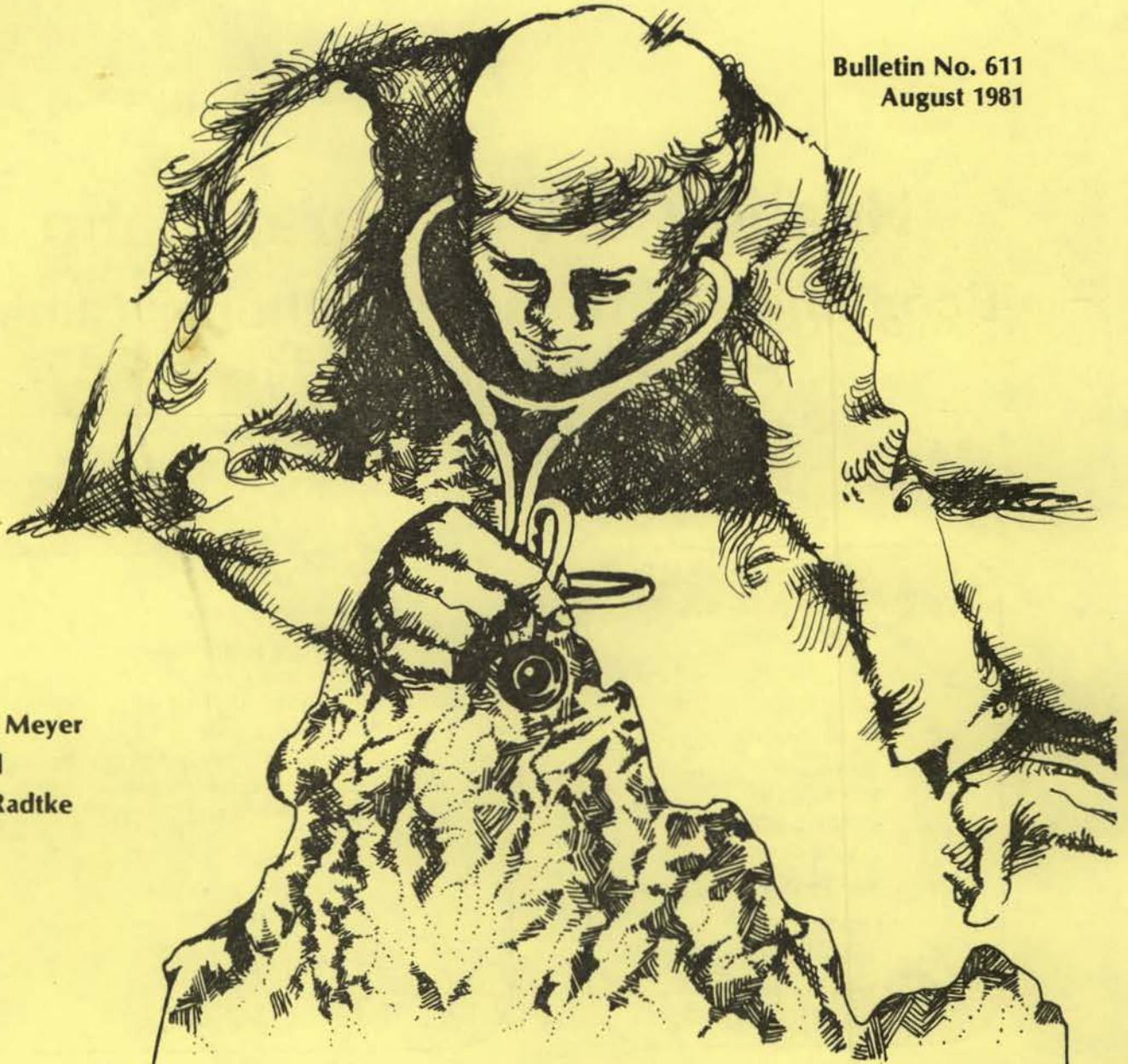


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Neil L. Meyer
and
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Health Care in Rural Idaho

Economics of Nurse Practitioner Clinics — A Planning Model —

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Health Care in Rural Idaho

Economics of Nurse Practitioner Clinics — A Planning Model —

Neil L. Meyer and Hans Radtke

Contents

- 3 Introduction
- 3 Clinic Operating Costs
- 5 Clinic Gross Revenue
- 5 Rural Resident Demand
- 5 Physicians Supportable and Available
- 9 Need for Nurse Practitioners
- 9 Needed Population Base
- 9 Conclusions
- 10 Appendix
- 11 References

The economic factor is key in attracting and retaining health care practitioners in rural areas. This study presents a method to evaluate the population bases economically necessary to support a rural physician-nurse practitioner clinic and a rural nurse practitioner clinic.

Acknowledgments

A special thanks goes to the Western Rural Development Center at Oregon State University, Corvallis, for its assistance in data collection for this project.

