THE ECONOMIC IMPACT OF MINNESOTA STATE HOSPITALS

I. **INTRODUCTION**

In 1984, the Minnesota Legislature directed the State Planning Agency to prepare a study and plan regarding the state hospital system (Laws of Minnesota 1984, Chapter 654, Section 19, Subdivision 4:9). One part of this study was to prepare "an economic impact statement and alternative economic development strategies for each state hospital region likely to be affected by program reductions in the regional state facility."

The purpose of this report is to present and compare the impact that each state hospital has on the local economy.

II. **METHODOLOGY**

For the purposes of this report, economic impact means local economic impact. We will not address such issues as the impact of a closure on state revenue or expenditures. In addition, discussion of the impact of state hospital purchases and salaries will be limited to the area of intense impact around the hospital community and not with the impact on the economy of the state as a whole.

An assessment of the economic impact of a state hospital closure must consider two factors: the absolute impact on a community of a closure and the comparative impact of the closure of a hospital in Community A versus the closing of hospitals in Communities B, C, or D. While many of the techniques used in determining both types of impact are the same, other methods take on different degrees of importance.

Multiplier analysis, for example, is crucial in the determination of absolute impact. Jobs lost or money not spent have a ripple effect resulting in the loss of non-hospital jobs and money. With relative impact analysis, multipliers are much less important. As will be seen later, multipliers vary little from location to location, thereby having an effect that is reasonably constant from hospital to hospital and not changing the relative standing of each institution. By contrast, the determination of the geographic area of impact is

extremely important for relative analysis but less important for absolute. Relative impact deals not only with the comparison of dollars lost to the economy but with the share of the local economy accounted for by the hospital. What portion of area jobs and sales results from the presence of the hospital? Without this analysis, we would simply conclude that the largest hospital has the greatest impact, regardless of the size or economic base of the community.

A. An Economic Impact Model

An ideal model of economic impact would be one in which every component could be accurately quantified and all effects added up to a summary figure. This, of course, cannot be done. However, an attempt to lay out the parameters of such a model can be an aid in understanding the total range of factors affecting the economy of the hospital community. Such a model would include the following factors:

Economic Impact =

Direct effect of hospital employment +

Secondary effect of hospital employment +

Effect of hospital purchases +

Effect of spending by hospital residents/patients and visitors +

Effect of unemployment benefits, early retirement benefits, and severance pay +

Economic impact of hospital workers and families leaving the area +

Salary gains or losses resulting from alternative employment of hospital workers +

Impact of reuse of the hospital facility +

Change in local government expenditures for provision of care to previously hospitalized local residents/patients +

Cost to local government of providing social services to unemployed hospital workers +

Effect on local government tax revenues +

Effect on local finances of no longer providing municipal services to hospital facilities.

Each item in this model will be discussed separately beginning with section III of this report.

This impact model includes not only the adverse direct effects of a hospital closure but includes mitigating effects as well such as unemployment insurance and alternative uses of facilities. Other economic impact studies have dealt only with "worst case" scenarios - the assumption that all employees of a closed facility and their families will immediately move out of the region. This will obviously not be the case and an economic impact summary should make this explicit. The first four items listed in this model constitute such a "worst case" scenario; the remaining items exist to document likely alternatives to the worst case.

B. Qualitative Factors vs. Quantitative Factors

Not all of the factors involved in the determination of economic impact are readily quantifiable. Some, such as the economic impact of state hospital purchases, are relatively easy to assign a dollar figure. Other equally important aspects, such as the prospects for reemployment of hospital staff, are difficult or impossible to summarize with a number. This does not mean that the more qualitative elements of the analysis are less important that those that can be summarized with a "bottom line" figure. Economic impact is much too complex an issue to summarize with one figure or even a group of figures.

This report will not attempt to combine all of the factors listed above into one "bottom line" figure summarizing all facets of economic impact. Instead, each factor affecting the local economy will be discussed separately. Some factors will be precisely quantified while others will be difficult to assess on even a qualitative basis.

III. <u>DEFINITION OF ECONOMIC IMPACT ZONES</u>

The extent of economic impact begins with a definition of the geographic area under discussion. To facilitate comparison of economic impacts, the definition must be consistent for each hospital, specific enough to produce meaningful results, and yet must reflect availability of data.

