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medical problems in rural areas

U. S. Department of Agriculture
Economic Research Service
Agricultural Economic Report No. 172

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HIGHLIGHTS

In rural areas, the hardships of poverty are often aggravated by special problems. This is especially true of medical care. Where rurality and poverty go hand-in-hand, health statistics often resemble those of underdeveloped countries.

The problem of rurality, poverty, and health is a circular one. In rural areas, income is generally lower and medical services are generally poorer and less accessible than in urban areas. At the same time, the incidence of chronic illness, which limits work activity and thus reduces income, increases with both rurality and low-family income. Farmers in general experience a high rate of this type of illness. And the shortage of emergency services in rural areas is a definite contribution to the very high accident fatality rate in farming.

Quantitative and qualitative factors intensify the rural health care problem. Low incomes and sparse populations prevent rural areas from competing effectively in the medical marketplace; consequently, deficiencies exist in both the quantity and quality of rural-located medical personnel and facilities. Although general practitioners are evenly distributed by population density throughout the country, areas of high population density and high household incomes attract more specialists and hospital-based physicians. As a result, rural people often do not get the quality of care available in urban areas.

Thus, in terms of both need for medical care and availability of medical services, the rural poor are often deprived of even minimally adequate health care. Programs are underway or being planned that will help solve the problem. They include increasing the supply of services, reorganizing existing services and developing new ones on the basis of regional needs, and removing income and other barriers which impede the ability of the poor to obtain medical care. These efforts are based on a concern for the plight of disadvantaged Americans and an awareness that all Americans should have the opportunity to receive good health care.

RURALITY, POVERTY, AND HEALTH:
Medical Problems in Rural Areas

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INTRODUCTION

On July 10, 1969, President Nixon emphasized that America faces "a massive crisis" in the area of health care (1)*. Disturbing health conditions of the rural poor, revealed earlier in the Report of the National Advisory Commission on Health Manpower, are an important aspect of this crisis (2).

Uneven distribution of medical services in rural areas and other deficiencies in meeting health needs of rural people lie behind many of the statistics in the Advisory Commission's report. Health care problems of the rural poor reflect the trend toward urbanization which has left so many rural areas exhausted and poor, both economically and culturally. Rapidly expanding urban-oriented medical technology, with its vast demand for new, complex, and expensive equipment, intensifies the rural health care problem by posing economic and other obstacles.

Poverty and illness are often so interwoven that it is difficult to determine which comes first. Though the interrelationship operates in all types of geographic and social settings, the handicaps of illness are intensified in rural areas--partly as a consequence of rural poverty and partly from other factors related to sparse settlement. This report looks at the relative health needs of rural, low-income people; the availability in rural areas of resources to prevent and treat sickness; the way needs and resources operate together to the disadvantage of rural people; and at some corrective measures that are underway or being planned.

HEALTH CARE NEEDS GENERALLY GREATER IN RURAL AREAS

Four factors, which characterize the rural population and differentiate it from the urban population, contribute to the rural health care problem: (1) Rural family incomes are generally lower and a greater proportion of rural people live below the poverty line; (2) the rural population has more older

*Underscored numbers in parentheses refer to references listed at the end of this report.

persons and youths and fewer adults of working age; (3) the average level of education of rural people is lower; and (4) rural people must travel longer distances to health centers, which adds to costs both in time and money.

Information is readily available about the geographic distribution of most common and some uncommon medical disorders. Chronic health conditions, which cause the greatest loss of time from productive work and the greatest drain on family finances and family spirit, are defined by the U.S. Public Health Service as heart conditions, arthritis or rheumatism, mental and nervous conditions, high blood pressure, visual impairments, and some orthopedic impairments. Even when allowances are made for the greater proportion of older persons living in rural areas, the incidence of such activity-limiting conditions increases with rurality (table 1). Farmers, in particular, experience a high rate of chronic illnesses.

Table 1.--Percentage of persons with activity-limiting chronic health conditions, by place of residence, 1963-65

Residence	Unadjusted for age	Age adjusted 1/
	Percent	Percent
Large metropolitan areas..	9.8	9.8
Other SMSA.....	11.4	11.9
Outside of SMSA:		
Nonfarm.....	14.6	14.1
Farm.....	16.5	15.4

1/ Age adjusted means that the effects of uneven age distribution among residences have been removed.

Source: (3)

The percentage of people with chronic health conditions also increases as family incomes decrease (table 2). Because they have less to spend, low-income families spend less money on medical services than do middle-income and upper income families. But low-income families, in their efforts to cope with health problems, spend a much larger percentage of their income for health care than do middle-income and upper income families.

