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Health

CHRONIC ILLNESS -- An Increasing Burden on Rural People

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Chronic illness each year takes a terrific toll of both the human and economic resources of rural people. These are the illnesses which persist for many months, even years; and are most prevalent among the aged. Examples are heart and circulatory diseases, cancer, diabetes, asthma, arthritis, tuberculosis, diseases of the nervous system, and so on.

A study of health and health services in Wake County, conducted by the Department of Rural Sociology under the leadership of C. Horace Hamilton, shows the extent, characteristics, and costs of chronic illness among the rural and urban people of the county. Similar conditions no doubt prevail in other counties of the State. The Wake County study was based on interviews with approximately two per cent of all families in the county -- rural and urban, white and nonwhite. The sample was a random one, but intentionally dispersed over the entire county -- every 50th household being taken in order, down the road in the country and from the city directory in Raleigh. There is good reason to expect, therefore, that the sample data represent quite well the general character of chronic illness in Wake County-- subject only to minor chance errors.

The rate of chronic illness in Wake County was found to be 158 cases per 1,000 population. If the same rate should prevail over the entire state, there would be at any one time approximately 632,000 cases of chronic illness.

Diseases of the heart and of the circulatory system were the most frequent types of chronic illness, making up 27.1 per cent of those reported. Other types in order of frequency were:

Diseases of the nervous system	14.9 per cent
Diseases of the digestive system	10.4 per cent
Diseases of the respiratory system	10.1 per cent
Rheumatism and diseases of nutrition	9.5 per cent
Diseases of the genito-urinary system	7.4 per cent
Diseases of bones and organs of movement . . .	3.3 per cent
All other types	17.3 per cent

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North Carolina Agricultural Experiment Station

James H. Hilton, Director

State College Station

Raleigh, N.C.

Chronic illnesses frequently begin in early life and, if neglected, become more serious and costly in the middle and later years. In Wake County the chronic illness rates by age were:

Age Group	Rate per 1,000 population
Under 6	22
6 - 13	82
14 - 17	56
18 - 44	112
45 - 64	324
65 - up	590

Between ages 18 and 64 the chronic illness rates for women are higher than those for men; but after 65 the rates for men are higher.

Age	Rate per 1,000	
	Males	Females
18 - 44	83	139
45 - 64	241	397
65 - up	614	567

The chronic illness rates were found to be higher for rural-farm and rural-nonfarm groups, particularly among people over 65 years of age, as shown below:

Residence	Rate per 1,000 persons over 65 years of age
Urban	468
Rural-nonfarm	667
Rural-farm	674

Nonwhite women above 45 years of age had higher chronic illness rates than white women; but, contrariwise, white men had higher rates than nonwhite men.

Age and Sex	Rate per 1,000 persons	
	White	Nonwhite
Males: 45 - 64	252	208
Males: 65 - up	636	538
Females: 45 - 64	383	439
Females: 65 - up	511	769

Many chronic illnesses, if not treated properly at an early age, are never cured and the unfortunate victims suffer both physically and psychologically. Furthermore, their savings are depleted in payment of medical and hospital care. In the Wake County study, one out of every ten chronic illnesses had lasted more than 20 years, one out of four more than ten years, and 45.5 per cent more than five years. Only 22.6 per cent had lasted less than two years and 11.1 per cent less than one year.

Two-thirds of all chronic illnesses were found to be disabling and ten per cent were totally disabling. Because of the disability and loss of earning power, chronic illness rates were found to be much higher among low income families, particularly among adults, as shown below:

Age groups	Rates per 1,000 by Income Class		
	Under $1,500	$1,500-4,000	$4,000 and up
Total	191	159	126
Under 18	54	54	52
18 - 44	158	126	58
45 - 64	378	311	284
65 - up	685	523	533

During the six month period preceding the survey, 7.7 per cent of the persons chronically ill were hospitalized and 26.5 per cent were confined to their beds at home. Fifty per cent of the hospital cases stayed in the hospital more than 13 days, and 26 per cent stayed more than a month. Of those confined at home in bed, one-third stayed in bed more than two weeks.

The expense of treating chronic illness is great because of the persistence of the illness. During the six-month survey period, the average expenditure for chronic illness was $45.18 per case, which is $7.14 per capita of the total population. If this average cost per capita should prevail over the entire state, the total chronic illness bill for North Carolina would be $57,120,000 annually!

Even with this huge expenditure for chronic illness, many low income rural people do not receive adequate medical, nursing, and hospital care. Evidence of this fact is revealed by the fact that Negroes, heavily weighted with low incomes, spent only $22.10 per chronic illness as compared with $54.55 per illness by the white group.

