# SUPPLY *of* PHYSICIANS *in* RURAL MISSOURI

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# Supply of Physicians In Rural Missouri

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For the past decade and longer there has been considerable public interest in the supply of physicans, particularly in rural areas. Migration of many rural doctors to urban centers is but one of the evidences of social change affecting rural life. Rural people have come to depend on urban centers for many services including health services. For this reason many thoughtful people dismiss the fact of rural physician shortages as being without significant point. However, to the extent that rural people must rely on fewer and older practitioners than urban dwellers for medical services, the situation warrants careful study.

This report is divided into three parts. The first section deals with the supply of medical doctors in the state as a whole and with the number in the four largest centers contrasted with the remainder of the state during the period 1912 to 1950. The second section focuses attention on 20 rural counties of the state and deals with the trend in number and age of medical doctors, and with certain of their professional characteristics, for the period 1912-1950. In the final section the same 20-county area is re-examined concerning the supply of medical doctors, osteopaths, hospitals and nursing homes as of late 1954.

## NUMBER OF MEDICAL DOCTORS IN MISSOURI 1912-1950

Using the directories of the American Medical Association at intervals from 1912-1950 and census data closest to their dates of publication, the number and change in supply of medical doctors and their relation to the population to be served was reconstructed.

It is clear from Table I that the supply of medical doctors declined continuously, resulting in a net loss of about 1000 during the period of approximately 40 years. In the face of a growing population this has meant a successively larger number of persons per physician at each of the years for which data were compiled.

It has been pointed out by some writers that the relatively large number of physicians at the turn of the century and up to 1920 was due to the lower standards of medical education prevailing at that time. Also, that following the Flexner report of 1910 and subsequent reforms it would be expected that there would be many "drop-outs" and fewer graduates of medical schools. However, for the State of Missouri, decline in the number of physicians has continued for the last 40 years and the rate of decline has not diminished in the most recent decades.

The concentration of physicians in large urban centers over the years is demonstrated by separating the data into two classifications: (1) the four largest cities and their counties of location[1] and, (2) the balance of the state. (Table 2.)

Clearly, a situation is now faced in which nearly

TABLE 1 -- MEDICAL DOCTORS* IN MISSOURI FOR SELECTED YEARS, 1912-1950

| | Number | | | | | Percent Change | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1912 | 1921 | 1931 | 1940 | 1950 | 1912-21 | 1921-31 | 1931-40 | 1940-50 |
| Missouri medical doctors | 6,037 | 5,921 | 5,640 | 5,297 | 5,074 | - 1.9 | - 4.7 | - 6.1 | - 4.2 |
| Population (in thousands) | 3,321 | 3,437 | 3,649 | 3,785 | 3,955 | 3.5 | 6.2 | 3.7 | 4.5 |
| Population per doctor | 550 | 580 | 647 | 715 | 779 | 5.5 | 11.6 | 10.5 | 9.0 |

*Includes all physicians listed in the A.M.A. Directories

TABLE 2 -- POPULATION AND MEDICAL DOCTORS IN FOUR CITY-COUNTIES AND BALANCE OF STATE, 1912-1950

| | Physicians | | | | | Population (in thousands) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Location | 1912 | 1921 | 1931 | 1940 | 1950 | 1912 | 1921 | 1931 | 1940 | 1950 |
| Four city-counties | 2,865 | 3,122 | 3,557 | 3,515 | 3,687 | 1,258 | 1,445 | 1,694 | 1,753 | 2,006 |
| Balance of state | 3,172 | 2,799 | 2,083 | 1,782 | 1,387 | 2,063 | 1,992 | 1,955 | 2,032 | 1,949 |
| Percent of total in four city-counties | 47.5 | 52.7 | 63.1 | 66.4 | 72.7 | 37.9 | 42.0 | 46.4 | 46.3 | 50.7 |