At face value, the estimates in table 2 indicate that low incomes and chronic illness occur together. However, this relationship is partly due to the high incidence of illness among older persons--whose incomes are generally lower--plus the disproportionate number of older persons living in low-income families. Thus, it is helpful to look at the extent of illness in relation to income for specific age groups (fig. 1).

Table 2.--Percentage of persons with activity-limiting chronic health conditions, by family income, July 1962-June 1963

Income	Unadjusted for age
	Percent
All incomes	12.4
Under $2,000	28.6
$2,000-3,999	16.0
$4,000-6,999	8.9
Over $7,000	7.9

Source: (3)

From data in figure 1, it is clear that, regardless of age, low family income is associated with a greater amount of health-related chronic limitation of activity than are middle or high family incomes. And this limitation of activity, of course, restricts the amount and kinds of work that can be performed by poor people.

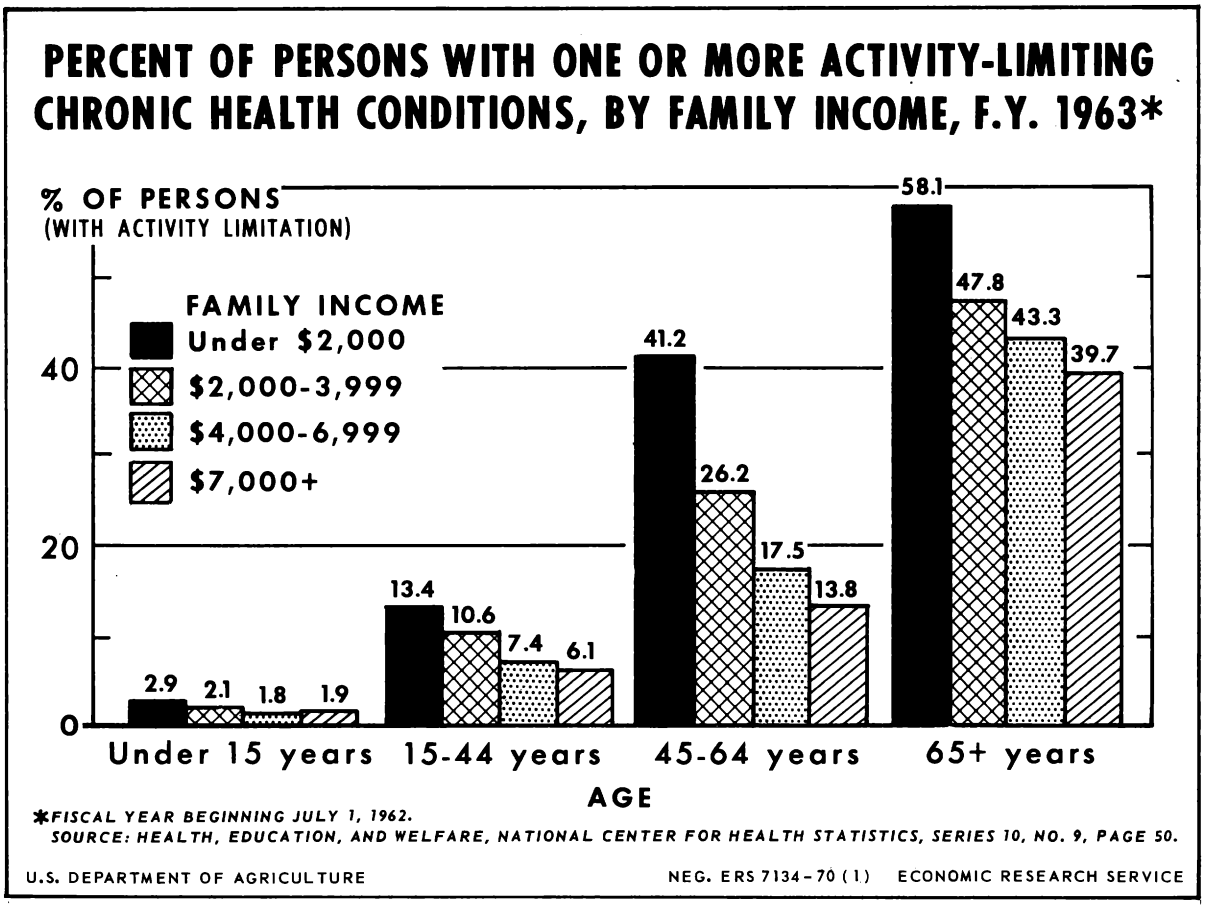

Figure 1

Use of health services, as distinct from need for such services, is influenced by education. Because of their lower level of education, rural people--especially the poor--are less likely than more highly educated people to utilize advice about nutrition, hygiene, immunization, prenatal care, and periodic check-ups, and other health aids. Fatalism and despondency are not uncommon among the poorest rural families, and may reach the point where formal medical attention is sought as a last resort (5)