The definition must also reflect several facts. First, economic impact is a function of where employees live and spend their money, not only where they work. This is a most significant concept because employee commuting patterns vary considerably from state hospital to state hospital. In some cases the vast majority of employees live only a short distance from the hospital, thus concentrating the economic impact. In

others, long commuting distances are not uncommon, and the work-
force is spread over a wide area, thus reducing the impact of a
closure on any one community.

Second, because of this dispersion, it is desirable to look at the
impact of a hospital closure both on the immediate community and
on the surrounding region. It is quite possible for a closure to
have a severe local impact but a much less intense regional impact
or vice-versa.

Finally, political subdivisions often present inappropriate bound-
aries for economic impact analysis. For example, counties have
frequently been used as units for economic analysis because of the
availability of county-level data, but in this case three of the
eight state hospitals (Anoka, Moose Lake, and St. Peter) lie
within five miles of a county line. Clearly the impact of a clo-
sure of one of these institutions would be greater in parts of the
bordering county than in the remainder of the hospital county.
However, virtually all necessary data are collected on the basis
of political subdivision. Any definition of an impact area must
therefore represent a compromise between need and availability.

The definition of economic impact areas, therefore, will be large-
ly based on the geographic disaggregation of available data. Zip
codes will be used because they are the smallest geopolitical unit
for which data are available on hospital employees as well as the
1980 Census. Zip codes represent a compromise; data on the city
and township level would be preferable but are not available.
However, some data (such as data on local economic activity) are
not even available at the zip code level. In these cases data
will be compiled based on the finest level of geographic disaggre-
gation available. This means that the analysis of different
elements of economic impact may not be based on the same geogra-
phic units. The only alternative is to base every portion of the
analysis on the broadest area for which all data elements are
available - an approach which would seriously weaken much of the
analysis.

For purposes of this report, the economic impact area is defined
as that area (based on zip codes) in which 90 percent of the
hospital employees reside. Within each impact area the primary
impact zone is the area immediately surrounding a hospital in
which 50 percent of the employees live. This includes the area
with the greatest concentration of hospital employees and is the
area which will feel the greatest localized impact. A secondary
impact zone is the area in which 75 percent of the hospital em-
ployees reside. This area includes the primary impact zone and
presents a "middle ground" of dispersion between the primary zone
and the entire economic impact area. In the cases of Brainerd,
Faribault, and Fergus Falls more than 75% of the workforce resides

in just one zip code. In these instances the primary and second-
ary zones share the same boundaries.

Table 1 presents the economic impact areas for each state hospital
as defined by zip codes, and Figures 1 through 9 illustrate the
economic impact area for each state hospital. Note that there is
some overlap between the Anoka and Cambridge economic impact areas.

During the review and comment period for this report, representa-
tives from the Coalition of Concerned Citizens for Moose Lake State
Hospital and Faribault State Hospital suggested different economic
impact areas than the ones presented. Appendix B shows the results
that would be obtained using the boundaries suggested by these
groups.

TABLE 1

ECONOMIC IMPACT AREAS AS DEFINED BY ZIP CODES

State Hospital	Primary Impact Zone	Secondary Impact Zone	Remainder of Impact Area	
Anoka	55303	55005	55006	55371
	55316	55011	55008	55407
	55433	55112	55014	55408
		55309	55040	55409
		55330	55092	55411
		55369	55105	55412
		55418	55109	55417
		55430	55113	55421
		55432	55115	55427
		55434	55118	55429
		55443	55343	55444
Brainerd	56401	56401	56444	56472
			56455	56473
Cambridge	55006	55032	55005	55063
	55008	55051	55007	55069
	55040	55056	55011	55092
	55080	55371	55017	55303
				56358
Faribault	55021	55021	55049	55087
			55052	55901
			55057	55946
			55060	56096
Fergus Falls	56537	56537	56533	56534
			56324	56586
Moose Lake	55767	55707	55704	55735
	55783	55757	55718	55756
		55762	55720	55760
		55795	55726	55798
St. Peter	56082	56001	56017	56058
			56050	56063
Willmar	56201	56273	56209	56279
		56288	56251	56282
			56252	56312

Source: Minnesota State Demographers Office,
State Planning Agency, 1984.

