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Health Resources in South Dakota

George Gilbertson

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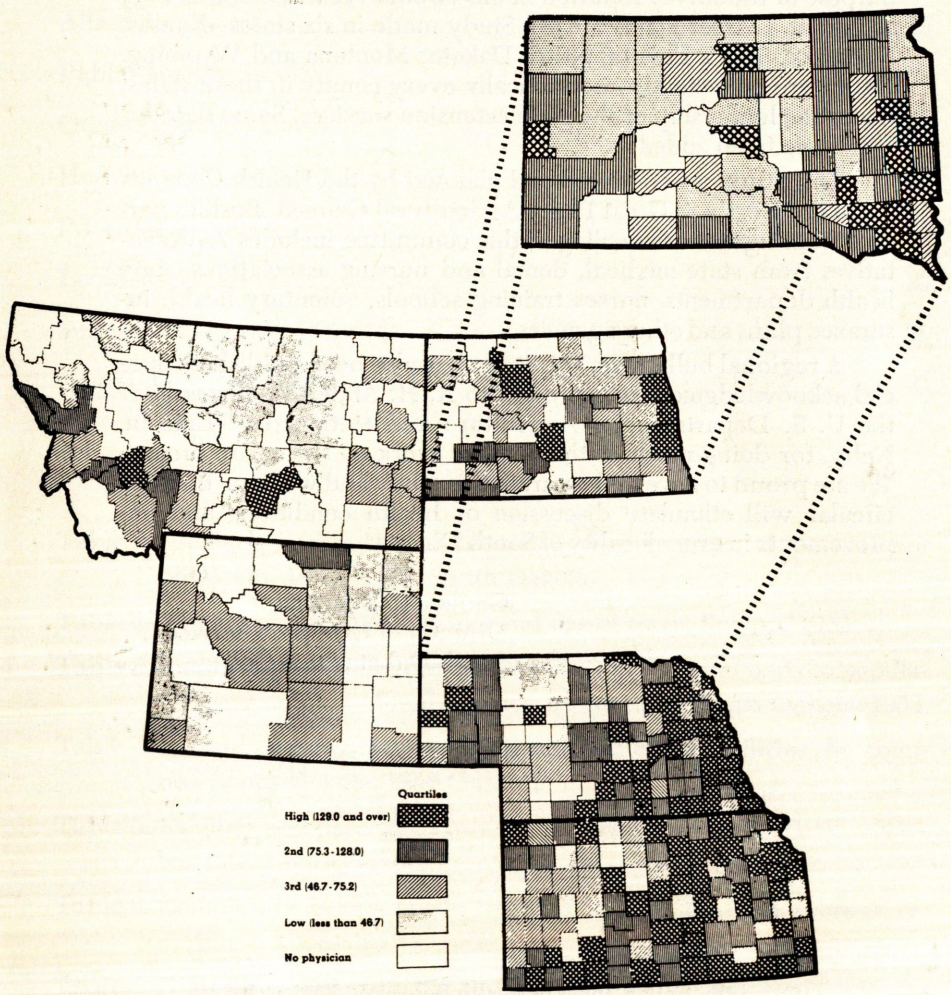
HEALTH RESOURCES IN SOUTH DAKOTA



AGRICULTURAL EXTENSION SERVICE
SOUTH DAKOTA STATE COLLEGE
U. S. DEPARTMENT OF AGRICULTURE

Foreword

IMPROVING rural health is a teamwork job—one that deserves all the cooperation that state health and education services, communities, organizations, and individuals can give. From the farm family's standpoint, good health is essential to farming success as well as to happy living.

The first essential to maintaining good health conditions is adequate health services and programs. And the first essential to improving these is to study what we already have. That was the purpose of the survey reported in this circular. It was made in 1953 as part of a Great Plains Health Study made in six states—Kansas, Nebraska, South Dakota, North Dakota, Montana and Wyoming. Data were collected from practically every county in these states, under the leadership of the state extension services. Some data for 1955 have been added.

This study was initiated and planned by the Health Committee of the Northern Great Plains Agricultural Council. Besides persons from agricultural colleges, this committee includes representatives from state medical, dental and nursing associations, state health departments, nurses training schools, voluntary health insurance plans and other agencies.

A regional bulletin on this study has also been published. Special acknowledgment is expressed to A. H. Anderson, formerly of the U. S. Department of Agriculture and stationed at Lincoln, Nebr., for doing much of the detailed work on the entire project. We are proud to have had a part in this study and we hope that this circular will stimulate discussion of health conditions and improvements in every locality of South Dakota.

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Cover Illustration. Index of Health Resources. Region. 1953
(Based on number and distance to physicians)

Contents

Tables

Figures

Highlights

1. Our numbers of physicians and dentists, in relation to population, are about the same as the national average, but many counties in the western part of the state are far below the state average. There is a noticeable shortage of nurses in nearly all parts of the state.
2. We have fewer physicians than 20 or 30 years ago, but we can get along with a smaller number now because the quality of medical care is much better.
3. About 40 percent of the physicians in small towns are over 65 years of age and may be expected to retire before long. This increases the problem of physician shortage all the more.
4. To get and keep physicians, dentists, and nurses, towns have to be attractive places to live.
5. The hospital situation in South Dakota has greatly improved in the last 10 years. But we still need more of some kinds of facilities.
6. Many counties need one or more ambulances, especially places far from a physician or hospital. At the time of the survey eight counties had no ambulance and 22 more only had one, yet most of these were the very counties that were short on physicians and other health resources.
7. About 80 percent of the farms in South Dakota now have electricity but many do not have a telephone, running water, or central heating. Thirty percent of the farms are still on dirt roads. Such facilities add to health, comfort and peace of mind, and we should strive to have more of them.
8. South Dakota is very short on local public health services. Only two counties have their own public health department and only 14 more have a public health nurse.
9. South Dakota has many voluntary health agencies, as well as several state and federal hospitals. Twenty to 25 percent of our rural people are covered by hospitalization insurance and even fewer have medical care insurance.
10. The health needs most frequently mentioned by counties were: more county public health and safety education, more physicians and nurses, and active health councils or other organizations to give leadership to health improvements. Long distances and sparse population are major features in South Dakota which limit community services. Other obstacles to health improvement which the counties reported were: indifference of the people, high cost of medical care, and that too many rural towns are not attractive enough to new physicians, dentists and nurses.

Each of us, working together with our neighbors, extension services, health agencies and other organizations, can do much in facing our health problems and bringing about needed improvements in health facilities and in health habits.

Health Resources in South Dakota

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PEOPLE today seem more concerned about good health than they used to be. At least they are doing more about it. One reason is that we have more health facilities and more scientific knowledge about health than we used to have. Because of this many of us can live longer, or at least be happier, with less suffering than we could have a generation ago.

Good health does not just happen. It takes good health habits and good conditions at home. It also takes adequate community health facilities and services which are essential to health protection. Communities need to have well-trained physicians and dentists, and they need to have modern offices where they can provide up-to-date service. Somewhere along the line there has to be enough nurses, laboratory equiment, X-ray technicians, hospital beds, clinics, public health protection programs, and voluntary agencies with their special programs. Good health also depends on making wise use of health resources wherever they exist.

But how well are we South Dakotans supplied with necessary community health facilities and services? The purpose of this circular is to briefly summarize what was found out about this from the survey that was made as explained in the foreword.

Physicians—Dentists—Nurses

To have adequate health personnel is of first importance. Our supply compares well with other areas but distribution is a problem.

One way of measuring how well an area is supplied with health personnel is by the number of persons to be served in a given area per physician, dentist, or nurse. Figures often used by public health authorities as approaching desirable standards for today are one physician for 1,200 or 1,500 people, one dentist for 2,000 people, and one active registered nurse for 500 people or two nurses per 1,000 people. These are approximate national averages.

Ratios Compare Well

Our state ratios compare fairly well with these national averages or "standards." In South Dakota in 1953 we had one effective physician[1] for each 1,369 persons, one dentist for 2,183 people, and one active registered nurse for each 629 people or 1.6 nurses for 1,000 people.