Although physical isolation has sometimes been suggested as a reason rural people receive inadequate health care, simple physical distance from available care is not a major impediment to most rural people. Hospital facilities of 25 beds or more are within a 25-mile distance of all but 8 percent of the rural population (compared with 2 percent of the total U.S. population) (2). For these 8 percent, of course, distance is a problem. And even for the remaining 92 percent, hospitalization is a drain on resources since it necessitates more travel than in nonrural areas, for both the patient and for friends and family members who visit him. Although not always recorded as a medical expense, travel in connection with illness is a direct addition to family expenses.

The location problem is aggravated by special difficulties related to provision of emergency services in rural areas. Many hospitals and communities cannot provide for health emergencies because of a shortage or lack of ambulances and other mobile health services. As a result, treatment and even discovery of emergency cases may be delayed--sometimes fatally. Furthermore, because longer distances must be traveled, there is a special need for rural ambulance crews to be trained to give immediate first aid at the accident scene. Yet, because of their low case load and the expense of long runs, rural ambulances tend to operate on a very marginal budget, allowing little leeway for employing fully qualified personnel (6).

Partly as a result of emergency care difficulties, rural accident fatality rates are much higher than those of urban areas. A study of California traffic fatalities indicated that people injured in rural counties were almost four times as likely to die of their injuries as were people injured in urban counties, despite the occurrence of more survivable injuries in rural traffic accidents (6). Also, the accident fatality rate in farming is higher than in any other occupation, except mining and construction.

More than three-quarters of a million farm people are disabled every year. Rural accidents mean special hardship for the rural poor. Where ambulance services are available, they are rarely free and usually must be paid for by the patient or his family either directly or through insurance premiums. The cost of ambulance services may force poor people to try to cope with emergencies by themselves, sometimes with disastrous results.

MEDICAL SERVICES TEND TO LOCATE IN URBAN AREAS

What facilities and personnel are available to meet the health needs of rural people? The following material deals primarily with the supply of medical doctors and hospitals; the same pattern would be evident were the analysis extended to cover dentists, nurses, nursing homes, public health services, or other medical services and personnel.

As one would expect, the supply of medical facilities and personnel is greatest in counties with the highest population densities and the highest household incomes. Tables 3 and 4 show the relationship between income levels and population densities and the distribution of medical doctors and hospital facilities in U.S. counties. The county group classifications are defined by the U.S. Public Health Service as follows (7):

Group 1: Greater metropolitan--counties with 1 million or more inhabitants.

Group 2: Lesser metropolitan--counties with 50,000 to 1 million inhabitants.

Group 3: Adjacent--counties contiguous to metropolitan areas. Population in such counties ranges from 500 to 508,500 inhabitants.

Group 4: Isolated semirural--counties containing at least one township with 2,500 or more inhabitants.

Group 5: Isolated rural--counties not included in the above four groups.

The county groups range from the most urban and densely populated (group 1) to the most isolated and sparsely populated (group 5). Income levels decline steadily from group 1 to group 5 as rurality increases. The ratio of physicians to population and to income declines as rurality increases. Much of this decline is accounted for by the concentration of specialists and hospital-based physicians in urban and high-income areas. General practitioners are evenly distributed by population density and are distributed "favorably" toward low-income counties. Sparsely populated, low-income rural and semirural counties have relatively more hospitals than do urban, high-income counties (table 4), but the rural hospitals tend to be smaller and less adequately staffed (table 5).

The rural environment appears to discourage and the urban environment to encourage the location of physicians. Many factors account for the difference in drawing power; among the more obvious, from the point of view of medical personnel, are professional and cultural advantages in urban areas. The low-incomes and sparse populations that limit the use of health services in rural areas also make rural locations unattractive to health professionals (8). The supply of health professionals, with the exception of general practitioners, relative to population is already lowest in rural areas. In addition,

Table 3.--Medical doctors and hospital facilities per 100,000 population, United States and county groups, 1966

Personnel and facilities	U.S.	County group 1/				
		1	2	3	4	5
		Number				
Physicians in patient care...	125	171	123	73	81	43
General practice.....	33	34	28	35	36	33
Specialists plus hospital-based physicians.....	92	137	95	38	46	8
Hospitals.....	2.9	1.8	1.9	4.0	5.3	6.3
Hospital beds.....	381	401	381	323	412	209
		Percent				
Percentage of population.....	100	35.8	30.6	15.7	14.7	3.2

1/ The county group classification was developed by the U.S. Public Health Service. See p. 5 for a definition.

