness and use of doctors. There is little difference in rates of hospital use according to household size.

Informants were asked to report the number of days that household members were unable to do their usual work or to attend school because of disabling illness during the three months preceding interview. As was true of physician calls, illness was heavily concentrated in the one and two-person households. On a rate basis, illness occurred at a rate about three times higher in the smallest households than in other households (Table 6).

The concentration of services received and of illness sustained can be shown in another way. The predominantly elderly persons in small households constitute 25 percent of all persons in the sample. But these people received one-third of the physician calls, reported nearly one-half of the days of illness, and used about their proportionate share of hospital service (Table 7).

Chronic Illness and the Use of Selected Health Services

Aging of the population and the known increase of illness with advancing age are important factors in the growing amount of long-term or chronic illness. Long continued inability or unwillingness to obtain needed and proper health care also may contribute to chronic illness at the older ages. This can be true among young people, too. More than one half (83) of the households reported one or more members chronically ill.

Households with chronic illness are typically older than others and have limited financial resources to pay for needed care, fewer persons in the working force, a lower living level, and lower educational attainment. As a group, they are clearly in a position of social and economic disadvantage. Despite their limited resources, they use a disproportionate share of physician's services but still a smaller amount than is indicated by the volume of illness reported by them (Figure 2).

Income in Relation to Chronic Illness. The ability to purchase health services is an important factor in the maintenance of health, particularly in rural areas where public health services and social service organizations are absent or not as well developed as in urban places. In the case of chronic illness where medical costs are likely to be continuous rather than periodic, income takes on a special significance. Note that households with chronic illness reported generally lower incomes than those without chronic illness. About 70 percent of the households with lower incomes (under \$3,000) reported chronic illness but such conditions were reported in only 40 percent of the higher income households (Table 8).

Level of Living compared with Chronic Illness: A somewhat similar measure, the level of living, was used for comparison in Table 9. The "level of living" was based on possession of such items as refrigerators, cooking equipment, and automobiles. On this basis, the homes were grouped into "lower" and

TABLE 6--USE OF SPECIFIED HEALTH PERSONNEL AND SERVICES AND AMOUNT OF ILLNESS BY HOUSEHOLDS OF VARIOUS SIZES

Size of household (persons)	No. of households	Persons in household	Median age (years)	Age of persons in households (percent)						Annual rate per 1000 persons		
				Total	Under 15 years	15-24 years	25-44 years	45-64 years	65+ years	Doctor calls	Hosp. days	Days ill
Total	152	491	38	100.0	26.3	12.4	21.0	27.1	13.2	4409	674	7405
1-2	65	124	61	100.0	--	3.2	5.7	54.0	37.1	5980	690	13600
3-4	59	203	35	100.0	23.6	15.3	25.1	26.6	9.4	4930	840	7480
5-6	22	117	15	100.0	50.4	12.8	31.6	5.1	--	3160	540	3320
7+	6	47	15	100.0	46.8	23.4	17.0	12.8	--	1770	260	1040

TABLE 7--VOLUME OF SERVICES AND ILLNESS REPORTED BY HOUSEHOLD SIZE

Size of Household	No. Household	Persons represented		Doctor calls		Hospital days		Days ill	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	152	491	100.0	2165	100.0	331	100.0	909	100.0
1-2	65	124	25.3	711	32.8	85	25.7	421	46.3
3-4	59	203	41.3	1001	46.3	171	51.7	379	41.7
5-6	22	117	23.8	370	17.1	63	19.0	97	10.7
7 and over	6	47	9.6	83	3.8	12	3.6	12	1.3

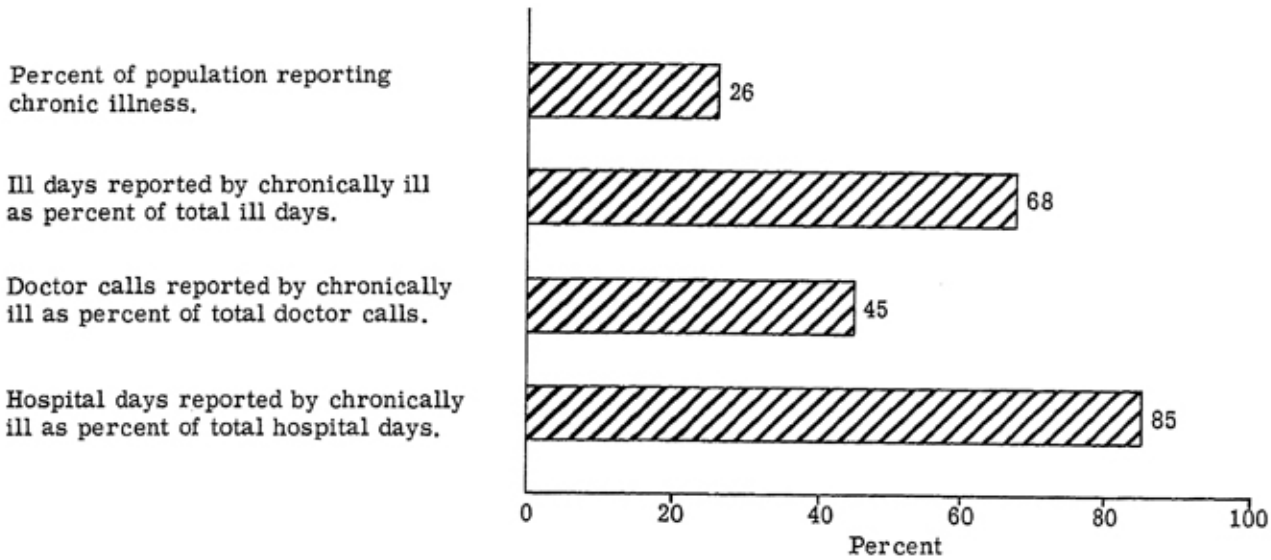


Figure 2—Illness and health services among persons reporting chronic illness.