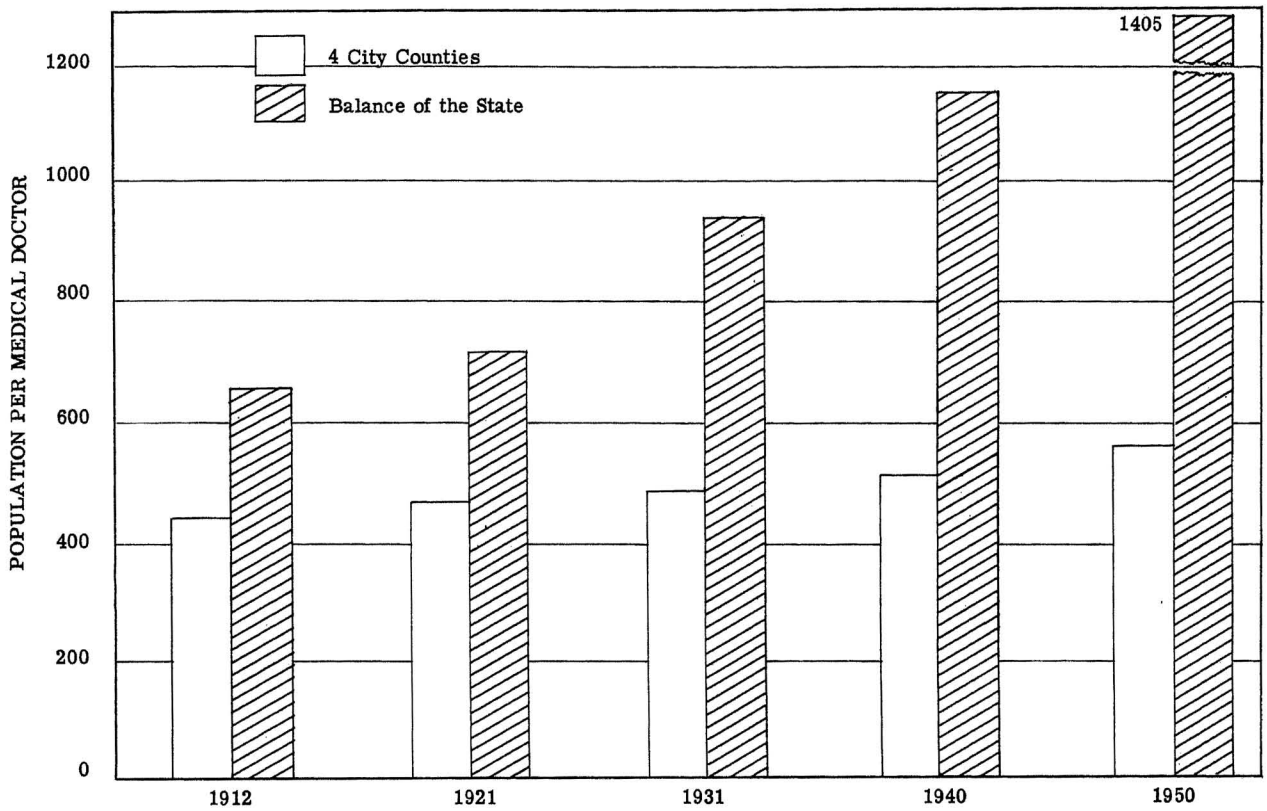


**Figure 1 - POPULATION PER MEDICAL DOCTOR, MISSOURI 1912-1950**
**(Computed from Table 2.)**

three-fourths (73 percent) of all the physicians listed in the Directory are located in the large urban centers and their immediate environs. This is a shift during the 40-year period from relative equality to great disparity in favor of large centers. However, even in the most populous centers the number of physicians has scarcely kept pace with population growth, and for the balance of the state the supply of physicians has lagged far behind the growth of population. (Figure 1.)

## ANALYSIS OF MEDICAL PERSONNEL IN 20 RURAL COUNTIES 1912-1950

Attention has been called to the concentration of physicians in large urban centers and certain trends of physician supply relative to population growth. Consideration is now given to a more intensive examination of the data on medical doctors practicing in selected counties of the state.

For this analysis 20 counties of Missouri located in two contrasting rural areas of socio-economic homogeneity were used. Information was then obtained on number, location, and certain characteristics of practicing medical doctors. (Figure 2.) The areas were not selected because of their isolation from large centers of population. In Area I, five of the counties are within about 50 miles of Kansas City or St. Joseph and six of the counties in Area II are within 50 miles of Springfield or Jefferson City. Otherwise, the areas lie a considerable distance from large cities which could be expected to be well supplied with professional health personnel. There are no large centers of population in the 20 counties studied. In Area I the largest town is under 10,000 population while in Area II there is no town over 3,500 population. This is not unlike Missouri as a whole for 96 of the 114 counties in the state, or about 85 percent, did not have a center as large as 10,000 people in 1950.

