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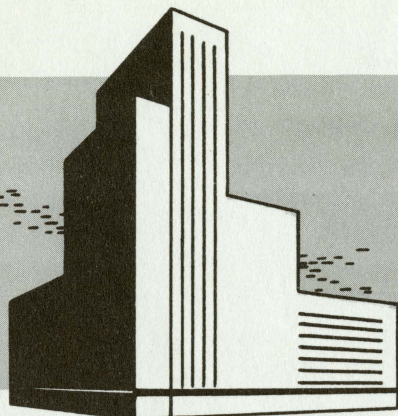
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**NORTH CAROLINA
RURAL HEALTH STUDIES**



**Use of Health Care Services and
Enrollment in Voluntary Health Insurance
in Montgomery County, North Carolina, 1956**

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USE OF HEALTH CARE SERVICES AND ENROLLMENT IN VOLUNTARY HEALTH
INSURANCE IN MONTGOMERY COUNTY, NORTH CAROLINA, 1956 ^{1/}

by

Donald G. Hay* and Sheldon G. Lowry**

NATURE AND PURPOSE OF THE STUDY

The availability and use of health care resources together with acceptance of voluntary health insurance was studied in Montgomery County, North Carolina. The utilization of health care personnel and facilities and extent of enrollment in health insurance of different social and economic groups was examined. Data were obtained by the survey method in October and November, 1956 for 331 sample households (1,304 individuals).

Montgomery County was selected, along with Stokes County, as representing rural areas in the Piedmont region of North Carolina as to levels of living and within county availability of health care resources.

The study was designed to help answer the following questions:

1. How available are health care resources in rural localities in the Piedmont area of North Carolina?
2. To what extent are people in these rural areas using existing health care personnel and facilities?
3. How much use is made of such preventive health practices as physical and dental examinations, immunizations, and chest X-rays?
4. To what extent are individuals in these rural areas of the State enrolled in voluntary health insurance?
5. How extensive is the dropping of health insurance and what are major reasons for dropping?
6. What are some of the social and economic factors associated with the use of health care resources and with enrollment in health insurance?

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^{1/}In this Progress Report, we are presenting only a summary of the findings of the study. A more complete analysis will be included in printed publications covering studies of several North Carolina areas.

AVAILABILITY OF HEALTH CARE RESOURCES

Physicians

As of 1956, there were 9 physicians in Montgomery County; they provided a ratio of 0.52 physicians per 1,000 population or 1,918 persons per physician. Montgomery County ranked 9th among the 30 nonmetropolitan counties, excluding Mecklenburg County, of the Piedmont area in number of persons per physician. As a further basis of comparison, North Carolina had 1,038 persons per physician in 1956. 2/

Six of the physicians in Montgomery County were general practitioners and 3 were medical specialists. All of the 9 physicians were under 65 years of age and were distributed among 5 villages in the county.

Albemarle, Asheboro, and Pinehurst were centers outside the county having physicians and other health resources used by some Montgomery residents. Seventy-seven percent of the sample rural households were less than 5 miles from the nearest physician. Only 5 percent of the households lived 10 or more miles from the nearest physician.

In response to the question "Do you think that there are enough doctors in this locality to take care of the needs of the people?"; forty percent of the household respondents reported there were enough physicians, more than half answered "no," and 8 percent were "undecided." Nonwhite households and those with low income reported lack of physicians more frequently than white households and those in the higher income groups.

Dentists

As of 1956, Montgomery County had 8 dentists; they provided a ratio of 0.46 dentists per 1,000 population or 2,158 persons per dentist. The county ranked 5th among the 30 nonmetropolitan Piedmont counties in ratio of population per dentist. In 1956, North Carolina had 3,247 persons per dentist.

The dentists in Montgomery County were distributed among 4 villages. Of the sample households, 76 percent were within 5 miles of the nearest dentist, 19 percent were 5-9 miles away, and only 4 percent lived 10 or more miles from the nearest dentist.

Respondents were asked "Are there enough dentists in this locality?" Fifty-seven percent reported that there were enough dentists, 34 percent said "no," and 9 percent were "undecided." Households with high income, high socioeconomic status, high social participation, and having "white collar" workers as heads of household reported lack of dentists most frequently.

2/Number of physicians in North Carolina as of 1956 from American Medical Directory, 19th edition, 1956, Table 2, p. 12. Population of North Carolina for 1956 based on population estimates of Bureau of Census.

Hospitals

3.