TABLE 8--HOUSEHOLDS WITH OR WITHOUT CHRONIC ILLNESS CLASSIFIED BY INCOME¹

Income group	With chronic illness		Without chronic illness	
	Number	Percent	Number	Percent
Total	83	100.0	63	100.0
Under \$1,000	22	26.5	9	14.3
\$1,000 - 3,000	41	49.4	24	38.1
\$3,000 or more	20	24.1	30	47.6

¹Exclusive of 6 households for which income was not reported.

TABLE 9--HOUSEHOLDS WITH OR WITHOUT CHRONIC ILLNESS CLASSIFIED BY LEVEL OF LIVING

Level of Living	Total		With chronic illness		Without chronic illness	
	Number	Percent	Number	Percent	Number	Percent
Total	152	100.0	86	100.0	66	100.0
Lower	30	19.7	19	22.1	11	16.7
Higher	122	80.3	67	77.9	55	83.3

Note: Households scoring 14 or more were termed "high" while those with scores of 13 or less were termed "low".

"higher" level of living situations.⁵ Although the differences shown in Table 9 are not striking, there is a tendency for households with chronic illness to be concentrated in the lower level of living group.

Age in Relation to Chronic Illness: With the advance of age, chronic illness increases. For example, the households studied included 127 persons who were at least 55 years of age and 57 percent of them were chronically ill. Only about 15 percent of the 364 younger persons were reported chronically ill. Looking at it another way, 57 percent of the chronically ill persons were at least 55 years of age, but only 15 percent of the remainder of the population was that old. (Table 10). Of course, several of the chronically ill were living in the homes of their children or other relatives, but of the 86 households in which some person had chronic illness, 42 were homes in which a person lived alone or in which there was but one other person.

Education in Relation to Chronic Illness: Since households reporting chronic illness were older on the average, it is not surprising that their household heads had received less schooling than heads of households without chronic illness. Table 11 shows this educational comparison for male heads. About one of every four heads of households with chronic illness had less than an eighth grade education but only about one of every eleven of the remaining households had so little education.

The Chronically Ill in Relation to Total Illness: Having described the chronically ill with respect to their age, income, and education, their importance is now discussed as consumers of health services. By definition the chronically ill would be expected to accumulate a relatively large proportion of the total illness. During the three months preceding interviews, a total of 909 days of illness were reported for the 491 persons. About two-thirds of the days of illness were reported for the chronically ill who comprised only one-quarter of the sample population. As stated, these are people who live for the most part in the older households; of the 126, about one of every 4 (34) was at least 65 years old. They were nearly evenly divided by sex. Illness reported for the chronically ill is shown to be six times that of the remainder of the population. On an annual basis, persons with chronic illness averaged nearly three weeks of sickness while others sustained an average of only about three days (Table 12).

With sickness so prevalent among the chronically ill, the matter of professional health care and hospitalization for them is important. During the year preceding the study, doctors made 2165 calls for the 491 persons in the sample. Two-thirds of these were made for persons living in homes in which there were chronically ill persons. Since the study materials do not permit us to assign these total annual calls to specific persons, it is necessary to use data on the calls

⁵From a list of conveniences and facilities with a total score of 21, households scoring 14 or more were termed "high" while those with scores of 13 or less were termed "low" level of living households (see schedule in Appendix for level of living items).

TABLE 10--PERSONS WITH OR WITHOUT CHRONIC ILLNESS
CLASSIFIED BY AGE

Age	All persons		Chronically ill persons		Persons not chronically ill	
	Number	Percent	Number	Percent	Number	Percent
Total	491	100.0	126	25.7	365	74.3
Under 55 years	364	100.0	54	14.8	310	85.2
55 years and older	127	100.0	72	56.7	55	43.3

TABLE 11--HOUSEHOLDS WITH OR WITHOUT CHRONIC ILLNESS
BY EDUCATION OF MALE HEADS¹

Highest grade completed	With chronic illness		Without chronic illness	
	Number	Percent	Number	Percent
Total	85	100.0	66	100.0
Less than 8 grades	20	23.5	6	9.2
8 - 11 grades	50	58.8	30	45.4
12 or more grades	15	17.7	30	45.4

¹Exclusive of 1 home without male head.

TABLE 12--PERSONS WITH OR WITHOUT CHRONIC ILLNESS BY
VOLUME OF ILLNESS AND ANNUAL RATES

	Number of persons		Days of illness last 3 months		Days of illness per person annually
	Number	Percent	Number	Percent	
Total	491	100.0	913	100.0	7.4
Persons with chronic illness	126	25.7	609	66.7	19.3
Persons without chronic illness	365	74.3	304	33.3	3.3

for the three-month period preceding interview. During the three months, doctors made 520 professional calls; 236 of these were calls on the 126 people who reported chronic illness.

