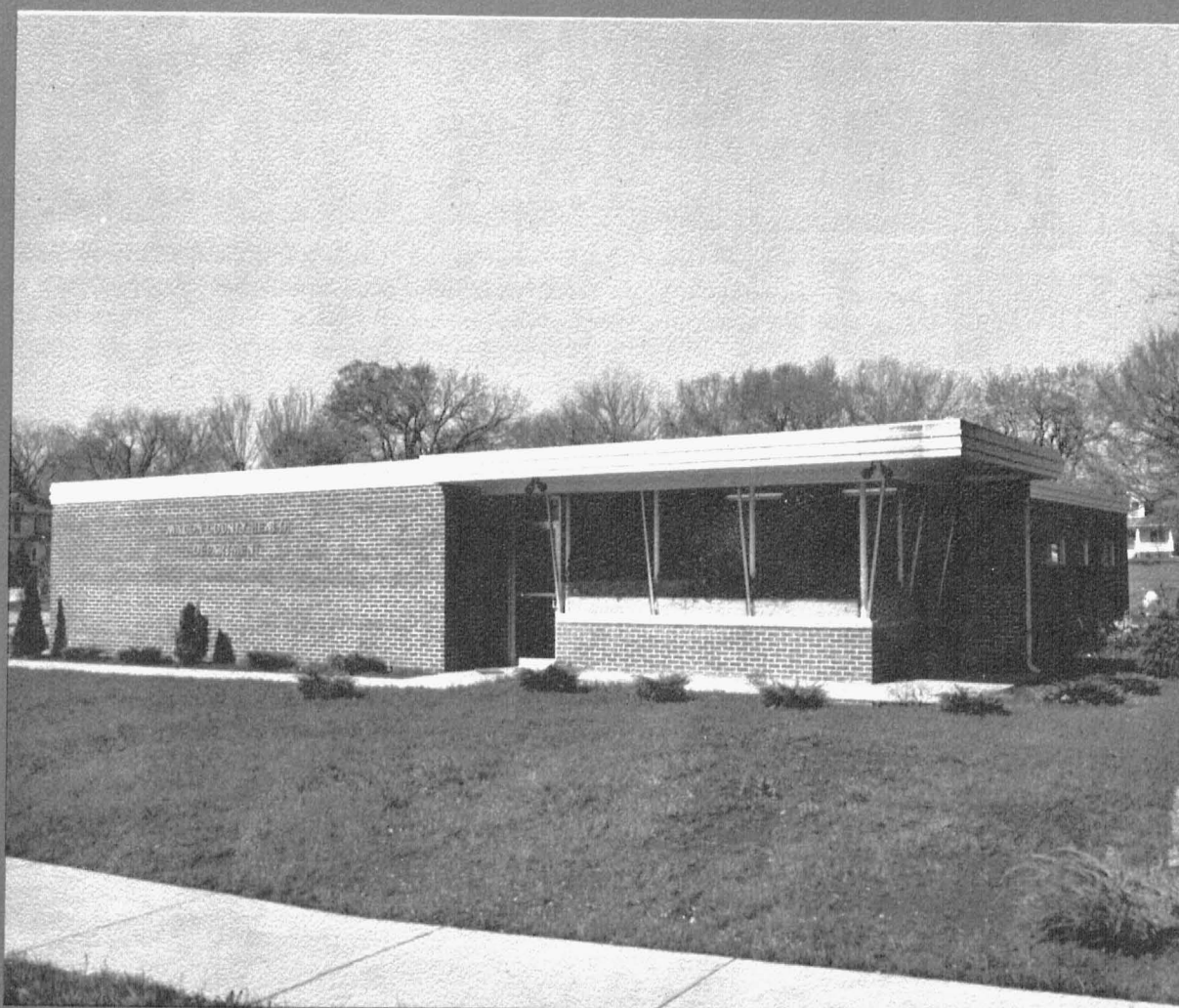


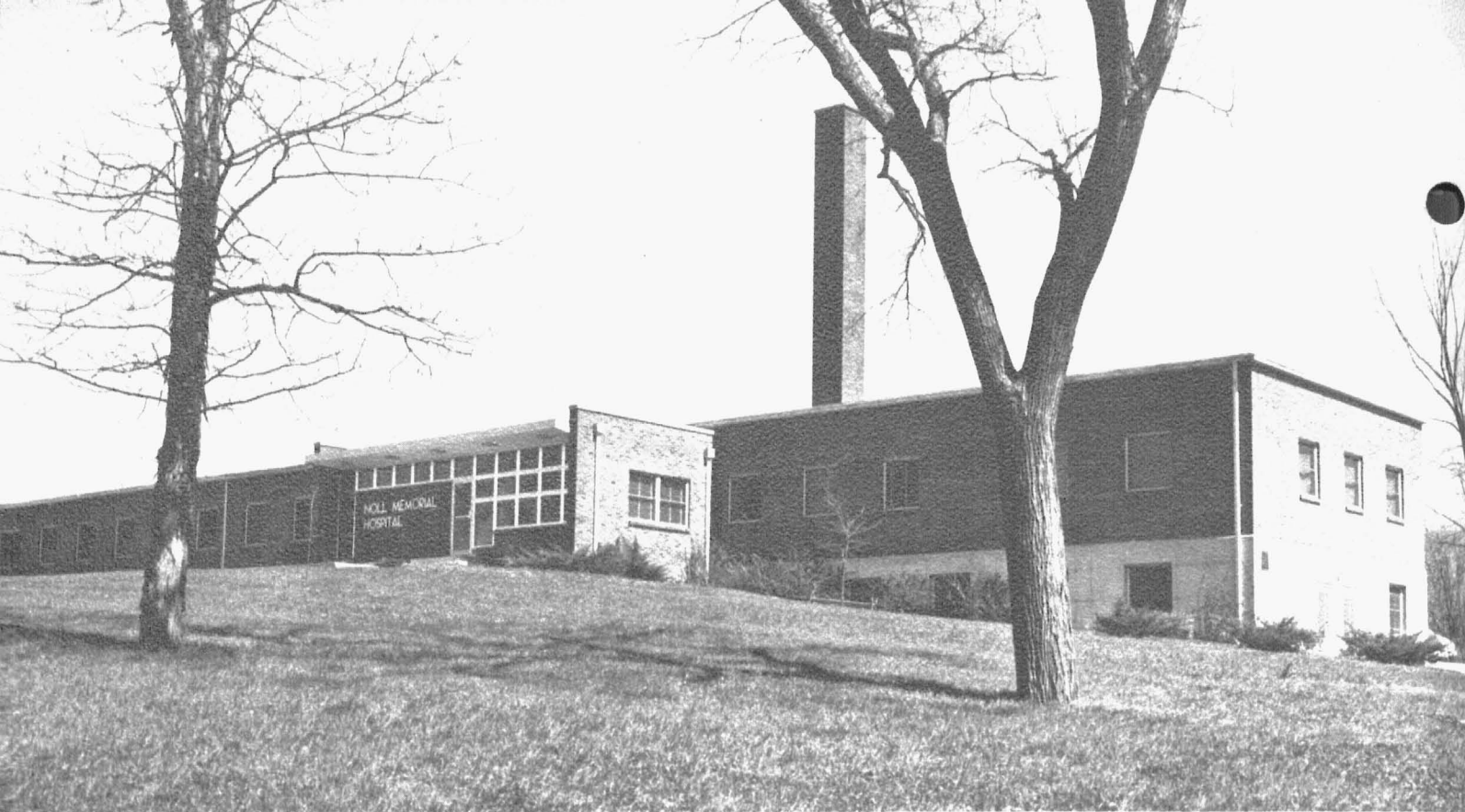
What's happening to

RURAL DOCTORS AND HEALTH FACILITIES ?



Macon County Health Department

BULLETIN 735 JULY 1959
UNIVERSITY OF MISSOURI
AGRICULTURAL EXPERIMENT STATION
RURAL HEALTH SERIES NO. 11



The Macon County Health Department center (cover) and the Noll Memorial Hospital at Bethany, pictured above, are examples of what communities are doing to attract new health personnel and “stretch the arm” of the doctors they have.