This study is part of a cooperative effort with the University of Nevada and Colorado State University in examining costs for rural hospitals, rural physician clinics and rural nurse practitioner clinics.

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Introduction

Scarcity of health care workers in rural areas is one of America's most pressing health care problems. Because health care facilities and personnel tend to concentrate in urban settings, large rural areas are left with limited access to a health care system. Recent studies point out that nonphysician primary care providers, such as physician assistants and nurse practitioners, can provide a large proportion of the needed primary care services (Cohen et al. 1974). This is true in rural areas and in larger towns and urban areas as well. Nonphysician primary care providers can free physicians to deal with more complicated cases and more seriously ill patients.

To support health care clinics economically in rural areas requires a larger business volume and a larger population for a combination physician-nurse practitioner clinic than for a nurse practitioner clinic alone. In smaller communities, the most viable alternative may be to subsidize a clinic or emergency medical transport system. Some areas in the rural West, based on population and economics, can support a nurse practitioner in the community but cannot support a physician.

A nurse practitioner is a registered nurse with additional training to perform designated acts of medical diagnosis and prescription. In the study, a rural nurse practitioner practice is defined as a nurse practitioner working in a clinic without the immediate supervision of a physician. A physician periodically reviews a rural nurse practitioner's charts. For the more complicated cases requiring specialized knowledge, referral to the sponsoring physician is a normal procedure. In the combination physician-nurse practitioner clinic, a physician is available for immediate consultation.

The two types of practice differ in the number and nature of patients served, the area from which patients are drawn, whether home calls are made, how emergency calls are handled, whether hospital privileges are available and how much time is spent consulting with the sponsoring physician. Some of the nurse practitioners surveyed in this study worked primarily on a voluntary basis, receiving little or no compensation. Others were fully paid professionals, functioning in an atmosphere of established clinics and community acceptance.

In Idaho and other Western states with low per capita income, sparse population and long distances between population centers, situations are not favorable to the establishment and maintenance of traditional health care practices (Appendix Table 1). Because of these conditions, physicians have shown reluctance to locate their practices in small rural communities. Some reasons are:

1. Lack of an adequate population base to support the physician's practice at a satisfactory income level.
2. Lack of adequate nearby medical facilities and consultant services.
3. Lack of cultural and educational opportunities for the physician's family.
4. The spouse's attitude toward small rural communities.
5. Being on call 7 days a week, 24 hours per day.
6. Scarcity of professional comradeship.

These reasons are valid, and a community must consider them when recruiting health care personnel. These factors also show why the gap between patients lacking health care services and the health care system itself can sometimes best be bridged by nonphysician providers.

This study gives a method rural residents can use to analyze the financial feasibility of a rural nurse practitioner clinic and a rural physician-nurse practitioner clinic. Companion reports on a rural physician practice and a small rural hospital have been published in Nevada (Radtke and Nordblom 1975 and 1976). Help in evaluating the economics of rural ambulance services is available in a USDA report (Doeksen, Frye and Green 1975). A workbook based on this and the above publications is available for evaluating the economic feasibility of health care alternatives for your community (Radtke, Meyer and Ferguson 1979).

Clinic Operating Costs

Nurse practitioner clinics in Idaho, Nevada and Oregon were visited for detailed information on clinic operation. The two general types of clinics were:

- Nurse practitioners working in a clinic setting with a doctor on hand.
- Nurse practitioners practicing in a satellite clinic where the supervising physician is at another location.

Nine clinics provided costs used to estimate sample budgets for nurse practitioner and physician-nurse practitioner clinics. Although the costs do not reflect any specific clinic or practice, they do reflect the general costs of running a clinic in a rural or sparsely populated area in 1977.

Table 1 shows the estimated yearly expenses for a clinic in which a physician is not physically present. Table 2 shows estimated expenses for a clinic supporting both a physician and a nurse practitioner. As shown, the greatest operating expense category is "employee salaries and benefits" for both

types of clinics. Nurse practitioner and physician-nurse practitioner clinics employee salaries and benefits are 62 and 73 percent respectively of the total costs. However, as the number of patient visits increases, these percentages decline.

In a typical practice, nurse practitioners perform the health care tasks of blood pressure monitoring, laboratory procedures, physical exams and medication management. In several studies, physicians' assistants and/or nurse practitioners with record review by physicians handled more than 80 percent of the patients' visits (Cohen et al. 1974). In a rural nurse practitioner clinic, the nurse practitioner contacts the physician for consultation as needed and refers the patient to the physician as the situation warrants.

In physician-nurse practitioner situations, the physician is free to do the more complicated (sophisticated) medical work for which he was trained. The clerical staff takes care of patient scheduling, records, insurance and patient billings, leaving the nurse practitioner and/or physician free from these time-consuming, nonmedical tasks.