Similarly and even more striking, out of the 110 days of hospitalization during the three-month period, 93 were reported for chronically ill persons. The burden of payment for hospital services and doctor is indeed heavy for the chronically ill. The study materials show that persons of higher income purchase health insurance which represents a form of budgeting for health costs. But the households with chronic illness present were not nearly so likely to have health insurance. Of the 86 households with chronic illness present, only about one in four had a health insurance policy in force; nearly one-half (46 percent) of the 66 other homes had health insurance.

There is little doubt that chronically ill persons constituted a considerable part of the "health problem" in the rural area studied. The interviewers observed many difficult family situations, such as: older people living alone, needing medical care, and either not receiving it or obtaining a minimum of such service due to their very limited means; homes with young children where life must also be made tolerable for a chronically ill, senile person; and, above all, the lack of a systematic public health program to care for the indigent sick.

Hospital Use by Harrison County People

There were two small hospitals in Harrison County at the time of the study. Both were located at the county seat and together had a total of 40 beds. One was a proprietary hospital and controlled by osteopathic physicians, the other was a non-profit institution in which only medical doctors practiced.⁶ Other small hospitals in adjacent counties were available to the people, and large hospitals with many specialized services were located at St. Joseph and Kansas City within one to two hours driving time of most county residents. Although several hospitals were within relatively easy reach, about two-thirds of the respondents in the field study reported they would normally use the hospital facilities at their county seat. It is of interest too to note that contrasted with an earlier time, people now have a feeling of acceptance toward hospital use. When a random sample of rural people in the county were asked about their feeling toward hospitals, nearly nine of every ten replied that they had no fear; rather, use of the hospital gave them a feeling of security. Partial evidence of this change is provided by birth statistics. Of all the births to Harrison County mothers in the year of the field study, about 80 percent occurred in a hospital; ten years previously the proportion was only about one in two; and a generation ago only about one of every ten of the births occurred in hospitals.

It appeared therefore that it would be useful to study the experience of the local hospitals to supplement the reports gathered from rural households. Permission was obtained to study consecutive hospital discharges over a three-month period, partly as a check on the sample design followed in the field study

⁶Since the two hospitals were small and together accumulated a total of only about 300 discharges, the data are combined for most of the analysis presented. Supplementary tables are included in the Appendix.

and also to obtain information not readily obtained from household informants or not always known by them. The period covered was October 1 through December 31, 1956. Information was gathered on residence, age, sex, type of service, duration of stay, and payment of bill for each discharge.

The Clientele of the Hospitals. During the three-month period of study, there were 299 discharges which reflects a level of bed occupancy approximately equivalent to one-half of full capacity; of the discharges, 218 were residents of Harrison County. If the people of Harrison County use hospital service at the same rate as the national average, about 1400 persons would require hospitalization annually or about 350 during a three-month period. The difference between this estimate and the 218 local discharges represents an approximation of the hospital service obtained by the people outside their home county.

Residence. As suggested above, about three-fourths of the 299 discharges were Harrison County residents. Patients from the towns including the county seat exceeded somewhat in number those from the open country. (Table 13). Since open country people accounted for about 60 percent of the county population, a considerably greater rate of hospital use is indicated for townspeople. The difference, however, may not be considered unusual since the population of the towns is concentrated more heavily at the older years where hospital service is more often required. There may also be a greater willingness and ability to use professional medical care on the part of townspeople.

TABLE 13--HOSPITAL DISCHARGES BY PLACE OF RESIDENCE
(Hospitals A and B)

Discharges	Total	Place of Residence			
		Harrison County			Outside Harrison County
		City	Village	Open Country	
Number	299	75	42	101	81
Percent	100.0	25.1	14.0	33.8	27.1

Age and Sex. Females outnumber males by nearly two to one as hospital patients and remain in a considerable majority even when maternity cases are excluded. Compared with the total population of the county, the "hospital population" is greatly under-represented in the early years of life and over-represented during the child-bearing years and again at the oldest years.

A few other interesting observations may be made about the age-sex distribution of hospital patients. Over 40 percent of the female patients were in the child-bearing years; more than one-third of the male patients were past 55 years of age, but relatively few older females were hospitalized. (Table 14). Two age periods appear particularly high in hospital usage: one is during the late teens

TABLE 14--HOSPITAL DISCHARGES BY AGE AND SEX
(Hospitals A and B)

Age	Total		Male		Female	
	No.	Percent	No.	Percent	No.	Percent
All ages	299	100.0	109	100.0	190	100.0
-15 years	50	16.7	27	24.8	23	12.1
15-19 years	29	9.7	8	7.3	21	11.1
20-24 years	38	12.7	6	5.5	32	16.8
25-29 years	20	6.7	1	.9	19	10.0
30-34 years	17	5.7	6	5.5	11	5.8
35-44 years	27	9.0	8	7.3	19	10.0
45-54 years	24	8.0	13	11.9	11	5.8
55-64 years	30	10.0	10	9.2	20	10.5
65-74 years	31	10.4	12	11.0	19	10.0
75 years and over	33	11.1	18	16.6	15	7.9

and early twenties, largely due to maternity cases; the other is during the years past age 55, particularly among males. These two periods taken together account for 54 percent of the discharges, though persons at those ages make up less than 40 percent of the county population.