But state averages do not tell the whole story; the important questions are: how does one part of the state compare with another? Do all South Dakota people have equal access to a physician or a dentist?

Nine Counties Standard

At the time of the study only nine of our 69 counties in South Dakota came up to the figure used as a "standard" for physicians, only 25 counties for dentists, and only 11 counties for nurses. About 30 more counties are medium, and the rest rank far below average.

The following figures show this situation more clearly.

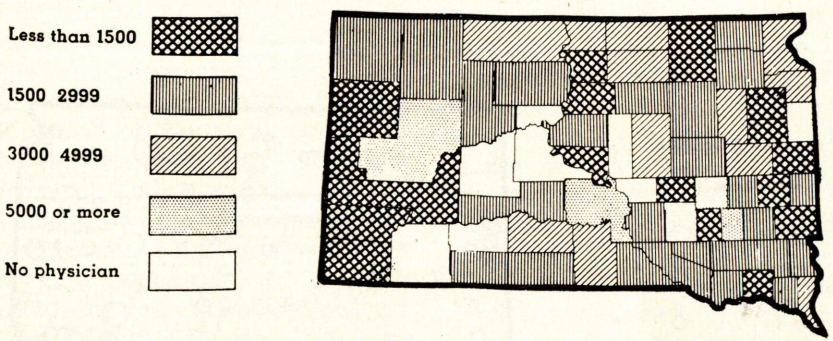


Figure 1. Number of persons per effective physician in private practice. 1953.

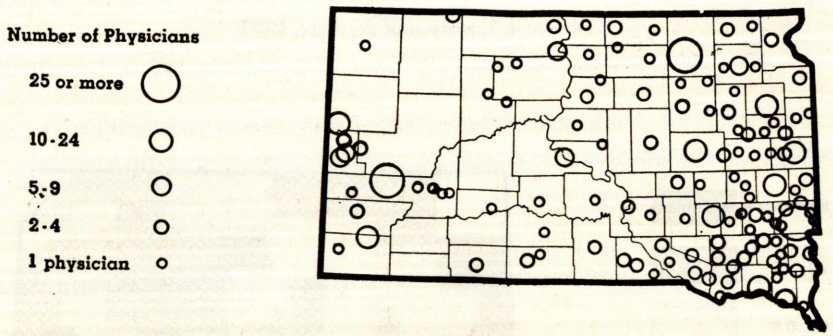


Figure 2. Location of physicians. 1953

[1]Physicians over 65 were counted as ⅓ of a physician in computing the ratios per county since many of them follow only a limited practice after that. Therefore the term "effective physician" refers throughout the study to the equivalent of a full time or fully active physician. The data also are intended to include only physicians mainly in private practice, not those on agency or institution staffs.

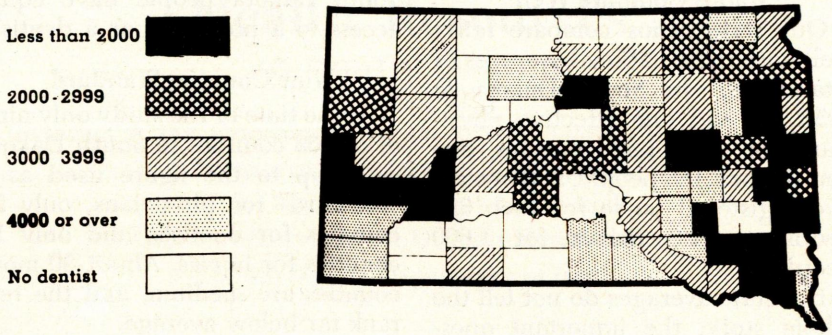


Figure 3. Number of persons per dentist in private practice. 1953

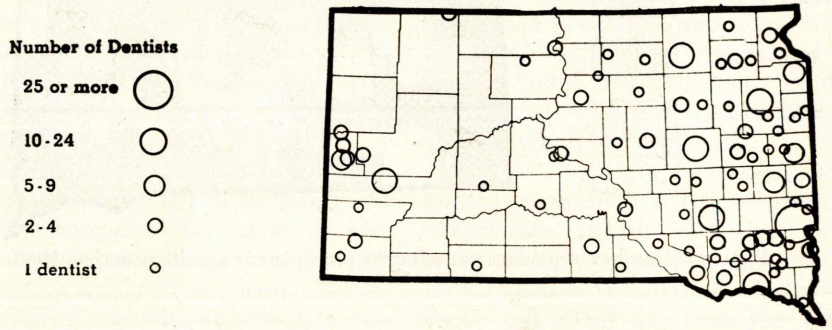


Figure 4. Location of dentists. 1953

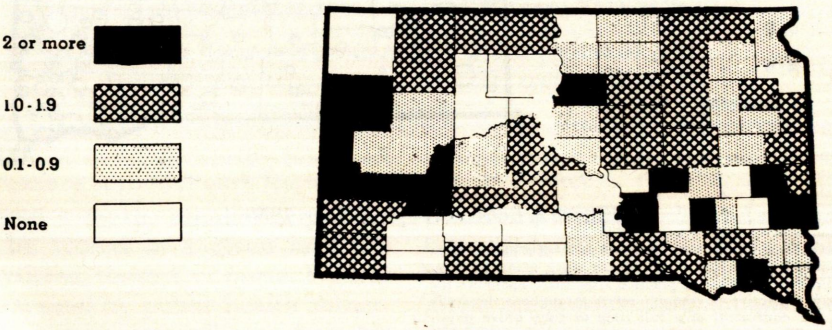


Figure 5. Number of practicing registered nurses per 1,000 population. 195

The most critical situation as to health personnel is in the rural areas, especially in the central and western parts of the state. Here there are many counties with only one effective physician and one dentist for 3,000 or more population and only one nurse per 1,000 compared to the national average of two per 1,000.

Looking at health personnel from the standpoint of towns, it was found that out of a total of 326 towns in South Dakota with 100 or more population, 124 towns, or 38 percent have one or more physicians, and 26 percent of the towns have one or more dentists. Another 30 percent of the towns are within 15 miles of a town with a physician or dentist. Only about five percent of all our towns in South Dakota, including only about three percent of our total population, are over 30 miles from a physician and only 11 percent are that far from a dentist.

Roads A Factor

Today 30 to 50 miles does not seem far in our state, and it could probably be easily covered in an emergency if the roads were good. But long distances and poor roads discourage sufficient regular use of physicians, dentists, and hospitals. And besides, many counties and towns do not have any more than enough physicians, dentists, and nurses than they need locally, let alone enough to serve surrounding areas. In many cases the counties next to the low counties do not rank very high either.

Index of Physician Availability. The problem of health personnel is further pointed out when one takes into account *distance* as well as *population ratio.* In order to better measure how well off we are as to physicians, these two factors were combined into a single index, based on the average for the region as 100. A score was computed for each county with a physician, 372 counties in all. These 372 counties were then divided into four groups of 93 counties each, according to their score. The top one-fourth of the counties in the region scored 129 or more, while the lowest fourth of the counties had scores of less than 47 compared to the regional average of 100.

This information was developed with the formula:

$$\frac{\text{Average number of persons per effective physician in region} \times \text{The average radius per physician location (100 percent)}}{\text{Actual number of persons per physician in each county} \times \text{The actual radius per physician location in a county}}$$

The illustration on the front cover shows how the counties rank on this index throughout the region. It shows that the problem of available physicians is greatest in the more sparsely settled parts of the region. South Dakota has 12 counties in the top one-fourth, and 20 counties in the lowest one-fourth, besides eight counties without any physician. The index score for each county is in Table 3, which will be taken up later.

Differences Limit Index

Because counties vary in size, in location of towns, and in other ways, this index has limitations. But it is a more refined measure of the relative availability of physicians than the physician-population ratio alone, because it also takes how far families have to go to see a physician into account. Such an index is also a fairly good indicator of the availability of other health resources, such as nurses, hospitals, and public health services, because these might be expected to be distributed about the same as physicians are distributed.

Actually the number of physicians in South Dakota declined about 30 percent from 1910 to 1940, then rose slightly by 1950. With the population increase during the same time, the ratio changed from 820 persons per physician in 1910 to 1,380 per physician in 1950 (Table 1.)

