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**Changes in Health Behavior and Opinions
Among Open-country Families in Two
Missouri Counties 1955-56 and 1968**

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Changes in Health Behavior and Opinions Among Open-country Families in Two Missouri Counties 1955-56 and 1968

Introduction

One might expect that health behavior and opinions in rural areas would change substantially in more than a decade from the mid-1950s to the late 1960s. During this time, consequential changes in rural areas took place in the agricultural industry, population distribution, transportation and communication, and level of living. More directly, public attention was turned toward problems of delivery of health services to rural areas, and debate over public support for health care culminated in Federal legislation for financial assistance to the elderly and the medically indigent. Supposedly these factors should affect the level of health services that people utilize, their beliefs and behavior with regard to illness prevention and health maintenance, and their opinions of health services and practitioners. We have data from surveys of rural families for two periods which allow us to make comparisons and thus to assess changes in selected areas of health behavior and opinions.

The Surveys

The first survey was made in two counties during 1955 and 1956.¹ One county, Harrison, was located in the northwest part of the state, the other county, Laclede, in south central Missouri. The counties were originally selected as representing different socio-cultural areas of the state.² In the first survey, we were impressed by the similarity of health behavior of people in the two counties even though the counties had been selected to represent different cultural milieux.

Our effort now is to determine changes that have taken place in health services and practices. To do this, we resurveyed open-country households in the same counties using the same sampling technique and comparable questionnaires.³ The respondent in each household was the female head except where there was no female household head and in those cases the male head of the household was interviewed. In both periods and in each county, we were able to obtain interviews from virtually all the households selected in the sample.

¹The results of these surveys were reported in a series of Missouri Agricultural Experiment Station Research Bulletins 647, 653, 668, 699, 720, 721, 754, 779. Bulletin 779 is a summary and comparison of the two counties.

²Cecil Gregory, *Rural Social Areas of Missouri*, Missouri A.E.S. Research Bulletin 665.

³The sampling technique involved numbering all open-country households in the counties and drawing Nth cases from a starting point determined by a table of random numbers.

In general we attempted to obtain a comprehensive picture of the behavior and opinions related to health. Among the factors we observed were the use of professional health services, the regularized use of health services, behavior and attitudes concerning health maintenance, and opinions about health practitioners.

What Did We Expect to Find?

Of course we expected to find, and thus were sensitive to, changes in health behavior and opinions in the two surveys. However, there were more precise expectations based on trends in rural society. Among the factors expected to influence health behavior and opinions were: 1) the general rise in level of living in rural areas, 2) the trend toward secularization, and 3) the "leveling" of intrarural differences. On the basis of these trends which are elaborated below, predictions were made about the direction of change; and in turn, changes over time in health behavior were interpreted in terms of these *organizing hypotheses*. The term *organizing hypothesis* is used to denote our effort to utilize several ideas in understanding what has happened over time. We do not regard any particular item of data as being a *critical test* of the organizing hypotheses, rather we consider the hypotheses to be useful heuristic devices for organizing and interpreting the data. Whether or not they are supported depends more on our total analysis than on any single relationship.

Effect of level of living. Level of living in rural areas has increased substantially during the period covered by the surveys. One index of this is provided by the USDA analysis of Census of Agriculture data and the construction of Farm Operator Level-of-Living Indexes for 1950, 1959 and 1964.⁴ These indexes (based on average value of farm products sold, average value of land and buildings per farm, percent of farms with telephones, percent of farms with home freezers, and percent of farms with automobiles) increased from index scores of 55 in 1950 to 112 in 1964 for the state of Missouri, and from 41 to 99 for Laclede County and 64 to 119 for Harrison County.

The families we interviewed in the later survey had substantially higher incomes and higher level of living scores on the basis of items in the questionnaire than families in the earlier survey. Our assumption is that professional services are regarded as desirable and that they are to some degree restricted by economic ability of the family. Therefore, as economic constraints are reduced, the use of regular health services should increase as would possession of health insurance among families at the later time.

Effect of secularization. There is general agreement that rural society is becoming more secularized. (An indirect index of secularization is the rise in level of education; more subjectively, secularization is characterized by a *shift from personal to impersonal criteria* for judgments and decision making.) Therefore, we would expect bases for decisions about health matters to shift toward criteria of competency and away from criteria of personal acquaintanceship and friendship.

⁴U.S. Department of Agriculture *Farm Operator Level-of-Living Indexes* 1950, 1959, and 1964 ERS Statistical Bulletin No. 406, June 1967.

Furthermore, we would expect greater acceptance of the rationality connected with health maintenance and illness prevention. As another aspect of the depersonalizing relationships, we would expect a more questioning, if not skeptical, attitude with regard to medical practitioners and health services.

Effect of intra-rural leveling. We think that a homogenization of rural society has occurred that is reflected in health behavior and opinions. This has come about through rural society's integration into the larger society and is an aspect of the developing mass-American society. In regard to health behavior and opinions, it is recognition that rural practitioners and health services are integral parts of the larger health care system. It also recognizes the influence of the mass media and other means of information diffusion on rural communities.

Our specific expectations are that differences in health behavior and opinions in the two counties will diminish over the period of our observations. We have conceptualized this diminution as *leveling* of differences. Originally, the two counties in the study were chosen as examples of different socio-cultural situations in the state. Laclede County is in the south central part of the state in the Ozarks area. Harrison County is in the northern part of the state, an area of commercial agriculture. In the earlier survey an organizing hypothesis was that respondents in Laclede County would exhibit more *gemeinschaft* behavior and opinions in contrast to more *gesellschaft* (secular) behavior in Harrison County. Our finding (Research Bulletin 779) cast some doubt on this expectation and led us to observe that considerable leveling had occurred by 1955-56 in these areas. Now we want to determine if such a process has continued for the inter-period 1955-56 to 1968.

Plan of Presentation

Our goal is to compare health behavior and opinions for two periods of time within the framework of a rise in level of living, secularization of rural society, and leveling of differences in intra-rural areas. Therefore, we shall compare selected health behavior and opinion data for the periods 1955/56⁵ and 1968.

Not all health behavior and opinions can be interpreted in terms of each of the three organizing hypotheses. For example, while we may reasonably interpret increased use of physicians, hospitals, and dental services in terms of lessened economic constraints and also observe the leveling trend for the inter-period, it is not so clear that greater use of services should be interpreted as an expectation of secularization. It could be argued that rational behavior might lead to fewer instead of more doctor visits. A better choice seems to be not to force a secularization interpretation on these data. On the other hand, health maintenance practices, opinions about physicians, and selected health practices seem more amenable to the secularization interpretation. Throughout, we can make judgments on the leveling in the interperiod. The following chart shows

⁵Because the earlier survey was conducted in different consecutive years (1955, Laclede county; 1956, Harrison county), we refer to the earlier period as 1955/56.

TABLE A

	Level of Living	Secularization	Leveling
Utilization of Health Services	X		X
Method of Paying for Services	X	X	X
Health Maintenance		X	X
Opinions about Physicians		X	X
Family Doctor		X	X
Selected Health Practices		X	X

the organizing hypothesis which will be used in the interpretation of the several categories of health behavior and opinion.

Direction as well as magnitude is considered in interpreting conformity to the hypothesis of effects of increased level of living and secularization. Generally, the chi-square test of significance is used to determine if differences between the two time periods are not likely due to chance in sample selection. The direction in support of the hypotheses is determined in the context of the health related factors under consideration. In assessing the leveling effect, we determine whether the differences between the two counties on a given health related factor was less in 1968 than it was in 1955-56 (indicating leveling) or greater (indicating disleveling).

There is obvious need for imposing controls on the data in making comparisons over time. A number of controls are built into the design—the samples in both periods consisted of open-country households, the same counties were used in both surveys, and the respondents were overwhelmingly the female household heads. Also, the demographic characteristics of the samples for the two periods were quite similar. So comparisons of the total samples for the two periods are justified. We have divided the samples on the basis of three crucial socio-economic variables: age of household head, education of household head, and level of living index of household head. Changes in health behavior and opinions are then examined within these subcategories. We should note that the breaking point for level of living was different for 1955-56 than 1968. This was required by the shift upward in level of living indexes in 1968.

The Health Care Systems in 1955-56 and 1968

In its essential form, the organization of the health care system in the two counties had not changed much during the period 1955-56 and 1968. All of the physicians in the county and in surrounding counties were in private practice and in both counties local hospitals were present. Medical care was provided on a fee-for-service basis. All the local physicians provided primary care and, for the most part, specialist services were gotten in larger centers outside the counties. In the earlier period, nascent group practices in the form of associations of physicians were present in both counties. This association has become more fully developed and formalized in Laclede County, but because of death and

mobility it has eroded in Harrison County. A further change was that in both counties virtually all the physicians are located in the respective county seats whereas earlier there had been some dispersion of physicians throughout the counties.

The family was the decision making unit in most situations regarding health services and behavior. Families established somewhat stable relationships with the health care system by selecting a family doctor on the basis of past experience and anticipation of future needs. In small communities such as we studied, local physicians were highly visible to potential clients and subject to constant informal evaluation by community members. Most of the physician and hospital services used by those interviewed were obtained locally, but people had the alternative of consulting physicians and using hospitals in other, usually larger centers.

Characteristics of the Families in the Samples

We are dealing with family units rather than individuals in this analysis; although, the opinions expressed are those of individual respondents. There was a general similarity in the age of household heads for both periods; however, in the later period Laclede County, there was a perceptible increase in the proportion of household heads age 65 or over. Improvement in education, income, and level of living was observed in both counties for the interperiod. Even with improvement, however, these indicators were relatively low for both counties in 1968. In the later period, most heads of families had less than a high school education and 40 to 48 percent of the households in Harrison and Laclede Counties respectively had annual incomes of under \$3,000.

Level of living was measured by possession of certain material items including construction of the house, water piped into house, deep freezer, washing machine, automobile (more weight for recent model), pick-up truck, daily newspaper, hot water heater, and central heating.⁶ The period 1955-56 to 1968 saw a substantial increase in the level of living index scores in both counties, but it was especially pronounced in Laclede County. Whereas in 1955, more than half of the families in Laclede county had level of living scores of 13 or less, by 1968 only 16 percent had level of living indexes that low. The overall effect of changes was to bring Laclede and Harrison Counties into much closer alignment on level of living indexes in 1968 than they had been in 1955-56. Overall, on the usual demographic factors, with some exception in education, the families of the two counties were quite similar in 1968.

We will be using the family as a unit in our analysis. However, much health behavior is obtained on a person-unit basis, so the size of family is an important consideration. There were no great disparities in size of family between the two counties in 1968 (Table 1). There had been a slight increase in the pro-

⁶See Missouri Agricultural Experiment Station Research Bulletin 647, page 30 for scoring.