Table 15 shows the hospital discharges arranged in broad age groups by sex. This tabulation suggests the relative needs with respect to age and sex groups. It will be shown that these proportions do not furnish a basis for bed requirements since the pattern and duration of service is quite different for the various age-sex categories. Nor should one presume from this a picture of the prevalence of illness in the community served by the hospitals. Much illness does not receive or require hospital care and 55 maternity cases are included in the table shown. If maternity cases are excluded, it is clear that the period of youth and the middle years are relatively free of hospital care.

TABLE 15--HOSPITAL DISCHARGES BY SEX AND BROAD AGE GROUPS
(Hospitals A and B)

Age	Both Sexes		Male		Female	
	No.	Percent	No.	Percent	No.	Percent
Total	299	100.0	109	100.0	190	100.0
-15 years	50	16.7	27	24.8	23	12.1
15-29 years	87	29.1	15	13.7	72	37.9
30-54 years	68	22.7	27	24.8	41	21.6
55 years and over	94	31.5	40	36.7	54	28.4

Pattern and Volume of Service. Service provided for patients is classified as maternity, surgical, and medical. Nearly one-half of the discharged patients had received medical service; about one-third were surgical cases; and the remainder had received maternity service.

Many general hospitals are confronting the problem of care of the elderly sick and are faced with providing more or less routine bed care over long periods of time. Harrison County, like most other counties of Missouri, has experienced a considerable increase of older people. Persons 65 years of age and older increased by 14 percent in the ten-year period 1940-1950. It is not possible to determine from the data on hospital discharges whether or not the available beds are now being used to a greater extent by older people. However, the proportion of elderly persons discharged was not higher than their numbers in the general population would lead one to expect. Nor were their stays in the hospitals much different from those of patients of other ages. In the oldest group of medical discharges, (those 75 years of age and older) were 29 cases amounting to about 10 percent of the total number of discharges and also about 10 percent of the total bed days. Twenty of these 29 oldest discharges were in the hospitals for no longer than one week and only one case had remained in a hospital for medical service for as long as one month. Apparently, these two small hospitals did not have an unduly large proportion of their available beds occupied by elderly persons who require prolonged care.

With respect to the 99 persons discharged from surgical service in the hospitals, 32 or about one of every three were children under 15 years of age. Many of these were probably tonsillectomy or minor accident cases since most of them were in the hospitals for only one day. As a matter of fact, minor surgery and emergency service appears to be relatively heavy, since nearly one-half of the surgical cases were in the hospitals for only one day.

Hospital use has come to be very common. The average duration of stay in general hospitals is now between eight and nine days.⁷ However, in the Harrison County hospitals studied the average stay was less than one week (about six and one-half days) and ranged from about five to six days for maternity service, and about eight days for surgery and medical service respectively. (Table 16).

The average stay as shown in Table 16 is weighted by those who were in the hospitals for relatively long periods. The high incidence of short stays may be seen more clearly if the discharges are viewed alone without accumulating their days of hospital service. Thus, 136 of the 299 discharges (45 percent) were in the hospital three days or less. Similarly, such short durations accounted for 22 percent of the maternity discharges; 59 percent of the surgical discharges; and 47 percent of the medical discharges. None of the maternity cases had remained

⁷U. S. Dept. of Health, Education and Welfare. *Health Statistics From the U. S. National Health Survey*. Series B-7, p. 9.

TABLE 16--HOSPITAL DISCHARGES BY DURATION OF STAY AND TYPE OF SERVICE

(Hospitals A and B)

Duration of Stay	Total	Type of Service		
		Maternity	Surgery	Medical
Days of care	1901	267	572	1062
Discharges	298	59	99	140
Average stay (days)	6.4	4.5	5.8	7.6

Note: Exclusive of 1 discharge for whom type of service was not reported.

in the hospitals for longer than one week. The longest stays tended to accumulate among the medical cases but, as has been pointed out, even these were not unusually long.

It is possible that the method used may have missed a few cases. For example a patient could have been in the hospital for the entire three month period of study and thus not come to notice as a discharged person or he could have been admitted after October 1 and not discharged during the study period.⁸

Meeting the Cost of Hospital Care. Costs to patients for hospital service were obtained with exactness from one of the two hospitals. In the second hospital, costs obtained included costs of physicians' services in some cases. Therefore the discussion following on costs refers to but one of the hospitals studied. The average hospital bill was about \$120; maternity and surgical cases averaged in the neighborhood of \$100 and medical cases averaged about \$140. The average cost per patient day was about \$18 with little variation for the different types of service. (Table 17).

TABLE 17--VOLUME OF HOSPITAL CARE AND COSTS BY TYPE OF SERVICE

Hospital A

	All Services	Maternity	Surgery	Medical
Total Bills (dollars)	22,858	3,786	8,584	10,488
Patients Discharged	189	40	75	74
Patients Days (est.)	1,290	181	427	682
Average Cost per Patient (dollars)	120	95	114	142
Average Cost per Patient Day (dollars)	18	21	20	15

Note: Exclusive of 1 discharge for whom type of service was not reported.

⁸There were only 7 cases with hospital stays of more than four weeks; two of these were surgical and five were medical patients. Three of them were young persons and four were elderly.

In obtaining financial data, each discharge record was examined three months after discharge on the assumption that, although some bills were paid on discharge, a period of three months would be a reasonable time to allow for payment. Example: a discharge of October 1, 1956, was given until January 1, 1957 before a record of payment was entered; likewise, a discharge November 15, 1956 was reexamined February 15, 1957 for payment record. Following this method the 190 consecutive discharges of October through December, 1956 were each checked exactly three months later, January through March, 1957. Table 18 summarizes the findings.