Table 1. Change in Number of Physicians and Number of Persons Per Physician. South Dakota 1910-1954.

Year	Total Population	Number of Physicians	Persons per Physician
1910	533,888	730	731
1920	636,547	625	1018
1930	692,849	580	1195
1940	642,961	502	1281
1950	652,740	532	1227
1954	660,000 (est)		

But the decline from 1910 does not necessarily mean less service, because scientific advances in medical treatment, better transportation, and other factors make it possible for fewer physicians to render higher quality service than in 1910.

Health Personnel Increased

The number of health personnel has also increased during the last few years. According to data from the State Department of Health, the State Board of Dental Examiners, and the State Nurses Examining Board, we have 20 more physicians in South Dakota in 1955 than we had in 1950, about the same number of dentists, and approximately 500 more registered nurses. Some of these new persons located in the rural areas where the need is greatest, but many did not.

Nurses. At the time of this study we had, besides the active registered nurses in South Dakota, about 700 non-professional nurses. These non-professional nurses serve as nurse's aides, hospital receptionists, and in other ways are very helpful in relieving the shortage of active registered nurses.

The shortage of nurses is still very acute today. Many counties are far below the national average or "standard" of two per 1,000. Some hospitals find it hard to run at full capacity because of nurse shortages, and many times it is hard to find call nurses to serve emergency cases at home.

Dentists. Maintaining dental health is also a problem in rural areas. Many children do not receive adequate dental care because the dentist is too far away, or appointments have to be made too far in advance, or because of the cost. The study shows that about half of the 69 counties in the state, including about 40 per cent of the population, do not have enough dentists. Many of these areas could support at least one or two more.

Public health authorities say that dental decay is our most common disease; that over 90 percent of the people have it at some time in their

lives. Dental decay is especially prevalent in children. Balanced diets, rinsing the mouth after eating sweets, and good dental care are essential to good teeth. Good teeth are an asset to both physical health and mental health, including personality. Good teeth are also less costly than uncontrolled dental decay and disease, in the long run. The desire to want good dental care and the availability of dentists to provide it are important to good health.

Age. A main factor affecting physician, dentist, and nurse service in rural areas is age. The study showed that in the Northern Great Plains region as a whole, over 40 percent of the physicians in the small towns were more than 65 years of age. This may be compared to only 21 percent over 65 in the larger cities of the region. (Table 2.) This means that even more towns will be without physicians when their present ones retire, unless they are replaced. The problem of physician distribution in rural areas is made even more acute by the need to replace those who retire, let alone get additional ones.

Table 2. Percent of Physicians by Age and Size of Town—Region. 1953

Size of Place (Population)	Number of Physicians	Percent Under 45	Percent 45-64	Percent 65 & over
25,000 and over	1605	42	37	21
10,000—25,000	901	43	38	19
1,000—10,000	1401	41	41	18
Less than 1,000	536	32	28	40
All Places	4443	41	37	22

How well off is your county as to physicians, dentists and nurses? You can tell by looking again at these maps. The various columns in Table 3 also give figures by counties. Does your county come up to "standard"? If not, is it near one that is above standard?

Table 3. Ratios of Physicians, Dentists, Nurses, and Hospital Beds to Population, and Number of Ambulances, by Counties—South Dakota. 1953. (1950 Population in Parenthesis.)

County (Population)	Population per Effective Physician	Index of Physician Availability	Population per Dentist	Registered Nurses per 1000 Population	Hospital Beds per 1000 Population	Number of Ambulances
Armstrong	Unorganized—combined with Stanley					
Aurora (5020)	5020	25	5020	0	0	3
Beadle (21082)	1757	78	1917	1.1	7.1	2
Bennett (3396)	1698	59	3396	1.8	4.1	1
Bon Homme (9440)	2861	84	3147	0.8	3.2	6
Brookings (17851)	1339	130	1785	1.7	3.9	3
Brown (32617)	1087	77	2039	1.8	8.1	5
Brule (6076)	1519	115	3038	2.0	5.3	2
Buffalo (1615)	*	*	*	0	0	0
Butte (8161)	765	93	2040	4.3	6.1	1
Campbell (4046)	4046	30	*	0	0	1
Charles Mix (15558)	2458	87	3890	1.7	9.1	7
Clark (8369)	3134	61	8369	0.2	0	2
Clay (10993)	1648	194	1832	1.4	3.2	3
Codington (18944)	1055	121	1263	1.8	11.8	3
Corson (6168)	3084	22	*	1.1	3.2	1

Table 3. Ratios of Physicians, Dentists, Nurses, and Hospital Beds to Population, and Number of Ambulances, by Counties—South Dakota. 1953. (1950 Population in Parenthesis.) (Continued)

County (Population)	Population per Effective Physician	Index of Physician Availability	Population per Dentist	Registered Nurses per 1000 Population	Hospital Beds per 1000 Population	Number of Ambulances
Custer (5517)	1379	87	5517	1.8	0	2
Davison (16522)	918	174	1502	3.6	16.0	3
Day (12294)	1843	95	2459	0.8	4.1	4
Deuel (7689)	5781	33	3844	1.4	2.8	2
Dewey (4916)	2110	65	4916	0	0	1
Douglas (5636)	2818	57	5636	0.9	2.3	3
Edmunds (7275)	3638	38	3638	0.5	1.9	1
Fall River (10439)	1080	105	4027	1.6	10.9	3
Faulk (4752)	2039	52	4752	1.3	4.2	1
Gregory (8556)	2331	82	8556	1.2	5.3	3
Grant (10233)	3411	38	2047	0	3.4	2
Haakon (3167)	*	*	3167	0.6	5.7	1
Hamlin (7058)	1324	242	1764	0.4	2.3	2
Hand (7149)	3574	26	3574	1.7	5.0	2
Hanson (4896)	*	*	*	0.4	0	1
Harding (2289)	2289	29	*	0	0	0
Hughes (8111)	1014	172	2704	0.4	12.6	2
Hutchinson (11423)	1558	154	1632	1.0	2.9	4
Hyde (2811)	*	*	2811	1.1	0	1
Jackson (1768)	1768	68	*	1.5	3.6	0
Jerauld (4476)	1492	99	4476	3.6	4.9	1
Jones (2281)	2281	47	2281	1.8	7.5	2
Kingsbury (9962)	3731	64	2490	0.2	2.7	0
Lake (11792)	863	171	1685	3.1	4.2	2
Lawrence (16648)	1314	162	1665	2.7	7.8	5
Lincoln (12767)	2553	75	2553	0.6	2.3	3
Lyman (4572)	*	6	*	0	0	0
McCook (8828)	2943	93	*	0	0	2
McPherson (7071)	3035	45	*	0.6	6.4	3
Marshall (7835)	1567	102	7835	1.5	4.6	2
Meade (11516)	5758	10	3839	0.5	2.2	2
Mellette (3046)	3046	32	*	0	0	1
Miner (6268)	1882	127	3134	0	0	2
Minnehaha (70910)	502	637	971	2.9	9.3	7
Moody (9252)	2313	92	2313	1.4	2.6	3
Pennington (34053)	1174	126	1703	2.3	7.2	7
Perkins (6776)	1694	38	3388	1.2	4.7	1
Potter (4688)	1408	114	1563	3.6	13.9	2
Roberts (14929)	4483	23	3732	0.7	5.4	5
Sanborn (5142)	5142	29	5142	0.6	1.0	2
Shannon	Unorganized—Combined with Fall River					
Spink (12204)	1928	91	3051	1.4	3.9	2
Stanley (2107)	*	*	2107	1.4	0	0
Sully (2713)	2713	39	*	0.4	7.7	0
Todd (4758)	1586	81	*	0	25.2	1
Tripp (9139)	4570	18	4570	0.8	3.1	3
Turner (12100)	2134	150	1729	0.3	0.9	5
Union (10792)	3597	67	10792	0.1	0	4
Walworth (7648)	1349	129	3824	0.5	5.2	2
Washabaugh	Unorganized—Combined with Jackson					
Washington	Was made a part of Shannon County in 1943					
Yankton (16804)	1120	132	1120	5.4	13.1	2
Ziebach (2606)	2606	29	*	0	0	0
State	**652,740**	**100**	**2183**		**5.9**	**149**

*No physician or dentist.