Table 1--Characteristics of the Open-county Population
Harrison and Laclede Counties for Two Time Periods

Family Characteristics	Harrison County survey years		Laclede County survey years	
	1956 (percent)	1968 (percent)	1955 (percent)	1968 (percent)
Age of Household Head*				
Head*	(N=152)	(N=160)	(N=152)	(N=149)
-45 years	31.6	28.1	32.9	26.9
45-64 years	44.1	46.9	49.3	43.6
65+ years	24.3	25.0	17.8	29.5
Education of Household Head*				
Head*	(N=150)	(N=160)	(N=146)	(N=148)
less than 12 years	70.7	57.5	82.2	74.3
12 years	27.3	36.9	14.4	22.3
over 12 years	2.0	5.6	3.4	3.4
Family Income				
Family Income	(N=146)	(N=159)	(N=152)	(N=148)
-\$1,000	21.2	5.0	23.7	4.7
1,000 to 2,999	44.5	43.4	44.7	35.8
3,000 to 4,999	26.7	25.8	25.0	27.0
5,000 to 9,999	7.6	21.4	5.3	23.0
10,000 up	--	4.4	1.3	9.5
Level of Living				
Score	(N=136)	(N=158)	(N=152)	(N=147)
13 or less	10.3	7.0	53.9	16.3
14 - 16	53.7	23.4	29.6	27.9
17 - 18	21.3	36.1	11.2	32.7
19 up	14.7	33.5	5.3	23.1
Number in Household				
Number in Household	(N=152)	(N=160)	(N=152)	(N=149)
1 - 2	42.7	53.1	42.8	49.6
3 - 4	38.8	31.2	28.3	30.2
5 and over	18.5	15.7	28.9	20.2
	(N=152)	(N=160)	(N=152)	(N=149)
Male Head Employed				
Full-time in Farming	60.9	51.2	37.0	23.9

*Male primary where no male head then female head

portion of families of one or two members from 1955-56 to 1968 and a decrease in Laclede County in the proportion of households with five or more members.

Another difference between the counties and over time which might be important as a consideration in health behavior was the occupation of family heads. This is particularly relevant for having health insurance because health insurance is often a fringe benefit of employment. All of the households were in the open

country. In Harrison County, this meant that the majority of employment was in agriculture; however, in Laclede County there was considerably more non-farm and part-time farm employment. Since the earlier survey there had been a shift away from farm employment in both counties.

Utilization of Services

On the basis of reduction of economic constraints, we expected greater use of health services in the latter year. Furthermore, we expected the pattern of use in the two counties to be more similar in 1955-56 than in 1968. Among the services examined in this section are physicians, hospitals, and dentists.

Use of physicians. In both surveys, most families made some use of physicians during the year preceding the interviews. Experience on this was not different for families in Harrison County for the 1955-56 and 1968 period, but the proportion was significantly higher in Laclede County for the later period. By 1968, proportions of families making some use of physicians for the two counties was virtually identical thus producing a leveling in use for the interperiod (Table 2).

When we consider the subcategories of age, education, and level of living, no significant differences were found in families' use of physician in any of the subcategories in Harrison County. In Laclede County, however, significantly larger proportions of elderly families, families in both education subcategories, and families with lower level-of-living indexes made some use of physicians in the later period.

Table 2--Any Use of Physicians by Families During the Survey Years by Age and Education of Household Head and Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families with any physician visits</u>			χ^2 (d.f.=1)	
	<u>survey years</u>				
	1955-56 (percent)	1968 (percent)			
Harrison County (152/160) ¹	86.2	90.6		1.5	
Laclede County (152/149)	78.3	89.9		8.3*	
<u>Age of Household Head²</u>					
Harrison County					
-45 years (48/45)	93.7	100.0		(a)	
45-64 years (68/75)	85.3	88.0		0.2	
65+ years (36/40)	77.8	85.0		0.7	
Laclede County					
-45 years (50/40)	84.0	92.5		(a)	
45-64 years (74/65)	77.0	87.7		2.7	
65+ years (27/44)	66.7	90.9		(a)	
<u>Education of Household Head²</u>					
Harrison County					
less than 12 years (107/92)	84.1	88.0		0.6	
12 years and more (45/68)	91.1	94.1		(a)	
Laclede County					
less than 12 years (125/110)	76.8	87.3		4.3	
12 years and more (26/38)	80.8	97.4		(a)	
<u>Level of Living³</u>					
Harrison County					
low (55/48)	83.6	85.4		0.1	
high (97/100)	87.6	92.7		1.5	
Laclede County					
low (101/65)	70.3	89.2		8.2*	
high (51/82)	92.2	91.5		(a)	

¹ Number for 1955/56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

² Male head primary.

³ High level of living score was 15 or higher in 1955/56 and 18 or higher in 1968.

*Significant at .05 level.

We next considered *number of physician visits* for those families using any physician services (Table 3). There was a close correspondence for the two periods in Harrison County which extended to each of the control variable sub-

categories. Laclede County showed some differences in level of use for the two periods with a greater proportion of families having no more than four visits in 1955 than in 1968. At the same time, the relationship proved to be curvilinear in

Table 3--Number of Physician Visits by Families During the Survey Years by Age and Education of Household Head and Family level of Living Index in Two Missouri Counties, 1955-56 and 1968

Number of physician visits Families by county, age, education, and level of living	survey years		χ^2 (d.f.=2)
	1955-56 (percent)	1968 (percent)	
Harrison County (131/145)¹			
1-4 visits	22.1	24.8	0.3
5-14 visits	32.8	31.7	
15+ visits	45.1	43.5	
Laclede County (119/134)			
1-4 visits	33.6	23.8	7.3*
5-14 visits	31.9	48.5	
15+ visits	34.5	27.6	
Age of Household Head²			
Harrison County			
-45 years (45/45)			
1-4 visits	15.6	17.8	1.2
5-14 visits	42.2	31.1	
15+ visits	42.2	51.1	
45-64 years (58/66)			
1-4 visits	27.6	30.3	0.9
5-14 visits	27.6	33.3	
15+ visits	44.8	36.4	
65+ years (28/34)			
1-4 visits	21.4	23.5	0.1
5-14 visits	28.6	29.4	
15+ visits	50.0	47.1	
Laclede County			
-45 years (44/37)			
1-4 visits	31.8	8.1	10.6*
5-14 visits	34.1	67.6	
15+ visits	34.1	24.3	
45-64 years (56/57)			
1-4 visits	37.5	29.8	1.7
5-14 visits	30.3	42.1	
15+ visits	32.2	28.1	
65+ years (18/40)			
1-4 visits	27.8	30.0	0.5
5-14 visits	33.3	40.0	
15+ visits	38.8	30.0	

Table 3 (continued)

<u>Number of physician visits</u>	<u>survey years</u>		
Families by county, age, education, and level of living	1955-56 (percent)	1968 (percent)	X ² (d.f.=2)
<u>Education of Household Head²</u>			
Harrison County			
less than 12 years (90/81)			
1-4 visits	22.2	27.1	0.6
5-14 visits	37.8	34.6	
15+ visits	40.0	38.3	
12 years and more (40/64)			
1-4 visits	20.0	21.9	0.6
5-14 visits	22.5	28.1	
15+ visits	57.5	50.0	
Laclede County			
less than 12 years (96/96)			
1-4 visits	33.4	31.3	2.5
5-14 visits	32.2	42.7	
15+ visits	34.4	26.0	
12 years and more (21/37)			
1-4 visits	28.6	5.4	0.19(d.f.=1) ^b
5-14 visits	33.3	74.2	
15+ visits	38.1	32.4	
<u>Level of Living³</u>			
Harrison County			
low (46/41)			
1-4 visits	23.9	26.8	0.1
5-14 visits	28.3	26.8	
15+ visits	47.8	46.4	
high (84/102)			
1-4 visits	20.2	22.6	0.1
5-14 visits	35.7	34.3	
15+ visits	44.1	43.1	
Laclede County			
low (56/59)			
1-4 visits	25.0	20.3	3.4
5-14 visits	37.5	54.2	
15+ visits	37.5	25.4	
high (61/74)			
1-4 visits	39.4	25.7	4.6
5-14 visits	27.8	44.6	
15+ visits	32.8	29.7	

¹Number for 1955-56 and 1968 respectively.²Male head primary.³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.* Significant at .05 level. ^bCategory 1-4 visits was combined with 5-14 visits.

that a higher proportion of families in Laclede County had 15 or more physician visits in 1955 than in 1968. It can be observed in Table 3 that the pattern of visits remained remarkably similar in Harrison County for 1956 and 1968 for control variable subcategories. There was greater variation by subcategory in Laclede County, but the only one in which the difference was great enough to be significant was for the youngest (household head under 45 years) families. While these data did not support the hypothesis of greater utilization due to reduction of economic constraints in Harrison County, the increase in number of visits was mildly supportive of the hypothesis in Laclede County.

Use of hospital services. Families' experience with hospitalization was similar for 1955-56 and 1968. In the earlier period, 28 and 27 percent of the families in Harrison and Laclede Counties respectively had hospital experience; in the later period the percentages were 26 and 35 percent (Table 4). No difference of significance occurred for the total interperiod comparison or within any of the subcategories of age, education, and level of living with the exception of the youngest age category in Harrison County.

The effect of rise in level of living was not apparent in either county in an increase in proportion of families using hospital services. Neither is there support for the hypothesis of leveling of use of hospital services for the interperiod. For the sample considered as a whole and for most subcategories, there was greater difference between the counties in 1968 than in 1955-56.

As a gross indication of *length of stay* in the hospital, families who accumulated a week or less of hospitalization during the year were separated from those with more than a week's hospitalization. No significant differences in length of hospital stay were recorded for the interperiods for either county for the total sample nor for any of the subcategories. On this basis, the hypothesis of greater use of hospital services with reduction of economic constraints is not supported. Similarly, the hypothesis of the leveling process between counties for the interperiod is not supported because, while there is some leveling for the whole sample, the direction is not consistent in the various subcategories.

Table 4--Any Hospitalization by Family Member During Survey Year by Age and Education of Household Head and Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	Families with any hospitalization			χ^2 (d.f.=1)	
	survey years		(percent)		
	1955-56	1968			
Harrison County (152/160) ¹	28.3	25.6		0.3	
Laclede County (152/149)	27.0	34.9		2.2	
<u>Age of Household Head²</u>					
Harrison County					
-45 years (48/45)	50.0	28.9		4.3*	
45-64 years (68/75)	20.6	25.3		0.4	
65+ years (36/40)	13.9	22.5		0.9	
Laclede County					
-45 years (50/40)	36.0	42.5		0.4	
45-64 years (74/65)	18.9	27.7		1.5	
65+ years (26/44)	26.9	38.6		1.0	
<u>Education of Household Head²</u>					
Harrison County					
less than 12 years (107/92)	19.6	19.6		0.0	
12 years and more (45/68)	48.9	33.8		2.6	
Laclede County					
less than 12 years (124/110)	25.8	30.9		0.7	
12 years and more (26/38)	26.9	47.4		2.7	
<u>Level of Living³</u>					
Harrison County					
low (55/73)	27.3	24.7		0.1	
high (97/85)	28.9	27.1		0.1	
Laclede County					
low (100/89)	24.0	37.1		3.8*	
high (51/58)	33.3	32.8		0.0	

¹Number for 1955/56 and 1968 respectively.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

* Significant at .05 level.

