medical problems in rural areas

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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.
RURAILITY, POVERTY, AND HEALTH:
Medical Problems in Rural Areas

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INTRODUCTION

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

Uneven distribution of medical services in rural areas and other defi-
ciencies 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 expand-
ing 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 inten-
sified 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

<table>
<thead>
<tr>
<th>Residence</th>
<th>Unadjusted for age</th>
<th>Age adjusted 1/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>Percent</td>
</tr>
<tr>
<td>Large metropolitan areas</td>
<td>9.8</td>
<td>9.8</td>
</tr>
<tr>
<td>Other SMSA</td>
<td>11.4</td>
<td>11.9</td>
</tr>
<tr>
<td>Outside of SMSA:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonfarm</td>
<td>14.6</td>
<td>14.1</td>
</tr>
<tr>
<td>Farm</td>
<td>16.5</td>
<td>15.4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Income</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>All incomes</td>
<td>12.4</td>
</tr>
<tr>
<td>Under $2,000</td>
<td>28.6</td>
</tr>
<tr>
<td>$2,000–3,999</td>
<td>16.0</td>
</tr>
<tr>
<td>$4,000–6,999</td>
<td>8.9</td>
</tr>
<tr>
<td>Over $7,000</td>
<td>7.9</td>
</tr>
</tbody>
</table>

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.

PERCENT OF PERSONS WITH ONE OR MORE ACTIVITY-LIMITING CHRONIC HEALTH CONDITIONS, BY FAMILY INCOME, F.Y. 1963*

Source: HEALTH, EDUCATION, AND WELFARE, NATIONAL CENTER FOR HEALTH STATISTICS, SERIES 10, NO. 9, PAGE 50. U.S. DEPARTMENT OF AGRICULTURE ECONOMIC RESEARCH SERVICE

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

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

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

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

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 physi-
cians 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 physi-
cians 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 opportun-
ities 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). Unfortu-
nately, 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 Med-
icaid, will help. However, the administration of such programs may be partic-
ularly 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, pro-
moting 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 in-
efficiency 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 nec-
essary 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 ser-
vices 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 volun-
tary 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.
REFERENCES