More Health Personnel

Preceding data point up the need. Getting health personnel is a special problem in rural areas that can only be met by the people facing it.

The study shows that the real problem is not so much a total shortage of physicians and dentists. The state averages are fairly good. Rather the real problem is one of poor distribution or location compared to need.

We still have many communities without a physician or one who will soon retire. And at least 20 South Dakota counties now low in physicians have enough population to support at least one or two more. The same is true for dentists or nurses.

Distance A Factor

In South Dakota, distance and sparsity of settlement are tremendously important factors in the distribution of health resources. In the western part of the state numerous towns are small and many miles apart, many farms or ranches are a long way from a sizable town. This means that the "trade areas" of physicians, dentists, and hospitals, as well as of other businesses, have to cover a large territory to include enough people to support such services. It is in these outlying rural sections that the people have the greatest need for more or better health services.

But how can medical services be made more accessible to the outlying towns and farms? How can physicians and dentists be induced to establish offices in these places or take over the practices of those who retire? These are big questions. Maybe some kind of a part-time service could be developed in cooperation with a physician or dentist or a hospital in nearby towns.

Cooperation In Area

Some communities in sparsely settled sections have made such an adjustment to solve their problems of physician and dentist shortages. In other cases, new physicians are being attracted to towns by concerted effort, such as by helping him to find a house and helping him to set up an office and get his practice started. In dealing with this problem we sometimes have to think in terms of areas or districts, not just single towns or single counties. Some kind of a cooperative plan between two or more towns or counties may be the answer in many cases. .

Encouraging women to become registered nurses or non-professional nurse's aides is a good step which local groups can foster. Many girls who study nursing in South Dakota go elsewhere to practice, and some do not even study nursing here. Local groups can help keep nurses by accepting them as a part of normal community life and making their life in the community more enjoyable. All too often we take the doctors and nurses for granted or do not think about them as members of the community.

Attractive Town Helps

There is more to the problem of physician distribution than merely numbers of people. All too often rural towns are not attractive enough for a young physician to be willing to take a chance in. He needs a modern office and equipment, he likes to be near a hospital, and he wants a town with a good school, a church, and other attractive features for his family living. He wants to be assured of being treated fairly and of having a fair share of the local business.

Sometimes rural people do not use their physician the right way. They expect him to drive miles in the middle of the night on cases which could just as well be brought to his office during the daytime where he can provide much better treatment for less cost. Sometimes, too, people do not follow their doctor's instructions, or come to him soon enough, and fail to make proper progress. In many cases physicians are criticized for this and that, and sometimes many families by-pass their own local doctor and go to one in a larger town or city, except in emergencies. But a rural physician cannot maintain an efficient business on just emergency service.

Of course, not every town needs to have a doctor. But all our people should have adequate medical and dental services conveniently available. It is all right for physicians, dentists, and nurses, to be in nearby large towns, if they can be reached easily, and if the outlying families do not have to pay too high costs for rural service.

The main thing, then, is not necessarily to plan for a doctor in every town, but rather to plan for adequate doctor service. It may be in cooperation with services in some other place where doctors may prefer to locate

Let us look forward and work on the problem of improving the physician, dentist, and nurse situations in rural areas of South Dakota, until every rural community in South Dakota has a plan for obtaining adequate services. Local organizations and agencies working together, and with other communities or counties, can do this successfully. This will assure adequate health protection services for every part of our state.

Hospitals

The situation is greatly improved. Eighty-one general hospitals brings South Dakota's average above national standards.

Estimated adequacy of hospital service is generally measured by the number of beds in relation to the number of people in the area served. The state average based on data from the survey in 1953 was 5.9 beds per 1,000 population. This is very good, for a figure sometimes used as an appropriate standard is 4.5 beds per 1,000 population, or in rural areas about three beds per 1,000 population.

3,870 Hospital Beds

According to the survey reports from counties in the spring of 1953, South Dakota had 81 general hospitals with 3,870 beds in the state. However, it must be pointed out that some of these beds represent space beyond recommended capacity or are in buildings which only lend themselves to temporary use. The state plan for hospital construction prepared in compliance with the Hill-Burton Law, shows a total of 2,564 acceptable beds as of July 31, 1954.

Distribution Not Even

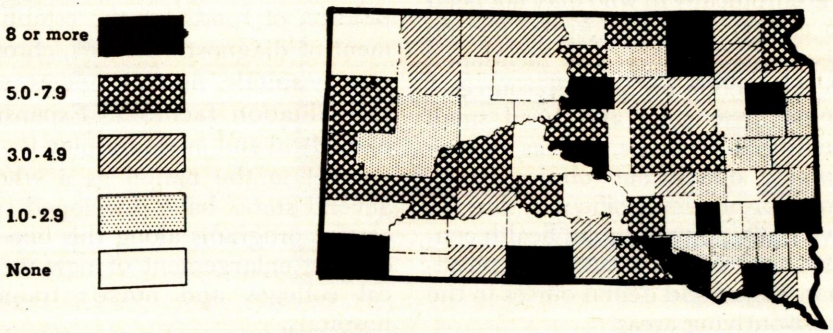
But in this case, as was also true for physicians, our hospital beds are not evenly distributed over the state in proportion to the population. At the time of the survey, 24 of South Dakota's 69 counties had 4.5 general hospital beds per 1,000 population, 28 counties ranged from 3.0 to 4.5 beds per 1,000, and 27 counties had less than three beds per 1,000, including 16 counties without any hospital.

This situation is shown in Figures 6 and 7. Here you can see that the lower ranking counties are located mostly in the western part of the state and the region.

Since the survey, several new hospitals have been opened up in the western part of the state, and four projects which will provide 77 acceptable beds are now under construction for either new establishments, additions, or replacements. Many of the 81 total general hospitals reported in the survey were also built during the last 15 years, and in many cases rural leaders helped a great deal to get them. These hospitals will be useful for years to come in meeting the needs of our increasing population for special kinds of chronic care.

Most of the newer hospitals are well planned, well located, about the right size, and are running smoothly. A good example of such a hospital which was built the "community way" is at Faith. The people helped on it in various ways, including the hauling of materials by volunteer trucks and in the furnishing of some of the rooms. Many persons are also helping with the operation of their hospital by non-professional employment, paid and volunteer.