Table 5--Number of Hospital Days by Families During the Survey Years by Age and Education of Household Head and Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

<u>Number of hospital days</u>	<u>survey years</u>		χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)	
Families by county, age, education, and level of living			
Harrison County (43/41) ¹			
1-7 days	69.7	58.5	1.1
8+ days	30.3	41.5	
Laclede County (41/52)			
1-7 days	56.0	48.0	0.6
8+ days	44.0	52.0	
<u>Age of Household Head</u> ²			
Harrison County			
-45 years (24/14)			
1-7 days	79.2	57.1	(a)
8+ days	20.8	42.9	
45-64 years (14/18)			
1-7 days	64.3	55.6	0.2
8+ days	35.7	44.4	
65+ years (5/9)			
1-7 days	40.0	66.7	(a)
8+ days	60.0	33.3	
Laclede County			
-45 years (18/17)			
1-7 days	72.2	70.6	0.0
8+ days	27.8	29.4	
45-64 years (15/18)			
1-7 days	46.6	44.4	0.0
8+ days	53.4	55.6	
65+ years (8/17)			
1-7 days	37.5	29.5	(a)
8+ days	62.5	70.5	
<u>Education of Household Head</u> ²			
Harrison County			
less than 12 years (21/18)			
1-7 days	61.9	66.6	0.1
8+ days	38.1	33.4	
12 years and more (22/23)			
1-7 days	77.3	52.2	3.1
8+ days	22.7	47.8	

Table 5 (continued)

<u>Number of hospital days</u>	<u>survey years</u>		χ^2 (d.f.=1)	
Families by county, age, education, and level of living	1955-56 (percent)	1968 (percent)		
<u>Education of Household Head (continued)²</u>				
Laclede County				
less than 12 years (34/34)				
1-7 days	52.9	41.2	0.9	
8+ days	47.1	58.8		
12 years and more (7/18)				
1-7 days	71.4	57.9	(a)	
8+ days	28.6	42.1		
<u>Level of Living³</u>				
Harrison County				
low (15/10)				
1-7 days	73.3	70.0	(a)	
8+ days	26.7	30.0		
high (28/31)				
1-7 days	67.9	54.8	1.0	
8+ days	32.1	45.2		
Laclede County				
low (26/31)				
1-7 days	50.0	35.4	1.2	
8+ days	50.0	64.6		
high (15/21)				
1-7 days	66.6	66.7	0.0	
8+ days	33.4	33.3		

¹Number for 1955-56 and 1968 respectively.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

*Significant at .05 level.

(a) Expected frequency insufficient for χ^2 test.

Use of dental services. Whether or not families had used dental services did not change significantly during the interperiod 1955-56 and 1968. In Laclede County the proportions of families using dentists remained almost unchanged while in Harrison, although the difference was not significant, there was a reported 10 percent *decrease* in the families using dentists. The decrease in use in Harrison County was concentrated in the lower education, lower income, and oldest age categories. The direction and magnitude of difference did not support

the hypothesis that lessening economic constraints would increase the use of dental services. There was some indication of leveling between the two counties in the use of dental services over the interperiod both for the total sample and for subcategories.

Table 6--Any Use of Dentists by Families During the Survey Years by Age and Education of Household Head and Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	Families with any dental visits survey years			χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)		
Harrison County (152/160) ¹	69.1	59.4		3.2
Laclede County (152/149)	49.2	49.7		0.0
<u>Age of Household Head²</u>				
Harrison County				
-45 years (47/45)	74.5	75.5		0.0
45-64 years (67/75)	73.1	64.0		1.4
65+ years (35/40)	51.4	32.5		2.8
Laclede County				
-45 years (50/40)	64.0	70.0		0.4
45-64 years (75/65)	49.3	55.4		0.5
65+ years (27/44)	22.2	22.7		0.0
<u>Education of Household Head²</u>				
Harrison County				
less than 12 years (105/92)	64.8	41.3		10.8*
12 years and more (44/68)	77.3	83.8		0.0
Laclede County				
less than 12 years (126/110)	46.8	41.8		0.6
12 years and more (26/38)	61.5	71.0		0.6
<u>Level of Living³</u>				
Harrison County				
low (55/73)	69.3	49.3		5.0*
high (97/85)	66.7	68.2		0.0
Laclede County				
low (100/89)	43.0	39.3		0.3
high (51/58)	62.7	63.8		0.0

¹Number for 1955-56 and 1968 respectively.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

* Significant at .05 level.

Summary of the use of health services: Largely on the basis of lessening economic constraints, we had expected to find a higher use of health services in 1968 than in 1955-56. The data do not offer much support for this hypothesis. The increase in proportion of families using a physician was great enough in Laclede County to be significant, but other services (hospital and dental) did not conform to the expectation. The evidence on the leveling hypothesis is mixed. (Table 7). Whether or not physicians and dentists were used by families in the two counties was more similar in the later period. A corresponding leveling did not occur in hospital services.

Table 7--Summary table of leveling* in use of health services
for the total sample and by age groups.

Use of health service items	Leveling between 1955-56 and 1968 for Harrison and Laclede Counties**			
	Total	-45	45-64	65+
Use of physician	+	+	+	+
15 or more physician's visits	-	-	+	+
Use of hospital	-	+	-	-
8 or more hospital days	-	-	-	-
Use of dentist	+	+	+	+

*Difference between Laclede and Harrison Counties less in 1968 than in 1955-56.

**(+) Indicates change in direction toward leveling.

Paying for Health Services

Health Insurance. To date, voluntary health insurance is the social mechanism most well developed and universally used in this country for meeting the financial hazards of illness. It is as a rational means of prepaying costs of illness. Increased possession of voluntary health insurance is consonant with secularization trends of rural society and it is also consistent with lessening of economic constraints.

There was a substantial increase in health insurance during the interperiod of the surveys. In each county the proportion rose from about one-third to two-thirds of the families (Table 8). The differences in proportion of families having health insurance for the two periods was significant for the total sample and for each of the age, education, and level of living subcategories with the exception of the youngest age category in Laclede County. The similar proportions having health insurance in the two counties in the initial survey and similar increases did not permit much magnitude in leveling, but the direction for the sample and for the subcategories was toward leveling.

Table 8--Families with Health Insurance by Age and Education of Household Head and Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families with health insurance</u>		
	<u>survey years</u>		χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)	
Harrison County (152/160) ¹	32.9	69.4	41.5*
Laclede County (152/149)	38.2	67.1	25.3*
<u>Age of Household Head²</u>			
Harrison County			
-45 years (48/45)	27.1	62.2	11.6*
45-64 years (68/75)	36.8	77.3	24.1*
65+ years (36/40)	33.3	62.5	6.4*
Laclede County			
-45 years (50/40)	42.0	60.0	2.9
45-64 years (74/65)	41.3	75.4	16.5*
65+ years (27/44)	22.2	61.4	10.3*
<u>Education of Household Head²</u>			
Harrison County			
less than 12 years (107/92)	31.8	66.3	23.6*
12 years or more (45/68)	35.5	73.5	16.1*
Laclede County			
less than 12 years (126/110)	37.3	64.5	17.4*
12 years or more (26/38)	42.3	73.7	6.4*
<u>Level of Living³</u>			
Harrison County			
low (55/73)	31.6	58.9	17.6*
high (97/85)	38.2	77.6	27.4*
Laclede County			
low (100/89)	34.0	58.4	11.3*
high (51/58)	47.5	82.8	15.4*

¹Number for 1955-56 and 1968 respectively.²Male head primary.³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

*Significant at .05 level.

Voluntary health insurance is dispensed in two basic ways to consumers. One is through an existing group, most often an employment group; the other is through individual policies. Group policies in general offer more coverage for the money and often are obtained semi-automatically as a part of one's employment for which the employer pays part or all of the costs. For this reason, almost all employees of some industries have health insurance. Farm operators, small businessmen, and their employees which are characteristic of rural areas, are not as likely to have the advantages of group policies and still less likely to have automatic coverage. That is a principal reason that the rural-farm population consistently lags behind the urban population in health insurance coverage. The distribution by individual and group policy had not changed appreciably in the two surveys (Table 8). In Harrison County, 86 and 87 percent of the policies were individual policies in 1956 and 1968 respectively; in Laclede County, consistent with greater non-farm employment only, 50 and 44 percent were individual policies in 1955 and 1968 respectively. The interperiod difference was not significant.

How would you pay a medical bill of \$100, \$500, \$1,000, or \$5,000? The threat of large medical bills is felt by many people. As we have seen, a majority of the families in the study had some kind of health insurance. Yet the adequacy of health insurance varies greatly and at best it does not provide full financial protection. Thus families face the possibility of large bills whether or not they have health insurance. Respondents were asked to judge how they would pay bills of \$100, \$500, \$1,000, and \$5,000 assuming that they had no health insurance (Table 9).

A bill of \$100 was within the range of the ability of almost all families to pay. There was not much difference on this for the two periods of time with most paying such a bill out of savings or current income, although, some would need to borrow or pay in installments. As one would expect, more families would be unable to meet larger bills from savings and/or current income and more would turn to some form of credit (borrowing or installments) or would be unable to pay the bill. However, in 1968, only about 1 in 5 said they would be unable of finding some way to meet a bill as large as \$5,000. At this level, the predominant method of payment would be some form of credit. The overriding impression from these data of a sample of relatively low income families is the feeling of strong personal responsibility for meeting medical bills that range to quite a high level.

There were some time trends of interest. While the proportion of families who could pay a bill of \$100 out of current income or savings was about the same by county for 1955-56 and 1968, for a bill of \$1,000 more families in 1968 than 1955-56 would use this method of payment. We had expected a greater emphasis on credit payment in the later year due to the general increase in credit business taking place in the society. This did not occur; instead there was some lessening of dependence on credit payment and an increase in payment by sav-

Table 9--Method of paying hypothetical illness care bills of \$100, \$500, \$1000, and \$5000 in two Missouri counties, 1955-56 and 1968

Method of payment* according to amount of bill and families by county	survey years	
	1955-56 (percent)	1968 (percent)
<u>Bill of \$100</u>		
Harrison County (149/160)		
savings + current income	80.5	70.6
installments, borrowing, combinations	17.5	26.3
couldn't pay a bill this size	0.7	1.9
other	1.3	1.2
Laclede County (151/149)		
savings + current income	60.9	63.8
installments, borrowing, combinations	37.1	32.2
couldn't pay a bill this size	2.0	4.0
other	0.0	0.0
<u>Bill of \$500</u>		
Harrison County (147/160)		
savings + current income	42.2	41.9
installments, borrowing, combinations	51.7	53.1
couldn't pay a bill this size	2.7	5.0
other	3.4	0.0
Laclede County (147/149)		
savings + current income	18.4	45.7
installments, borrowing, combinations	70.7	43.6
couldn't pay a bill this size	8.8	10.7
other	2.1	0.0
<u>Bill of \$1000</u>		
Harrison County (141/160)		
savings + current income	12.8	21.8
installments, borrowing, combinations	74.4	70.6
couldn't pay a bill this size	7.1	7.5
other	5.7	0.0
Laclede County (141/148)		
savings + current income	11.3	29.0
installments, borrowing, combinations	66.0	56.8
couldn't pay a bill this size	22.0	14.2
other	0.7	0.0
<u>Bill of \$5000</u>		
Harrison County (160)	**	
savings + current income		9.4
installments, borrowing, combinations		69.4
couldn't pay a bill this size		21.2
other		0.0

Table 9 continued

Method of payment* according to amount of bill and families by county	survey years	
	1955-56 (percent)	1968 (percent)
Laclede County (148)	**	
savings + current income		14.2
installments, borrowing, combinations		66.2
couldn't pay a bill this size		19.6
other		0.0

* Assuming no health insurance.