Table 1. Estimated yearly operating expenditures for nurse practitioner clinics.*

Medical supplies and expenses (includes some lab work)	\$1.77 per patient visit
Office supplies and expenses	
Supplies	\$ 3,548 + \$0.40 per patient visit
Phone	1,551
Utilities	1,206
Subtotal	\$ 6,305 + \$2.17 per patient visit
Annual rent, depreciation and maintenance	3,976
Salaries and employee benefits	
1 full-time registered licensed nurse practitioner (\$1,540/month)	18,480
1 full-time registered nurse or licensed practical nurse (\$1,083/month)	12,996
1 full-time secretary/clerk (\$740/month)	8,880
Subtotal	40,356
Employee benefits and payroll taxes, approximately 15% of gross (\$40,356)	6,053
Physician supervision (2 days/month at \$300/day)	7,200
Insurance	
Liability (ANA plus other)	37
Building and equipment	790
Subtotal	827
Continuing education	500
Total operating expenses	\$65,217 + \$2.17 per patient visit

*Costs are based on survey data collected in August 1977. To adjust costs to present levels, use Appendix Table 4.

Professional liability (malpractice) insurance costs are insignificant for nurse practitioners because they generally are not involved with high-risk medical procedures.

Office supplies, rent, depreciation and maintenance expenses are representative of clinic practices in rural Idaho. If a new clinic must be built, the rent figure in the budgets is too low. Depreciation and maintenance in the budgets covers the medical instruments and office equipment used in the practice. These costs can be reduced through donations, volunteers and substituting facilities and equipment.

Operating expense budgets for each clinic type shown here are in terms of yearly patient visits:

Expenses for a Family Nurse Practitioner =
\$65,217 + \$2.17 per patient visit (Table 1)

Expenses for a Physician-Nurse Practitioner =
\$129,937 + \$2.17 per patient visit (Table 2)

The budget assumes the clinic will need to pay a physician \$50,000 per year to keep him in a rural Idaho town (Warner and Aherne 1974).

Table 2. Estimated yearly operating expenditures for physician-nurse practitioner clinics.*

Medical supplies and expenses (includes some lab work)	\$ 1.77 per patient visit
Office supplies and expenses**	
Supplies	\$ 5,322 + \$0.40 per patient visit
Phone	2,327
Utilities	1,809
Subtotal	\$ 9,458 + \$2.17 per patient visit
Annual rent, depreciation and maintenance**	5,964
Salaries and employee benefits	
1 full-time physician	50,000
1 full-time registered licensed nurse practitioner (\$1,540/month)	18,480
1 full-time registered nurse or licensed practical nurse (\$1,083/month)	12,996
1 full-time secretary/clerk (\$740/month)	8,880
1 half-time clerk (\$370/month)	4,440
Subtotal	94,796
Employee benefits and payroll taxes, approximately 15 percent of gross (\$94,796)	14,219
Insurance	
Liability (malpractice)	3,000
Buildings and equipment	1,000
Subtotal	4,000
Continuing education	1,500
Total operating expenses	\$129,937 + \$2.17 per patient visit

*Costs are based on survey data collected in August 1977. To adjust costs to present levels, use Appendix Table 4.

**Items 2 and 3 are 150 percent of similar figures in Table 1.

Clinic Gross Revenue

Gross revenues of \$15 and \$18 per patient visit are used to estimate the number of patient visits necessary to produce the total needed for supporting practices of the two sizes described here. These figures include office visit fees of \$12 and \$15 plus \$3 charges for medications, lab tests, etc. as shown by the calculations in Appendix Table 2. Yearly patient visits to support a clinic are indicated in Table 3.

A two-person medical clinic permits a higher level of community health care but requires a larger number of patient visits annually to support it. Also, the fee schedule directly affects the number of patient visits needed to support the clinic.

The break-even lines show the relationships between the fees charged and the patient visits required to support two types of clinics (Fig. 1). Fee-per-visit rates are depicted on the vertical axis while the number of patient visits per year are shown on the horizontal axis. Using the break-even lines, the necessary number of patient visits and fee per visit can be read for the two clinics described.

Rural Resident Demand

National estimates for 1972 (Appendix Table 3) show the number of physician visits per year by age and sex. This table is for **all physician visits**. Using 1970 census data for age-sex distribution and 1976 population estimates for Idaho counties, the total number of potential physician-nurse practitioner visits that may be generated by residents are estimated in Table 4, Column I.

Estimates of physicians supportable is based on the estimated number of visits per year and the number practicing in each county. However, some discrepancy exists between those supportable and those actually practicing. This can be accounted for by tourist populations and out-of-trade area patients. Also, physicians with limited practices, semiretired physicians and institutional physicians are included in the data.