Source: (7)

Table 4.--Medical doctors and hospital facilities per $100 million personal income after taxes, United States and county groups, 1966

Personnel and facilities	U.S.	County group 1/				
		1	2	3	4	5
		Number				
Physicians in patient care...	52.7	59.5	52.0	38.1	44.9	30.0
General practice.....	13.9	11.8	11.9	18.3	19.7	24.4
Specialists plus hospital-based physicians.....	38.8	47.8	40.2	19.9	25.3	5.6
Hospitals.....	1.2	0.6	0.8	2.1	2.9	4.4
Hospital beds.....	160.9	139.8	160.7	167.9	227.7	144.9
		Dollars				
Income per household.....	7,990	9,346	8,082	6,687	6,302	5,032

1/ See footnote 1, table 3.

Source: (7)

Table 5.--Average size and personnel of hospitals, United States and county groups, 1966

Item	U.S.	County group 1/				
		1	2	3	4	5
		Number				
Average number of beds per hospital	133	227	197	81	78	33
Specialists, plus hospital-based physician per 100 beds	24.1	34.2	25.0	11.8	11.1	3.8

1/ See footnote 1, table 3.

Source: (7)

physicians have continued to gravitate toward urban areas. In isolated rural areas (county group 5) between 1950 and 1959, for example, the number of physicians decreased about six times as fast as the population decreased; in isolated semirural areas (county group 4) the rate of increase in the number of physicians has been considerably slower than the rate of increase in population (8). The remaining three county groups fared much better. The greater metropolitan areas (county group 1) were the most favored, with a relative increase in the number of physicians that nearly kept pace with the rate of increase in population.

Although medical services are concentrated in urban, high-income areas, and while quantitative differences discussed above are important, very serious problems are related to qualitative differences. Measurement data suggest that the quality of medical care also declines as regional per capita incomes and population densities decrease.

Because few specialists locate in rural areas, the immediate health needs of rural people are largely in the hands of general practitioners or various paramedical substitutes. While the general practitioner may have certain humanistic advantages, he is often required to refer patients to specialists for sound medical care of serious illness. This may be particularly true of the rural practitioner who, because of his isolated location and the fact that he tends to be older than his urban counterpart, may be deprived of opportunities to keep up with advances in medical care.

One result of the lack of specialists in rural areas is that the rural general practitioner is overworked and may undertake more complicated surgery and other treatment than an urban general practitioner (5). Bylaws of rural hospitals tend to be lax, thereby encouraging such activities (9). Unfortunately, such behavior is not without its costs.

While larger hospitals are located in urban areas, the actual bed supply in rural areas is not dissimilar from the urban supply. But bed quantities indicate little about the adequacy of hospital care. Small hospitals generally cannot offer the quality or quantity of services larger ones can, and rural people must usually go to small hospitals. The rural hospitals are more often inadequately staffed and poorly equipped, and frequently lack outpatient and extended-care facilities. They seldom have rigorous policies for medical staff organizations, so they are less likely to meet quality standards needed for accreditation.

SPECIAL HEALTH CARE PROBLEMS OF THE RURAL POOR

The unmet health needs of rural people, discussed in part 1, and the contrasting concentration of health services in urban areas, discussed above, present a national problem whose impact is felt most heavily by the rural poor. Were incidence of sickness alone to determine the demand for medical care, more medical services would locate in rural areas. Sickness, however, only expresses itself in a need for care. Income, the cost of getting medical care, education, and personal preferences determine how a person's need for health care is transformed into an effective demand. And, as we have found, in rural areas where the need is great, the supply and utilization are least. Is it surprising, then, that rural people make fewer visits to their doctors and generally receive less and lower quality medical care than urban people? And that those with the highest rates of sickness, the rural poor, receive the least care?