In terms of rural level of living, the index for Area I was considerably above while that for Area II was well below the average for the state. For the pur-

[1]Kansas City and Jackson County, St. Joseph and Buchanan County, St Louis and St. Louis County, Springfield and Greene County. It should be pointed out that St. Louis City and St. Louis County are separate political units.

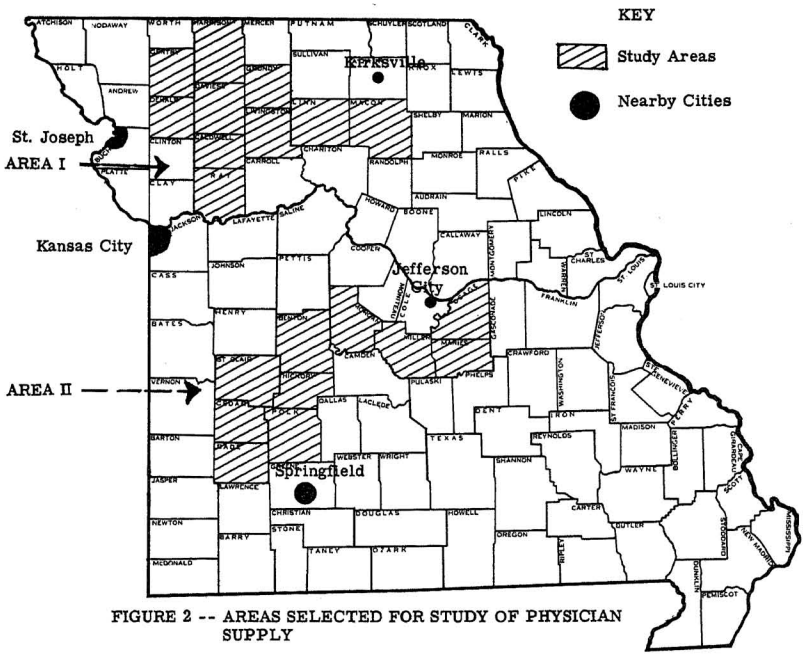


FIGURE 2 -- AREAS SELECTED FOR STUDY OF PHYSICIAN SUPPLY

pose of this discussion the two areas are probably a reasonable cross-section of rural Missouri. They will be referred to as the "study area" henceforth in this report. In the following analysis only those medical doctors have been included who apparently were in practice. Excluded are industrial and institutional physicians, interns and residents, and those retired or not in practice. The number compiled for the five selected directory-years is shown in Table 3.

In the study area, population losses have been heavy but the number of medical doctors has declined at a much more rapid rate. Consequently the population per physician has increased to the point that the 1950 ratio is more than double the ratio of 1921 and 90 percent above that of 1931. Moreover, in the study area, the largest percentage drop in number of medical doctors over the entire period occurred during the last decade. (Table 3.)

Migration of physicians has been selective with respect to age. This, and the fact that far too few young practitioners have entered the study area to replace those who died or retired, combine to bring about a disproportionately large number of physicians of advanced ages. By 1950, more than one of every three practitioners (36 percent) was past 65 years of age, a proportion which has nearly tripled in the past 20 years. The number of "effective physicians"[2] can be computed and the ratio applied according to a formula adopted by the War Manpower Commission during World War II. The effectivity ratio was determined at 33.3 percent for practitioners 65 years old and over and at 95.0 percent for those under 65 years of age.[3] It was determined at that time that 1,500 persons per effective physician is the maximum beyond which civilian health is endangered. Thus, it can be seen that even before the war the supply of physicians in this 20 county area exceeded that maximum and had gone beyond it by more than 65 percent in 1950. (Table 4.)

Aside from increasing numbers of elderly physicians and effectivity ratios, it is perhaps of greater interest to observe that for physicians, in the study area in 1950, nearly 1 of every 5 received a medical degree before 1900. The median year of medical school graduation was 1912 or about 40 years ago at a time when the successful crusade against the sub-standard proprietary medical schools was hardly under way. In this connection about one-half of the 1950 supply of physicians in the study area were graduates of schools now out of existence. Of course some of these schools were consolidated with schools now existing but by no means all of them. It is commonly held that although physicians may have been trained 40 or 50 years ago they are able to "keep up" with the advances of modern medicine by means of professional journals. A principal asset in this respect would be the Journal of the American Medical Association and the journal of the state medical society, but of the 133 practicing physicians in the study area, only 85 (64 percent) were members of the A.M.A. in 1950 and could therefore be presumed to receive the journals of the national and state societies. Membership in the A.M.A. is highly selective by age among these rural physicians. Only 46 percent, less than one-half, of those past 65 years