There is a general hospital, located in Troy, which had 43 beds or a ratio of 2.49 beds per 1,000 population. The average percentage of occupied beds in the Troy Hospital was 67 percent during 1956. A "normal" occupancy rate for a hospital of 43 beds is considered to be 55 percent. This compared with an occupancy rate of 58 percent for 1956 in nonprofit short-term general and specialty hospitals of 25-49 beds in the United States. 3/

Pinehurst, Asheboro, Charlotte, Winston-Salem, Albemarle, and Durham were centers outside Montgomery County with hospitals used by some of the Montgomery residents.

About 3 in every 10 households were less than 5 miles to the nearest general hospital, a similar proportion from 5 to 9 miles, and about 4 of every 10 were 10 to 19 miles from the nearest hospital. As of 1956, there were no nursing homes in the county.

Public Health Services

In 1956, Montgomery County was served by a health officer who divided his time with an adjoining county, by two public health nurses, and one office receptionist. Public health clinics included infant, maternity, immunization, X-ray, polio immunization, and venereal disease. The services of a clinic for crippled children are available in an adjoining county.

Knowledge of existing public health care services serves as a measure of the perceptual availability of such resources. Over 9 of every 10 respondents reported they knew of public health services in the county.

USE OF HEALTH CARE SERVICES

Physicians

Seventy-three percent of the sample households in Montgomery County used a physician for one or more household members during the six month period covered in the survey. Among individuals, it was reported that 31 percent used a physician.

There was a direct association between net cash income of the sample rural families and the percentage of individuals using a physician:

<u>Net Cash Income of Family</u>	<u>Percent of Individuals Using Physician During Six Months</u>
Under \$1,500	24
\$1,500 & Over	37

Rate of use of physicians over a year's time was determined by expanding the six months survey data. The annual call rate to a physician for office, hospital, and home calls was 2,928 per 1,000 individuals. This compares with an annual call rate to physicians of 4,196 calls per 1,000 individuals for representative rural households in six nonmetropolitan New York counties as of 1949-1951. ^{4/}

For individuals in Montgomery County, there was marked variation, as found in other studies, in the call rate to physicians by age groups:

<u>Age</u>	<u>Physician Call Rates Per 1,000 Individuals</u>
Under 18 years	1,269
18 - 44 years	2,213
45 - 64 years	5,209
65 years & over	9,515

The annual call rate to physicians was three times higher for the white as compared to nonwhite individuals: 3,477 and 1,059 respectively.

Dentists

Sixty-three percent of the households reported use of a dentist for one or more members during the last year. Among individuals, 31 percent reported using a dentist within the year.

Utilization of dental services among individuals was directly associated with family income:

<u>Net Cash Income of Family</u>	<u>Percent of Individuals Using Dentist During Year</u>
Under \$1,500	20
\$1,500 & over	36

The annual call rate for dentist services was 532 per 1,000 individuals. In the New York rural health study of 1949-1951 ^{4/}, the call rate to dentist was 947 calls per 1,000 individuals.

The annual call rate to dentists in Montgomery County was over twice as high for whites as for nonwhite individuals: 370 and 168 respectively.

The dental call ratio per 1,000 was higher for women than for men: 545 and 475 respectively.

^{4/} Reports of the New York rural health study include: Larson, Olaf F., and Hay, Donald G. Differential Use of Health Resources by Rural People. N. Y. State Journal of Medicine 52:43-49, January 1, 1952.

As in other studies, the dentist call rate in Montgomery County varied with age of individual:

<u>Age</u>	<u>Dentist Call Rates Per 1,000 Individuals</u>
Under 18 years	481
18 - 44 years	652
45 - 64 years	484
65 years & over	350

Hospitals

Incidence of use of hospitals was obtained for the two years preceding the survey. Fifty-four percent of the households and 17 percent of the individuals used a hospital during the two years.

On an annual basis, the rate of days in hospitals was 992 days per 1,000 individuals. These hospital use rates include in-patient utilization only, i.e., use of a hospital for 1 day or more. Again for comparative purposes, the annual hospital rate of use in the 1949-1951 New York rural health study 4/ was 902 days per 1,000 individuals.

The annual rate of hospital use was 1,185 days per 1,000 whites in Montgomery County and was only 400 days per 1,000 nonwhite individuals.