Figure 6. Number of hospital beds per 1,000 population. 1953



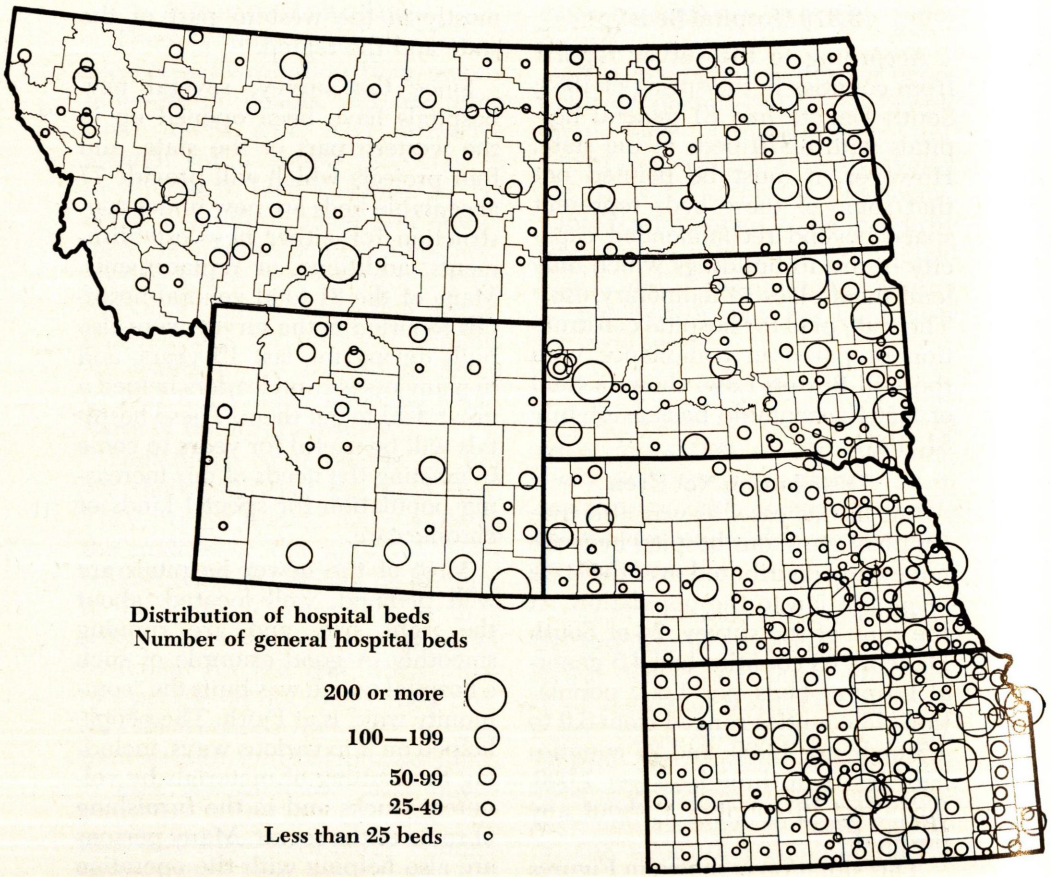


Figure 7. Location of hospital beds. Region. 1953

Care for Older People

Looking ahead, there is a great need for facilities that will provide adequate care for older people and the chronically ill who may not need to always be in a hospital but do need care. (This is also mentioned in the section on State Resources.) Some areas may also need small facilities near home, such as nursing homes, out-patient clinics, small hospital-physician offices of three to five beds, county public health centers, and perhaps part-time physician-dental and dental offices in the most outlying areas.

Expansion Possible

In 1954 Congress amended the Hospital Survey and Construction Act of 1946 to authorize the appropriation of funds for the establishment of diagnostic centers, chronic care hospitals, nursing homes, and rehabilitation facilities. Expansion of medical and nurse training is also needed in the nation as a whole. Several states have developed successful programs along this line including enlargement of new medical colleges and nurse's training hospitals.

Improvement of local hospital service is a problem to be dealt with like that of improving the situation as to physicians, dentists, and nurses. It has to be undertaken as a community or area matter. Also, it has to be solved in relation to geographic conditions and to surrounding communities or counties.

Any local group desiring to consider improvement of local hospital facilities or services should first consult with the State Department of Health. This will help you make sure of plans that will be the best from the viewpoint of standards and from the viewpoint of relation to other areas and health service centers.

Allied Resources

These are important health resources, too. The need for the emergency services such as ambulances and telephones is especially great where physicians and hospitals are far away. Families can do something about getting these allied resources.

Ambulances

Adequate ambulance service is also an important health resource. It is especially important to have adequate ambulance service in rural areas where physicians and hospitals are far away, because the ambulance can get persons to them rapidly in case of emergencies. At the same time, this also takes passable roads.

According to the 1953 survey, eight of our South Dakota counties had no ambulance and another 14 had only one ambulance for the entire county. Many of these 22 counties were the ones that need ambulance service the most, because they are relatively isolated and short on physicians and hospitals. At the same time over 70 percent of our farms are on hard surfaced or graveled roads, and 30 percent are still on dirt roads.

Figure 8, and Table 3, show the number of ambulances by counties and Table 4 the percent of farms on hard or improved gravel roads, along with other facilities. How about your county in these respects?

Figure 8. Number of ambulances per county. 1953

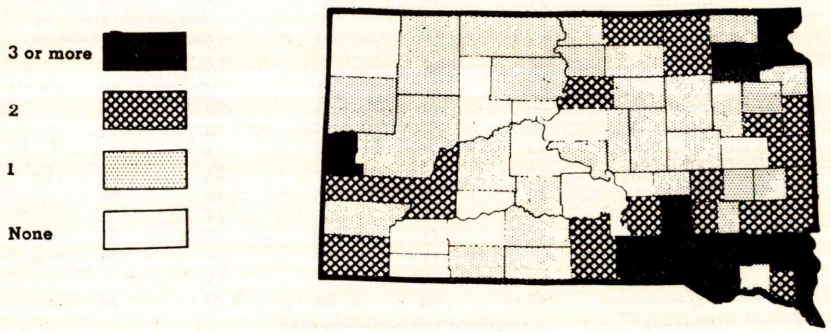


Table 4. Percent of Farms with Indicated Facilities, by Counties—South Dakota. (From 1950 Census)

County	Farms		Farm Dwelling Units With		
	With Telephones	With Electricity	On Improved Roads	Hot and Cold Running Water	Central Heating
Armstrong	Unorganized territory—omitted				
Aurora	65	76	78	17	20
Beadle	56	85	87	19	19
Bennett	23	60	11	41	8
Bon Homme	68	51	84	17	27
Brookings	68	89	96	20	30
Brown	55	68	71	41	34
Brule	57	59	35	9	15
Buffalo	38	28	49	10	5
Butte	97	82	62	16	13
Campbell	35	59	23	10	31
Charles Mix	62	64	63	11	17
Clark	49	64	74	10	23
Clay	68	93	40	28	20
Codington	39	80	75	18	26
Corson	13	36	16	11	30
Custer	45	55	45	19	16
Davison	74	81	97	14	25
Day	57	66	77	14	18
Deuel	29	72	78	12	13
Dewey	13	38	27	8	27
Douglas	81	77	84	13	15
Edmunds	37	63	41	15	28
Fall River	53	61	44	16	3
Faulk	57	70	73	26	26
Grant	44	79	86	18	23
Gregory	64	47	35	13	14
Haakon	43	62	12	12	21
Hamlin	66	71	96	14	27
Hand	66	74	57	20	33
Hanson	67	80	45	13	21
Harding	44	51	14	15	17
Hughes	32	48	69	13	11
Hutchinson	73	67	95	17	29
Hyde	34	65	52	17	26
Jackson	26	57	14	14	7
Jerauld	52	64	78	12	24
Jones	24	54	23	12	10
Kingsbury	69	80	87	19	24
Lake	80	71	62	20	31
Lawrence	61	74	72	30	17
Lincoln	71	96	98	29	35
Lyman	45	41	26	12	14
McCook	64	80	98	15	24
McPherson	44	62	48	12	49
Marshall	50	61	66	19	30
Meade	40	59	43	20	16
Mellette	13	32	33	10	13
Miner	54	69	90	15	23
Minnehaha	81	92	96	28	33
Moody	64	78	95	30	46
Pennington	47	77	37	24	19
Perkins	32	33	28	17	36
Potter	56	84	55	26	29
Roberts	57	79	76	15	15
Sanborn	47	66	84	20	14
Shannon	unorganized territory—omitted				

Table 4. Percent of Farms with Indicated Facilities, by Counties—South Dakota. (Continued)
(From 1950 Census)

County	Farms			Farm Dwelling Units With	
	With Telephone	With Electricity	On Improved Roads	Hot and Cold Running Water	Central Heating
Spink	65	67	65	39	39
Stanley	18	41	24	9	11
Sully	35	49	56	18	19
Todd	17	51	3	18	9
Tripp	57	41	18	11	5
Turner	56	74	96	21	31
Union	82	94	86	32	32
Walworth	51	76	50	18	31
Washabaugh	unorganized territory — omitted				
Yankton	45	71	90	17	27
Ziebach	2	18	6	4	7
State	**56**	**69**	**70**	**19**	**24**

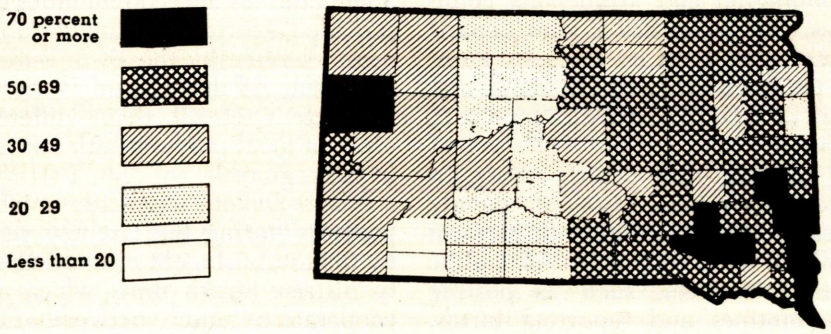
Telephones

What good is an ambulance or a physician if you have no telephone to call for their service? The telephone is an important home health facility that can add much comfort and peace of mind. It may be worth its cost in saving just one life in some emergency. According to the 1950 Census, only about 56 percent of our farms had telephones. (Figure 9 and Table 4.) Adequate service, of course, is just as important as having the phone. This is a community problem which only the people working together can solve and they are doing it in a number of places.