In a Nevada study, 6,783 patient visits at \$15 each were required to support a physician clinic (Radtke and Nordblom 1975). Assuming a 90 percent collection rate and a charge of \$15 per visit, 7,537 annual patient visits were needed to support a rural

physician. Higher fees reduce the number of patient visits required to generate the break-even gross revenue.

Physicians Supportable and Available

Dividing each county's estimated yearly number of potential physician visits by 7,537 visits per year gives an estimate of the number of physicians each county's population can support (Table 4, Column II). The number of physicians supportable by each rural county was calculated using the assumption that the political boundary is closely aligned to the economic boundary.

Table 4, Column III shows the total number of licensed physicians available in each county. Fig. 2 shows which counties have a physician shortage, which have an adequate number of physicians and which have a surplus based on the required 7,537 visits per year needed to support a physician.

If only the physicians who provide a general family type of care are considered, such as general practice, family practice, obstetrics, obstetrics/gynecology, pediatrics and no speciality indicated, Table 4, Column V shows the number of physicians available in each county. People relying on cardiovascular specialists, dermatologists, endocrinolo-

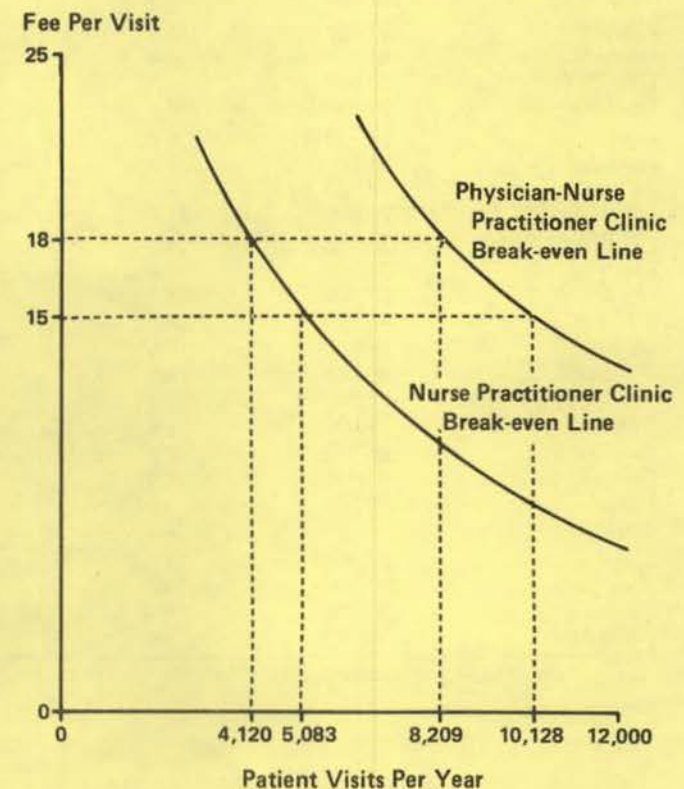


Fig. 1. Break-even lines for rural nurse practitioner and physician-nurse practitioner clinics.

Table 3. Yearly patient visits required at different fee levels to support a nurse practitioner clinic and a physician-nurse practitioner clinic.

Type of clinic	Patient visits	
	\$15 fee	\$18 fee
Nurse Practitioner	5,083	4,120
Physician-Nurse Practitioner	10,128	8,209

gists and numerous other medical specialties go to the larger cities for medical care.

The larger Idaho cities are Coeur d'Alene, Moscow/Lewiston, Nampa/Caldwell, Boise, Twin Falls, Pocatello and Idaho Falls. The circles in Fig. 2 show the areas within 25 and 50 miles of the

specialist concentration centers. These same areas contain more than 80 percent of Idaho's population. Remember, speciality practices often have higher fee schedules and costs; therefore, they require a different number of patient visits to generate the necessary revenue.

Table 4. Estimated demand and supply of health care provider services in Idaho counties.