FIGURE 1

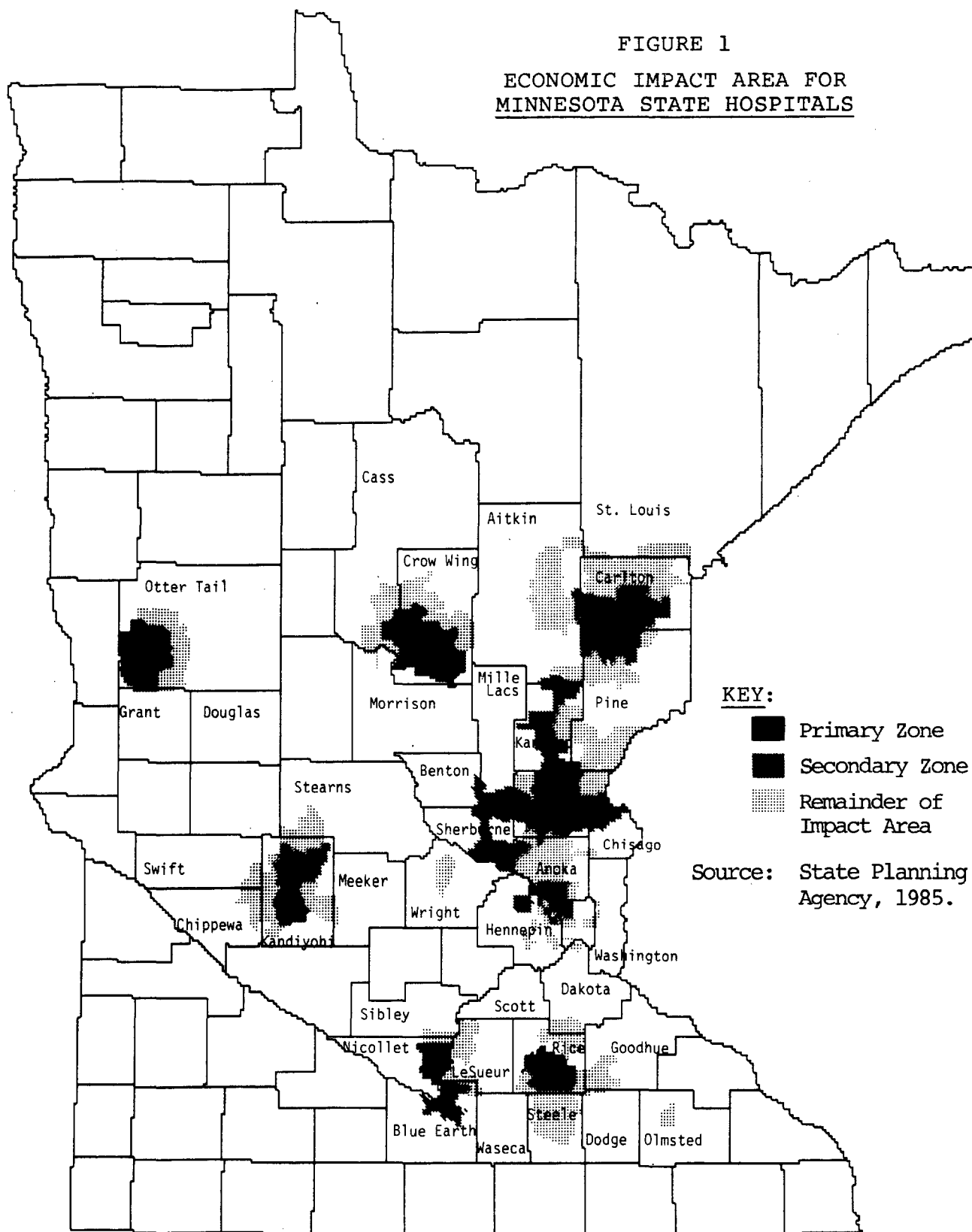ECONOMIC IMPACT AREA FOR
MINNESOTA STATE HOSPITALS

KEY:

■ Primary Zone

■ Secondary Zone

▦ Remainder of
Impact Area

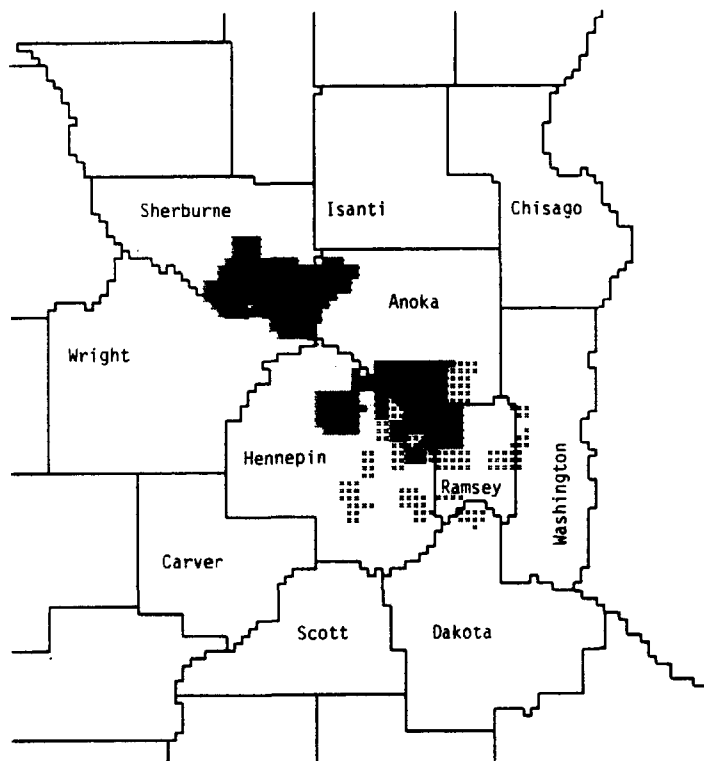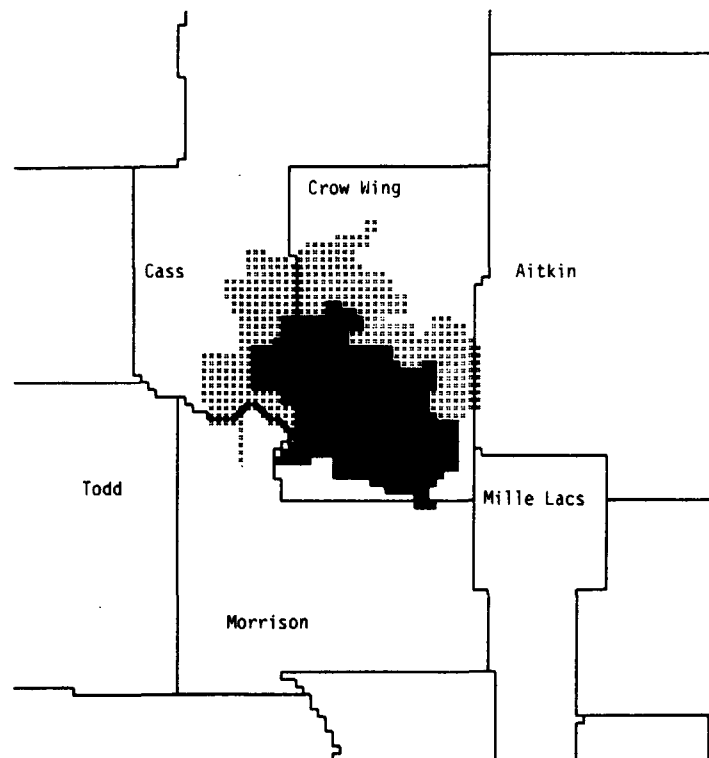Source: State Planning
Agency, 1985.

FIGURE 2

ECONOMIC IMPACT AREA FOR
ANOKA STATE HOSPITAL

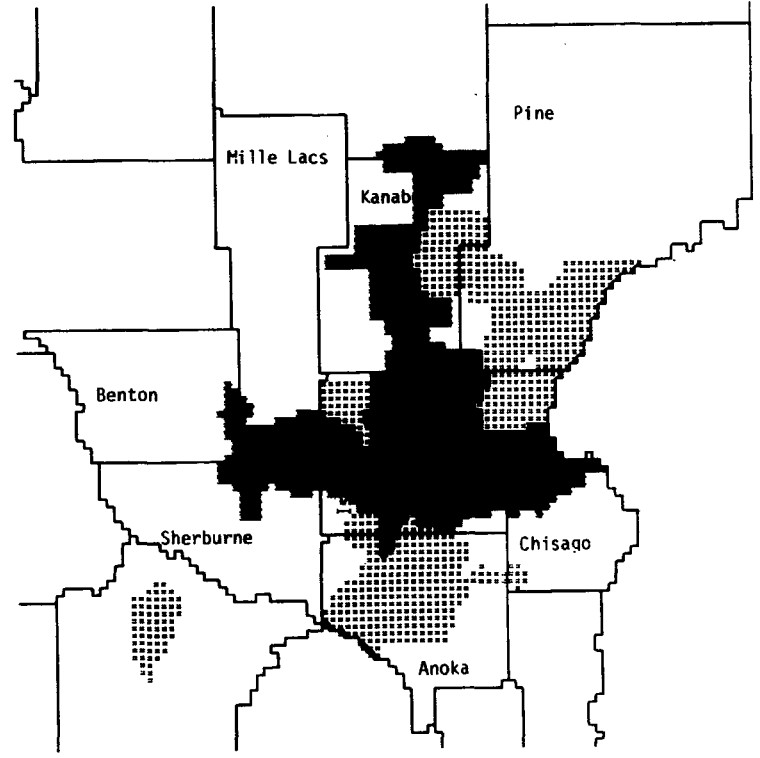■ Primary Area
▓ Secondary Area
▒ Remainder of Impact Area