** Data not available for 1955-56.

ings or current income. This probably reflects the greater economic ability of the families in the later period.

There was a definite relationship of age to method of paying medical bills, especially at the higher levels. Young families were much more likely than older families to anticipate paying bills by credit. For example, in 1968 at the \$1,000 level, 85 and 80 percent of Harrison and Laclede County younger families (head under 45 years) would be likely to use credit compared with 69 (Harrison) and 55 (Laclede) percent of the middle-aged families (head 45-64 years) and 58 (Harrison) and 39 (Laclede) percent of the oldest families. Oldest families were most likely to report being unable to pay a bill at each level; at \$5,000 in 1968, 1 in 3 in each county indicated inability to pay.*

Credit paying was also positively associated with level of education of the household head and there was also a clear relationship between family level of living index and prospects of meeting large medical bills. For example in 1968, more than one-third of the families in each county with a low level of living index reported inability to meet a bill of \$5,000 compared with 14 and 16 percent of the families respectively in Harrison and Laclede Counties in the higher level of living category unable to meet this level of cost.

Generally the patterns for paying hypothetical bills were similar for the two periods with use of credit and perceived inability to pay as the bill increased. There was no consistent evidence of greater dependence on credit in the later period, but some evidence of greater ability to meet even large bills out of savings and current income which probably is a reflection of general improved economic situation in the later period. At the same time there was but little improvement in proportion of families who could not pay bills of varying size in the later period. Over the interperiod there was some leveling in the pattern of payment, especially when attention is focused on savings and current income and credit payment.

*Because of the space required, tabulations by age, education, and level of living have not been presented.

Health Maintenance

A cliché of health education is that regular physical and dental examinations are desirable in preventing illness and detecting health problems in their early stages. In a society becoming more secular, it is reasonable to expect that such a viewpoint and its translation to behavior would become more prevalent. Inquiry was made concerning respondents' views about regular physical and dental examinations and whether or not families routinely had such examinations.

How often should a person see a doctor? The idea of frequent, regular check-ups by doctors is given lip-service by most respondents in both periods of time. In 1968 more than 4 in 5 of the respondents stated that people should see a doctor at least once a year (Table 10). This was matched in 1956 in Harrison County, but had been somewhat lower in Laclede County in the earlier period. The difference was significant in Laclede County. Evidence in Laclede County but not in Harrison County supports the expectation based on secularization that respondents would affirm the idea of regular check-ups to a greater extent in 1968 than in 1955-56. Of further interest is that the changes in Laclede County were concentrated among lower education and lower income families. An effect of changes in the two counties was to bring them closer together in responses in 1968 than they had been in 1955-56 thus supporting the leveling hypothesis.

Does the family have routine physical examinations? In neither period was the statement of desirability of routine physical examinations corresponded to closely by families having routine examinations. While in both periods most respondents said that people should have regular examinations, in both periods most reported their families did not have such examinations. However, there had been some improvement during the interperiod so that in 1968 approximately 30 percent of the respondents in each county reported that at least certain members had routine physical examinations whereas about 10 percent had made such a declaration in the earlier survey (Table 11). The difference was significant for both counties. In Harrison County the increase in proportion of families reported to have routine check-ups was concentrated in the middle age category, while in Laclede County the change was great enough in each of the age categories to be significant at the 5 percent level. In both counties the change that yielded significant differences was confined to families of lower education (although families of higher education were more likely than families of lower education to report routine check-ups in both periods). Low level of living families reported enough change to be significant in both counties; in Harrison, but not in Laclede County, the difference in higher level of living families was also significant.

Even though changes were noted which brought expression of behavior and reports of actual behavior closer together in the later period, the gap remained great. In general, changes conformed to expectations under the assumption of a

Table 10--Responses to the Question, "How Often Do You Think a Person Should See a Doctor?", by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

<u>How often one should see a doctor</u>	<u>survey years</u>		
	1955-56 (percent)	1968 (percent)	χ^2 (d.f.=1)
Families by county, age, education, and level of living			
Harrison County (150/160) ¹			
once a year or less	82.7	81.9	0.0
when needed and other	17.3	18.1	
Laclede County (146/148)			
once a year or less	64.4	80.4	9.4*
when needed and other	35.6	19.6	
<u>Age of Household Head²</u>			
Harrison County			
-45 years (48/45)			
once a year or less	85.4	91.1	0.7
when needed and other	14.6	8.9	
45-64 years (68/75)			
once a year or less	85.3	81.3	0.4
when needed and other	14.7	18.7	
65+ years (34/40)			
once a year or less	73.5	72.5	0.0
when needed and other	26.5	27.5	
Laclede County			
-45 years (50/40)			
once a year or less	68.0	87.5	4.7*
when needed and other	32.0	12.5	
45-64 years (69/64)			
once a year or less	68.1	87.5	7.1*
when needed and other	31.9	12.5	
65+ years (27/44)			
once a year or less	48.1	63.6	1.6
when needed and other	51.9	36.4	
<u>Education of Household Head²</u>			
Harrison County			
less than 12 years (105/92)			
once a year or less	77.1	75.0	0.1
when needed and other	22.9	25.0	
12 years and more (45/68)			
once a year or less	95.6	91.2	(a)
when needed and other	4.4	8.8	

Table 10 (continued)

<u>How often one should see a doctor</u> Families by county, age, education, and level of living	<u>survey years</u>		
	1955-56 (percent)	1968 (percent)	χ^2 (d.f.=1)
Laclede County			
less than 12 years (121/109)			
once a year or less	62.0	78.9	7.8*
when needed and other	38.0	21.1	
12 years and more (25/38)			
once a year or less	76.0	84.2	(a)
when needed and other	24.0	15.8	
Level of Living³			
Harrison County			
low (54/73)			
once a year or less	74.1	78.1	0.3
when needed and other	25.9	21.9	
high (96/85)			
once a year or less	87.5	84.7	0.3
when needed and other	12.5	15.3	
Laclede County			
low (96/88)			
once a year or less	56.3	75.0	8.6*
when needed and other	43.7	25.0	
high (50/58)			
once a year or less	80.0	87.9	1.3
when needed and other	20.0	12.1	

¹Number for 1955-56 and 1968 respectively.

(a)

²Male head primary.

* Significant at .05 level.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

Table 11--Families Who Have Routine Physical Examinations During the Survey
 Years by Age and Education of Household Head and by Family Level of Living
 Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families having routine physical exams</u>		
	<u>survey years</u>		χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)	
Harrison County (152/160) ¹	9.9	28.1	16.7*
Laclede County (152/149)	8.5	30.9	23.8*
<u>Age of Household Head²</u>			
Harrison County			
-45 years (48/45)	12.6	28.9	3.8*
45-64 years (68/75)	5.9	29.4	13.1*
65 + years (36/40)	13.9	25.0	1.5
Laclede County			
-45 years (50/40)	14.0	35.0	5.5*
45-64 years (75/65)	8.0	30.8	11.9*
65 + years (27/44)	0.0	27.3	(a)
<u>Education of Household Head²</u>			
Harrison County			
less than 12 years (107/92)	5.6	21.8	11.3*
12 years and more (45/68)	20.0	36.8	3.6
Laclede County			
less than 12 years (125/111)	4.8	28.8	25.1*
12 years and more (27/38)	25.9	36.8	0.9
<u>Level of Living³</u>			
Harrison County			
low (55/48)	3.6	20.8	7.4*
high (97/110)	13.2	31.8	9.8*
Laclede County			
low (101/65)	2.0	18.5	13.9*
high (51/82)	21.6	40.3	5.0*

¹Number for 1955-56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

* Significant at .05 level.

more secular society. However, because there was so little difference between the responses in the two counties in 1955-56, there was little room for leveling of the difference. As a result, the difference between the counties on this question was slight in both periods.

How often should a person see a dentist? As with the parallel question for doctors, the great majority of respondents advocated regular dental services. There was a decline in the proportion of those saying that a dentist should be visited at least once a year (from 93 to 84 percent) in Harrison County and an increase (from 80 to 91 percent) in Laclede County. Both differences were statistically significant (Table 12). Because of the high level of acceptance of the statement on desirability of dental services, tests of significance (using X^2) were not appropriate for a number of control variable subcategories. Generally there is a mixture of support and nonsupport for the hypothesis of greater acceptance of the value of regular dental services. Realistically it should be noted that because of the high acceptance of the statement in the earlier period there was little room for improvement in the later period. For the same reason we cannot expect much leveling effect to be observed.

Does the family have routine dental examinations? Unfortunately this question was not included in the questionnaire for Laclede County in 1955 so an interperiod comparison for that county cannot be made. In Harrison County the difference was significant and in the expected direction for the total sample, but not for the subcategories with the exception of the higher level of living families. Of course, because of lack of data for Laclede County in 1955, a judgment cannot be made about leveling of response on this item although we can observe that response patterns for the two counties was very similar in 1968.

Summary of health maintenance items: The expectation on the basis of secularization was that there would be greater expression of the value of regular medical and dental check-ups in 1968 than 1955-56 and that people would follow through with routine physical and dental examinations. There is some support of the hypothesis. Expression of desirability of regular physical examinations was made more frequently in Laclede County in 1968 than in the earlier period; in Harrison County, however, the percentages for the two years were nearly identical. When it came to actually having routine physical examinations, both counties and most age, education, and level of living subcategories showed significant changes in the expected direction. The direction and magnitude of change in response to the question dealing with desirability of dental examinations supported the hypothesis of effects of secularization in Laclede County but not in Harrison County. We were unable to compare the actual routine use of dentists for the two time periods because comparable data were not obtained.

The leveling effect appears more consistent (Table 14). On the desirability of both regular physical and dental examinations there was a leveling in the interperiod which was also found in each of the age subcategories with only one exception. The actual practice of having routine examinations did not show a leveling effect.