County	I Potential annual number of health care visits ¹	II Number of full-time physicians supportable ²	III Number of physicians available ³	IV Physician surplus or (shortage) ⁴	V Selected specialties of physicians available ⁵	VI Physician surplus or (shortage) ⁶
State of Idaho	4,145,000	550.9	911	360.1	427	(123.9)
Ada	698,500	92.6	236	143.4	88	(4.6)
Adams	16,000	2.1	2	(0.1)	1	(1.1)
Bannock	290,000	38.4	89	50.6	38	(0.4)
Bear Lake	33,500	4.4	5	0.6	5	0.6
Benewah	37,000	4.9	4	(0.9)	4	(0.9)
Bingham	166,000	22.0	12	(10.0)	9	(13.0)
Blaine	39,500	5.2	21	15.8	7	1.8
Boise	11,500	1.5	0	(1.5)	0	(1.5)
Bonner	97,000	12.9	18	5.1	12	(0.9)
Bonneville	295,000	39.1	89	49.9	29	(10.1)
Boundary	33,000	4.4	5	0.6	5	0.6
Butte	15,500	2.1	1	(1.1)	1	(1.1)
Camas	4,500	.6	0	(0.6)	0	(0.6)
Canyon	367,000	48.7	90	41.3	39	(9.7)
Caribou	40,000	5.3	4	(1.3)	4	(1.3)
Cassia	94,500	12.5	14	1.5	9	(3.5)
Clark	4,500	.6	0	(0.6)	0	(0.6)
Clearwater	48,500	6.4	5	(1.4)	4	(2.4)
Custer	16,500	2.2	1	(1.2)	1	(1.2)
Elmore	97,500	12.9	5	(7.9)	5	(7.9)
Franklin	41,000	5.4	3	(2.4)	2	(3.4)
Fremont	51,000	6.8	7	0.2	5	(1.8)
Gem	53,500	7.1	6	(1.1)	5	(2.1)
Gooding	54,500	7.2	4	(3.2)	2	(5.2)
Idaho	64,500	8.6	6	(2.6)	6	(2.6)
Jefferson	59,000	9.2	3	(6.2)	3	(6.2)
Jerome	68,500	9.1	5	(4.1)	3	(6.1)
Kootenai	234,500	31.1	53	21.9	27	(4.1)
Latah	135,500	18.0	22	4.0	14	(4.0)
Lemhi	32,000	4.2	4	(0.2)	4	(0.2)
Lewis	23,000	3.1	2	(1.1)	2	(1.1)
Lincoln	16,500	2.2	1	(1.2)	1	(1.2)
Madison	90,000	11.9	9	(2.9)	9	(2.9)
Minidoka	92,000	12.2	8	(4.2)	6	(6.2)
Nez Perce	153,500	20.4	58	37.6	19	(1.4)
Oneida	16,500	2.2	2	(0.2)	2	(0.2)
Owyhee	39,500	5.2	0	(5.2)	0	(5.2)
Payette	75,000	10.0	3	(7.0)	3	(7.0)
Power	29,000	3.8	2	(1.8)	2	(1.8)
Shoshone	94,500	12.5	12	(0.5)	9	(3.5)
Teton	14,000	1.9	1	(0.9)	1	(0.9)
Twin Falls	237,500	31.5	87	55.5	32	0.5
Valley	22,000	2.9	6	3.1	5	2.1
Washington	42,500	5.6	6	0.4	4	(1.6)

¹County population (Appendix Table 1, Column III) times five visits per person per year (Appendix Table 2).

²Potential visits divided by 7,537 patient visits needed to support a full-time physician (Radtke and Nordblom 1975).

³Idaho Medical Association, *Directory of Idaho Physicians* as of July 1977.

⁴Column III minus Column II equals Column IV.

⁵Idaho Medical Association; specialist classifications included are General Practitioners, Family Practitioners, Obstetrics, Obstetrics/gynecology, Pediatrics and no speciality listed, *Directory of Idaho Physicians* as of July 1977.

⁶Column V minus Column II equals Column VI.

Reasons for the discrepancy between the estimated number of physicians supportable and the actual number of physicians pointed out by Table 4, Columns IV and VI could be:

-physicians are serving an area larger than their residing county.

- physicians willing to accept less than the estimated income needed to hold them in a rural county.

- Revenue margins higher than estimated, thus permitting a break-even income from fewer patient visits.

Table 5. Estimated demand and supply of nurse practitioner health care services in Idaho counties.