FIGURE 3

ECONOMIC IMPACT AREA FOR
BRAINERD STATE HOSPITAL

■ Primary Area
▒ Remainder of Impact Area

FIGURE 4

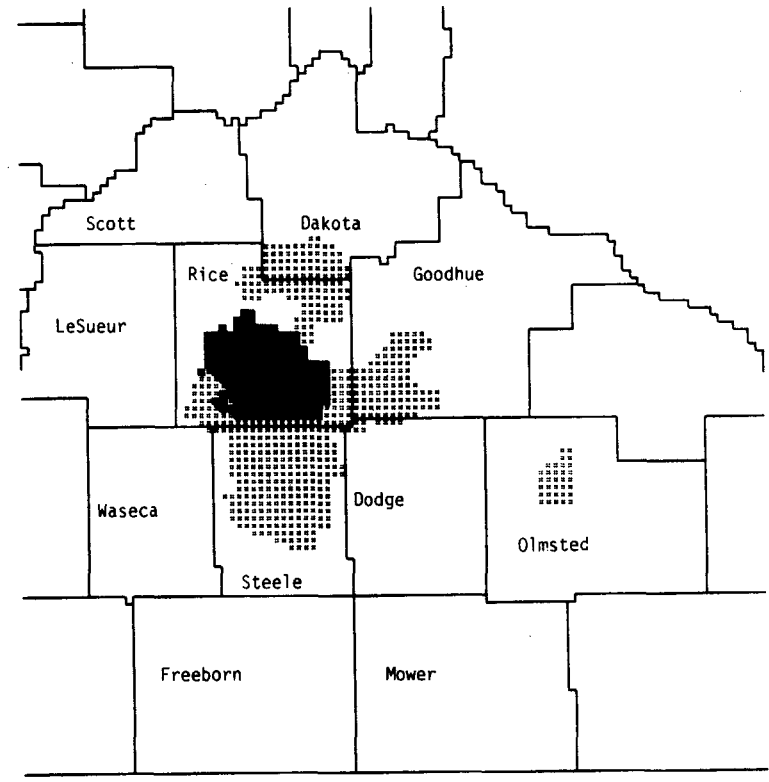ECONOMIC IMPACT AREA FOR
CAMBRIDGE STATE HOSPITAL

