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## Medical Education in South Dakota

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# Economics Newsletter

Economics Department

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## MEDICAL EDUCATION IN SOUTH DAKOTA

How to provide adequate medical attention for persons living in rural areas such as South Dakota is of deep concern to many people. The Economics Department and the Extension Service have made an attempt to study the proposals and alternatives that have been suggested. Some of the results of that study are presented in this Newsletter.

During the 1973 legislative session a special committee of the Legislative Research Council was appointed to study the future of medical education in South Dakota. The soon to be released committee report will recommend that the present two-year medical school at U. S. D., Vermillion, be converted to a four-year degree-granting institution.

### The Problem

There are 17 counties in South Dakota without a civilian medical doctor. Our physician-to-population ratio is 1/1327 compared to 1/804 for the nation as a whole. We have the lowest physician-to-population ratio in the nation. In 1960 we had 509 practicing physicians and in 1973 we have 508. While the total number of physicians has remained quite stable there has been a significant movement from the more rural communities to the larger cities and towns.

Physician movements in and out of towns with populations up to 2,500 from 1960-1973 resulted in a net loss of 47. For cities 2,500 to 10,000 the net loss was 24 during the same period. In cities with populations over 10,000 the net movement of physicians during the 13-year period was a gain of 70.

Physician to population ratios in the larger cities in South Dakota are comparable to the national average which might indicate that the problem there is less severe; however, these cities are medical centers serving a larger geographic area than the city or the county in which they are located.

The medical manpower problem in South Dakota is a problem of both a shortage and maldistribution.

For many years we have provided the first two years of medical education at the school of medicine at the University of South Dakota and have passed the students on to medical schools in other states. Only about 18 percent have returned to the state to practice; less than a dozen per year on the average.

In recent years, because of rising costs of operating a medical school and the shortage of physicians, even in states with their own medical schools, our two year medical students are finding it increasingly difficult to enroll in any medical school for their remaining two years of medical education.

We have, for many years, sent students to the University of Kansas, Boston University, John Hopkins and Harvard. None of these schools has accepted any of our students in the past three years. Nebraska will no longer accept transfer students and the University of Wisconsin last year turned away 240 qualified Wisconsin students. Iowa, which has trained many of our physicians just recently notified the Dean of the South Dakota medical school they would

not accept any students in 1974.

In one year alone, from 1972 to 1973, the number of vacancies for transfer students in all U. S. medical schools dropped 35% from 354 to 225. By 1975 it is expected the only openings will be an occasional vacancy created when a student drops out. At most, medical student tuition accounts for about 20 percent of the total cost of the education. Legislators in these states are limiting the enrollments to their own residents.

#### What are the educational requirements for a medical degree?

In order to be eligible for admission to medical school, most schools require the completion of four years of pre-medical education.

The screening process for admission to medical school is rigorous. Medical schools must limit the class size to the facilities and staff available. Medical education is costly, not only to the student, but to society. Rigorous screening reduces the rate of failure.

The first two years of medical school consist of basic science courses. In this setting the basic requirements are: (1) the medical student, (2) teacher, and (3) classrooms and laboratories. States with limited resources such as South Dakota have been able to meet these requirements.

The last two years of medical school provide the clinical phase of the educational process. During this phase there are also three essential elements. (1) the student, (2) Physician teacher, and (3) a hospitalized patient. During this phase the student learns medical techniques. The nature of the instruction is such that the student-teacher ratio is much lower than the usual classroom situation. Traditionally this phase of the medical education has been taught in the large university hospital. Such hospitals and teaching staff are extremely

costly and beyond the means of states with limited resources (an estimated 60 to 80 million dollars for building and 4 to 6 million dollars operating costs) For these reasons South Dakota has been forced to send medical students out of the state for their clinical education.

After completion of four years of medical education most states, including South Dakota, require at least one year of hospital internship before the student is eligible to take either the State or National board exam for a license to practice medicine. If the student elects to become a specialist in one of the many medical areas, he enters into a residency in that particular program. Residency requirements vary, depending upon the specialty, from one to five years. The family practice residency requirement in South Dakota is three years, including the one year internship.