As in other utilization studies, there was considerable variation in hospitalization by age of individuals:

<u>Age</u>	<u>Days in General Hospital Per 1,000 Individuals</u>
Under 18 years	441
18 - 44 years	1,411
45 - 64 years	1,000
65 years & over	2,000

Public Health Nurse

Of the public health services available in Montgomery County, information was obtained only as to use of public health nurse. About 1 of every 12 households and 1 in every 30 individuals reported use of the public health nurse during the preceding year. Youth under 18 years and women 18-44 years most frequently used this health care resource.

Other Health Care Personnel

One in every 15 households and about 1 in every 70 individuals used other health care personnel including chiropractors and osteopaths during the year.

In the New York rural health study 4/, about 1 of every 25 individuals reported use of other health care personnel during the year's time.

USE OF SELECTED HEALTH CARE PRACTICES

Information was obtained as to the use of certain practices generally recommended as desirable health care measures. Data available for this summary are on a household basis; that is, the use of any of the selected practices by one or more members of a household.

Physical Examinations

While all physical examinations provide a useful index of diagnostic health care services, it was believed desirable to ascertain incidence of physical examinations other than in connection with an illness or accident. This type of examination is termed a "preventive physical examination" in this report.

Twenty-seven percent of all households reported having a preventive physical examination for one or more members during the preceding year (Table 1). In 4 counties included in the New York rural health study 4/, 3 of every 5 households reported use of preventive physical examinations for the previous year.

Incidence of such an examination was twice as frequent among white as nonwhite households in Montgomery County: 30 percent and 15 percent respectively.

Households having the major occupation of the head in professional work and proprietors other than farm most frequently reported having used a preventive physical examination. Farm households were lowest of all occupational groups that had used such a health practice.

High associations were evidenced between incidence of preventive physical checkup and income, socioeconomic status, social participation, and education of the male heads and of female heads.

Dental Examinations

A similar measure of preventive dental checkups was obtained by asking if any household members had a dental checkup other than in connection with extractions or other work. Seventeen percent of all households reported such a preventive dental checkup during the past year. In 4 counties included in the New York rural health study 4/, half of the households reported one or more members having a preventive dental checkup during the preceding year.

White households in Montgomery County had dental checkups for one or more members more frequently than did the nonwhites: 22 percent and 14 percent, respectively.

Of the occupational groups, clerical and sales workers, together with professional and nonfarm proprietors most frequently had dental checkups. Farm households ranked intermediate while service workers and those households with heads who were retired, unable to work, or unemployed were lowest in use of dental checkups.

Marked and positive associations were found between the proportion of households having dental checkups and income, socioeconomic status, social participation, and education of female head.

Chest X-ray

Sixty-eight percent of all households reported having had a chest X-ray during the last year (Table 1).

White and nonwhite households were alike in incidence of this practice. Clerical and sales workers were relatively high, while service workers were lowest. High associations were indicated between household members having a chest X-ray and income, social participation, and socioeconomic status, and education of heads.

Polio Shots

The use of polio shots for households having youth under twenty years of age was ascertained. Sixty percent of such households had polio shots for one or more youth.

While two-thirds of the white households had received polio shots, only half of the nonwhites had received them. Marked and positive relationships were shown between households having polio shots and their status characteristics.

SOURCES OF INFORMATION OF HEALTH CARE

Identification of the sources of health information used by households is helpful in showing the communication channels for acquiring ideas on health care.

Sources of Information When Sick

Household respondents were asked "In general, where do you get helpful advice and information when sick?" Many householders cited more than one source. As the first source named, "doctor" was reported by about 76 percent of the respondents. Other sources in order of frequency of mention were "relatives, friends, or neighbors," "own experience," and "county health nurse."

Those households with highest social participation and socioeconomic status most frequently reported "doctor" as a source of information on sickness.

Sources of Information on Keeping in Good Health

On this question, respondents often named more than a single source. Over a third of the households reported "doctor" as their first named source; about 1 in 6 cited mass media including magazines, newspapers, radio, and television; and about 1 in 10 reported county health department or county health nurse. About 1 in every 5 respondents reported they did not get any information on keeping in good health.

The households indicating that they did not get any information about keeping in good health were characterized by low social participation and socioeconomic status.

OPINIONS ON HEALTH CARE NEEDS

Respondents were asked as to health care needs of their families and localities in addition to recognized availability of physicians and dentists which has already been summarized.

Health Care Needs

For the question "When people are sick around here, do they generally get all the health care they need?"; 3/4 of the respondents reported "yes." For those reporting "no," financial barriers to health care and shortage of physicians were most frequently cited as hindering factors to having health care.

