

Economic Analysis
Health Care Alternatives

FREMONT COUNTY, IDAHO

by

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A. E. Extension Series #355

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Based on the population information made available, the following is an estimate of the potential physicians, nurse practitioners and hospital beds that Fremont County Idaho could support on a fee for service basis. Population is based on 1975 estimates. Recognizing a present 46 bed short stay hospital capacity one possible use for excess capacity would be as long term care beds.

I. Potential Community Clinic Care Revenues.

1. Average number of physicians visits, population characteristics and potential physician visits in Fremont County.

Age	Average Number of Physician Visits Per Male in Age Group		Male Population of Area in Age Group		Total Estimated Male Physician Visits in Area
Under 17	4.2	x	(1731)	=	7270
17-24	3.4	x	(506)	=	1720
25-44	3.7	x	(884)	=	3271
45-64	4.9	x	(874)	=	4283
65+	6.6	x	(368)	=	<u>2429</u>

Total Male Physician Visits in Area 18,973

Age	Average Number of Physician Visits Per Male in Age Group		Female Population of Area in Age Group	=	Total Estimated Female Physician Visits in Area
Under 17	4.0	x	(1626)	=	6504
17-24	2.6	x	(472)	=	2926
25-44	6.2	x	(903)	=	5599
45-64	6.1	x	(838)	=	5112
65+	7.3	x	(371)	=	<u>2708</u>
Total Physician Visits in Area					22,849
Total Potential Resident Physician Visits in Fremont County					41,822

II. Tourist Physician and Hospital Visits.

1. Outflow of physician visits.

(a) It is estimated about 75% of needed care can be provided by a general practitioner.

(b) If residents of a community historically go to another area for many of their services, such as Rexburg or Idaho Falls, an estimate must be made of the physician visit out flow. The estimate for visit outflow used here is 25%.

2. An estimate of 115 annual visits per year from tourist and visitors is used.

$41,822$ (total potential physician visits in area) \times $.75$ (primary care utilization) = $31,366$ (total estimated resident physician visits) + 115 (tourist physician visits available in the County) = $31,491$.

III. Rural Physician Clinics

1. Total expected revenue.

Each patient visit can generate about \$18. This accounts for actual visit costs plus other billings. By taking the total estimated patient

visits times this figure, an estimate of expected revenue can be generated.

Total Patient Visits	31,481	x	\$18	=	\$566,658
	31,481	x	\$15	=	\$472,215

Total estimated revenue available to physician clinics/nurse practitioners in the area.

2. Total estimated cost of a rural physician clinic.

One physician clinics are not considered practical by health planners. The pressure to be on call 24 hours a day without professional back up creates intolerable situations for many one man rural practices. The revenues needed to support a two physician practice are estimated at about \$228,172 annually (Ashton clinic is lower because of federal subsidy). This includes cost of equipment, rent, medical supplies and salaries for the physicians and employees. Revenues needed to support one more physician is usually a multiple of the above needed revenues. In other words, there seems to be no saving in two, three or more physician clinics but physicians prefer them.

3. Feasibility of rural physicians in the area.

Total estimated revenues divided by the cost of a two man clinic

\$18 and national data

$\frac{\$566,658}{228,172} = 2.48 \text{ clinics} \times 2 \text{ physicians} = 4.96 \text{ physicians}$

\$15 and Ashton data

$\frac{\$472,215}{148,000} = 3.19 \text{ clinics} \times 2 \text{ physicians} = 6.38 \text{ physicians}$

Given the population of Fremont county, and tourists accidents, the area could probably support 4.96 to 6.38 physicians. This health care could be provided with physicians or a combination of physician and physician extenders.

Studies completed by the University of Idaho Ag Econ Department indicate the same population is required to support two physician extenders as one physician. Physician extenders can provide 80% of the services physicians traditionally provide.

4. Other than patient visit generated revenues.

To attract or keep physicians in rural areas, and to provide health care, many counties allocate tax monies to subsidize the maintenance of rural clinics.

IV. Small Rural Hospitals

Sparsely settled areas present a problem in the management of adequately sized hospitals. A hospital has to be large enough to meet federal and state standards, to pay for expensive equipment, and to employ a minimum number of employees; yet it can not be too large since low occupancy rates create costs that are above acceptable level.

Many hospitals in rural areas are being subsidized with county tax monies in order to pay the difference between revenues generated by patient use and costs occurred to maintain a hospital at an acceptable level. General statistics and costs to estimate the hospital revenues available to a community can provide a general fiscal background for a small rural hospital. Such general statistics can give a broad view of the community's ability to support a certain size hospital. Only the residents themselves know the community well enough to include other details that should be considered in making a true fiscal analysis of a community hospital(s).