Table 12--Responses to the Question, "How Often Do You Think a Person Should See a Dentist?", by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

<u>How often one should see a dentist</u>	<u>survey years</u>		
Families by county, age education, and level of living	1955-56 (percent)	1968 (percent)	χ^2 (d.f.=1)
Harrison County (150/160) ¹			
once a year or less	92.6	84.4	5.2*
when needed and other	7.4	15.6	
Laclede County (142/148)			
once a year or less	80.3	90.6	6.2*
when needed and other	19.7	9.4	
<u>Age of Household Head²</u>			
Harrison County			
-45 years (48/45)			
once a year or less	100.0	91.2	(a)
when needed and other	0.0	8.8	
45-64 years (68/75)			
once a year or less	95.5	88.0	2.7
when needed and other	4.5	12.0	
65+ years (33/40)			
once a year or less	78.8	70.0	0.7
when needed and other	21.2	30.0	
Laclede County			
-45 years (48/40)			
once a year or less	85.5	92.5	(a)
when needed and other	14.5	7.5	
45-64 years (69/64)			
once a year or less	82.6	92.2	2.7
when needed and other	17.4	7.8	
65+ years (25/44)			
once a year or less	64.0	86.4	4.7*
when needed and other	36.0	13.6	
<u>Education of Household Head²</u>			
Harrison County			
less than 12 years (104/92)			
once a year or less	90.4	76.1	7.3*
when needed and other	9.6	23.9	
12 years and more (45/68)			
once a year or less	100.0	95.6	(a)
when needed and other	0.0	4.4	

Table 12 (continued)

<u>How often one should see a dentist</u>	<u>survey years</u>		χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)	
Families by county, age, education, and level of living			
Laclede County			
less than 12 years (117/109)			
once a year or more	79.5	89.0	3.8*
when needed and other	20.5	11.0	
12 years and more (25/38)			
once a year or less	84.0	94.7	(a)
when needed and other	16.0	4.3	
<u>Level of Living³</u>			
Harrison County			
low (54/73)			
once a year or less	81.5	76.7	0.4
when needed and other	18.5	23.3	
high (95/85)			
once a year or less	100.0	90.6	(a)
when needed and other	0.0	9.4	
Laclede County			
low (94/88)			
once a year or less	75.6	87.4	3.4
when needed and other	24.4	13.6	
high (48/58)			
once a year or less	89.6	96.6	(a)
when needed and other	10.4	3.4	

¹ Number for 1955-56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

² Male head primary.

³ High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

* Significant at .05 level.

Table 13--Families Who Have Routine Dental Examinations During the Survey Years by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families having routine dental exams</u>			χ^2 (d.f.=1)	
	<u>survey years</u>		χ^2 (d.f.=1)		
	1955-56 (percent)	1968 (percent)			
Harrison County (152/158) ¹	24.4	33.6	3.2		
Laclede County (- /148)	not available	26.3	-		
Age of Household Head ²					
Harrison County					
-45 years (48/44)	39.6	47.7	0.6		
45-64 years (68/74)	22.0	35.1	2.9		
65 + years (36/40)	8.4	15.0	(a)		
Laclede County					
-45 years (- /39)	not available	35.9	-		
45-64 years (- /65)	not available	27.7	-		
65 + years (- /44)	not available	15.9	-		
Education of Household Head ²					
Harrison County					
less than 12 years (107/91)	14.0	22.0	2.1		
12 years and more (45/67)	48.9	49.2	0.0		
Laclede County					
less than 12 years (- /109)	not available	19.3	-		
12 years and more (- /38)	not available	47.3	-		
Level of Living ³					
Harrison County					
low (55/71)	21.8	28.2	0.7		
high (97/85)	25.8	38.9	3.5		
Laclede County					
low (- /89)	not available	16.8	-		
high (- /57)	not available	40.3	-		

¹Number for 1955-56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

Table 14--Summary table of leveling* in health maintenance items
for total sample and by age groups

Health maintenance items	Leveling between 1955-56 and 1968 for Harrison and Laclede Counties**			
	Total	-45	Age of household head 45-64	65+
How often should you see a doctor	+	+	+	+
Have had routine physical examination	-	-	+	+
How often should you see a dentist	+	+	+	-

*Difference between Laclede and Harrison Counties less in 1958 than in 1955-56.
**(+) Indicates change in direction toward leveling.

Opinions about Physicians and Accessibility to Medical Services

Based on the attention given to problems of delivery of health services in mass media we might expect that rural people would translate this into dissatisfaction with physicians and feeling of not being able to get medical attention when it was needed. Such responses, we believe, would be consistent with a secularizing of rural society in which a more critical attitude might be expected to prevail.

Attitudes toward doctors. Respondents were asked to choose from among four statements about doctors:

- 1) I have great faith in doctors.
- 2) Generally, I think doctors do a good job.
- 3) Generally, I think doctors are over rated.
- 4) I distrust doctors and believe it is better to avoid them.

The first two responses were judged to be positive, the last two negative. Inter-period comparisons were not possible for Laclede County because the question was not asked directly in 1955, but for Harrison County, a uniformly positive attitude toward doctors existed (93 and 95 percent) in the two years; a figure which was matched (94 percent) in 1968 for Laclede County (Table 15). The data, therefore, did not support the hypothesis of greater skepticism toward doctors in the later period. It does tell us that people in both of these counties regard physicians highly and have done so for a considerable length of time. The strong implication is that the regular medical profession and its practitioners are regarded as authoritative in matters of health care.

Table 15--Families With a Positive Attitude Toward Doctors by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families with positive attitudes towards doctors</u> ⁴			χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)	survey years	
Harrison County (152/160) ¹	93.4	95.0		0.4
Laclede County (- /149)	not available	94.0		-
Age of Household Head²				
Harrison County				
-45 years (48/45)	100.0	100.0		(a)
45-64 years (68/75)	94.1	94.7		(a)
65 + years (36/40)	83.3	90.0		(a)
Laclede County				
-45 years (- /40)	not available	97.5		-
45-64 years (- /64)	not available	93.7		-
65 + years (- /44)	not available	90.9		-
Education of Household Head²				
Harrison County				
less than 12 years (106/92)	91.5	92.4		0.0
12 years and more (46/68)	97.8	98.5		(a)
Laclede County				
less than 12 years (- /110)	not available	93.6		-
12 years and more (- /38)	not available	94.7		-
Level of Living³				
Harrison County				
low (55/48)	92.7	85.4		1.4
high (97/110)	93.8	99.1		(a)
Laclede County				
low (- /65)	not available	90.8		-
high (- /81)	not available	96.3		-

¹Number for 1955-56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

⁴Attitudes towards doctors is derived from responses to statements concerning doctors. A positive attitude is indicated by the respondents agreement with, "I have great faith in doctors," or "Generally, I think doctors do a good job." The negative attitude statements are: "Generally, I think doctors are overrated," and "I distrust doctors and believe it is better to avoid them."

Unmet need for medical care. There was a change in response to the question, "During the past six months do you feel that you or any member of your household needed medical care but did not get it?" In 1955-56 about one in four respondents affirmed this statement; in 1968 it was affirmed by 6 percent in Harrison County and 11 percent in Laclede County. The change was great enough in both counties to be statistically significant (Table 16). The change was quite uniform for the age, education, and level of living categories. In general the evidence did not support the hypothesis of a perceived deterioration in ability to get needed medical services. Neither was there support for the idea of leveling of perception between the two periods.

The family doctor relationship (mechanism of access to health services). In obtaining health services, families and their members must contend with an established health care system. The system found in the communities studied is represented by private practitioners in solo practice or in association with a small number of other doctors. But these services represent only the initial contact points which may eventually lead to a vast medical care system with other units in the communities such as hospitals and which extends outside the community to specialty centers.

To enter the medical care system, the client is expected to seek out a physician who has access to the various services. In this way the physician serves as a gatekeeper to the medical care system. There is a certain amount of routinization of the doctor-patient relationship. A common form is establishing a continuing and anticipatory relationship with a single practitioner commonly referred to as the family-doctor relationship. Mutual obligations on the part of the physician and client are implied. For the client, this involves consulting the family doctor first in an illness and following his advice in regard to treatment or referral to other physicians or services. For the physician, the obligation is to provide continuity of care for the family and to facilitate access to the complex health care system.

The actual family-doctor relationship may be too fragile to support the pivotal role attributed to it. Even while acknowledging a family doctor relationship, clients may often by-pass the family doctor in seeking specialty services for self-diagnosed ailments depending on lay referral in place of that from the family doctor. The family doctor for his part may not have contact with relevant parts of the health care system and may be less than willing to refer patients to specialists who he may regard as competitors. Since he has no monopoly to entrance to the complex health care system, the family doctor may not be an ideal gatekeeper role. In spite of the limitations of the family-doctor relationship, it is presently the most universally regularized contact between client and the health care system. Among the families interviewed, most reported a personal or family doctor. Percentagewise, more families reported a family doctor in 1968 than in 1955-56 in both counties, although the increase was large enough to be statistically significant only in Harrison County (Table 17). This mode of behavior

Table 16--Families Who Felt that They Needed Medical Care in the Past Six Months, but Did Not Get It, by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	Families who felt they had not received needed medical care			χ^2 (d.f.=1).
	1955-56 (percent)	1968 (percent)	survey years	
Harrison County (152/160) ¹	24.3	5.6		21.7*
Laclede County (151/149)	21.9	10.7		6.8*
Age of Household Head ²				
Harrison County				
-45 years (48/45)	20.8	6.7		3.9*
45-64 years (68/75)	27.9	6.7		11.6*
65 + years (36/40)	22.2	2.5		(a)
Laclede County				
-45 years (50/40)	22.0	7.5		3.6
45-64 years (74/64)	23.0	9.2		4.6*
65 + years (27/44)	18.5	15.9		(a)
Education of Household Head ²				
Harrison County				
less than 12 years (107/92)	21.5	5.4		10.6*
12 years and more (45/68)	31.1	5.9		12.9*
Laclede County				
less than 12 years (125/109)	24.8	11.8		6.3*
12 years and more (25/38)	8.0	7.9		(a)
Level of Living ³				
Harrison County				
low (55/73)	29.1	8.2		9.6*
high (97/85)	21.6	3.5		13.0*
Laclede County				
low (100/88)	26.0	16.8		2.2
high (51/58)	13.7	1.7		(a)

¹ Number for 1955-56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

² Male head primary.

* Significant at .05 level.

³ High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

Table 17--Families Who Have a Family Doctor by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	Families who have a family doctor			χ^2 (d.f.=1)	
	survey years		(percent)		
	1955-56	1968			
Harrison County (152/160) ¹	64.5	88.7		25.9*	
Laclede County (152/149)	69.1	75.2		1.4	
<u>Age of Household Head²</u>					
Harrison County					
-45 years (48/45)	79.1	95.6		5.5*	
45-64 years (67/75)	52.2	86.7		20.1*	
65 + years (37/40)	67.6	85.0		3.3	
Laclede County					
-45 years (50/40)	78.0	77.5		0.0	
45-64 years (75/65)	68.0	73.8		0.6	
65 + years (27/44)	55.5	75.0		2.9	
<u>Education of Household Head²</u>					
Harrison County					
less than 12 years (107/92)	58.8	83.7		14.6*	
12 years and more (45/68)	77.8	95.6		8.4*	
Laclede County					
less than 12 years (120/110)	71.6	75.5		0.4	
12 years and more (26/38)	61.5	73.7		1.1	
<u>Level of Living³</u>					
Harrison County					
low (55/73)	60.0	83.6		8.9*	
high (97/85)	67.1	92.9		18.4*	
Laclede County					
low (101/89)	63.3	77.5		4.5*	
high (51/58)	80.3	72.4		0.9	

¹ Number for 1955-56 and 1968 respectively.

² Male head primary.

³ High level of living score was 1955-56 and 18 or higher in 1968.