TABLE 18--PAYMENT FOR HOSPITAL SERVICES, BY TYPE OF SERVICE

	<u>Hospital A</u>			
	Total	Maternity	Surgery	Medical
Patients Discharged	189	40	75	74
Total Amount of Bill (dollars)	22,858	3,786	8,584	10,488
Amount Paid in 3 Months (dollars)	20,894	3,537	7,840	9,517
Percent Paid in 3 Months	91.4	93.4	91.3	90.7

Note: Exclusive of 1 discharge for whom type of service was not reported.

The single hospital studied provided about \$23,000 of service to discharged patients of which about \$2,000 (8.6 percent) remained unpaid after a three-month waiting period. Maternity service was more nearly paid in full than other types of service but of the three major service categories, none fell below 90 percent of full payment. Presumably, additional amounts may be paid, so not all of the unpaid balances shown should be regarded as bad debts. Some of the amounts paid represent bills paid in full within three months and part of the total paid represents partial payment. In this connection, 72 discharged patients or about 38 percent paid their bills in full at discharge; an additional 51 percent paid within three months; 8 percent more had made some payment; and 3 percent had made no payment. Altogether, 21 patients still owed money to the hospital at the end of the so-called credit period and their average obligation was just under \$100. (Table 19).

It does not appear that small bills are paid in full on discharge and that larger bills require time for full payment. At least it is clear that the bills remaining partially unpaid and those on which no payment had been made were about average in size.

It was pointed out earlier that a sizeable part of the hospital service was provided for people of the county residing outside the county seat. These people, largely open country residents, comprised about 44 percent of the discharges

TABLE 19--HOSPITAL DISCHARGES BY EXTENT OF PAYMENT OF BILL

Hospital A

	Discharges	Percent	Amount Paid (dollars)	Amount Unpaid (dollars)
Full Payment on Discharge	72	37.9	7,512	--
Full Payment in 3 Months	97	51.1	12,320	--
Part Payment in 3 Months	15	7.9	1,090	1,222
No Payment	6	3.1	--	742
Total	190	100.0	20,922	1,964

from the single hospital considered. The pattern of service received by them is quite similar to that received by townspeople except for a somewhat larger proportion of surgical and relatively fewer medical cases. It is significant that the discharges from the villages and open country were more likely to pay their hospital bill in full at time of discharge than was true of the discharged patients from the one larger town of the county. But it was also true that three months after discharge over one-half of the persons still owing money to the hospital were rural discharges. Money income is higher for city people; this, combined with the agricultural distress of recent years probably accounts for the relative lag in full payment of bills by rural people.

Role of Insurance in Payment of Hospital Service. An important factor affecting the payment of hospital bills is the extent to which people budget for this financial risk. Hospital insurance may be regarded as one way to budget for these costs. A great many voluntary prepayment plans are now available, but for our purpose, we may classify them as Blue Cross plans and commercial plans. In either case, they are based on the principle of pooling risks of illness and of spreading the costs of hospitalization over large numbers of families by paying the bills from a common fund to which all subscribers prepay on a fixed and regular basis. In this study a separate analysis is made for Blue Cross and for all other types of hospital insurance. A main distinction between these two is that Blue Cross makes vendor payments directly to the hospital, called service benefits; while commercial insurance companies commonly make cash payments directly to the insured according to a set schedule of benefits.

About 44 percent of the patients of the hospital over a three-month period were insured to some degree against hospitalization costs. Hospital insurance was carried by nearly two-thirds (65.3 percent) of the patients from the county seat but by only one-third (33.7 percent) of those from the balance of the county. About 40 percent of out-of-county patients were so insured. (Table 20.)

TABLE 20--HOSPITAL DISCHARGES BY INSURANCE STATUS AND RESIDENCE

Hospital A

Insurance Status	All Patients		Harrison County						Outside Harrison County			
			Total		City		Village				Open Country	
	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent
Total	190	100.0	132	100.0	49	100.0	27	100.0	56	100.0	58	100.0
Blue Cross	36	18.9	28	21.2	13	26.5	2	7.4	13	23.2	8	13.8
Other ins.	47	24.7	32	24.2	19	38.8	2	7.4	11	19.6	15	25.9
No ins.	107	56.4	72	54.6	17	34.7	23	85.2	32	57.2	35	60.3

Experience from other places indicates that city people are more likely to be insured because of the relative ease of enrolling them in groups at their places of employment; they receive their income at regular intervals in the form of cash wages; health programs including insurance may be one of the conditions of employment and classified as a "fringe benefit" in addition to wages.

Hospital bills were somewhat more likely to be paid in full shortly after discharge if covered by insurance. In the case of the single hospital considered in this respect there were 21 cases which had made no payment or only partial payment of their bills three months after discharge; of these 13 were not covered by insurance. (Table 21.)