Respondents were next asked "Is there anything else that should be done in this locality to improve health care for people?" Four-fifths reported "yes." However, less than a third of those indicating there were other health care needs identified specific needs. Improved sanitation, more preventive health care practices, and more health care personnel and/or facilities were cited as needs.

To the question "Is there anything that your family should do to improve its health care?"; a fifth of the respondents reported "yes." On the follow-up query "What should be done?"; need for preventive care was cited by nearly half of the respondents reporting. Improved sanitation, more use of dentists, and more use of physicians were other specific suggestions for improving family health care.

ACCEPTANCE OF VOLUNTARY HEALTH INSURANCE

The extent of enrollment in voluntary health insurance of different status groups was ascertained together with some information on the dropping of health insurance.

Enrollment

Seventy-three percent of the sample households in Montgomery County reported some health insurance for one or more persons in the household. Sixty-one percent of the individuals had such insurance (Table 2).

Nearly all the insurance included both hospital and surgical coverage. Twenty-six percent of the households and eighteen percent of the individuals reported insurance for income loss due to illness and/or accident.

Enrollment varied with age groups:

<u>Age</u>	<u>Percent of Individuals Enrolled in Health Insurance</u>
Under 18 years	57
18 - 44 years	68
45 - 64 years	68
65 years & over	36

Seventy-eight percent of the white households held such insurance for one or more members while 56 percent of the nonwhite households were enrolled. The same differential by color held for individuals with about 7 of every 10 whites and only about 4 of every 10 nonwhites enrolled in health insurance.

Among the occupational groups, professional and proprietors other than farm, skilled and semi-skilled, and clerical and sales workers were highest in enrollment. Retired, unable to work and unemployed people and farmers were least often enrolled.

High and positive association were evidenced between health insurance enrollment and status factors including income, socioeconomic status, social participation, and education of household heads.

Dropping of Health Insurance

Forty percent of all the households had dropped health insurance at some time. The dropping of such insurance was ascertained only for the male and/or female head of each household.

"Main reasons" for dropping health insurance in order of frequency were: change of employment (30 percent), dissatisfaction with the insurance, insurance company, or the agent (26 percent), financial reasons (23 percent), and "missed paying premium" (5 percent). "Other" reasons were reported by 16 percent of those dropping any health insurance.

CONCLUSIONS AND IMPLICATIONS

Health care is a prominent element in the level of living of people in rural areas as well as for those in cities. An understanding of the availability and utilization of existing health care resources is basic to continued improvements in rural health.

The Rural Development Program provides opportunity for further advances in rural health. Individual and community efforts, assisted by other organizations and agencies, for more rapid advances in levels of living and enhanced productivity of workers will be aided by information on use of health care services and the acceptance of voluntary health insurance as an instrument toward the financing of health care.

Montgomery County stood in an advantaged position generally among the nonmetropolitan counties of the Piedmont region of North Carolina in within-county availability of health care resources. In Montgomery County, there were 1,918 persons per physician, 2,158 persons per dentist, and 2.5 general hospital beds per 1,000 population. For public health services, the county was served on a shared time basis by a health officer, by two public health nurses, and by one office receptionist.

Although Montgomery County ranked 9th among the counties in the Piedmont in number of persons per physician, more than half of the sample household respondents stated that more physicians were needed. Low income households and nonwhites most frequently reported lack of physicians. Does this indicate awareness of more unmet health needs of these groups?

Montgomery County ranked 5th among Piedmont counties in number of persons per dentist. A third of the households interviewed reported more dentists were needed -- this was cited most frequently by households with high income, high socioeconomic status, high social participation, and by "white collar" workers. Are families with lower income and those having low social participation less aware of need for dentist's services? If so, this is a challenge to further educational efforts with these groups.

In utilization of health care services, individuals in the county had an annual call rate to physicians of 2,928 calls per 1,000 individuals and an annual call rate to dentists of 532 calls per 1,000 individuals. For hospital utilization, the annual rate was 992 days per 1,000 individuals. These rates of use of physicians and of dentists were considerably lower than use rates of these health personnel in selected rural areas in New York as of 1949-1951. However, the use rates of hospital were somewhat higher in Montgomery County for 1956 as compared to the 1949-1951 data for the rural New York areas.