Average expenditures, of course, do not tell the whole story because a few individuals have very high and burdensome expenditures, whereas a large number have little or no expense. In the Wake County sample, six white farmers surveyed reported expenditures running over $350 in less than six months and one farmer had spent more than $500 during the same time!

The solution to the chronic illness problem is one that will require the combined thinking of our agricultural, medical, and public leadership. Medical research is needed to determine the causes and the best means of preventing and treating such illnesses. Our agricultural and public leaders must tackle the problem of medical economics. Some way must be found to help remove the economic barrier between the rural family and the best of modern medical and hospital care.

Voluntary health insurance does not cover most chronic illnesses--such conditions are usually not provided for in health insurance policies except at rates beyond the abilities of those who are ill. Some other method must be found! Sick persons, especially those whose savings and incomes have been cut by prolonged chronic illness, can not afford to carry these burdens alone!

TABLE C-1. ALL CHRONIC ILLNESS RATES BY COLOR, AGE, AND SEX PER 100 POPULATION, WAKE COUNTY, NORTH CAROLINA, 1945.

Age and Sex	Total	White	Nonwhite
Total: Crude	15.8	16.2	15.0
Adjusted *	15.8	15.5	16.7
Under 6	2.2	2.9	0.9
6 - 13	8.2	7.4	9.4
14 - 17	5.6	4.6	7.0
18 - 44	11.2	10.9	12.1
Male	8.3	7.4	11.0
Female	13.9	14.3	12.9
45 - 64	32.4	32.1	33.3
Male	24.1	25.2	20.8
Female	39.7	38.3	43.9
65 - up	59.0	57.1	65.4
Male	61.4	63.6	53.8
Female	56.7	51.1	76.9

* Adjusted to the age-sex distribution of the county.

TABLE C-2. ALL CHRONIC ILLNESS RATES BY RESIDENCE, AGE, AND SEX PER 100 POPULATION, WAKE COUNTY, NORTH CAROLINA, 1949.

Age and Sex	Total	Rural-farm	Rural-nonfarm	Urban
Total: Crude	15.8	15.2	15.7	16.4
Adjusted*	15.8	16.2	16.8	14.5
Under 6	2.2	1.9	4.4	0.8
6 - 13	8.2	3.9	10.7	12.1
14 - 17	5.6	4.3	3.3	8.9
18 - 44	11.2	13.7	8.8	11.2
Male	8.3	8.5	5.0	10.5
Female	13.9	19.1	12.7	11.7
45 - 64	32.4	29.6	37.1	32.0
Male	24.1	23.7	24.4	24.2
Female	39.7	35.7	47.9	38.3
65 - up	59.0	67.4	66.7	46.8
Male	61.4	72.0	75.0	40.0
Female	56.7	61.1	60.0	51.9

* Adjusted to the age-sex distribution of the county.

TABLE C-3. ALL CHRONIC ILLNESS RATES BY RESIDENCE, COLOR, AGE, AND SEX PER 100 POPULATION, WAKE COUNTY, NORTH CARCLINA, 1949.

Age and Sex	Rural-farm		Rural-nonfarm		Urban	
	White	Nonwhite	White	Nonwhite	White	Nonwhite
Total: Crude	16.6	12.9	15.4	17.1	16.4	16.4
Adjusted**	15.3	17.8	16.6	16.0	15.2	15.8
Under 6	1.9	1.9	5.3	0.0	1.3	0.0
6 - 13	0.0	7.7	8.5	22.2 *	13.4	9.4
14 - 17	5.7	2.9	3.7	0.0 *	4.0	15.0
18 - 44	11.8	17.3	8.7	9.7	12.1	8.9
Male	5.1	15.4	5.7	0.0	10.3	10.9
Female	19.2	19.0	11.8	18.7	13.6	7.6
45 - 64	33.3	19.4	39.5	23.1	27.6	42.6
Male	29.5	6.7	24.2	25.0 *	22.7	28.0
Female	37.5	31.3	51.2	20.0 *	31.6	52.8
65 - up	60.0	100.0 *	61.9	83.3 *	51.4	33.3
Male	71.4	75.0 *	70.0	100.0 *	46.2	28.6 *
Female	42.9	125.0 *	54.5	75.0 *	54.5	40.0 *

* Fewer than ten persons.

** Adjusted to the age-sex distribution of the county.

TABLE C-4. ALL CHRONIC ILLNESS RATES BY INCOME, AGE AND SEX PER 100 POPULATION, WAKE COUNTY, 1949.