The rural poor's lack of care is particularly evident in their comparatively infrequent use of specialists, dentists, and prescribed pharmaceutical products. Imbalances are less marked in the use of hospital services, for the following reasons: Hospitals have always been more heavily publicly and privately supported than programs of ambulatory care; new public programs have been removing financial and racial barriers in hospitals; and hospitalization insurance has traditionally been the most important personal health insurance item. Furthermore, compared with their urban counterparts, rural physicians have a greater tendency to hospitalize patients. Finally, inadequacies in ambulatory care, whether the care is given by medical doctors, osteopaths, or chiropractors (or sometimes even quacks), may aggravate a condition, thereby necessitating hospitalization (9).

Poverty is not a simple condition. Were medical care free and relatively accessible, it still would not be accessible to many poor rural people. An absolute lack of transportation, or ignorance or fear of medical programs or treatment, for example, might prevent rural poor people from getting adequate health care. More burdening than these, however, and yet so frequently overlooked, is the "opportunity cost" of obtaining medical care, which exists in addition to direct costs of physician and hospital fees, insurance, transportation, and medicines. The "opportunity cost" of being sick or of using medical services is the cost to society in terms of the forgone work product of the sick man and the cost to the individual in terms of lost wages. Rural

people in general experience this opportunity cost, for they rarely have sick-pay and other income maintenance benefits. But the heaviest impact must surely be felt by the rural poor, whose lower incomes are even further reduced when they are unable to work.

PUBLIC AND PRIVATE PROGRAMS CAN HELP

The problems outlined above are not necessarily susceptible to apparently simple solutions such as subsidizing health care programs for the rural poor. Demand for medical services is already increasing faster than increases in supply. Further, simply expanding aggregate health care resources somewhat will not overcome the profitability and other attractions that urban areas hold for medical personnel. Subsidization programs, such as Medicare and Medicaid, will help. However, the administration of such programs may be particularly difficult in the case of the rural poor, who tend to be more isolated from or uninformed about such opportunities. Furthermore, such programs, by increasing the demand for medical services, have contributed to rapidly rising medical prices. This, in turn, has aggravated the burden of those least likely to have access to adequate health care, the rural poor.

Increasing the number and improving the quality of health services, promoting more public and private health care programs, and improving living standards are essential elements in the movement to eliminate inadequate health care. But these are broadly stated elements: their overall impact may come from the success of intermediate, facilitating measures.

One such measure is to facilitate the movement of rural people to a source of health care. This measure is particularly worthy with respect to serious and complicated disorders. Economies of scale and specialization indicate the efficiency of locating medical facilities in populous centers, and the inefficiency of locating smaller duplicative facilities in rural areas. But even assuming facilities are constructed in populous areas to provide health care for rural people, the benefits will not be realized by rural people unless they receive and can use information about the programs.

As the responsible agencies presently concerned with the rural health care problem are aware, expanded research is needed to obtain the information necessary for planning medical services and education programs for rural areas. In developing plans, the current stress on health regions and districts could be stepped up and, where necessary, expanded to ensure that the ensuing services are relevant to the real needs of the population.

Steps can be taken to ensure that all who live in defined rural planning areas have prompt access to regular and emergency health care. Some of the ways this could be approached include: Increasing the use of mobile health and diagnostic units; training subprofessional workers as health and welfare aides in rural areas; strengthening public health services where they now exist and establishing them where they are needed; studying ways of adapting voluntary health insurance programs to rural areas; providing for amelioration of some causes of illness, such as malnutrition and poor sanitation; and providing for health education for rural people.

At the local level, community leaders need to be aware of the rural health problems discussed in this report, their causes, and proposed solutions. Many programs to help deal with the rural health crisis have been enacted and have proved useful. Several of the programs offer assistance with the planning and financing of community health services. Information about these programs is available from public agencies such as State health departments and the U.S. Public Health Service. 1/

CONCLUSION

The proposals presented in this report are not new; neither, however, are the problems. Advances in medical science and new concepts of health care tailored to regional needs have made positive contributions to our health care system. Unfortunately, however, health care of the rural poor has not been improving at a rate which could be considered commensurate with the urgency of the problems they experience today and have been experiencing for decades. New programs are still needed if we are to attain the goal of assuring every family the opportunity to enjoy reasonably unencumbered access to adequate health care. As Robert H. Finch, Secretary of Health, Education, and Welfare, stated in reference to the Nation's health care system, "As long as there are people in this country who are denied essential health services because of poverty, or race or lack of access for any reason, we have fallen short of our promise as a Nation." (10)

1/ Summaries of Federal health programs, information about the nature and purpose of each program, eligibility requirements, financing arrangements, and addresses of agencies to contact for additional information may be found in the Catalog of Federal Domestic Assistance, issued by the Information Center, Office of Economic Opportunity, Wash., D. C., Jan. 1969.

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