TABLE 21--HOSPITAL DISCHARGES BY PAYMENT OF BILLS AND INSURANCE STATUS

Hospital A

Insurance Status	Total		Pd. in full in 3 mos.		Partial Payment		No Payment	
	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent
Total	190	100.0	169	88.9	15	7.9	6	3.2
Blue Cross	36	100.0	35	97.2	1	2.8	-	--
Other ins.	47	100.0	40	85.1	4	8.5	3	6.4
No ins.	107	100.0	94	87.9	10	9.3	3	2.8

• • •

Appendix A Tables

TABLE 1--HOSPITAL DISCHARGES BY PLACE OF RESIDENCE

Hospital A

Discharges	Total	Place of Residence			
		Harrison County			Outside Harrison County
		City	Village	Open Country	
Number	190	49	27	56	58
Percent	100.0	25.8	14.2	29.5	30.5

Hospital B

Discharges	Total	Place of Residence			
		Harrison County			Outside Harrison County
		City	Village	Open Country	
Number	109	26	15	45	23
Percent	100.0	23.8	13.8	41.3	21.1

TABLE 2--HOSPITAL DISCHARGES BY AGE AND SEX

Hospital A

Age	Total		Male		Female	
	No.	Percent	No.	Percent	No.	Percent
All ages	190	100.0	70	100.0	120	100.0
-15 years	36	18.9	22	31.5	14	11.7
15-19 years	17	8.9	5	7.1	12	10.0
20-24 years	25	13.2	4	5.7	21	17.5
25-29 years	10	5.3	1	1.4	9	7.5
30-34 years	12	6.3	3	4.3	9	7.5
35-44 years	18	9.5	4	5.7	14	11.7
45-54 years	15	7.9	8	11.4	7	5.8
55-64 years	16	8.4	5	7.1	11	9.2
65-74 years	19	10.0	6	8.6	13	10.8
75 years and over	22	11.6	12	17.2	10	8.3

Hospital B

Age	Total		Male		Female	
	No.	Percent	No.	Percent	No.	Percent
All ages	109	100.0	39	100.0	70	100.0
-15 years	14	12.8	5	12.8	9	12.9
15-19 years	12	11.0	3	7.7	9	12.9
20-24 years	13	11.9	2	5.1	11	15.6
25-29 years	10	9.2	--	---	10	14.3
30-34 years	5	4.6	3	7.7	2	2.9
35-44 years	9	8.3	4	10.3	5	7.1
45-54 years	9	8.3	5	12.8	4	5.7
55-64 years	14	12.8	5	12.8	9	12.9
65-74 years	12	11.0	6	15.4	6	8.6
75 years and over	11	10.1	6	15.4	5	7.1

TABLE 3--HOSPITAL DISCHARGES BY SEX AND BROAD AGE GROUPS

Age	<u>Hospital A</u>					
	Both Sexes		Male		Female	
	No.	Percent	No.	Percent	No.	Percent
Total	190	100.0	70	100.0	120	100.0
-15 years	36	18.9	22	31.4	14	11.7
15-29 years	52	27.4	10	14.3	42	35.0
30-54 years	45	23.7	15	21.4	30	25.0
55 years and over	57	30.0	23	32.9	34	28.3

Hospital B

Age	<u>Hospital B</u>					
	Both Sexes		Male		Female	
	No.	Percent	No.	Percent	No.	Percent
Total	109	100.0	39	100.0	70	100.0
-15 years	14	12.9	5	12.8	9	12.9
15-29 years	35	32.1	5	12.8	30	42.8
30-54 years	23	21.1	12	30.8	11	15.7
55 years and over	37	33.9	17	43.6	20	28.6

TABLE 4--HOSPITAL DISCHARGES BY DURATION OF STAY AND TYPE OF SERVICE

Hospital A

Duration of Stay	Total	Type of Service		
		Maternity	Surgery	Medical
Days of care	1290	181	427	682
Discharges	189	40	75	74
Average Stay (days)	6.8	4.5	5.7	9.2

Note: Exclusive of 1 discharge for whom type of service was not reported.

Hospital B

Duration of Stay	Total	Type of Service		
		Maternity	Surgery	Medical
Days of care	611	86	145	380
Discharges	109	19	24	66
Average Stay (days)	5.6	4.5	6.0	5.8

TABLE 5--VOLUME OF HOSPITAL CARE AND COSTS BY TYPE OF SERVICE
(Hospitals A and B)

	All Services	Maternity	Surgery	Medical
Total Bills (dollars)	35,499	5,841	11,679	17,979
Patients Discharged	298	59	99	140
Patient Days (est.)	1,901	267	572	1,062
Average Cost per Patient (dollars)	119	99	118	128
Average Cost per Patient Day (dollars)	19	22	20	17

Note: Exclusive of 1 discharge for whom type of service was not reported.

TABLE 6--PAYMENT FOR HOSPITAL SERVICES, BY TYPE OF SERVICE
(Hospitals A and B)

	Total	Maternity	Surgery	Medical
Patients Discharged	298	59	99	140
Total Amount of Bill (dollars)	35,499	5,841	11,679	17,979
Amount Paid in 3 Months (dollars)	31,890	5,236	10,633	16,021
Percent Paid in 3 Months	89.8	89.6	91.0	89.1

Note: Exclusive of 1 discharge for whom type of service was not reported.