Electricity and Running Water

Today more families have electricity and running water and central heating than 20 or 30 years ago These important home facilities can add much to the family health as well as to their comfort. Electricity means good light, less hard work, and helps to make better quality food possible. Hot and cold running water also means less work, better sanitation, and cleanliness. More and more families with electricity are now adding automatic water systems, because they now have convenient power.

Figure 9. Percent of farms with telephone. 1953



Rural Use Increasing

South Dakota farms and ranches are improving in these facilities. According to the 1950 Census, about 69 percent of the farms and ranches had electricitiy, 19 percent of all farm dwelling units had hot and cold running water, and 24 percent had central heating (Table 4). Where does your county rate? Could it do better?

In addition to these home health facilities, it was also found in the survey that 200 South Dakota towns and nine other localities had piped water systems, 231 towns and 14 other localities had local fire-fighting equipment, and 71 towns had diagnostic X-ray equipment (other than dental and mobile chest units). These resources, too, help to protect health and peace of mind.

Room for Improvement

While increases have been made in obtaining all these facilities, there is still much room for improvement. More farms and ranches could have running water and central heating now that most of them do have the electric power. Should such facilities be promoted more, for both health and comfort? Oftentimes dollars spent on health protection result in saving more dollars later.

Public Health Services

Only two of our counties have local public health units, but many more could have. Lack of services is one of major disclosures of survey.

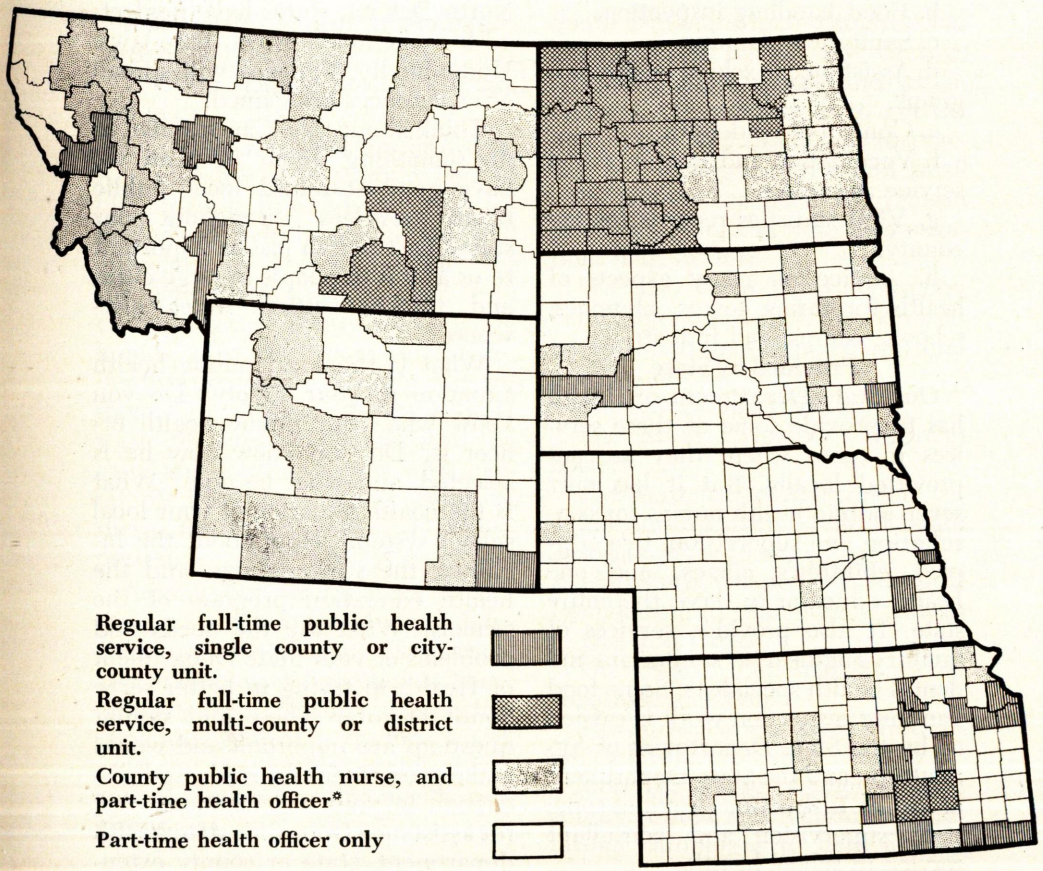
A major finding of the survey was that there is a woeful lack of standard local public health services in South Dakota as well as throughout the Northern Great Plains region. The two South Dakota counties having local health departments with full-time personnel are Pennington and Minnehaha counties. The latter has a joint department with the City of Sioux Falls.

Otherwise the most common system of local public health service in both the state and the region is that of the part-time health officer. In most cases these part-time county health officers are able to perform only a bare minimum of public health services, such as posting quarantines and reporting births, deaths, and communicable diseases.

Public Health Nurses

Besides part-time health officers, at the time of the study 14 of our 69 counties also had a public health nurse and there were 15 places in the state which had school nurses. Some families and communities are provided a certain amount of public health service by the U. S. Bureau of Indian Affairs. Figure 10 shows the extent of all these different types of local public health services in the region.

North Dakota has made notable progress during the last few years by the establishment of multi-county district health units which are cooperative units between the



*A few counties may have a sanitarian instead of or in addition to the county nurse. Other slight variations may occur in a very few counties. School system nurses are not included.

Figure 10. Main types of local public health service organizations. Region. 1953

counties and the North Dakota State Department of Health. This seems to be a good adaptation to Great Plains conditions where many counties are thinly settled and may not be able to support full-time service on a single county basis. Such a system would work in South Dakota, too.

Personnel Employed

Standard public health units or departments generally have as personnel a full-time qualified public health officer who is an M.D., one or more trained public health nurses, and one or more sanitary engineers or sanitarians. Services which public health units provide generally include such things as:

a. Health education programs including exhibits, lectures and publications.

b. Food handling inspection.

c. Sanitation planning.

d. Assistance to school health programs.

e. Control of epidemics.

f. Vaccination and immunization service as needed.

g. Vital statistics records for the county.

h. Advice on many aspects of health for farms, towns, churches, schools, camps, and industries.

Provided by State

Our State Department of Health has to provide some of these services in cases where they are not provided locally. But it has only seven public health nurses for consultation and supervision, two crippled children's nurses, and one health educator to serve the entire state. It also provides services of sanitary engineers or sanitarians and dental health specialists. Some food handling inspection work is carried on by the State Department of Agriculture, and the State Department of Public Instruction provides some state supervision and consultant service in school health.

Most of the Great Plains states, including South Dakota, have enabling laws to permit the development of multi-county or district public health units. Except for North Dakota, states have neglected to make much use of these laws. Undoubtedly, the idea will spread as experiences are gained.

Think about this. **Can we plan to do something about it? Can we have good standard local public health services throughout our state? Isn't health just as important to us as it is to people in large cities and thickly settled states elsewhere?**

What is the local public health situation in your county? Do you know who your public health officer is? Do you know how he is selected, and what he does? What is the health situation of your local school system? How about the facilities, the surroundings, and the health education program of the schools? What are the needs and problems of your State Department of Health in trying to better serve South Dakota? These and similar questions are important and would make good topics for study and discussion in your organizations. Ask for assistance from your state health department, state or county extension service, state or county medical and dental associations, state or county tuberculosis and health associations, and other agencies or persons.