Pine

Mille Lacs

Kanab

Benton

Sherburne

Chisago

Anoka

■ Primary Zone
▓ Secondary Zone
▒ Remainder of Impact Area

FIGURE 5

ECONOMIC IMPACT AREA FOR
FARIBAULT STATE HOSPITAL

Scott   Dakota

Rice   Goodhue

LeSueur

Waseca   Dodge

Olmsted

Steele

Freeborn   Mower

■ Primary Zone
▒ Remainder of Impact Area

FIGURE 6

ECONOMIC IMPACT AREA FOR
FERGUS FALLS STATE HOSPITAL

Wilkin

Ottertail

Grant   Douglas

Traverse
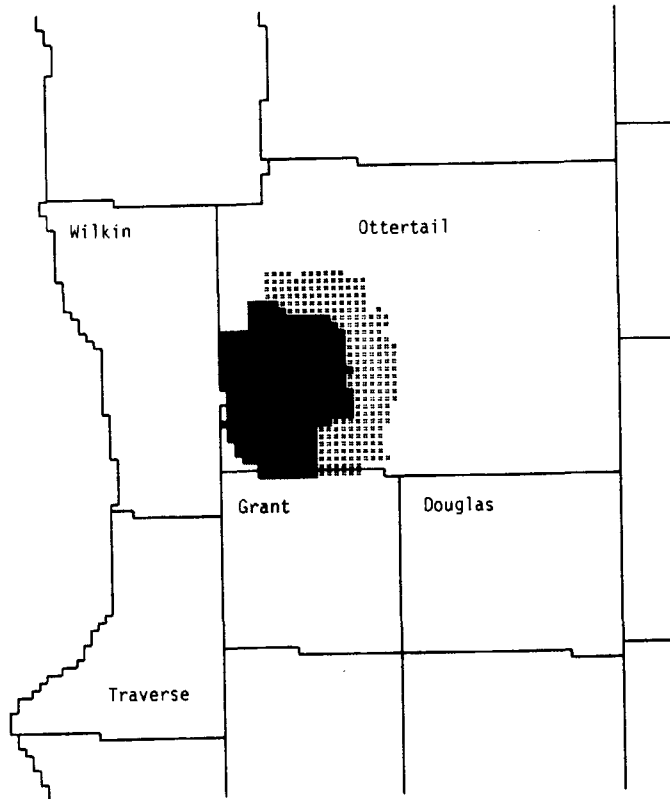
■ Primary Zone

▓▓ Remainder of Impact Area

FIGURE 7

ECONOMIC IMPACT AREA FOR
MOOSE LAKE STATE HOSPITAL

Aitkin

St. Louis

Carlton

Kanabec

Pine
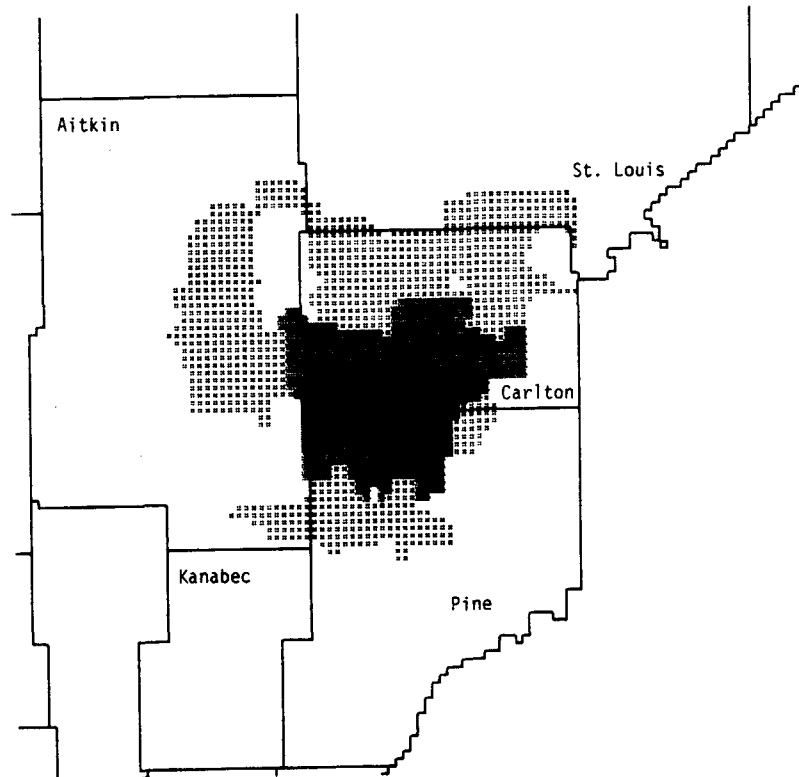
■ Primary Zone

▓ Secondary Zone

▓▓ Remainder of Impact Area

FIGURE 8

ECONOMIC IMPACT AREA FOR
ST. PETER STATE HOSPITAL

McLeod

Carver

Sibley

Scott

Nicollet

Rice

LeSueur

Waseca

Steele

Watonwan

Blue Earth
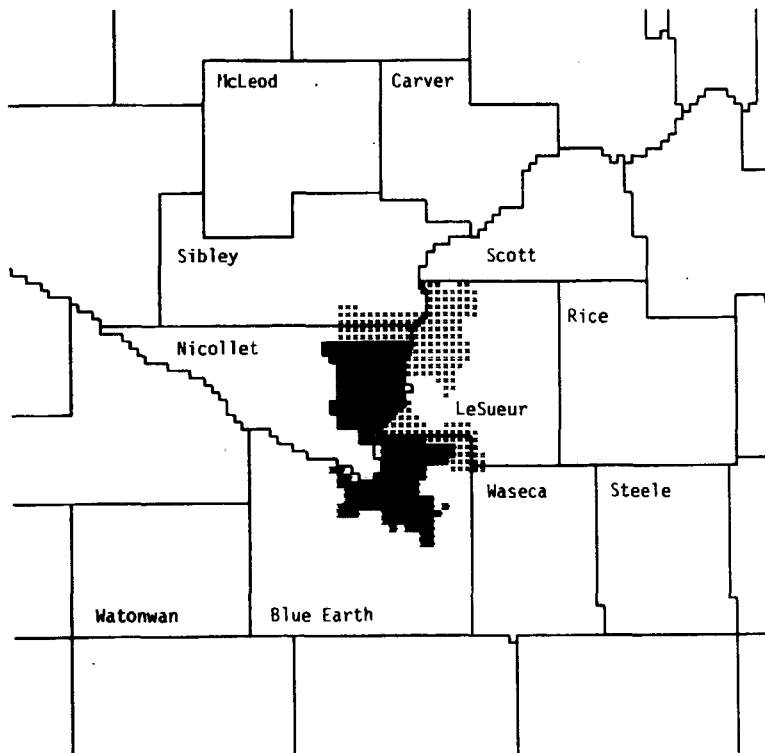
■ Primary Zone

▒ Secondary Zone

▓ Remainder of Impact Area

FIGURE 9

ECONOMIC IMPACT AREA FOR
WILLMAR STATE HOSPITAL

Pope

Stearns

Swift

Meeker

Chippewa

Kandiyohi

Renville
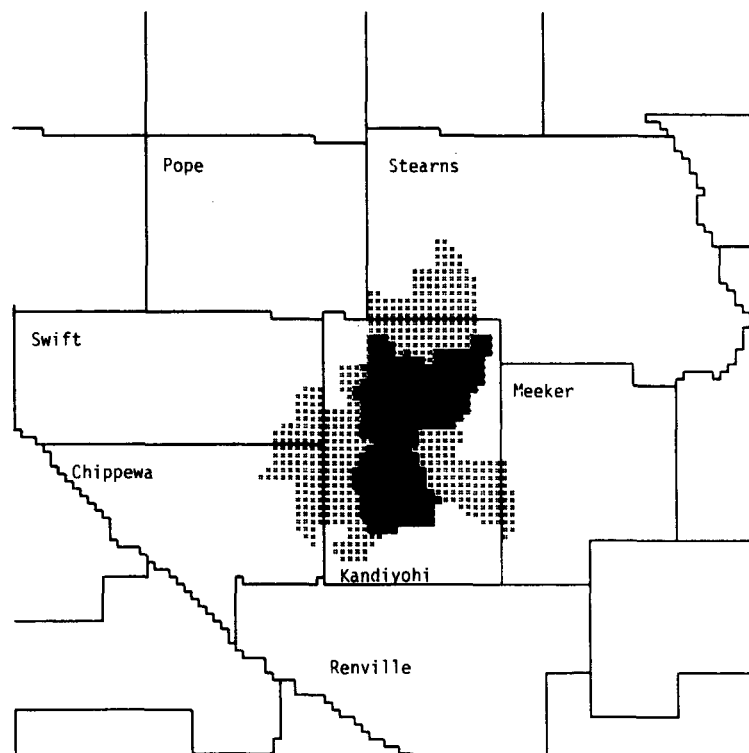
■ Primary Zone

▒ Secondary Zone

▓ Remainder of Impact Area

IV. DIRECT EFFECT OF HOSPITAL EMPLOYMENT

Hospital employment varies from over 1,000 at Faribault to just over 300 at Anoka. However, as discussed earlier, the economic impact of the hospital on a region depends more on the percentage of area jobs accounted for by the hospital than on the absolute