* Significant at .05 level.

was dominant in all age, education, and level of living subcategories. In Harrison County all age, education, and level of living categories showed statistically significant increases in proportions reporting a family doctor for the interperiod, and in Laclede County there was also a significant increase among lower level of living families. Generally in 1968 the family-doctor relationship appeared to be nearly universal and little affected by differences in socio-economic characteristics of the families.

If we regard the family-doctor relationship as the rational way for entrance to the medical care system, then the increase in proportion reporting a family doctor is consistent with our hypothesis of the effect of secularization in rural society. A leveling effect between 1955-56 and 1968, however, was not apparent. Starting at about the same level in 1955-56, the greater increase in Harrison County for the interperiod resulted in a somewhat greater difference between the counties in the later period.

There were other similarities in the family-doctor relationship both for the interperiod and for the two counties. The relationship of families and doctors was reported to be quite long standing for both periods. For more than 60 percent of the families it had existed for five years or more and for less than 5 percent less than a year. The family doctor was almost certain to be a local doctor with only very few outside the county or adjacent counties.

The family-doctor relationship is sometimes extrapolated to imply a gemeinschaft relationship between client and physician in which the physician acts as a confidant in matters other than health. With the secularization of society, we might expect that this quality of the relationship would diminish. As a test of the relationship, respondents were asked, "Do you ever talk over problems other than health problems with your family doctor?" Consistent with expectations, fewer responded positively in the later survey (Table 18). The difference was significant in Laclede County but not in Harrison County. Oldest families seemed to be particularly unlikely to regard the family doctor as a confidant, behavior which tended to carry over to low education, low level of living families. Also consistent with the hypothesis of "leveling," the differences between the two counties were less in 1968 than in 1955-56 for the total sample and for most subcategories.

Perception of physicians: We now turn to some direct questions regarding opinions about physicians and the perception of their use. The questions are not confined to the family doctor, but by virtue of the high proportion of families that have family doctors, this relationship is probably the point of reference for most of the respondents.

A series of seven statements were posed to respondents and they were asked to agree or disagree with them; a few were undecided. In reporting responses, we indicated only those in agreement with the statement. We have arbitrarily divided the statements into two groups. The first group, (a) statements, have in

Table 18--Responses to the Question, "Do You Ever Talk Over Problems Other Than Health Problems with Your Family Doctor?", by Age and Education of Household Head and by Family Level of Living Index in
¹ Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	Families who talk over problems with family doctor			χ^2 (d.f.=1)	
	survey years				
	1955-56 (percent)	1968 (percent)			
Harrison County (96/142) ¹	19.8	12.6		2.2	
Laclede County (101/109)	30.6	8.2		17.1*	
Age of Household Head ²					
Harrison County					
-45 years (38/43)	23.7	20.9		0.1	
45-64 years (34/65)	14.7	12.3		(a)	
65 + years (24/34)	20.8	2.9		(a)	
Laclede County					
-45 years (64/30)	18.8	16.7		0.1	
45-64 years (50/47)	24.0	8.5		4.2*	
65 + years (14/32)	50.0	0.0		(a)	
Education of Household Head ²					
Harrison County					
less than 12 years (61/77)	14.8	10.4		0.6	
12 years and more (35/65)	28.6	15.4		2.5	
Laclede County					
less than 12 years (85/81)	25.9	7.4		10.1*	
12 years and more (16/27)	56.3	11.1		(a)	
Level of Living ³					
Harrison County					
low (31/71)	14.8	8.5		(a)	
high (65/79)	23.1	15.2		1.4	
Laclede County					
low (59/67)	35.6	6.0		17.3*	
high (41/41)	24.4	9.8		3.1	

¹ Number for 1955-56 and 1968 respectively.

(a) Expected frequency insufficient for χ^2 test.

² Male head primary.

* Significant at .05 level.

³ High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

common that they *describe the relationship* of doctor and patient; the second group, (b) statements, are more *generalized about physicians* (Table 19).

In the (a) statements, we would expect a secularization of rural society to lead to less personal relationships in the form of fewer agreeing to talking with doctors about matters other than health; more agreeing to leave one doctor for another if he were judged to have more scientific knowledge; and more agreeing with the statement that a person should first go to his doctor and expect him to find the best doctor for a particular ailment (the latter expectation on the basis of rational use of the family-doctor relationship).

In the (b) statements, on the basis of secularization and consequent demythologizing and depersonalizing the family-doctor relationship, we expected that more would agree that the doctor's manner is not so important as long as he is competent; that more would agree the doctor's personal life is not so important as long as he is a skillful doctor, and that fewer would acknowledge a spiritual side of the physician's role.

The findings of this comparison are presented in Table 19 and Appendix Tables 26, 27, and 28. There is much detail in these tables and the relationships may not be readily apparent. Perhaps the most striking thing to be noted is that, of the 14 interperiod relationships examined (seven each for the two counties), only four were significantly different. Furthermore, observation of the table indicates that the interperiod percentage for most of the items was almost identical. There is apparently great cognitive stability over time with regard to doctor-patient relationships.

Because of the great cognitive stability, not much support is given to either the secularizing hypothesis or the leveling hypothesis. Of the four significant differences, three are in the direction we predicted on the basis of secularization of rural society. The item that seems to support the secularization hypothesis most clearly is, "I don't care so much what a doctor's personal life is like as long as he is a skillful doctor." The interperiod difference was significant for Laclede County in the expected direction and, although not significant for Harrison County, there was about a 10 percent difference ($X^2 = 2.6$, d.f. = 1) in the expected direction. Furthermore, in content it seems to be an item directly related to the secularization hypothesis. At the same time, the parallel statement dealing with "manner of the doctor" (item 5) did not show any appreciable interperiod change. There was also little support for the leveling hypothesis in the consideration of perception of doctors in that more of the inter-county differences were larger in 1968 than they had been in 1955-56. A tendency in the data on leveling (Table 20) of some theoretical interest is that the youngest families showed a greater leveling effect than families in the other age categories. It should be emphasized, however, that inter-county response patterns were very similar for both time periods. What we seem to have is a very similar and stable inter-county and interperiod response pattern to the stimulus items.

Table 19--Perception of Relationship with Physicians in Two Missouri Counties, 1955-56 and 1968

Statements (abbreviated) ¹	Harrison County			Laclede County		
	survey years		χ^2	survey years		χ^2
	1956 (percent)	1968 (percent)		1955 (percent)	1968 (percent)	
(a) statements percentage agreeing	(N=152) ²	(N=160) ²	(d.f.=1)	(N=152) ²	(N=148) ²	(d.f.=1)
1. should visit with doctor	52.7	53.7	0.1	53.9	45.3	2.3
2. apt to talk with doctor	15.8	26.2	5.5*	29.8	33.8	0.5
3. would first go to my doctor	91.4	91.8	0.0	88.2	99.3	15.8*
4. wouldn't leave my doctor	11.2	21.4	5.9*	28.3	17.6	1.2
(b) statements						
5. don't care about doctor's manner	22.4	20.0	0.3	29.6	30.4	0.0
6. doctor's job like minister	70.4	76.9	1.7	74.2	81.5	2.3
7. don't care about personal life	46.0	55.3	2.6	40.4	64.9	17.9*

¹Statements are abbreviated due to lack of space, following are the original full statements.

1. I think that a person should visit with the doctor about other matters than health especially about personal and family problems.
2. If I had trouble in my family (not illness) I would be apt to talk it over with my doctor.
3. If I were ill, I would first go to my doctor and expect him to find the best doctor for my ailment.
4. I wouldn't leave my doctor for another doctor even though the other man might have more scientific knowledge.
5. I don't care so much about a doctor's manner with his patients as long as he is a skillful doctor.
6. I think a doctor's job is something like a minister's and that it has a spiritual side to it.
7. I don't care so much what a doctor's personal life is like as long as he is a skillful doctor.

²Number of respondents in 1955-56 and 1968 for each statement may vary slightly.

* Significant at .05 level.

^aInsufficient expected frequency for χ^2 test.

Division of the sample by age and education of the household head and family level of living index (Appendix Tables 26, 27, and 28) did not reveal any additional interperiod changes of consequence. As with the base table, the differences, when these factors were controlled, were notable for their small size.

An explanation for the interperiod, inter-county stability for these statements may be that the statements are essentially clichés which people respond to without much reference to actual behavior. One indication of this is the comparison of the responses to the items 1 and 2 regarding desirability and likelihood of talking with the doctor about non-health matters. In each case substantial proportions affirmed the desirability of this kind of behavior and in Harrison County, significantly more in 1968 responded that they "would be apt to talk with the physician." However, as we have seen the response to the more concrete behavior question, "Do you talk things over with your family doctor" elicited a somewhat different response pattern which showed a lessening in the personal relationship consistent with secularization. Another kind of evidence that supports the cliché hypothesis is comparison of the almost unanimous agreement to the statement that the personal doctor would be consulted with the expectation that he would find the best doctor for the ailment with data on actual behavior in use of the family doctor for referral. In another study in rural Missouri, it was found that much of the use of non-family doctors was not on the basis of referral from the family doctor and was more likely in fact to depend on lay referral (Missouri Agricultural Experiment Station Research Bulletin No. 965).

Summary of perception about physicians and accessibility to medical services items. We had expected greater skepticism toward physicians and expressions of instrumental relationships to be apparent in the opinion and access items on the basis of secularization and leveling of differences between the two counties for the interperiod. Basically the cognitive structure appeared but little changed over the time between the two surveys. Physicians were highly regarded at both times and there was a definite decrease in the number of families who felt they had needed services in the preceding year but were unable to get them. The family-doctor relationship remained intact in the later period although it appeared to be somewhat more instrumental and narrowly defined in the later period consistent with the hypothesis on the effects of secularization. The dominant finding on the basis of analysis of the seven opinion items was the stability of the cognitive structure related to physicians. Table 20 shows that the leveling effect that had been hypothesized was not consistently found. However, leveling was more likely to occur in the youngest age categories which suggests that such a process may be taking place.

Possession of fever thermometer and doctor book. It has been observed that one of the greatest untapped health resources is the skill and knowledge of the family members for detecting and treating illness. It has also been suggested

Table 20--Summary table of leveling* in opinions about physicians and accessibility to medical services for total sample and by age groups

Opinions about physicians and accessibility to medical service items	Total	Leveling between 1955-56 and 1968 for Harrison and Laclede Counties**		
		-45	45-64	65+
Needed medical care but didn't get it	-	+	+	-
Families have a family doctor	-	-	+	+
Talk over problems other than health problems with family doctor	+	+	+	+
Should talk with doctors about other matters than health	-	-	-	-
Apt to talk with your doctor	-	+	+	-
Would go first to "my doctor" and expect him to find best doctor for ailment	-	+	-	-
Wouldn't leave "my doctor" even though another doctor might be more competent	+	+	+	+
Don't care so much about a doctor's manner if he is competent	-	+	-	-
Doctor's job is like a minister's it has a spiritual side to it	-	-	-	+
Don't care so much about a doctor's personal life so long as he is a competent doctor	+	+	+	+

*Difference between Laclede and Harrison counties less in 1968 than 1955-56.