County	I Potential annual number nurse practitioner visits ¹	II Present capacity health care physician service ²	III Patient visits available for nurse practitioners to handle ³	IV Number full- time nurse practitioners supportable ⁴	V Actual number of nurse practitioners ⁵
State of Idaho	3,323,600	6,868,607	—	58.1	42
Ada	558,400	1,778,732	—	—	10
Adams	12,800	15,074	—	—	—
Bannock	232,000	670,793	—	—	9
Bear Lake	26,800	37,685	—	—	—
Benewah	29,600	30,148	—	—	—
Bingham	132,800	90,444	42,356	8.3	—
Blaine	31,600	158,277	—	—	—
Boise	9,200	—	9,200	1.8	—
Bonner	77,600	138,666	—	—	1
Bonneville	236,000	670,793	—	—	2
Boundary	26,400	37,685	—	—	—
Butte	12,400	7,537	4,863	1.0	—
Camas	3,600	—	3,600	0.7	—
Canyon	293,600	678,330	—	—	—
Caribou	32,000	30,148	1,852	0.4	—
Cassia	75,600	105,518	—	—	1
Clark	3,600	—	3,600	0.7	—
Clearwater	38,800	37,685	1,115	0.2	1
Custer	13,200	7,537	5,663	1.1	1
Elmore	78,000	37,685	40,315	7.9	—
Franklin	32,800	22,611	10,189	2.0	—
Fremont	40,800	52,759	—	—	—
Gem	42,800	45,222	—	—	—
Gooding	43,600	30,148	13,452	2.6	—
Idaho	51,600	45,222	6,378	1.3	—
Jefferson	55,200	22,611	32,589	6.4	—
Jerome	54,800	37,685	17,115	3.4	—
Kootenai	187,600	399,461	—	—	—
Latah	108,400	165,814	—	—	—
Lemhi	25,600	30,148	—	—	1
Lewis	18,400	15,074	3,326	0.7	—
Lincoln	13,200	7,537	5,663	1.1	—
Madison	72,000	67,833	4,167	—	1
Minidoka	73,600	60,296	13,304	2.6	—
Nez Perce	122,800	437,146	—	—	2
Oneida	13,200	15,074	—	—	—
Owyhee	31,600	—	31,600	6.2	—
Payette	60,000	22,611	37,389	7.4	—
Power	23,200	15,074	8,126	1.6	1
Shoshone	75,600	90,444	—	—	1
Teton	11,200	7,537	3,663	0.7	1
Twin Falls	190,000	655,119	—	—	1
Valley	17,600	45,222	—	—	1
Washington	34,000	45,222	—	—	—

¹The 20 percent patient visits which a nurse practitioner cannot handle are already included in visits handled by physicians. Exceptions are Boise, Camas, Lincoln and Owyhee counties where no physicians are presently practicing.

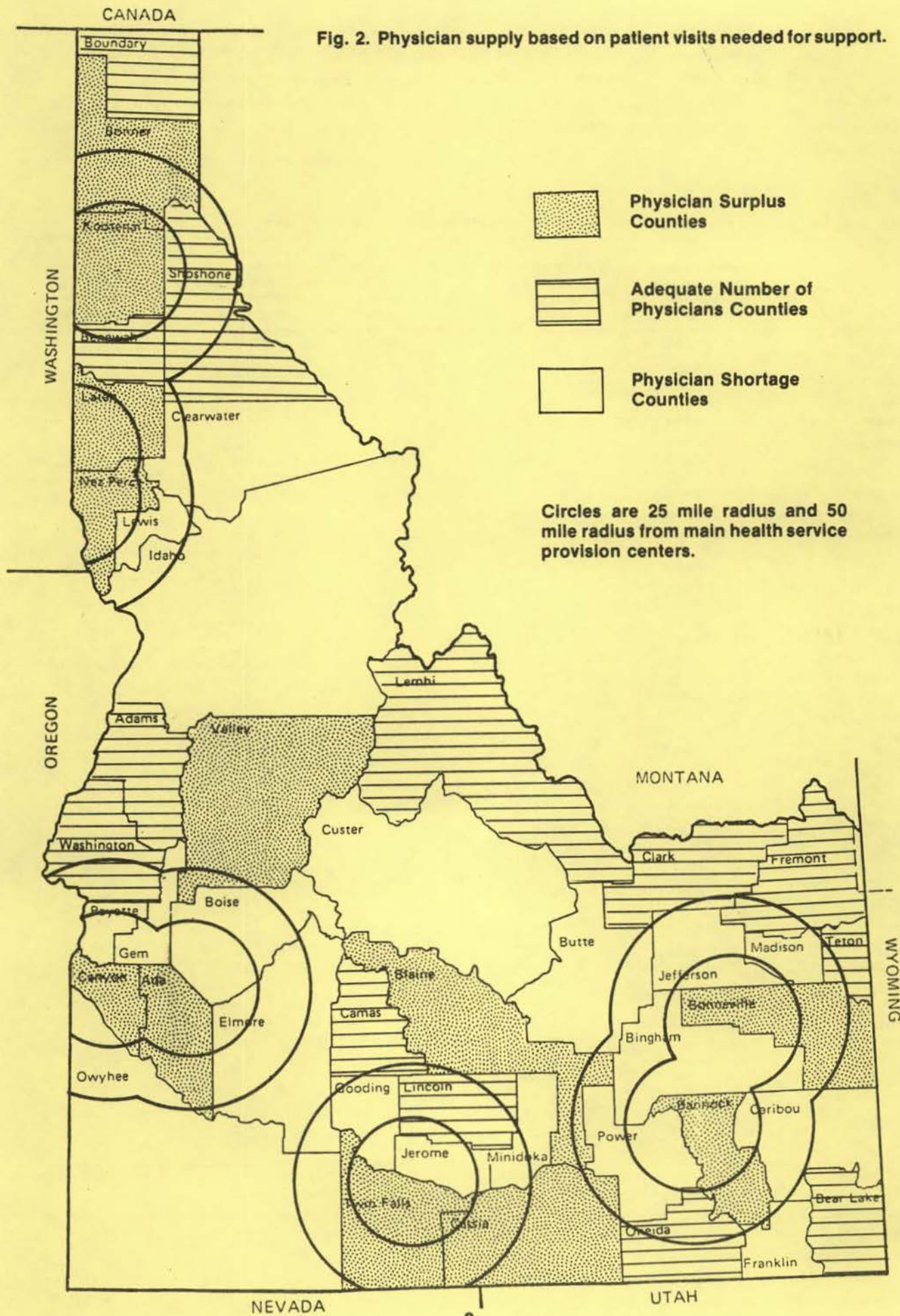
²Actual number of physicians times 7,537 patient visits per year shows total capacity. This number will overestimate capacity in areas with a large number of specialist physicians.