A. Hospitalization days, area population and total estimated days of short stay hospitalization per year per person:

Age	Average Days of Short Stay Hospitalization Per Year Per Male in Rural Areas	Male Population of Area in Age Group	Estimated Short Stay Hospital Days in Area
Under 17	.42	1731	727
17-24	.93	506	471
25-44	.54	884	477
45-64	1.83	874	1599
65+	2.76	368	1016
Total Male Short Stay Hospital Days			4290

Age	Average Days of Short Stay Hospitalization Per Year Per Female in Rural Areas	Female Population of Area in Age Group	Estimated Short Stay Hospital Days in Area
Under 17	.33	1626	537
17-24	.83	472	392
25-44	1.32	903	1192
45-64	1.26	838	1056
65+	2.76	371	1024
Total Female Short Stay Hospital Days			4201

Total Potential Short Stay Hospital Days in Area 8491

B. Outflow and Tourist Considerations

1. Outflow of hospital visits.

If residents of a community historically go to another trading area for many of their services, an estimate of outside utilization has to be made. For this study 60% will be assumed hospital short stay days provided in the county (40% of short stay hospitalization will be purchased outside the county).

2. Tourist short stay days.

Hospital days generated by visitors and tourists can be an important source of revenue. It can also be exaggerated. In this case 115 is assumed base on data gathered in Fremont County.

Total short stay hospital days available to the county are 8491 and assuming 60 percent do not use outside hospital care implies 5095 potential short stay days + 115 tourist hospital days implies a total of 5210 total potential short stay hospital days.

60% use local service

100% use local service

$$\frac{5210}{292} = 18 \text{ beds supportable}$$

$$\frac{8606}{292} = 30 \text{ beds supportable}$$

365 days per year x .80 percent occupancy = 292 stays/bed.

C. Hospital Revenues.

1. Each hospital day in a rural hospital can generate \$133 (\$155) revenue.

Total hospital short stay days	<u>60% local Use</u>		<u>Daily Revenue</u>	=	<u>Annual Income</u>
	5210	x	155	=	\$807,550
	5210	x	133	=	\$692,930
	8606	x	155	=	\$1,333,930
	8606	x	133	=	\$1,144,988

V. Conclusion for Hospitals

Short stays for Fremont County with 60% of hospitals stays purchased locally would generate 5210 short stay days. Meeting federal occupancy requirements of 80% would require 18 beds (these rules may be relaxed because of comments submitted nation wide by rural people).

5210 short stay days x \$155 per day = \$807,550 annual income available. This assumes 18 beds are used 80% of the time.

The annual cost of a small hospital was estimated at \$490,025 for 15 beds in Nevada. This is an annual cost of \$32,688 per bed. Using these values

Fremont County implies

$$18 \text{ beds} \times \$32,688/\text{bed} = \$588,384 \text{ needed revenue}$$

What is the annual cost per bed in Fremont County? If it is similar, present charges (\$155/day) could support a 25 bed hospital.

County hospital bed capacity is presently at 46 beds. If 28 beds could be used for long term care (nursing home), and they were occupied 80% of the time, 8176 (28 x 292) additional client days could be generated.

A Nevada study estimated long term care would generate \$34 per day

$$8176 \text{ patient days} \times \$34/\text{day} = \$277,984.$$

A balance sheet would look like this:

Income:

Hospital short stays		rate/day	total
5210 patient days	18 beds	\$155	807,550
Hospital long term stays			
8,176 patient days	<u>28 beds</u>	\$34	<u>277,984</u>
	46 beds		\$1,085,534

Costs:

18 beds x \$32,688/bed/year	588,384
28 beds x \$11,315/bed/year*	<u>316,820</u>
	\$ 905,204

Net gain/year \$ 180,330

*Cost, \$31.day/bed for 365 days implies 11,315 based on discussion with Idaho Nursing Home Association.

Some rural communities decide that a certain level of hospital care is needed and use the general tax fund to pay for the difference between the total revenue generated and the costs of this service. Typically a rural hospital may have fairly low occupancy rates and may have a high proportion of uncollectable charges to patients because of poverty or because out of state accident victims receiving emergency hospital treatment then departing without leaving a forwarding address or paying.

Since a hospital may be judged necessary by elected officials, a local subsidy may be the only method by which a certain minimum level of health care can be provided in the county.

VI. Alternatives Available to Fremont County

1. Do nothing--without local physicians and hospitals, revenues for both would be attracted to surrounding communities, also other purchases which people make while in town.

2. Community awareness--if the residents can be persuaded to understand that they will be paying for the upkeep of the hospital through user fees or through a general tax subsidy, they may be convinced to make use of the hospitals facility at a higher rate than present. This assumes an adequate force of physicians in the county.

3. County health care service center--one alternative may be for the communities to join together in the provision of health care services. Such efforts may involve back up services of physicians; it may mean the ultimate closing of a hospital with the intent to improve one county health care center rather than two small units the residents do not use.

4. Utilize existing facilities part for short term care, and part for long term care, if one administrator could handle both units, service costs could be further reduced but it seems economically feasible under the assumption used in this analysis.