level of employment. Table 2 and Figures 10, 11 and 12 illustrate the share of area employment accounted for by each of the eight hospitals. Hospital employment for 1984 by zip code was obtained from the Department of Employee Relations, while total area employment was obtained from the 1980 Census. The two data items do not correspond exactly in time. Because more current estimates of area employment are available at the needed level of geographic disaggregation, it is assumed that in each area total employment has not changed significantly since 1980. In most cases employment has likely remained relatively constant or increased slightly during this period.

TABLE 2

STATE HOSPITAL EMPLOYMENT AS A PERCENT OF TOTAL AREA EMPLOYMENT

State Hospital	Primary Zone	Primary & Secondary Zones	Entire Impact Area
Anoka	0.5%	0.2%	0.1%
Brainerd	5.5%	5.5%	4.8%
Cambridge	6.2%	3.5%	1.5%
Faribault	9.4%	9.4%	1.6%
Fergus Falls	6.9%	6.9%	4.2%
Moose Lake	18.8%	13.3%	2.3%
St. Peter	8.2%	2.1%	2.2%
Willmar	4.0%	4.5%	3.9%

The loss of employment in the primary impact zones ranges from 19 percent at Moose Lake to 0.5% of the employed workforce at Anoka. These figures should be interpreted as the direct employment loss in the immediate hospital community. The direct impact in Moose Lake is more than twice that in any other community, while the impact in Anoka would appear to be substantially less than all other facilities. Direct employment losses in the other six communities are similar to each other.