³Column I minus Column II equals Column III with blank implying overcapacity.

⁴Available visits divided by 5,083 patient visits per year.

⁵Initial Health Systems Plan, Idaho Health Systems Agency, Boise, Idaho, 1977, page VII-60.

Fig. 2. Physician supply based on patient visits needed for support.



Need for Nurse Practitioners

As shown, Idaho does not have a physician shortage overall. However, certain counties do not have adequate population to support a physician or multiphysician clinic, and as physician health care trends toward multiperson practices, more difficulties can be expected in making health care available in rural areas.

An economically feasible alternative for remote or sparsely populated areas is nurse practitioners or other types of physician extenders practicing with a physician or under a distant physician's supervision. Whereas 10,128 patient visits are needed for a physician-nurse practitioner clinic and 15,074 patient visits are needed for a two-physician clinic, a single nurse practitioner can be supported with 5,083 patient visits at a fee of \$15. Again, the number of required patient visits decreases as the fee per visit increases.

Assuming 80 percent of needed health care can be provided by nurse practitioners at a fee of \$15 per visit, Table 5, Column III shows 15 Idaho counties can potentially support nurse practitioners. Overall, Idaho can support 58 nurse practitioners and all present physicians.

Comparing the actual number of nurse practitioners (Table 5, Column V) with the number potentially supportable, both the nurse practitioners and physicians have set up practices in the more populated counties. Exceptions to this are Custer, Lemhi, Teton and Valley counties. In addition, the nurse practitioners in Clearwater and Cassia are located in remote corners of the counties.

Needed Population Base

The required number of patient visits was converted to the necessary population for supporting two types of clinics — physician-nurse practitioner and nurse practitioner. To estimate the necessary population base, the following assumptions were made:

- five is the average number of patient visits per person per year (Appendix Table 3).

Table 6. Populations required to support two types of rural health clinics at two fee levels.

Type of clinic	Population	
	\$15 fee	\$18 fee
Nurse Practitioner	1,525	1,236
Physician-Nurse Practitioner	2,633	2,134

Assumptions: — 20 percent of patient visits are done out of town.
— Five patient visits per person per year.
— 10 percent of patient visits are not collectable.
— An additional 20 percent of patient visits to the rural nurse practitioner clinic are referred to a physician.

- 20 percent of the population will go outside the county to purchase health care.¹

- 10 percent of the patient visit fees are not collectable.

For nurse practitioners, an additional 20 percent of patient visits will be referred to a physician. The populations necessary to support a nurse practitioner clinic and a physician-nurse practitioner clinic are shown in Table 6.

Conclusions

Based on economics, nurse practitioners are an alternative for solving one of the most difficult health care problems facing rural Idaho residents. Nurse practitioners can provide certain levels of health care in areas with insufficient population to support a physician's practice.

Remember, an adequate number of patient visits are necessary to economically support physician or nurse practitioner clinics. If an adequate population base exists for the type of service selected, rural Idaho communities are more likely to retain the new medical care personnel they seek.

¹Studies of citizen purchasing patterns showed that 19.4 percent purchased physician services outside their county even though services were available in the county (Meyer and Green).

Appendix

Appendix Table 1. Idaho income, area and population characteristics, 1974 and 1976.