TABLE 3 -- MEDICAL DOCTORS IN PRACTICE IN 20-COUNTY STUDY AREA FOR SELECTED YEARS, 1912-1950

| | Number | | | | | Percent Change | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1912 | 1921 | 1931 | 1940 | 1950 | 1912-21 | 1921-31 | 1931-40 | 1940-50 |
| Medical doctors in practice | 537 | 448 | 304 | 219 | 133 | -16.6 | -32.1 | -28.0 | -39.3 |
| Population (in thousands) | 338 | 317 | 289 | 278 | 241 | - 6.2 | - 8.8 | - 3.8 | -13.3 |
| Population per doctor in practice | 629 | 708 | 951 | 1,269 | 1,812 | 12.6 | 34.3 | 33.4 | 42.8 |

[2]Hearings before a Sub-Committee of the Committee on Education and Labor, U. S. Senate on Senate Resolution 291 *Investigation of Manpower Resources,* Part 2, Dec. 14-16, 1942. pp. 662, 669. (Testimony of Maxwell E. Lapham, M. D., Executive Officer of the Procurement and Assignment Service).

[3]This is an arbitrary rate. Obviously many practicing over 65 devote full time to their practices (and some would insist that they devote more than full time). That some adjustment is reasonable is also obvious; in 1954 it was found in the survey that more than half the doctors over 65 were limiting their practice to a very considerable extent and that some of the other doctors were not as active as they had once been.

TABLE 4 -- MEDICAL DOCTORS IN PRACTICE IN 20 MISSOURI COUNTIES, BY AGE AND EFFECTIVITY RATIOS, FOR SELECTED YEARS, 1912-1950

| Age (Years) | 1912 | | 1921 | | 1931 | | 1940 | | 1950 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| All ages | 537 | 100.0 | 448 | 100.0 | 304 | 100.0 | 219 | 100.0 | 133 | 100.0 |
| 35 and under | 123 | 22.9 | 36 | 8.0 | 22 | 7.2 | 30 | 13.7 | 26 | 19.5 |
| 36-65 | 378 | 70.4 | 336 | 75.0 | 240 | 79.0 | 132 | 60.3 | 59 | 44.4 |
| Over 65 | 36 | 6.7 | 76 | 17.0 | 42 | 13.8 | 57 | 26.0 | 48 | 36.1 |
| Population (in thousands) | 338 | | 317 | | 289 | | 278 | | 241 | |
| Effective doctors | 488 | | 378 | | 263 | | 173 | | 97 | |
| Population per effective doctor | 693 | | 839 | | 1,099 | | 1,607 | | 2,485 | |

of age were A.M.A. members, and it must be emphasized that elderly physicians constitute more than one-third of the total practitioners.

## Maintenance of Physician supply

With modern transportation and communication, people in rural counties do seek some medical care outside their counties of residence although medical centers of consequence in Missouri are quite distant for at least one-half of county residents in the area studied. Let us assume, however, that the war emergency ratio of 1,500 persons per physician can be applied without endangering the health of the people and therefore determine that 160 physicians are required for the study area. If population remains as in 1950 there would be required about 40 in-migrants to take the place of those from the 1950 cohort who would be expected to die during the next ten years. An additional 20 would be needed to bring the 1950 number to the stated requirement plus 30 others to replace those who from past experience would retire or move away. There would thus be required at least 90 additions over a ten-year period, which is nearly three times the number of physicians who began practice in the area during the last ten years. It is, of course, unlikely that as many as 90 physicians will begin practice in the area in the next few years. But the example points up the fact that the disproportionately large number of elderly practitioners now in these counties will be greatly reduced in the near future and that an energetic recruiting program will be necessary to maintain the physician supply at anywhere near the present low level. Current trends can bring only further deterioration of the situation.