TABLE 7--HOSPITAL DISCHARGES BY EXTENT OF PAYMENT OF BILL
(Hospitals A and B)

	Discharges	Percent	Amount Paid (dollars)	Amount Unpaid (dollars)
Full Payment on Discharge	121	40.5	12,115	--
Full Payment in 3 Months	138	46.2	17,348	--
Part Payment in 3 Months	30	10.0	2,456	2,409
No Payment	10	3.3	--	1,199
Total	299	100.0	31,919	3,608

TABLE 8--HOSPITAL DISCHARGES BY INSURANCE STATUS AND RESIDENCE

(Hospitals A and B)

Insurance Status	All Patients		Harrison County							Outside Harrison County		
			Total		City		Village		Open Country			
	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent
Total	299	100.0	218	100.0	75	100.0	42	100.0	101	100.0	81	100.0
Blue Cross	45	15.1	34	15.6	16	21.3	3	7.1	15	14.9	11	13.6
Other Ins.	87	29.1	63	28.9	30	40.0	6	14.3	27	26.7	24	29.6
No Ins.	167	55.8	121	55.5	29	38.7	33	78.6	59	58.4	46	56.8

TABLE 9--HOSPITAL DISCHARGES BY PAYMENT OF BILLS AND INSURANCE STATUS

(Hospitals A and B)

Insurance Status	Total		Pd. in full in 3 mos.		Partial Payment		No Payment	
			No.	Per-cent	No.	Per-cent	No.	Per-cent
	Total	299	100.0	259	86.7	30	10.0	10
Blue Cross	45	100.0	40	88.9	5	11.1	-	--
Other Ins.	87	100.0	72	82.8	11	12.6	4	4.6
No Ins.	167	100.0	147	88.0	14	8.4	6	3.6

Appendix B Schedule

Following is a list of questions included in the field schedule. Spacing for answers has been reduced.

Rural Health Practice and Opinion Questionnaire

(All answers will be held in strict confidence)

Interviewer _____ Sample Number _____ Date _____

A. Family composition (Members of household during last year)

Person no. (Circle person interviewed)	Relation to head	Age	Sex	Highest grade completed (If in school, circle present grade)	Work status (Give specific job and amount time)
---	------------------	-----	-----	--	---

B. Illness record and use of health services

1. Illness last three months: (disabled for one or more days)

Person no.	Cause of illness	No. days ill with this illness last 3 months	No. doctor calls this illness	No. days in hospital this illness
------------	------------------	--	-------------------------------	-----------------------------------

2. Is anyone in the family ill at the present time? Yes ___ No ___
Specify person and if confining _____

3. Does anyone have a chronic illness such as heart trouble, asthma, etc.
(Specify person, disease and if confining) _____

4. Does anyone have a physical defect such as loss of hearing, blindness or serious sight loss, loss of limb or other crippling. (Specify person and condition) _____

C. Cost of doctor and hospital service last year

1. How many doctor calls were made last year (a year preceding interview) at office (number) _____; at home (number) _____; in hospital _____

2. What was the total cost of doctor bills last year _____
Payment (fill in amount): Insurance _____ Savings and current income _____
Installments _____ Borrowed _____ Public agency _____ Other (specify) _____ Unpaid _____

3. Days spent in the hospital last year by members of the family? _____
Total cost _____. Payment (fill in amount): Insurance _____ Savings and current income _____
Installments _____ Borrowed _____ Public agency _____ Other (specify) _____ Unpaid _____

4. If there were no doctor or hospital calls in the past year, when was last time used--indicate person and for what: Doctor _____ Hospital _____

5. How do you feel about:

- a. Doctors' charges _____
- b. Hospital charges _____
- c. Drug and medicine charges _____

6. (a) What should a person do who needs medical care and can't pay for it _____
(b) What do you think doctors and hospitals should do about such a problem? _____

D. Physician

1. Do you have a doctor you call your "family doctor"? Yes _____; No _____; Name _____.
Is he an MD _____; DO _____; Other _____; where is he located _____ (miles) _____
How long has this man been your family doctor? _____

Do you ever talk over problems other than health problems with your family doctor? _____

If no family doctor, where would you go for medical attention? _____ (miles) _____

2. Does it make any difference to you whether a doctor is an MD or DO? Yes _____; no _____; no opinion _____. If yes, what reason _____
3. What would you say stands in the way of most people getting the medical care they need? _____
4. On the whole, have you been satisfied or dissatisfied with the help you have received from doctors? Satisfied _____; dissatisfied _____; uncertain _____; no answer _____. If not satisfied, what sort of things aren't you satisfied with? _____
5. How widespread is the practice of calling the doctor when he is not really needed? Not widespread _____; fairly so _____; happens often _____
6. Have there been times, say in the past 6 months, that you felt you or your family needed medical care but didn't get it? Yes _____; no _____. What was the occasion? _____ reason for not getting it _____

E. Hospital

1. Distance to nearest general hospital (miles) _____; name of hospital _____; would you normally use this hospital? Yes _____; No _____. If not, where would you go? _____
2. How do you feel about hospitals?
 - a. I'm suspicious of them and would go to one only in extreme illness
 - b. No particular feeling one way or the other
 - c. No fear, they give me a feeling of security
 - d. Feel that usually sick people can be cared for as well by the family

F. Physical examinations

1. How often do you think people should see a doctor? Every six months _____; once a year _____; only when needed _____; don't know _____.
2. How often do you think people should see a dentist? Every six months _____; once a year _____; only when needed _____; don't know _____.
3. When was the last time you and others in the family have had a physical examination (place "R" for routine, "S" for symptomatic)
Male Head _____ Female Head _____ Others _____
4. Do you have routine physical examinations for your family? _____
5. Why do people fail to have regular physical examinations? _____