County	I	II	III	IV
	Per capita income (1974)	Area (sq. mi.)	Est. pop. (1976)	People/sq. mi. (1976)
State of Idaho	\$4,800	82,675	831,000	10.1
Ada	5,457	1,043	139,700	133.9
Adams	4,389	1,371	3,200	2.3
Bannock	4,707	1,122	58,000	51.6
Bear Lake	4,212	984	6,700	6.8
Benewah	4,504	788	7,400	9.4
Bingham	4,908	2,084	32,200	15.9
Blaine	5,333	2,647	7,900	3.0
Boise	3,385	1,910	2,300	1.2
Bonner	3,501	1,733	19,400	11.2
Bonneville	5,214	1,836	59,000	32.1
Boundary	4,607	1,275	6,600	5.2
Butte	4,395	2,239	3,100	1.4
Camas	6,861	1,054	900	.9
Canyon	4,964	578	73,400	126.9
Caribou	6,619	1,746	8,000	4.6
Cassia	5,569	2,544	18,900	7.4
Clark	4,207	1,751	900	.5
Clearwater	4,171	2,521	9,700	3.8
Custer	3,551	4,929	3,300	.7
Elmore	4,278	3,048	19,500	6.4
Franklin	3,703	664	8,200	12.3
Fremont	4,752	1,864	10,200	5.4
Gem	3,741	555	10,700	19.3
Gooding	3,979	720	10,900	15.1
Idaho	4,544	8,516	12,900	1.5
Jefferson	3,674	1,096	13,800	12.6
Jerome	5,523	595	13,700	23.0
Kootenai	4,245	1,249	46,900	37.6
Latah	4,958	1,090	27,100	24.9
Lemhi	3,428	4,580	6,400	1.3
Lewis	6,970	476	4,600	9.7
Lincoln	4,568	1,203	3,300	2.7
Madison	4,031	472	18,000	38.1
Minidoka	4,578	750	18,400	24.5
Nez Perce	5,582	844	30,700	36.4
Oneida	5,600	1,191	3,300	2.8
Owyhee	3,746	7,641	7,900	1.0
Payette	4,060	402	15,000	37.3
Power	10,508	1,413	5,800	4.1
Shoshone	4,930	2,609	18,900	7.2
Teton	4,880	457	2,800	6.1
Twin Falls	5,698	1,947	47,300	24.3
Valley	4,575	3,676	4,400	1.2
Washington	4,104	1,462	8,500	5.8

Sources: County Profiles of Idaho, Bureau of State Planning and Community Affairs, 1976.
 U.S. Bureau of the Census, City-County Data Book, 1977
 U.S. Government Printing Office, Washington, DC 20402

Appendix Table 3. Average number of physician visits per person per year by age and sex in the U.S., 1972.

	All ages	Under 17 years	17-24 years	25-44 years	45-64 years	64-74 years	75 years and older
	Both sexes	5.0	4.1	4.9	5.0	5.5	6.6
Male	4.3	4.2	3.4	3.7	4.9	5.8	7.3
Female	5.6	4.0	6.2	6.2	6.1	7.2	7.4

Source: National Center for Health Statistics: Current Estimates from the Health Interview Survey, United States, 1972. Vital and Health Statistics, Series 10, No. 85, Sept. 1973, p. 26.

Appendix Table 2. Calculation of required patient visits under \$15 and \$18 fee per visit for a nurse practitioner and a physician-nurse practitioner clinic.

Calling the number of patient visits (X), the expected gross revenues for clinics are expressed as \$15X and \$18X. Using the gross revenue requirement figures, the needed number of annual patient visits, using different office fee schedules, are estimated.

For a nurse practitioner clinic

- $\$15X = \$65,217 + \$2.17X$
 $(15 - 2.17)X = \$65,217$
 $12.83X = \$65,217$
 $X = 5,083$ patient visits
- $\$18X = \$65,217 + \$2.17X$
 $(15 - 2.17)X = \$65,217$
 $15.83X = \$65,217$
 $X = 4,120$ patient visits

For a physician-nurse practitioner clinic

- $\$15X = \$129,937 + \$2.17X$
 $(15 - 2.17)X = \$129,937$
 $12.83X = \$129,937$
 $X = 10,128$ patient visits
- $\$18X = \$129,937 + \$2.17X$
 $(18 - 2.17)X = \$129,937$
 $15.83X = \$129,937$
 $X = 8,209$ patient visits

Appendix Table 4.

Medical care index, 1977-1980 (1967 = 100)				Medical care annual percent change, 1977-1980		
1977	1978	1979	1980	1977-78	1978-79	1979-80
202	219	240	266	8.4	9.6	10.8

Adjusting costs to present levels

In the present economics climate, prices change almost daily. In estimating costs for a clinic or practice, costs and revenues should be adjusted to present levels. This table shows the Medical Care Consumer Price Index and the annual percentage change in the index for the past 4 years. This information can be used to adjust estimates to present levels for comparison with your estimates for clinic costs. For example, using the 1977 index of 202 as a base, the percent change in costs from 1977 to 1980 can be calculated. The index for 1980 is 266.

a. 1980 index 266
 1977 index 202
 Difference 64 index points


b. Difference 64 = 31.7% change
 Base index # 202

c. Medical costs have increased 32 percent from the 1977 to 1980 period. Estimates for which you do not have actual current data should be adjusted upward by 32 percent to be consistent with present day costs.

Source: Bureau of Labor Statistics, C.P.I. Detailed Report, U.S. Dept. of Labor, Washington, D.C., April 1979, Table 1-A, p. 105 and January 1981, Table 1-A, p. 79.

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