Other Health Resources

South Dakota has various state hospitals, voluntary health agencies, and other organizations which help to protect and care for our people.

In addition to all the physicians, dentists, nurses, general hospitals, family health facilities, and public health services, in 1953 South Dakota had:

3 Federal Veterans' Hospitals, 1,262 beds

2 Federal Indian Hospitals, 302 beds

1 State Hospital for Mentally Ill, 1,612 beds

1 State Hospital for Mentally Retarded, 960 beds

1 State Tuberculosis Hospital, 196 beds

Our state hospitals are crowded. And with the increasing per cent of older people in our population expected in future years, we will especially need more facilities for the care of this group, such as a chronic disease center and nursing homes, as well as more physicians, dentists, and nurses to help care for them. As of June 30, 1954 there were 96 licensed homes for the aged and nursing homes with a total of 1,691 beds. Only three of these institutions were tax supported.

Among our professional health groups are the State Medical Association, State Dental Association, and State Nurses Association. These groups help recruit prospective personnel, look after training standards and occupation qualifications, and aid other worthy health programs.

Five Nursing Schools

We have five accredited schools of nursing offering three - year courses. They are: Presentation Schools with headquarters at Aberdeen; St. John's Hospital, Huron; St. John's McNamara Hospital, Rapid City; Sacred Heart Hospital, Yankton; and Methodist Hospital, Mitchell. We also have three colleges which are offering approved courses for a degree in nursing. They are: South Dakota State College, Brookings; University of South Dakota, Vermillion; and Augustana College, Sioux Falls.

Medical school pre-clinical training is provided at the University of South Dakota. Much attention has been given in the last few years to recruiting more nurses and physicians. A big problem is to get the new nurses and physicians to practice in outlying counties and small cities where the need is greatest. How can you and your organizations help in this?

We also have many voluntary health agencies which are connected with national agencies and programs, such as:

The State Cancer Society

The State Crippled Children's Society

The State Heart Association

The South Dakota Mental Health Association

The State Chapter of National Foundation for Infantile Paralysis

The Red Cross

The State Tuberculosis and Health Association.

The State Association for Retarded Children.

Most of these agencies have county units and conduct fund-raising campaigns to help finance research, education, and special care of patients in their respective fields.

Many South Dakota citizens know about these agencies and have helped their programs through contributions of money and time. But do we know as much about them as we should? Would you know how to refer a person or family to them? Could your organization carry on more education work in these health subjects along with assistance on the fund drives?

Civic, Farm Groups

We have farm organizations and civic groups which help in various ways on community health projects.

The Agricultural Extension Service, especially in its home demonstration and 4-H programs, helps provide some health education and assists in health planning among rural communities as the people recommend. Connected with these are the state Home Demonstration Federation and state 4-H association, each with 65 county units. The state Parent-Teachers Association is another important active organization which can provide good leadership to more community health planning and improvements.

We also have a state hospital construction planning committee to assist in planning new hospitals in compliance with the Hill-Burton Law. Our state Health Planning Council has not been fully active the past few years. Neither do we have a state safety council.

Health, Accident Insurance

Meeting the costs of medical care is a health problem for many families. Coverage encourages regular visits to doctor's office.

The cost of medical bills and hospital charges is a major factor determining whether a family will go for treatment when it is needed, or whether it will be able to meet family and farm expenses after health emergencies. Health and accident insurance helps to assure adequate protection, and it gives peace of mind, too. Such insurance is especially helpful nowadays when costs of medical care are high. With it many families would be able to pay for unexpected hospital bills or would go to their physician regularly and not wait until it is too late.

It was estimated in 1954 that only about 15 percent of the rural population in South Dakota was covered by the two most common group hospitalization and medical care insurance plans in this region. Probably some rural families are policyholders in commercial health and accident insurance companies, but data on this were not readily available for study.

Topic for Discussion

Should more of our families have health and accident insurance? Do you know what to look for in buying such insurance so as to get your money's worth? Do you know what you have in your present policy, if you have one? These are important questions which would make a good subject of study and discussion for your organization.

A study made by the U. S. Department of Agriculture in 1948 indicated that farmers lose 100,000,000 man days a year from sickness or injury. This is an average of about two weeks for every farmer in the United States.

A similar survey of farm injuries based on newspaper clippings was made by the Department of Agricultural Engineering of South Dakota State College from November

1952 to October 1953. It showed a total of 432 injuries had occurred on farms in this period, about 20 percent of which were fatal. Most of the injuries were caused by machinery (Table 5).

Table 5. Number and percent of injuries on farms, South Dakota, November 1952—October 1953. (From study made by Department of Agricultural Engineering, South Dakota State College.)

Cause	Fatal Injury Number	%	Permanent Injury Number	%	Serious Injury Number	%	Total Injuries Number	%
Machinery	37	43	80	90	137	53	254	59
Animals	7	8	3	3	60	23	70	16
Fires	16	19	0	0	7	3	23	5
Falls	1	1	2	2	10	4	13	3
Miscellaneous	25	29	4	5	43	17	17	17
Total	**86**	**100**	**89**	**100**	**257**	**100**	**432**	**100**

Priorities in Needs

An essential factor in health resources is the value put upon them by the people themselves. "Felt" needs are as important as financial resources in achieving community health improvement.

The Great Plains Health Study included two open-end questions which county study committees were asked to answer. One was about what they thought were their greatest needs locally in the field of health and safety, and the other one was about what difficulties or obstacles they had in trying to improve community health.

Public Health First

Better public health came in for the most attention. About half the counties (34) said they needed most of all a public health nurse, 13 counties said a public health unit or full-time health officer, 13 counties said more health and safety education, and 12 counties mentioned the need for more physicians nearby. Quite a few counties throughout the region also mentioned the need for more active county health councils or some kind of group to give leadership to facing health problems and spearheading improvements.

Table 6 shows the needs listed by 56 of our 69 counties which reported.

There is, of course, a great deal of subjective judgment involved in such questions and the county reports undoubtedly vary in the accuracy with which they represent local opinion and conditions. But many of the reports did give evidence of much deliberation and consultation by the study committees. Professional health people, school officials, and representatives of local government and other agencies, as well as community leaders, participated in these "study committees" in a surprising number of cases.

Altogether several thousand persons were directly involved in the

Table 6. Community Health Needs Reported by Counties and Number Reporting Each by States, 1953.

Item	Six-state Region	Percent of Counties Reporting	Number of Counties					
			Kans.	Nebr.	S.D.	N.D.	Mont.	Wyo.
Counties in State	385	.....	105	93	69	53	56	23
Counties Responding to questions	308	100	77	58	56	43	51	23
Items in order of frequency								
P. H. Nurses	119	38.6	30	11	34	14	18	12
More health-safety education	85	27.6	21	16	8	16	14	10
Physicians	63	20.4	16	12	12	6	11	6
P.H. Units or full-time officer	43	14.0	9	4	13	5	7	3
Active health council	42	13.6	17	8	5	6	0	6
Farm safety program	39	12.7	12	11	5	6	2	3
Hospitals, new or modernized	33	10.7	5	7	4	6	5	6
Rural sanitation program	23	7.5	6	5	3	2	4	3
Dentists	21	6.8	3	2	4	2	7	3
Driving training in H.S.	19	6.2	9	4	2	2	1	1
Immunization program	19	6.2	3	7	3	0	3	3
Milk codes and inspection	18	6.8	8	4	3	2	1	0
Domestic water testing	17	5.5	4	3	0	4	4	2
Technical aid to school health programs	17	5.5	7	1	3	0	3	3
First aid classes	16	5.2	5	4	1	3	1	2
Compulsory examination of food handlers	15	4.9	7	4	1	0	2	1
Nurses	14	4.5	5	3	2	2	0	2
Medical and Dental clinics	14	4.5	3	0	3	2	5	1
Mental health clinics	13	4.2	5	0	1	6	0	1
Hot Lunch program in schools	13	4.2	5	2	1	2	2	1
Traffic hazard abatement	13	4.2	6	5	0	1	0	1
Improved roads, telephone service	13	4.2	1	3	1	3	3	2
Sewage disposal, towns	10	3.2	2	2	3	0	3	0
Better school health facilities	9	2.9	1	0	3	1	3	1
Quarantine system	9	2.9	4	1	1	0	2	1
Piped water in towns	8	2.6	2	0	1	1	3	1
Emergency health and accident reporting	8	2.6	2	3	0	1	0	2
Safe school water supply	8	2.6	1	1	3	3	0	0

survey throughout the region, and several hundred here in South Dakota. Therefore, the ideas they report as to health needs and difficulties merit analysis and also merit follow-up efforts toward improvement.