SUMMARY OF THE PREVIOUS RESEARCH*

1. From 1912 to 1950, the number of medical doctors in the state declined while the population increased. In 1912 the population for each medical doctor was 550; In 1950 it was 779.
2. Medical doctors have tended to concentrate in urban areas to an even greater extent than the population has. In 1950 there was one medical doctor for every 544 persons in the four metropolitan areas of the state. Outside these metropolitan areas the population per medical doctor was 1405.
3. In the 20-county area selected for more intensive study, the ratio of population per medical doctor reached 1,812 by 1950.
4. In the 20-county area, 128 medical doctors were in practice in 1950; this number had decreased to 100 by the end of the year 1954. (An adjustment was made in this figure and others reported in the previous research because Cameron which is partly in the area but mostly outside was included in the previous report but not in this one).
5. In the 20-county area, 89 doctors of osteopathy were in practice in 1950 and 87 in 1954.
6. In 1954, 35 percent of the medical doctors in the 20-county area were 65 years of age or older compared with about 6 percent of the doctors of osteopathy.
7. In the 20-county area, medical doctors were concentrated in the larger centers to a greater extent than were doctors of osteopathy.

*This material is summarized from Missouri AES Bul. 651, April, 1955.

What's happening to **RURAL DOCTORS AND HEALTH FACILITIES ?**

This report is one of a series compiled by the Department of Rural Sociology to provide information on health personnel and health facilities in rural Missouri.

Doctor-population ratios were reported previously by approximately 10-year periods from 1912 to 1950 with metropolitan and non-metropolitan areas of the state kept separate. In addition, 20 rural counties were selected for intensive study. Special attention was given to changes that occurred in these counties between 1950 and 1954. This report is mainly concerned with providing current information on health personnel and health facilities for the same 20 counties.

The Study Area

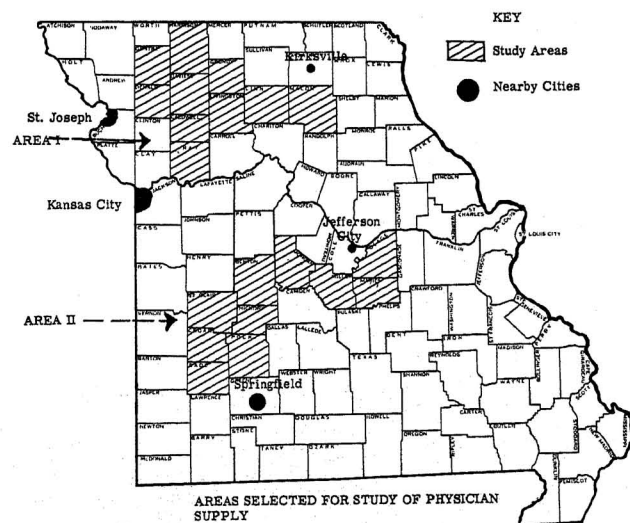
The geographical area which is examined closely in this report consists of 20 counties. Ten counties are in the northern section of the state (Area I) and 10 counties are south of the Missouri River (Area II). The area contains no metropolitan centers (50,000 population or more) but there are a number of urban places (2,500 population or more).

In terms of level of living** for farm families Area I was considerably above the state average and Area II was below. The population

**As measured by the Hagood index.

of the 20 counties has shown a decrease for the last four decades which is characteristic of essentially rural areas.

Part of the advantage of using this 20-county area is that health personnel information has been collected here before. In a period of rapid social change, it seems worth while to observe changes closely in a limited area.



Changes in Personnel 1954-1958

Medical Doctors.

In 1954 there were 100 medical doctors in the study area. By 1958, this small number had declined to 85. The separations and additions of medical doctors were:

In Practice, 1954	100	
Separations, 1954-58	31	
Moved		9
Deceased		16
Retired		6
Additions, 1954-58	16	
In Practice, 1958	85	

The additions to the number of medical doctors offset about one-half the losses.

A relatively larger number of the medical doctors were in full time practice in 1958 than in 1954.

	1954	1958
Full-time practice	81	76
Part-time practice	19	9

Age is an important factor in the supply of physicians. It is an index both of the vigor and the length of remaining activity to be expected. Note, for example, that most of the losses in the area were from death or retirement (22 out of 31), both of which are closely associated with age.

The age comparison of medical doctors for 1954 and 1958 was:

Age	1954	1958
35 or under	16%	16%
36 - 65	48	58
Over 65	35	26
Age not available	1	

There was a smaller proportion of practicing medical doctors over 65 years of age in 1958 than in 1954. Thus, in the next 4 years not as

many deaths and retirements would be expected among medical doctors as there were from 1954 to 1958. However, more than a quarter of the practicing medical doctors were beyond age 65 in 1958.

Doctors who moved into the area were not always young men. Of the 16 additions, 4 were over 65 years of age in 1958. In at least two of these cases physicians had come into the area to retire but the obvious need for medical care had drawn them into practice again.

Doctors of Osteopathy.