** (+) Indicates change in direction toward leveling.

that illness detection and treatment information should be more widely disseminated among laymen. Such behavior is not foreign to rural families who have long experience in self-diagnosis and home treatment of illness. In fact, we tend to associate home medication and homemade remedies with bucolic rural life. Whether home diagnosis and treatment is associated with the traditions of rural society or is an index of the secularization of rural society depends on the frame of reference in which the behavior is performed. If it is regarded as an extension of professional medical care, home diagnosis and treatment is consistent with secularization of society; if, on the other hand, it supports self-sufficiency and isolation from professional medical services, it is inconsistent with secularization. In this regard the possession of a fever thermometer may have a different mean-

ing than the possession of an old time "doctor book." The former is an accepted instrument for detecting an important symptom of illness and a device which the medical profession expects the layman to use. The traditional "doctor book" is a different matter. It is a compendium of information on a wide range of illnesses and health conditions with sage advice for treatment and health maintenance. Many doctor books claim to be "complete" manuals. In addition, it may contain "day brighteners" and bits of philosophizing or at least moralizing scattered throughout. These do-it-yourself manuals in general are not sanctioned by the medical profession. Judgment about the possession of a "doctor book" in terms of a secularization trend is not entirely clear, however. While the term "doctor book" brings to mind the traditional compendium, there are other books on health care more acceptable to the medical profession. Such examples are found in the information booklets prepared by AMA or by established health organizations such as the American Cancer Society or the American Heart Association and distributed through physicians' offices. In the following discussion, we had meant to determine the possession of traditional "doctor books" but are not certain that the newer literature was not the referent of the respondents at times.

As shown in Table 21, significantly more families had a fever thermometer in 1968 than in 1955-56. In both counties an increase did not materialize for the possession of a doctor book (Table 22). In Harrison County there was virtually no difference for the two periods in the possession of a doctor book and in Laclede County there was a percentage decrease which did not reach statistical significance. Increase in proportion of families having a fever thermometer was maintained at a significant level for most of the age, education, and level of living subcategories; while differences in proportion of families having a doctor book were not significant for any of the subcategories with the exception of the youngest age category in Laclede County. In general, the change in possession of these two items are what was expected for a secularizing society—more families having doctor books. There was a modest leveling effect when the total sample was considered for both the items. However, there was considerable inconsistency in the leveling effect when age subcategories are examined (Table 25).

Related health behavior (dieting and use of vitamins): There is much discussion of dieting and use of vitamins as a means of maintaining good health. On the basis of the secularizing hypothesis we expected an increase in proportion of families following these practices. The results were mixed (Tables 23, 24). Families in Laclede County showed a percentage increase for both of these practices which was significant for use of vitamins and tonics but not for dieting; while families in Harrison County registered a percentage decrease in both practices of which the size of neither was statistically significant.

For dieting, the largest changes appeared to take place among the oldest families, with significant differences in both counties (but in different directions)

Table 21--Families Who Have a Fever Thermometer by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families who have a thermometer</u>		
	<u>survey years</u>		χ^2 (d.f.=1)
	1955-56 (percent)	1968 (percent)	
Harrison County (152/160) ¹	35.5	57.5	15.1*
Laclede County (150/148)	28.0	56.1	24.1*
Age of Household Head ²			
Harrison County			
-45 years (48/45)	47.9	71.1	5.2*
45-64 years (68/75)	32.2	60.0	10.9*
65+ years (36/40)	22.2	37.5	2.1
Laclede County			
-45 years (49/40)	36.7	72.5	11.3*
45-64 years (75/64)	24.0	50.0	10.1*
65+ years (26/44)	23.1	50.0	4.9*
Education of Household Head ²			
Harrison County			
less than 12 years (106/92)	29.2	44.6	5.0*
12 years and more (46/68)	47.8	75.0	8.8*
Laclede County			
less than 12 years (124/110)	23.4	49.1	16.8*
12 years and more (26/38)	50.0	76.3	4.7*
Level of Living			
Harrison County			
low (55/48)	18.2	45.8	9.1*
high (97/110)	44.3	62.7	7.0*
Laclede County			
low (51/55)	37.2	50.8	2.1
high (99/81)	23.2	60.5	25.8*

¹Number for 1955-56 and 1968 respectively.

* Significant at .05 level.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

Table 22--Families Who Have a Doctors Book by Age and Education of Household Head and Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families who have a doctors book</u>			χ^2 (d.f.=1)	
	<u>survey years</u>		(percent)		
	1955-56	1968			
Harrison County (148/160) ¹	13.5	14.4		0.0	
Laclede County (149/148)	20.1	12.8		2.9	
<u>Age of Household Head²</u>					
Harrison County					
-45 years (47/45)	6.4	6.7		(a)	
45-64 years (68/75)	16.2	21.3		0.6	
65+ years (33/40)	18.2	10.0		(a)	
Laclede County					
-45 years (48/40)	20.8	2.5		6.7*	
45-64 years (75/64)	18.7	14.1		0.5	
65+ years (26/44)	23.1	20.4		0.1	
<u>Education of Household Head²</u>					
Harrison County					
less than 12 years (103/92)	14.6	14.1		0.0	
12 years and more (45/68)	11.1	14.7		0.3	
Laclede County					
less than 12 years (124/110)	18.6	13.6		1.0	
12 years and more (25/38)	28.0	10.5		(a)	
<u>Level of Living³</u>					
Harrison County					
low (53/48)	11.3	16.7		0.6	
high (95/110)	14.7	13.6		0.0	
Laclede County					
low (51/65)	19.6	12.3		1.2	
high (98/81)	20.4	13.6		1.4	

¹Number for 1955-56 and 1968 respectively.(a) Expected frequency insufficient for χ^2 test.²Male head primary.

* Significant at .05 level.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

Table 23--Families in which a Member Tried to Diet During the Survey Years by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age, education, and level of living	<u>Families with members who dieted</u>			χ^2 (d.f.=1)	
	<u>survey years</u>				
	1955-56 (percent)	1968 (percent)			
Harrison County (152/160) ¹	41.1	34.4		1.6	
Laclede County (152/149)	30.4	38.3		1.8	
<u>Age of Household Head²</u>					
Harrison County					
-45 years (48/45)	25.0	37.8		1.8	
45-64 years (68/75)	47.1	37.3		1.4	
65+ years (36/40)	52.8	25.0		6.2*	
Laclede County					
-45 years (48/40)	31.2	35.0		0.1	
45-64 years (75/64)	34.7	34.4		0.0	
65+ years (27/44)	22.2	45.4		3.9*	
<u>Education of Household Head²</u>					
Harrison County					
less than 12 years (106/92)	42.4	34.8		1.2	
12 years and more (46/48)	39.1	33.8		0.3	
Laclede County					
less than 12 years (125/110)	30.4	37.3		1.2	
12 years and more (25/38)	36.0	39.5		0.1	
<u>Level of Living³</u>					
Harrison County					
low (55/48)	36.4	33.3		0.1	
high (97/110)	44.3	35.4		1.7	
Laclede County					
low (50/65)	42.0	38.5		0.1	
high (100/81)	26.0	37.0		2.5	

¹Number for 1955-56 and 1968 respectively.

*Expected frequency insufficient for χ^2 test.

²Male head primary.

³High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

Table 24--Families in which a Member Used Vitamins or Tonics During the Survey Years by Age and Education of Household Head and by Family Level of Living Index in Two Missouri Counties, 1955-56 and 1968

Families by county, age education, and level of living	<u>Families who have used vitamins or tonics</u>			χ^2 (d.f.=1)	
	<u>survey years</u>		χ^2 (d.f.=1)		
	1955-56 (percent)	1968 (percent)			
Harrison County (152/160) ¹	57.2	46.2	3.8		
Laclede County (152/149)	35.3	55.0	11.6*		
Age of Household Head ²					
Harrison County					
-45 years (48/45)	56.2	71.1	2.2		
45-64 years (68/75)	51.5	38.7	2.4		
65+ years (36/40)	69.4	32.5	10.3*		
Laclede County					
-45 years (50/40)	42.0	72.5	8.4*		
45-64 years (75/64)	34.7	50.0	3.3		
65+ years (27/44)	22.2	45.4	3.9*		
Education of Household Head ²					
Harrison County					
less than 12 years (106/92)	55.6	35.9	7.7*		
12 years and more (46/68)	60.9	60.3	0.0		
Laclede County					
less than 12 years (126/110)	34.9	49.1	4.9*		
12 years and more (26/38)	38.5	71.0	6.7*		
Level of Living ³					
Harrison County					
low (55/48)	50.9	39.6	1.3		
high (97/110)	60.8	49.1	2.9		
Laclede County					
low (51/65)	47.1	47.7	0.0		
high (101/81)	29.7	60.5	17.3*		

¹ Number for 1955-56 and 1968 respectively.

² Male head primary.

³ High level of living score was 15 or higher in 1955-56 and 18 or higher in 1968.

* Significant at .05 level.

for families with heads 65 or over. There was great similarity in the age and level of living subcategories of percentage dieting. While our expectation was that more families would be dieting in the later period, the data did not support the expectation. On the other hand, there was some leveling effect in the interperiod in dieting behavior which was fairly consistent when considered by subcategories.

For use of vitamins and tonics, changes parallel to those for dieting took place in the oldest age category where significantly fewer older families in Harrison County and significantly more older families in Laclede County reported this practice in 1968 than had in 1955-56. In Laclede County higher education and higher level of living families showed a greater increase in use of vitamins than did their subcategory opposites. As with dieting, there was not much support for the expected direction of change in use of vitamins, however there was some evidence of an inter-county leveling effect for the interperiod.

Summary of health practices items. Among the four health practices which were considered, the possession of a fever thermometer clearly showed a change which was consistent with the hypothesis of secularization and shared by both counties and for all subcategories with but one exception (Table 21). The effect of secularization was not nearly as apparent for the possession of a "doctor book;" although, the direction of the relationship was as expected in Laclede County and significant for the youngest category in that county. Considering dieting and use of vitamins together with the expectation that their use would increase between the two periods, the results were mixed. The change in dieting was not significant in either county. In use of vitamins and tonics a significant increase was recorded in Laclede County and a nonsignificant decrease in Harrison County. There was considerable evidence of leveling between the two counties over the time span of the two periods. On all four items when the total samples were considered, there was a trend in the direction of leveling (Table 25). The direction was consistent for each of age groups for the diet and

Table 25--Summary table of leveling* in selected health practices

Selected health practices	Total	Leveling between 1955-56 and 1968 for Harrison and Laclede Counties**		
		-45	45-64	65+
Possession of fever thermometer	+	+	-	-
Possession of "doctor book"	+	+	-	-
Dieting	+	+	+	+
Use of vitamins & tonics	+	+	+	+

*Difference between Laclede and Harrison Counties less in 1968 than 1955-56.

**(+) Indicates change in direction toward leveling.

vitamin items, but only for the youngest age group for possession of a thermometer and doctor book.

SUMMARY AND CONCLUSIONS

In examining changes in health behavior and opinions over a decade and a half, a set of organizing hypotheses was stated involving the effects of increase in the level of living, secularization in rural society, and intrarural leveling of differences. We said earlier that support for these organizing hypotheses did not depend on any single health behavior/opinion variable, but rather depended on the outcome of the entire analysis. It is time to make such an assessment.