Local Thinking Indicators

Though the items in Table 6 are not explicit in every case, they may well serve as good indicators of local thinking and conditions. In fact, the needs most frequently mentioned throughout the region were about the same as South Dakota counties reported.

It is surprising that more did not mention nurses as a need, indicating that many of the local people who reported are apparently unaware of the nurse shortage. The nurse shortage is very critical in South Dakota and throughout the region. Something should be done to make people more aware of this. Perhaps your organization can help.

Major Obstacles to Obtaining Health Improvements. Counties re-

ported that their biggest obstacles to health improvement were: (1) the high cost of more health facilities, (2) the indifference of the people, (3) rural areas are unattractive to new physicians, dentists, and nurses, and (4) the lack of effective county-wide organizations, such as health councils and health departments, to deal with health problems and give leadership to health improvement. The items most frequently mentioned are shown in Table 7.

Table 7. Difficulties Reported by Counties in Meeting Health Needs and Number Reporting each by States, 1953

Item	Six-state Region	Percent of Counties Reporting	Number of Counties					
			Kans.	Nebr.	S.D.	N.D.	Mont.	Wyo.
Number of counties	385	.....	105	93	69	53	56	23
Number of counties responding to question	266	100	65	45	50	39	46	22
Main difficulties, listed in order of frequency								
Cost of health facilities and programs in rural areas	117	44.0	23	20	24	18	23	9
Inadequate health-safety education to standards	70	26.3	22	12	7	6	14	9
No effective county-wide health organization to facilitate action	55	20.7	13	14	7	5	14	5
Public indifference regarding health improvement programs	50	18.8	15	9	10	4	7	5
Sparse population, great distance and poor roads	39	14.7	0	2	7	5	21	4
General shortage of health personnel	34	12.8	5	2	3	0	0	0
Rural areas not attractive to personnel	31	11.6	7	9	9	3	3	0
Shortage of registered nurses	27	10.2	12	2	3	4	0	0
Shortage of P.H. trained personnel (Unspecified skills)	20	7.5	5	3	3	2	5	2
Shortage of physicians	14	5.3	5	2	3	4	0	0
Local governmental factors	14	5.3	1	1	5	2	3	2
Attitude of local established professional health pople	8	3.0	5	1	0	0	1	1
Public conservatism	7	2.6	5	2	0	0	0	0
Lack of local sanitary regulations or tax enforcement	5	1.9	0	2	1	0	0	2

Looking Ahead

Discussion in the community can lead to a decision to tackle problems locally. Teamwork help from other groups is available.

The important thing about the needs and obstacles mentioned in Table 7 is that most of them can be dealt with by local people without a lot of state or federal aid. The first thing to do is start talking about health problems in your community organizations. Then decide on tackling some problem and set up the necessary chairmen or com-

mittees to get the job done. Seek out the help of your state and county health departments, state and county extension services, and other agencies. *Make it a teamwork job.*

Distance and sparsity of settlement are tremendously important factors in South Dakota. Like other businesses, the trade territory of physicians, hospitals and health departments must be large to include enough people to support them. It is in the rural areas that the health resources are most lacking or inconvenient. How can medical services be made more accessible to the outlying towns and families? Do families make use of what they already have? These are main questions.

Part-Time Service

If your area is short of health personnel or services, maybe some kind of a part-time service could be developed with a physician, dentist, hospital or public health unit in a nearby town. Another adjustment is to at least make sure of adequate ambulance service, first aid stations, and nurses who can help out in case of emergencies. Community or neighborhood first aid stations would be a good idea, also a county health emergency loan room with two or three hospital beds, wheel chairs, and other emergency equipment.

We should also make good use of the facilities we now have. Do you have a family doctor? Do you know about and use your district or county health department? How about taking a tour through your new hospital? Do all the people in your neighborhood turn out for chest X-rays, well child clinics and cancer clinics? How can your group help to get better turnouts for these important protection programs? Recruitment of more people for health vocations is also needed.

Many Factors in Job

There is a lot more to keeping in good health than just having enough physicians. Good nutrition, family health habits, farm and home conditions, and other community health resources are also essential.

Goals to Shoot At:

1. Every family know what health facilities and resources it already has nearby and make more use of them.
2. Every family have a family doctor and use him properly.
3. To obtain new facilities and programs where needed, work on special plans, including ambulances, first-aid stations and part-time physicians, and dental services in the far outlying areas.
4. At least one person per county going into a health vocation annually, especially more registered nurses and non-professional nurses.
5. To have complete local public health service in every county, either singly or in cooperation with other counties or cities.
6. Every parent know about local school health conditions and programs.
7. To eradicate brucellosis and tuberculosis among farm animals.

8. To have good water, good nutrition, and good sanitation on all farms and ranches.
9. Every family be aware of the importance of safety; remove accident hazards and follow safety practices on the farm and in the home.
10. Voluntary health organization and leadership in every county spearhead health and safety education programs, study problems, and plan improvements. Health councils are being formed in some places. Do your county and local home demonstration groups have health chairmen?

Many farms and ranches are not being run at top efficiency because of some illness or disability in the family. Health is important to family happiness, to comfort, and to one's pocketbook. Millions of dollars are spent annually by families who are trying to recover from some sickness or accident or some other health trouble that might have been prevented. The better that people take care of themselves the less their health bills will be and the longer they may expect to live. Community health programs are worth more than they cost when we look at them in this light.

Talk About These Facts in Your County and Organizations

Two things are important:

1. Adequate health resources reasonably accessible.
2. Making use of them.

Suggested Meeting PLANS

PLAN I—Single one to two hour session

1. 30-45 minutes—*Review of Health Facts*—about state, county and community, based on circular "Health Resources in South Dakota," and other information.
   (a) Talk by a group member, health official or other personnel
   (b) Panel of three or four persons.
2. 15-30 minutes—*Audience Discussion*
   (a) General forum discussion—questions and comments from floor.
   (b) Buzz discussions in small groups followed by general discussion.
3. 30-45 minutes—*Planning What To Do*
   (a) Further discussion and decision making, using guide on other side.
4. *Follow-up*
   (a) Appoint committees. Make further assignments as needed.
   (b) Carrying out plans. Cooperation among groups and agencies as needed.
   (c) Reports on progress.

PLAN II—Series of one to two hour sessions

1. First meeting—*Review of Facts Only*
   (a) Devote most of meeting to discussing of facts and conditions following No. 1 and 2 above. Assign ahead of time.
   (b) Set up a temporary committee to work out preliminary suggestions for plans of action to report at next meeting.
2. Second meeting—*Make Plans* using guide on other side.
   (a) Report of Suggestion Committee
   (b) Further discussion and decision making.
3. *Follow-up*—Same as No. 4 above.

OTHER PLANS—The above general plans may be adjusted to suit particular organizations or purposes, such as:

Home demonstration special interest outlines
Young Men's and Women's group study subject
Program planning committees
Farm organization meetings, civic organizations
Professional workers meetings

Community Planning GUIDE

A. What health improvements do we need?
Most important needs:

Other needs:

B. What shall we do? (Objectives, goals, services, projects)

C. Whom shall we call on to help us?

D. Specific jobs to be carried out. (Appoint committees or make assignments as needed.)

Steps or jobs	Who	When

EXTENSION SERVICE, SOUTH DAKOTA STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS, BROOKINGS, SOUTH DAKOTA

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