In the 1954 analysis, it was observed that, "If the total number of medical doctors in practice continues to decline while the total number of osteopaths remains relatively stable, osteopathic physicians will soon outnumber medical physicians in the study area."[†] In 1958 the numbers of medical doctors and doctors of osteopathy in practice were almost equal (85 medical doctors and 83 doctors of osteopathy). In 9 of the counties, osteopathic doctors outnumbered medical doctors; in 4 counties, an equal number were in practice; and in 7 counties, medical doctors were more numerous. In Area I (see map), medical doctors outnumbered osteopathic doctors 57 to 53; in Area II, osteopathic doctors outnumbered medical doctors by 30 to 28.

The number of osteopaths declined somewhat from 1954 to 1958 but not as rapidly as the number of medical doctors.

In Practice, 1954	87	
Separations, 1954-58	17	
Moved		12
Deceased		4
Retired		1
Additions, 1954-58	13	
In Practice, 1958	83	

While death accounted for the most separations for the medical doctors, separations of osteopathic doctors resulted largely from moving out of the area.

Most of the osteopathic physicians were in full-time practice in 1958. Information was not available on this point for 1954.

	1958
Full-time practice	79
Part-time practice	4

[†]Missouri, AES Bul. 651, April 1955, p. 6.

From the age structure of doctors of osteopathy, it would appear that their loss in practice through retirement or death would be less likely than for medical doctors. As the following tabulation shows, 7 percent of the practicing doctors of osteopathy were over 65 years of age compared with 26 percent of the medical doctors. This also accounts for the fact that only 4 of the 83 practicing osteopaths were in part-time practice.

Age	1954	1958
35 or under	16%	13%
36 - 65	79	80
Over 65	5	7

As can be seen there was a slightly higher proportion of osteopaths over 65 years of age in 1954 than in 1958.

Dentists

The separations and additions of dentists from 1954 to 1958 were:

In Practice, 1954	78	
Separations, 1954-58	11	
Moved		3
Deceased		3
Retired		5
Additions, 1954-58	10	
In Practice, 1958	77	

Dentists coming into practice in the area almost balanced those separated from practice. They appeared to be less mobile than either medical doctors or osteopaths.

Compared with medical doctors and doctors of osteopathy, a fairly large number of dentists were in part-time practice:

	1958
Full-time practice	64
Part-time practice	13

The number of dentists over 65 years of age is probably related to the number in part-time practice.

Age	1958
35 or under	13%
36 - 65	65
Over 65	22

Chiropractors

Chiropractors were the only practitioners in the 20-county area that increased in number from 1954 to 1958. There were 31 chiropractors in the area in 1954 and 37 in 1958. There had been 5 separations and 11 additions during the period.

Move to Large Towns

Medical Doctors

The concentration of medical doctors in metropolitan areas is one of the clearest trends in medical services. This is demonstrated by the concentration of medical doctors that was observed in the four metropolitan centers of Missouri. Also of interest is the location of physicians *within* the 20-county area. Their locations were checked to see if they were located in the largest center of their county.

Proportion of Medical Doctors in the 20 County Area Who Were Located in the Largest Center in Their County.

1950	53%
1954	63
1958	75

A major proportion of the medical doctors were located in a relatively small number of the largest centers. This concentration has taken place rapidly since 1950 and appears to be a major trend.

The explanation for the increased concentration is not that doctors from smaller towns moved into the large places in the county. Losses through death and retirement took a greater toll among doctors in the small places, and new doctors opened their offices in the larger places.

Thirteen of the 22 medical doctors lost through death and retirement from 1954 through 1958 lived in small places. Only 3 of the 16 medical doctors moving into the area located in these small places. The others picked the largest population center in the county. We would expect as time goes on to find few medical doctors outside the largest place in the county.

Doctors of Osteopathy

The same kind of analysis can be made for doctors of osteopathy.

Proportion of Doctors of Osteopathy in the 20 County Area Who Were Located in the Largest Center in Their County.	
1950	42%
1954	44
1958	52

Doctors of osteopathy were not concentrated in the largest center of each county to the extent that medical doctors were. Although there was a trend toward greater concentration among doctors of osteopathy it was not as rapid as for medical doctors.

Dentists in 1958

Dentists were concentrated in the largest center of each county in very much the same way that medical doctors were. Seventy-one percent of the practicing dentists were located in these 20 centers. Data were not available for 1950 and 1954.