G. Dental care

Visits past year (Number)	Purpose (Circle most recent)	If none, when was last visit	Purpose
<u>Male Head</u>			
<u>Female Head</u>			
<u>Others</u>			

Who in this household has dental plates? _____

Who in this household has bridges? _____

Who in this household is without plates and has no teeth or very few? _____

Do you have routine dental examinations for your family? _____

H. Immunization

1. In general, what do you think of vaccinations and inoculations for prevention of disease?_____
2. There are a number of ways immunization can be done, but it may be thought of as being done individually in the doctor's office or in a group such as at school. Which do you think is better? Doctor's office____; group as school____; other____ reason____
3. Immunization record (check if have had)

	Self (1)	Head (2)	3	4	5	6	7	8	9	10	11	12
Smallpox												
Typhoid												

4. a. If you had a child, would you want him to receive polio shots?_____
- b. Have you changed your mind on this since the vaccine first came out?_____

I. Financing health needs

1. Do you have health insurance? Yes____; no____. Is it an individual policy or with a Group? Individ.____; group____. Is it non-profit such as Blue Cross or is it commercial (get name of company, if possible).____Non-profit____; commercial____. How many years have you carried health insurance of some kind_____.
2. Do you get health insurance as part of your employment? Yes____No____. Against what expenses are you protected? Hospital____; Doctor calls____; surgical____; accidents only_____.
3. Do you know what payments are made for hospitalization?____ For a doctor's care_____
4. How did you come to buy health insurance? Where did you get the idea and information about it?_____
5. Have you ever used your policy? Yes____; No____. Have you been satisfied with it? Yes____; No____. In what way_____.
6. Have you ever had health insurance and dropped it? Yes____No____. If yes, why?_____.
7. Without insurance, how would you pay a hospital or doctor bill of: About \$100____. About \$500____. About \$1000____.
(Key -- (a) savings or current income, (b) installments, (c) borrow, (d) couldn't possibly.)

J. Attitude toward doctors (Indicate agree or disagree plus a narrative of response).

1. I wouldn't leave my doctor for another doctor even though the other man might have more scientific knowledge_____
2. I think that a person should visit with the doctor about other matters than health especially about personal and family problems_____
3. I don't care so much about a doctor's manner with his patients as long as he is a skillful doctor_____
4. If I were ill, I would first go to my doctor and expect him to find the best doctor for my ailment_____
5. I think a doctor's job is something like a minister's and that it has a spiritual side to it_____
6. I don't care so much what a doctor's personal life is like as long as he is a skillful doctor_____
7. If I had trouble in my family (not illness) I would be apt to talk it over with my doctor_____
8. It is very important that a doctor be a friend and advisor to the family_____
9. I expect a doctor to be competent in doctoring but would not expect or want his advice in other matters_____
10. It is best to stay away, as far as possible, from doctors_____
11. Most doctors are more interested in money than in the patient_____

K. Nutrition

1. Do your children participate in the hot lunch program? Yes____; No____; N.A.____. Do you know what kinds of meals they have? Does know____; does not know____.
2. How much milk does your family use daily (include home and school)____. Is the home supply pastuerized: Yes____; No____. Is it pastuerized in the home? Yes____; No____.
3. Has anyone in the family tried to diet? Who____. By whom is it directed (doctor, self, other)____. How did a family member happen to begin dieting _____. Where did he get information about the diet plan?_____.
4. During the past year have you or family used tonics or vitamins? Yes____; No____. Who used____ What used____ Why used____ Where did he get information about the vitamins or tonics being used?_____

L.

1. We know that you feel that health is important for you and your family. Could you tell us then how you go about keeping your family in good health?_____
2. (a) Do you have any home remedies that you use when members of the family are ill? Please tell me about them.
(b) Are there medicines such as laxatives or tonics, salves, liniments, or pills that you always try to keep on hand (list) _____
(c) What do you do for a cold?
3. At what point do you see a doctor for illness (not accidents) in your family?
(a) At the first sign of illness____ (b) If after a day or so the person does not show improvement____ (c) Don't go to the doctor right away and it must be pretty serious before I do____ (d) Only after everything else fails (last resort)_____
4. Select the statement closest to your feeling: (a) I have great faith in doctors____ (b) Generally, I think doctors do a good job____ (c) Generally, I think doctors are over-rated____ (d) I distrust doctors and believe it is better to avoid them if at all possible_____
5. Do you have a thermometer?____ Medicine chest or shelf?____ Do you have sterile gauze and tape available?____ Doctor book____ Antiseptic_____

M. Socio-economic information

1. How many acres do you operate?____; cultivate?_____
2. Tenure_____
3. a. Construction of house
____brick, stucco,painted frame
____unpainted frame, cement block,
____tar paper, etc.
- b. Water piped into house
____Yes
____No
- c. Deep freeze--locker
____deep freeze
____locker in town
____neither
- d. Washer
____automatic
____mechanical
____hand
- e. Automobile
____1953 or later
____earlier model
____none
- f. Pick-up truck or Jeep
____1953 or later
____earlier model
____none
- g. Daily paper
____Yes
____No
- h. Hot water heater
____Yes
____No
- i. Cooking range
____electric or gas
____wood, coal, coal oil
- j. Heating system
____furnace
____gas or oil stove
____coal or wood stove

Income groups

A, B, C, D, E.

A = Under 1000

B = 1000-2999

C = 3000-4999

D = 5000-9999

E = 10,000 and over

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