A general finding was that changes were not dramatic on indices of use of health services. In a period of considerable reduction in economic constraints, rather similar patterns of services were utilized in both counties and over time. It is of interest to note, in this connection, that the number of physician visits per person on a national basis remained quite stable in 1963-64 and 1969 (4.5 and 4.3 per person per year respectively) (National Center for Health Statistics, *Physician Visits Series 10*, No. 75, July 1972, p.3). The implication is that unless and until major changes are made in the health care system and/or the emphasis now placed on health care is changed, we should expect no great changes in the level of health services utilized. Such systems changes might be the introduction of new organizational forms such as Health Maintenance Organizations or greater emphasis on preventive measures.

Overall the trends in use of services tended to produce a leveling effect between the two counties in regard to physician or dentist use. There was no evidence, however, of leveling in hospital use.

The ability to buy health insurance is directly related to lessening of economic constraints; it is also a good example of the effect of secularization as people attempt to prepay the costs of health services. On both counts, the actual behavior of people supported the expectations derived from the hypotheses. Evidence that both factors were operative was that while families with high and low level of living indexes showed increases in possession of health insurance, among families with higher level of living scores, the increase was greater than among families with low level of living scores. Interestingly, although there was great increase in the proportions of families having health insurance in both counties, the rise was about the same in both. This lack of the leveling effect indicates that outside organizational factors affected the two counties similarly.

On the basis of rational behavior connected with secularization, we expected greater attention to health maintenance in the form of expressions of the value of regular physical and dental examinations and greater actual use of routine physical examinations (data did not permit comparison of routine dental examinations). There was support for the hypothesis with regard to the value of

physical and dental examinations in Laclede County and for the greater likelihood of routine examinations in both counties. On the maintenance items, the patterns fit nicely into the overall conceptualization that Laclede County in the earlier period represented an area of less secularized behavior, but in the ensuing period had changed more rapidly as a result of extra-community secular forces and thus the two counties had become more homogeneous as shown by the leveling tendency.

Expected deterioration in "regard for physicians" and perception of greater unmet medical care needs (on the basis of the effects of secularization) were not found over the interperiod. In fact, there was a substantial decrease in families who reported unmet medical care needs in the second survey. On these items, the change was uniform for both counties and, therefore, did not produce a leveling effect. The family-doctor relationship was also fully maintained over the period of the two studies with an increase of significance in Harrison County. At the same time, the personal quality of the relationships as measured by reported "talking over nonhealth problems" with the family doctor diminished over the period of the study.

The most apparent finding on the basis of seven opinion items about physician-public relationships was the stability over time of opinions expressed. Relatively few instances of significant differences were found and leveling between the two counties was not commonly found. The item which on the basis of its content appeared to be the strongest indicator of secularization ("I don't care so much about a doctor's personal life as long as he is a skillful doctor") however, did show considerable difference for the two counties.

Finally the possession of certain health related items (fever thermometer and "doctor book") and practices (dieting and use of vitamins and tonics) were considered. The increase in possession of a fever thermometer was considerable in both counties, consistent with expectations on the basis of the secularization hypothesis. The difference in possession of a "doctor book" was not significant in either county. The pattern of change for dieting was not great enough to be significant in either county while the increase in use of vitamins produced a significant difference for Laclede County. On all four of these items the pattern of change produced a leveling effect for the interperiod.

In summary, then, the organizing hypotheses were only partially supported. The data pointed up the general stability over time in both health beliefs and behavior. Apparent from the analysis was that level of living, secularization, and leveling affected different aspects of health behavior and opinions differently. There was enough support for the hypothesis, however, to encourage further use of these concepts.

APPENDIX

Table 26--Perception of Relationship with Physicians by Age of Household³ Head
in Two Missouri Counties, 1955-65 and 1968

Statements (abbreviated) by age of household head	Harrison County			(N)	Laclede County		
	1956 (percent)	1968 (percent)	X ² (d.f.=1)		1955 (percent)	1968 (percent)	X ² (d.f.=1)
(a) statements (percentage agreeing)							
1. should visit with doctor							
Under 45 (48/45) ²	54.2	53.3	0.0	(50/40) ²	56.0	45.0	1.1
45-64 (67/75)	49.2	54.7	0.4	(75/65)	50.7	36.9	2.7
65 and over (37/40)	54.0	52.5	0.0	(27/43)	59.2	58.1	0.0
2. apt to talk with doctor							
Under 45 (48/45)	16.7	26.6	1.4	(50/40)	32.0	32.5	0.0
45-64 (67/75)	11.9	29.3	6.4*	(74/65)	27.0	27.7	0.0
65 and over (37/40)	21.6	20.0	0.0	(27/43)	33.3	44.1	0.8
3. would first go to my doctor							
Under 45 (48/45)	95.8	91.1	(a)	(50/40)	86.0	97.5	(a)
45-64 (66/75)	92.4	96.0	(a)	(75/64)	93.3	100.0	(a)
65 and over (37/40)	83.8	84.6	(a)	(27/44)	77.8	100.0	(a)
4. wouldn't leave my doctor							
Under 45 (48/45)	16.6	11.1	0.6	(50/40)	22.0	10.0	2.3
45-64 (67/75)	6.0	21.3	6.9*	(75/65)	32.0	15.8	5.2*
65 and over (37/40)	13.5	32.5	4.1	(27/44)	29.6	27.9	0.0

Table 26 (continued)

Statements (abbreviated) ¹ by age of household head	Harrison County			(N)	Laclede County		
	1956 (percent)	1968 (percent)	X ²		1955 (percent)	1968 (percent)	X ²
(b) statements							
5. don't care about doctor's manner							
Under 45 (48/45)	12.5	15.5	0.2	(50/40)	28.0	15.0	2.9
45-64 (66/75)	22.4	21.3	0.1	(75/64)	29.3	35.9	0.7
65 and over (37/40)	35.1	22.5	3.1	(27/43)	33.3	37.2	0.1
6. doctor's job like minister's							
Under 45 (48/45)	75.0	73.3	0.0	(50/40)	72.0	77.5	0.3
45-64 (67/75)	73.1	80.0	0.9	(74/63)	74.3	84.1	2.0
65 and over (37/40)	59.5	75.0	2.1	(27/43)	77.7	81.4	0.1
7. don't care about personal life							
Under 45 (48/45)	37.5	53.3	7.8*	(50/40)	54.0	60.0	0.3
45-64 (67/75)	49.2	58.7	1.3	(75/65)	33.3	64.6	13.2*
65 and over (37/40)	51.3	37.5	1.5	(27/43)	33.3	69.7	8.9*

¹ See Table 19 for footnotes 1, 2, 3* and (a).

Table 27--Perception of Relationship with Physicians by Education of Household Head³
in Two Missouri Counties 1955-56 and 1968

Statements (abbreviated) ¹ by education of household head	Harrison County			(N)	Laclede County		
	1956 (percent)	1968 (percent)	X ² (d.f.=1)		1955 (percent)	1968 (percent)	X ² (d.f.=1)
(a) statements (percentage agreeing)							
1. should visit with doctor less than 12 years (106/92) ²	48.1	50.0	0.1	(126/109) ²	54.0	46.8	1.2
12 years or more (46/68)	60.9	58.8	0.0	(26/38)	53.8	39.5	1.3
2. apt to talk with doctor less than 12 years (106/92)	17.0	25.0	1.9	(126/109)	27.8	35.8	1.7
12 years or more (48/68)	12.5	27.9	3.5	(26/38)	38.5	26.3	1.1
3. would first go to my doctor less than 12 years (106/91)	88.7	89.0	0.0	(126/109)	87.3	99.1	12.1*
12 years or more (46/68)	95.6	95.6	(a)	(26/38)	92.3	100.0	(a)
4. wouldn't leave my doctor less than 12 years (106/92)	12.3	23.9	4.6*	(126/109)	30.2	21.1	2.5
12 years or more (46/68)	8.7	17.6	1.8	(26/38)	19.2	7.9	(a)

Table 27 (continued)

Statements (abbreviated) ¹ by education of household head	Harrison County			(N)	Laclede County		
	1956 (percent)	1968 (percent)	X ²		1955 (percent)	1968 (percent)	X ²
(b) statements							
5. don't care about doctor's manner							
less than 12 years (106/92)	24.5	23.9	0.0	(126/108)	29.4	33.3	0.4
12 years or more (46/68)	17.4	14.7	0.1	(26/38)	30.5	21.0	0.8
6. doctor's job like minister's							
less than 12 years (105/92)	67.6	73.9	0.9	(125/106)	74.4	80.4	1.2
12 years or more (46/68)	78.3	80.9	0.1	(26/38)	73.1	86.8	1.9
7. don't care about personal life							
less than 12 years (105/92)	51.4	47.8	0.2	(126/110)	38.1	66.4	19.5*
12 years or more (46/68)	34.8	57.3	5.6*	(26/38)	50.0	57.9	0.4

¹ See Table 19 for footnotes 1, 2, 3, * and (a).

Table 28--Perception of Relationship with Physicians by Family Level of Living Index in Two Missouri Counties 1955-56 and 1968

Statements (abbreviated) by family level of living index	Harrison County			(N)	Laclede County		
	1956 (percent)	1968 (percent)	X ² (d.f.=1)		1955 (percent)	1968 (percent)	X ² (d.f.=1)
(a) statements (percentage agreeing)							
1. should visit with doctor							
low (55/73)	43.6	54.7	1.0	(100/88) ²	54.0	47.7	0.7
high (97/85)	56.7	52.9	0.3	(51/58)	54.9	41.4	2.0
2. apt to talk with doctor							
low (55/71)	16.4	33.8	4.5*	(98/88)	28.6	39.8	2.6
high (97/85)	15.5	21.2	1.0	(51/58)	33.3	24.1	1.1
3. would first go to my doctor							
low (55/72)	92.7	88.9	0.5	(97/88)	85.6	98.9	10.9*
high (96/85)	90.6	94.1	0.8	(51/58)	100.0	100.0	(a)
4. wouldn't leave my doctor							
low (55/73)	7.3	23.3	5.9*	(96/88)	30.2	22.7	1.3
high (97/85)	13.4	18.8	1.0	(51/58)	27.4	10.3	5.3*
(b) statements							
5. don't care about doctor's manner							
low (55/73)	30.9	26.0	1.0	(101/88)	28.7	31.8	0.2
high (97/85)	17.5	15.3	0.2	(51/57)	31.4	28.1	0.1
6. doctors' job like minister's							
low (54/73)	70.4	78.1	1.0	(100/87)	70.0	83.9	4.3*
high (97/85)	71.1	76.5	0.7	(51/57)	82.3	77.2	0.4

Table 28 (continued)

Statements (abbreviated) ¹ by family level of living index	Harrison County			(N)	Laclede County		
	1956 (percent)	1968 (percent)	X ²		1955 (percent)	1968 (percent)	X ²
7. don't care about personal life							
low (54/73)	66.7	50.7	3.2	(100/88)	43.0	72.7	16.9*
high (97/81)	35.0	56.7	4.7*	(51/58)	35.3	53.4	3.6

¹ See Table 19 for footnotes 1, 2, 3, * and (a).