Chiropractors in 1958

Chiropractors also were concentrated in the largest center of each county. Seventy-three percent were located in these 20 centers in 1958. Data were not available for 1950 and 1954.

Health Facilities

Public Health

There were only 2 counties out of the 20 that had either a county public health department or a county public health nursing service. One of these counties was in Area I, the other in

Area II. Additional public health services were available through the district and state offices of the Missouri Division of Health.

Hospitals

The principal physical facilities for health maintenance in the area were hospitals. Hospital facilities ranged from several beds in connection with a doctor's office, used mainly for emergencies, to modern, well staffed institutions. Of the 15 general hospitals in the counties having 10 or more beds, 8 were staffed entirely by medical doctors, 4 were used by both medical doctors and osteopathic doctors and 3 were entirely osteopathic.

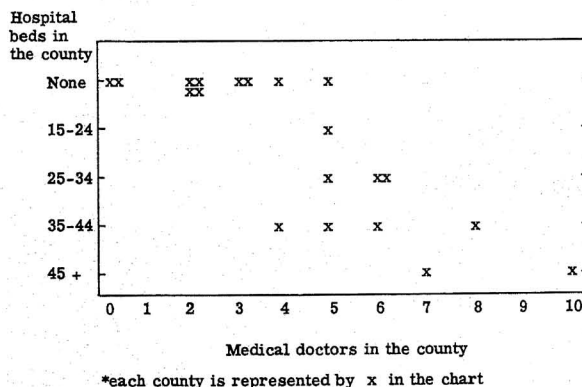
Seven of the 10 counties in Area I had hospital facilities while this was true of only 4 of the 10 counties in Area II.

Hospital Beds in the Study Area	
1950	268
1954	353
1958	441

The decline in number of practicing physicians in the study area has been noted. At the same time, the number of hospital beds has increased substantially; by the end of 1958, the number of hospital beds in the area had increased by about two-thirds over 1950. The increase in hospital facilities counteracted to some extent the loss in number of physicians, in that, where hospital facilities are adequate, fewer doctors may effectively provide needed health services.

A relationship existed between the number of hospital beds in hospitals staffed entirely or in part by medical doctors and the

Relationship of the Number of Beds in Hospitals Staffed by Medical Doctors in each county* to the Number of Medical Doctors in each county*



number of medical doctors in the county, as the chart shows. No county that lacked hospital facilities had more than 5 medical doctors. And no county with hospital facilities for medical doctors had fewer than 4 medical doctors.

The same type of analysis for osteopathic doctors was not carried out because of the limited number of osteopathic hospitals.

<u>Nursing Home Beds in Study Area</u>	
1954	789
1958	886

Nursing Homes

There were more nursing home beds in the study area in 1958 than in 1954 in spite of stricter state licensing regulations.

One county had voted a bond issue to finance a nursing home, which was a unique undertaking in the study area.

County Examples

County A (Area I)

County A had a population of about 11,000 in 1950; the largest center had a population of about 1,800.

This county has made a major physical addition to its health facilities since 1950 by building a 31 bed hospital where none had existed before. It is used both by medical doctors and by doctors of osteopathy.

Three full time medical doctors were practicing in the county in 1954. These doctors were still practicing full time in 1958 and three more had been added. Two of the additions were young men; the other was an older person. He had come back to this county (his boyhood home) to retire, but because of the obvious need for doctors, and perhaps dissatisfaction with idleness after a busy life, he took up practice again. The other two doctors were attracted by the new hospital.

In 1954, five osteopathic doctors were in practice. Between 1954 to 1958 one of these died and two came into the county. Both of the newcomers were young men.

Four dentists practiced in the county both in 1954 and 1958. During this time, the one

retirement was balanced by a younger dentist coming into the county.

One chiropractor was located in the county in 1958; none was present four years earlier.

Three nursing homes were located in the county with a total of about 40 beds. In addition, there were several boarding homes.

County B (Area I)

The population of this county was about 11,000 in 1950. The largest center, the county seat, had a population of about 1,600.

This county offers an extreme example of loss of medical doctors. Five medical doctors had been practicing in the county in 1954. By 1958 three losses had occurred, all through death, and they had not been replaced.

The same four doctors of osteopathy were in the county at both periods and no additions had been made. One was reportedly in poor health but remained in full practice.

Where three dentists had practiced in the county in 1954 two were practicing in 1958. The loss came about through death.