#### What has changed?

In recent years one of the innovations in medical education has been the moving of the clinical phase of medical education from the university hospital to the community hospital, particularly for those students who plan to be primary care physicians. Most common ailments are found in the community hospital in contrast to the acutely ill and oftentimes rare disease type cases which reach the university hospital. In most instances the private practicing physicians in the community are used for at least a part of the teaching faculty. This trend in medical education has been called "the medical school without walls" and is the program recommended for South Dakota by the medical study committee of the Legislative Research Council.

#### The 4-year medical school proposal

Nobody knows exactly how the program would be structured at this time. Some questions cannot be answered until the plan is put into operation. The plan

is to begin the first third-year class with 35 students from the usual class of 65. The other 30 students would seek their remaining two years in other states, as in the past. As soon as feasible the entire class of 65 would be absorbed into the four-year program.

No new buildings or facilities are planned. Space as required would be leased in or near the hospitals at Yankton and Sioux Falls where the clinical education would be given.

Faculty would be recruited largely from the physicians now practicing in these hospitals including the Veterans Administration hospital. Tentative commitments have already been received. Some full time faculty would be needed. The cost to the state would be for 30 to 35 full-time equivalents although the total number of physicians teaching in the program might be three times that number.

#### What will it cost?

The present proposal is for a four-step increase in funding spread over three or four years. The present funding level of the two-year program is about \$800,000. One and a half million dollars would be added, \$1/2 million per year, over the next three years. An additional \$200,000 might be required in the third or fourth year for a total of \$2 1/2 million annually in state support.

The proposed budget does not take into account a Federal government program designed to accelerate the conversion of two year medical schools to degree granting institutions. The program provides \$50,000 per student for the first year if applied for before July 1, 1974.

#### Will a 4-year school solve the state's medical manpower problems?

If the goal is to increase the number of practicing physicians in South Dakota

there is evidence that a four year school will help, particularly if internship and residency programs are added. Studies in Iowa have shown that the retention rate increases in relation to the amount of training the student receives in the state.

Of the 65 who have completed their internship in Sioux Falls, 29 have located in South Dakota; 12 have not yet located and the remainder are in surrounding states.

There are only four resident training programs in South Dakota and these are quite new. Of the five people who have completed their pathology residency in Sioux Falls, three are practicing in the state and one has not yet located. In the Yankton surgical program, three of the four who have completed are practicing in South Dakota. The first enrollees in the other two resident programs are still in training.

If the goal is to encourage physicians to locate in rural, small towns there is also evidence the four-year school will not achieve this goal. Numerous studies in Iowa and other states indicate physicians leave rural practice for the following reasons: long working hours, limited availability of continued education, isolation from colleagues, distance to and limited hospital facilities, lack of cultural and educational opportunities for themselves and their families and attitude of the wife. None of these shortcomings can be remedied by the presence of a four-year medical school. These studies were made in states with degree granting schools. The movement of physicians from rural small towns to the urban areas is a problem in these states as well. Another solution to this problem will have to be found.

#### Alternatives to a 4-year medical school

Numerous alternatives to the establishment of our own four-year medical school have been suggested. Among these is cooperating with states in sim-

ilar circumstances such as North Dakota, Wyoming and Montana and jointly support a four-year medical school. Like South Dakota, these states prefer to work out their own solutions. Both North Dakota and Wyoming are making plans for their own four-year medical school. Montana has entered into a compact with Alaska, Idaho and Washington. Washington will expand their existing facilities to accommodate the increased enrollment.

Another alternative suggested is contracting with an existing medical school for either the two years of clinical education or the entire four-year educational program. Today only one school has expressed an interest in the four-year proposal. Preliminary estimates of the cost of such a contract are slightly higher than the budget figures requested for the operation of the South Dakota plan. Sending students out of the state is a situation South Dakota officials hope to avoid.

There are some schools which will contract for the transfer of two-year students on a five-year contract basis. Student fees would be based upon costs with an

inflationary clause included. Costs would vary from school to school. Estimates range from about \$8,000 per student per year to over \$20,000.

Another suggestion is to use the money presently expended on our two-year medical school for a massive nation-wide physician recruiting program. Such efforts by some communities have been successful while others have been either fruitless or the physician left after a short stay. No data are available on the relative success or the cost of such a program here or in other states.

With or without a four-year medical school we must establish more internship and residency training programs. This appears to be the most significant factor influencing the new physician's location decision.

If we graduate 65 new M.D.s per year and many have to leave the state for their post graduate training we have accomplished very little if they do not return.

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