There were marked differentials in utilization of health care resources among the social and economic groups in Montgomery County. High income, "white collar" workers, white households, high socioeconomic status, higher education, and high social participation were associated with relatively high use of health care services. The association of these factors and utilization of some preventive health practices was particularly marked. Does this suggest need for continued efforts, including education, for more adequate health care among low income families and those less involved in community participation?

Sixty-one percent of the individuals in Montgomery County were reported to have voluntary health insurance. Health insurance enrollment was highest among the following: high income, white households, socioeconomic status, "white collar" workers, higher education, and high social participation. The survey findings suggest need to extend enrollment among farm families, aged persons, low income families, and nonwhites. Continued experimentation with group enrollment and educational techniques may be particularly useful in further enrollment of these families.

Table 1. HOUSEHOLD USE OF SELECTED HEALTH CARE PRACTICES
BY SELECTED CHARACTERISTICS, MONTGOMERY COUNTY

Characteristics	Percent of Households with any Member using			
	Preventive Physical checkups during year	Preventive Dental checkups during year	Chest X-ray during year	Any Polio Shots 1/
Total	27	20	68	62
<u>Color</u>				
White	30	22	68	66
Nonwhite	15	14	65	50
<u>Major Occupation of Household Head</u>				
Professional, props., mgrs., & officials	55	40	79	94
Clerical, sales, & kindred workers	20	45	85	a/
Skilled and semi-skilled	32	14	72	61
Farmers: farm operators & farm wage workers	14	24	67	45
Service and unskilled workers	18	8	56	60
Housewives	a/	a/	a/	a/
Retired, unable to work, & unemployed	27	9	58	a/
<u>Net Cash Income of Family</u>				
Under \$1,500	14	12	53	52
\$1,500 - \$3,999	25	20	69	62
\$4,000 and over	59	35	90	80
<u>Education of Male Head of Household</u>				
Under 7 grades	22	15	59	42
7-9 grades	24	12	69	57
10-12 grades	37	37	79	72
13 grades and over	48	33	81	a/
<u>Education of Female Head of Household</u>				
Under 7 grades	15	15	61	42
7-9 grades	25	11	63	53
10-12 grades	29	30	75	88
13 grades and over	59	38	85	a/
<u>Social Participation of Household Heads</u>				
Under 10 score	20	11	57	38
10-24 score	22	15	61	59
24 score and over	42	36	87	84
<u>Socioeconomic Status</u>				
Under 70 score	18	11	59	44
70-79 score	21	15	68	59
80 score and over	45	38	79	89

1/Based on households (213) having any persons from 6 months to 20 years of age.
a/Insufficient cases for determining percentages.

Table 2 - ENROLLMENT OF SAMPLE HOUSEHOLDS AND INDIVIDUALS IN
VOLUNTARY HEALTH INSURANCE BY SELECTED CHARACTERISTICS,
MONTGOMERY COUNTY

Characteristics	Households		Individuals	
	Number Reporting	% Enrolled in Health Insurance	Number Reporting	% Enrolled in Health Insurance
Total	331	73	1,303	61
<u>Color</u>				
White	265	78	982	68
Nonwhite	66	56	321	38
<u>Major Occupation</u>				
Professional, props., mgrs., & officials	42	88	61	80
Clerical, sales, & kindred workers	20	70	38	74
Skilled and semi-skilled	113	80	189	75
Farmers: farm operators & farm wage workers	58	60	63	56
Service and unskilled workers	49	74	118	65
Unpaid family workers (farm)	0	-	30	43
Housewives	15	a/	200	62
Retired, unable to work, & unemployed	34	56	59	32
In school & preschool	0	-	538	56
<u>Net Cash Income of Family</u>				
Under \$1,500	110	49	431	36
\$1,500 - \$3,999	137	88	539	72
\$4,000 and over	63	90	257	84
<u>Education of Male Head of Household</u>				
Under 7 grades	95	62		
7-9 grades	92	85		
10-12 grades	62	77		
13 grades and over	21	95		
			(Data not available now)	
<u>Education of Female Head of Household</u>				
Under 7 grades	67	52		
7-9 grades	122	76		
10-12 grades	97	81		
13 grades and over	35	89		
<u>Social Participation of Household Heads</u>				
Under 10 score	54	59		
10-24 score	184	71		
25 score and over	92	88		
			(Data not available now)	
<u>Socioeconomic Status</u>				
Under 70 score	112	53		
70-79 score	117	83		
80 score and over	98	86		
a/ Insufficient cases for determining percentages.				