Age and Sex	Total	Income Class		
		Under $1500	$1500 - 3999	$4000 - up
Total: Crude	15.8	20.5	15.2	12.7
Adjusted **	15.3	19.1	15.9	12.6
Under 6	2.2	2.3	1.9	3.8
6 - 13	8.2	8.6	7.6	10.0
14 - 17	5.6	4.7	10.0	0.0
18 - 44	11.2	15.8	12.6	5.8
Male	8.3	14.9	8.5	3.8
Female	13.9	16.5	16.2	7.8
45 - 64	32.4	37.8	31.1	28.4
Male	24.1	29.3	19.0	25.9
Female	39.7	43.9	42.0	31.0
65 - up	59.0	68.5	52.3	53.3
Male	61.4	73.1	63.6	33.3 *
Female	56.7	64.3	40.9	66.7 *

* Fewer than ten cases in the population base.

** Adjusted to the age-sex distribution of the total population of the county.

TABLE C-5. ALL CHRONIC ILLNESSES AND DISABLING CHRONIC ILLNESSES BY AGE AND SEX -- NUMBER AND PER CENT -- WAKE COUNTY, NORTH CAROLINA, 1949.

Age and Sex	Total		Disabling	
	Number	Per cent	Number	Per cent **
Total	336	100.0	224	66.7
Under 6	7	2.1	5	71.4 *
6 - 13	23	6.8	13	56.5
14 - 17	8	2.4	4	50.0 *
18 - 44	96	28.6	54	56.3
Male	34	10.1	15	44.1
Female	62	18.5	39	62.9
45 - 64	133	39.6	93	69.9
Male	46	13.7	34	73.9
Female	87	25.9	59	67.8
65 - up	69	20.5	55	79.7
Male	35	10.4	30	85.7
Female	34	10.1	25	73.5

* Based on less than 10 cases of chronic illness.

** Per cent based on all chronic illnesses in Column 1.

TABLE C-6. ALL CHRONIC ILLNESSES AND DISABLING CHRONIC ILLNESSES BY CAUSE CLASSIFICATION -- NUMBER AND PER CENT -- WAKE COUNTY, NORTH CAROLINA, 1949.

Classification of causes	Total		Disabling	
	No.	Per cent	No.	Per cent **
All Causes	336	100.0	224	66.7
Diseases of the circulatory system	91	27.1	64	70.3
Diseases of the nervous system	50	14.9	34	68.0
Diseases of the digestive system	35	10.4	25	71.4
Diseases of the respiratory system	34	10.1	20	58.8
Rheumatism and diseases of nutrition	32	9.5	22	68.7
Diseases of the genito-urinary system	25	7.4	16	64.0
Diseases of the bones and organs of movement	11	3.3	6	54.5
Senility	11	3.3	9	81.8
Infectious and parasitic diseases	8	2.4	5	62.5 *
Diseases of the blood and blood-forming organs	8	2.4	5	62.5 *
Violent or accidental injuries	6	1.8	4	66.7 *
Diseases of the skin and cellular tissue	6	1.8	2	33.3 *
Cancer and other tumors	4	1.2	2	50.0 *
Ill-defined or unknown diseases	15	4.5	10	66.7

* Based on less than 10 cases of chronic illness.

** Per cent based on all chronic illnesses in Column 1.

TABLE C-7. COSTS AND CHARACTERISTICS OF CHRONIC ILLNESSES BY RACE AND RESIDENCE DURING SIX MONTH PERIOD, WAKE COUNTY, NORTH CAROLINA, 1949.

Residence and Color	Costs		Characteristics			
	Per case	Per capita	Median length of illness (years)	Percentage of all cases that were:		
				Disabling	Bed cases	Hospitalized
Total	$45.18	$7.14	5.3	66.7	26.5	7.7
Rural-farm	53.35	8.09	5.0	61.9	30.5	6.7
Rural-nonfarm	40.73	6.38	5.3	74.7	30.1	8.4
Urban	41.48	6.80	5.5	65.5	21.6	8.1
White	54.55	8.81	5.0	64.9	24.8	7.9
Rural-farm	72.52	12.06	4.7	67.1	25.7	8.6
Rural-nonfarm	41.86	6.45	4.9	74.3	31.4	8.6
Urban	50.55	8.28	5.1	56.9	19.6	6.9
Nonwhite	22.10	3.31	6.2	71.3	30.9	7.4
Rural-farm	18.94	2.45	5.3	51.4	40.0	2.9
Rural-nonfarm	32.37	5.54	7.9	76.9	23.1	7.7
Urban	22.69	3.73	7.0	84.8	26.1	10.9