## Medical School Attended

As stated, nearly one-half of the physicians in the study area in 1950 had received their medical degrees from schools no longer existing. These schools were terminated for the most part before 1920, so the physicians represented in this classification are largely the older practitioners. As time passes, graduates of these defunct medical schools will comprise progressively smaller proportions of the total physician supply so maintenance of supply must depend on graduates of schools now existing. Within Missouri there are now three medical schools, one of which, at the University of Missouri, has recently become a 4-year school. Graduates of these schools accounted for about one-fourth of the physicians practicing in the study area in 1950 and were actually fewer in number than was noted for any of the study years since 1912. Apparently, recent graduates of Missouri schools are not settling in rural areas of the state. While other states are taking every possible measure to retain physicians trained in their own schools, it seems highly unlikely that schools in adjacent or in distant states will continue to contribute to the supply of rural physicians in Missouri. A good case in point is the fact that of the 36 newly-arrived physicians who were practicing in the study area in 1950 but who were not there in 1940, only one-half were young men just out of medical school. Of these only seven were trained in Missouri schools. Four others received training at the University of Kansas, two at the University of Tennessee, two at Illinois schools, and two at Louisiana schools.

Although only seven physicians recently graduated from Missouri schools were listed as being in the study area in 1950, the two schools, Washington University and St. Louis University, graduated about 2,000 medical students in the decade 1940-1950. The probable interest of graduates of these two Missouri schools in locations outside the state is suggested in the fact that only about one-fourth of their medical school enrollments are residents of Missouri. Being predominantly schools with non-resident medical students, it could not be presumed that their medical school graduates would have a great interest in rural Missouri as locations for practice.

Moreover, the "turnover" rates for physicians are high in the study area, out-migration being particularly common among the younger physicians. In effect, the supply of medical doctors in the counties comprising the study area consists of practitioners who typically were trained at least 40 years ago, whose numbers are being rapidly depleted by death and retirement, and for whom replacements are not appearing from present medical schools, either within or outside the State.

# A RE-STUDY OF RURAL PHYSICIAN SUPPLY
(Five Years Later)

In 1950, as has been pointed out, it was estimated that about 40 additional physicians would be required to take the place of those medical doctors in the 1950 group who might be expected to die before 1960. An additional 30 would be required to replace those who from past experience might be expected to retire or move away. It was noted that even if replacements were sufficient to maintain the 1950 level, the supply would still be below the emergency war ratio of 1,500 persons per physician. It was also pointed out that it was unlikely that the number of replacements necessary to maintain the 1950 level would come into the area.[4]

To check these predictions at a time about halfway through the present decade,[5] and also to assess some of the conditions involved in physician supply in the 20 counties, field work was conducted during the period November 16 through December 3, 1954 to collect data bearing on these points. To extend the scope of the research, data on additional health personnel and facilities were collected, including osteopathic physicians, general hospital facilities, and nursing homes. Not all types of health facilities and personnel were considered; notable exceptions were dentists, nurses, and hospitals other than general. Persons interviewed in the study area included physicians, newspaper editors, county agricultural extension personnel, and county welfare directors.

## Doctors of Medicine

***What had happened by 1954 to medical doctors who were practicing in the area in 1950?*** In 1950, there were 133 medical doctors practicing in the area. Of these, only 77 remained in practice in the 20-county area by late 1954. Perhaps most impressive in these data is the large number of physicians who had died during the period. In only five years, 33 or almost one-fourth had died. Thus the 1950 estimate of 40 deaths in the 1950-60 decade appears to have been very conservative. The estimate of the number needed to replace those expected to move or retire during the 10-year period was 30. This also appears to have been low because in five years 24 physicians had moved out of the area or retired from practice. The gross loss in the 20 counties due to death, retirement, and movement amounted to 56 medical doctors or 42 percent of the 1950 total. (Table 5.)

TABLE 5 -- CHANGE IN PHYSICAN SUPPLY, 20 MISSOURI COUNTIES 1950-1954

| | Doctors of Medicine | | Doctors of Osteopathy | |
|---|---|---|---|---|
| In practice, 1950 | | 133 | | 92 |
| Separations, 1950-54* | | 56 | | 23 |
| Moved | 12 | | 20 | |
| Deceased | 32 | | 2 | |
| Retired | 12 | | 1 | |
| Additions, 1950-54* | | 23 | | 21 |
| In practice, 1954 | | 100 | | 90 |
| In full practice | | 81 | | -- |
| Semi-retired | | 19 | | -- |

*Exclusive of a small, but undetermined, number of physicians who came into and left the study area between 1950 and 1954.

**Additional medical doctors who have come into the area:** The addition of new doctors has not kept pace with the high loss of physicians from the 1950 cohort. At the time of the 1954 re-study there were 23 physicians in the area who were not there in 1950. Also, it was learned that a few physicians had come into the area after 1950 and had left before the field work of this survey was undertaken, their services having been available to the people for varying, but short, lengths of time.