No chiropractors were reported in 1958 nor had there been any in 1954. One chiropractor had come and left between 1954 and 1958.

With the exception of several beds for emergency service in connection with a physician's office no hospital facilities were available in the county.

Four nursing homes with approximately 55 beds were available.

County C (Area II)

County C had a population of about 5,000 and there was no center with as many as 500 people. It is an example of a county having a minimum of health facilities and personnel.

This county had no medical doctor in practice. Two osteopathic physicians and two dentists practiced in the county. No hospital beds or nursing home beds were available. Public health services were not provided on the county level.

Obviously, hospital care and other health services were provided outside the borders of this county. With good roads and automobiles

such a situation may not be as unsatisfactory as one would at first suppose. In some of the counties with the fewest personnel and facilities no great concern was expressed over the situation by those interviewed.

County D (Area II)

The population of county D was about 14,000 in 1950 and the largest city had a population of about 2,800. Three medical doctors practiced in the county both in 1954 and 1958. At both times one of the medical doctors was practicing only part time. Another medical doctor had moved into the area between 1954 and 1958 but had stayed only about 6 months before moving.

The same number of doctors of osteopathy (six) were located in the county in 1954 and 1958. During that period, one had died and one had moved into the county.

Three dentists were in practice in 1954 and in 1958. During the period, one incoming dentist had balanced a death among the dentists.

Two chiropractors were practicing in the county in 1958, a gain of one over 1954.

An osteopathic hospital with 18 beds and a rest home with 20 beds were located in the county.

This county had a public health department with a staff consisting of a public health nurse, a sanitarian, and a clerk.

Conclusions

Continuing a trend in the 20 counties studied, the number of health personnel declined from 1954 through 1958. The rate of loss was greatest for medical doctors; for osteopathic doctors it was moderate; dentists almost held their own; and the number of chiropractors increased during the period. The attrition of time accounted for most of the losses among medical doctors—over 70 percent were due to death or retirement. Among osteopathic doctors most of the losses were due to movements out of the area.

In addition to the decline in number of doctors, a change took place in the location of doctors within the area. Medical doctors were concentrated in the larger centers to a much

greater extent than they had been in 1950 or 1954; and to a greater extent than osteopathic doctors were in 1958. In the future it is probable that few medical doctors will choose to locate their practices in the smaller centers of the area and away from hospital facilities. This is in agreement with trends in other services found in rural areas.

A substantial increase occurred in the area's number of hospital beds. Well designed hospital facilities can "lengthen the arm" of the physicians available for providing needed care. Thoughtful attention should be given to means of making better use of existing health personnel in the area because it is unrealistic to expect a substantial increase in number. To meet this problem, more attention might be given to providing public health services. Better use of doctors and facilities in urban centers outside the area and larger centers within the area might be achieved by adequate ambulance service.

Rural people will need to use their ingenuity in order to satisfy their needs for professional health services.



OTHER BULLETINS IN RURAL HEALTH SERIES

1. *The Rural Health Facilities of Lewis County.* Res. Bul. 365, 1943. Almack, Ronald B.
2. *Family Health Practices in Dallas County.* Res. Bul. 369, 1943. Meier, Iola, and C. E. Lively
3. *Illness in Rural Missouri.* Res. Bul. 391, 1945. Kaufman, Harold and Warren W. Morse
4. *Use of Medical Services in Rural Missouri.* Res. Bul. 400, 1946. Kaufman, Harold F.
5. *The Health of Low-Income Farm Families in Southeast Missouri.* Res. Bul. 410, 1947. Gregory, C. L., Zetta E. Bankert, Aleta McDowell and C. E. Lively.
6. *Illness in the Farm Population of Two Homogeneous Areas of Missouri.* Res Bul. 504, 1952. McNamara, Robert L.
7. *Supply of Physicians in Rural Missouri.* Sta. Bul. 651, 1955. McNamara, Robert L., Edward W. Hassinger, John B. Mitchell.
8. *Extent of Illness and Use of Health Services in a South Missouri County.* Res. Bul. 647, 1958. McNamara, Robert L. and Edward W. Hassinger.
9. *Relationships of the Public to Physicians in a Rural Setting.* Res. Bul. 653, 1958. Hassinger, Edward W. and Robert L. McNamara.
10. *Charges for Health Services Among Open-Country People in a South Missouri County.* Res. Bul. 668, 1958. Hassinger, Edward W. and Robert L. McNamara.