**Net change in number of medical doctors 1950-1954:** Of the 133 active and semi-active physicians in 1950, it was found by 1954 that 56 no longer were available to the people because of death, retirement, or out-migration. These losses were partially offset by the addition of 23 new medical doctors who established practices during the period. The difference between these two figures (33), constitutes the net loss in number of medical doctors. Where there had been 133 doctors in practice in 1950, there were an even 100 in 1954 adding up to a net loss of 25 percent in five years.

**Age of medical doctors in the area:** Age of physicians is an important consideration in assessing the medical personnel resources available to the people in these rural counties. As was pointed out earlier, vigor, and in some ways training, can be associated with age. More clearly related to the age structure in the study area was the great loss of doctors through death. Thirty-six percent were over 65 years of age in 1950 and 84 percent of the deaths took place in this elderly group. But even with the death of many elderly doctors there remained nearly the same proportion of doctors past 65 years of age in 1954 as in 1950. Sufficient

[4]These conclusions were first stated in the paper *Supply of Physicians in Selected Rural Areas of Missouri* by Robert L. McNamara and John B. Mitchell (mimeo 1951) and restated in this bulletin.

[5]The survey was taken almost precisely five years later.

doctors were in the upper portion of the middle age category in 1950 that the passage of five years time placed an ample number of persons in the oldest age group to maintain a proportion similar to that of 1950. (Table 6.)

TABLE 6 -- AGE OF PHYSICIANS IN PRACTICE, 1954, IN 20 MISSOURI COUNTIES

| Age-1954 | Medical Doctors | | Doctors of Osteopathy | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| All ages | 100 | 100.0 | 90 | 100.0 |
| 35 or under | 16 | 16.0 | 14 | 15.6 |
| 36-65 | 48 | 48.0 | 71 | 78.9 |
| Over 65 | 35 | 35.0 | 5 | 5.5 |
| Age not available | 1 | 1.0 | -- | ----- |

**Location of medical doctors within the area:** The concentration of physicians in the four largest cities of the state was shown in the first part of this paper. Of interest also is the location of physicians within the 20-county area and the change in location noted during the five-year period. It was thought that the location of physicians within the 20 counties could be described by noting the number of physicians in the largest town in each county in contrast to the number located in the remainder of the county. For the study area, in 1950, about 53 percent of the doctors were located in the largest town in each of the counties.[6] By the last part of 1954, the proportion in the same 20 centers had risen to 63 percent of the doctors in practice. Thus it appears that not only were medical doctors concentrated in the metropolitan areas of the state, but within the rural areas a majority were located in a limited number of larger centers, and the proportion in these centers was larger in 1954 than 1950.

**Area differences in medical doctor supply:** Two-thirds of the medical doctors were located in the more populous northern counties comprising Area I. No pronounced differences in changes of physician supply were found in the two areas. The northern counties retained a larger proportion of the 1950 supply of doctors who were active to some extent, whereas the southern counties, Area II, lost relatively more doctors through death and migration. About equal numbers of new doctors located in the two areas, but relative to the number in practice, additions were greater in Area II. Thus the net loss of physicians in the two areas was about of equal magnitude when total additions and separations are considered. The age structure of the physicians in 1954 was not greatly different in the two areas although Area II had a somewhat larger proportion of young doctors reflecting the larger proportion of newly arrived doctors in the southern counties.

**Summary of findings concerning supply of medical doctors:** There are now fewer MD's in practice in these rural counties than at any time during the past 40 years. The prospect, as in 1950, is for continued decline and at a pace at least as fast as that anticipated in 1950. Some indication of the rapid withdrawal of medical doctors in prospect is the finding in 1954 that of the 100 physicians remaining in practice, nearly one-fifth were already limiting their practice to appreciably less than full-time.

## Doctors of Osteopathy

The supply of doctors of osteopathy (DO) which was not considered in the 1912-50 study of physician supply has now been added to the investigation. Unlike the situation described for doctors of medicine, the supply of osteopaths has remained almost constant from 1950 to 1954. Additions have nearly balanced the number lost by moves, death, or retirement. There were 90 osteopaths in the area in 1954 where there had been 92 in 1950. (Table 5.)

It is of interest to note that death and retirement have accounted for the loss of only about 3 percent of the 1950 supply of osteopathic physicians while the same causes have occasioned the loss of one-third of the 1950 supply of medical doctors. Moreover, the present (1954) supply of osteopaths is younger as a group, only 5 percent being over 65 years of age compared with 35 percent of the medical doctors in the older years. Very small losses of osteopaths by death are to be expected for the immediate years ahead since relatively few are elderly. (Table 6.) Migration appears to be a greater cause of loss among osteopathic doctors than is true of medical doctors in these rural counties. During the past five years, 22 percent of the 1950 supply of osteopaths moved away while only 9 percent of medical doctors moved out of these counties.

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. The small difference in number of these two professional groups tends to be offset when the limited activities of many elderly medical doctors is taken into account.

**Location of doctors of osteopathy within the area:** In contrast with medical doctors a larger percent of osteopaths were located outside the largest centers

[6]If the ten largest towns in each area are considered without regard to county lines the percent would be 57.

in the counties in 1950, about 58 percent were outside. Nor was the change toward the larger centers between 1950 and 1954 as great as it was for medical doctors. In late 1954, 56 percent were outside the 20 centers which constituted the largest town in each county.

**Area differences:** About two-thirds of the supply of osteopaths was located in the 10 northern counties (Area I) which may be due in part to the larger population of that area and in part due to the location of a college of osteopathy in northern Missouri in close proximity to a large part of Area I. No other area differences are notable.

### Examples of Changes in Physician Supply

A few examples may serve to point up the changes that have taken place in physician supply since 1950.

**County A,** with 10,000 population, has a farm level of living score well above the state average, and most county residents are about 50 miles from a medical and hospital center of consequence. None of the adjoining counties has an apparent surplus of physicians.

This case presents an extreme example. There were 10 medical doctors in 1950. By the end of 1954, approximately five years after the data for 1950 were obtained, five of them had died, one had fully retired, and one had limited his practice to one-half time and handled office calls only. Only three physicians of the ten remained in full time practice. As a partial offset to these losses, two physicians have located in the county since 1950 but one of these is now nearly 75 years old. The result is that only five physicians remain in full practice where ten were practicing five years earlier.

Three osteopathic physicians were practicing in the county in 1950; by late 1954 that number had increased to five. There are no registered general hospitals in the county but there is a total of about 10 beds available in connection with doctors' offices. Of these some are used exclusively by patients of doctors of medicine; some are available to patients of doctors of osteopathy only.

**County B** has about 16,000 people including an urban center of 3,500 population. This county has a farm level of living score about equivalent to the state average. Most people of the county live within about one hour's driving time from a larger medical and hospital center. This may contribute to the fact that there were only 20 hospital beds in the county and to the rapid depletion of the local physician supply. Of the 10 medical doctors listed in the Directory as practicing in 1950, one had died, one had moved, one had retired, and three were semi-retired, with four remaining in full time practice in 1954. No new medical doctors had entered into practice in the period of observation. Four doctors of osteopathy were counted in both 1950 and 1954.

**County C,** in which there are about 10,000 people, has no urban place and has a farm level of living lower than the average for the state but this county, nevertheless, had a brighter picture with respect to physician supply in 1954 than in 1950. Of the three medical doctors who had been in practice in 1950, two were no longer in practice, one having moved out of the state, the other having retired. But three new medical doctors, all of whom were under 35 years of age, had located in the county between 1950 and the time of the re-study in 1954. It is of interest and may be of real significance to note that two of these three young doctors called this county their home (one was the son of the doctor who had retired) and the third was their medical school mate.

The two osteopaths who were practicing in the county in 1950 were still in active practice at the time of the survey.

### General Hospitals and Nursing Homes

There was a wide variety of hospital facilities available to the people in the study area, ranging from new and modern hospitals of considerable size to those of a few beds in connection with the physician's office. Many of these small facilities were used almost exclusively for maternity services and for temporary care of emergency cases. Some of the facilities were used exclusively by osteopaths, others by medical doctors, and some by both of these professional groups. There were an estimated 350 beds available of which about 130 had been added since 1950.

With not many exceptions, nursing and/or convalescent homes in the area accomodated elderly people. Their increased importance reflects the social changes in family care for older people and an increase in number of elderly people. Again the facilities ranged from the large institution to the accommodation of several old people in a private home. Not all the places that served the purpose of nursing homes were licensed by the state and no nursing home was found in the area which had been designed and constructed for that purpose.

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