FIGURE 10

HOSPITAL EMPLOYMENT AS PERCENTAGE OF TOTAL
EMPLOYMENT - PRIMARY IMPACT ZONE
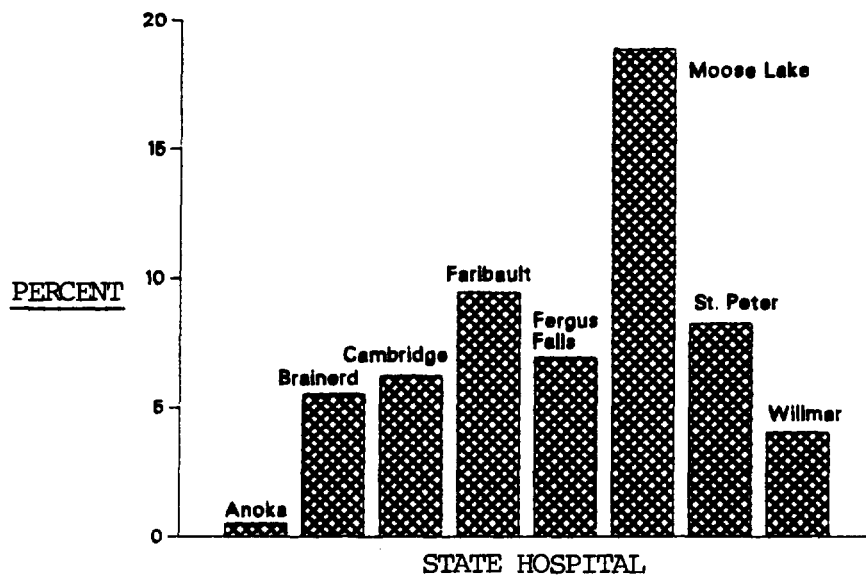
Source: Department of Employee Relations,
          1980 Census.

FIGURE 11

HOSPITAL EMPLOYMENT AS PERCENTAGE OF TOTAL
EMPLOYMENT - PRIMARY AND SECONDARY IMPACT ZONES
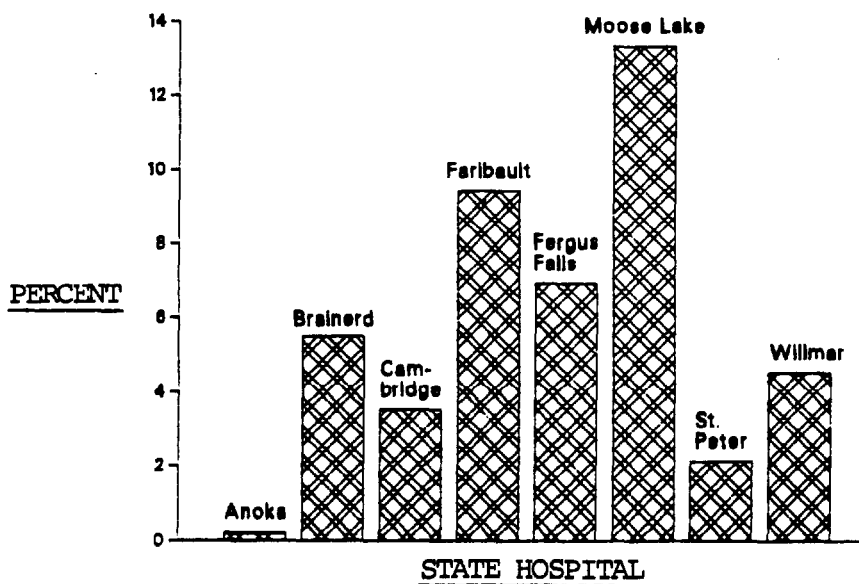
Source: Department of Employee Relations,
          1980 Census.

FIGURE 12

HOSPITAL EMPLOYMENT AS PERCENTAGE OF TOTAL
EMPLOYMENT - ENTIRE IMPACT AREA

Source: Department of Employee Relations,
          1980 Census.
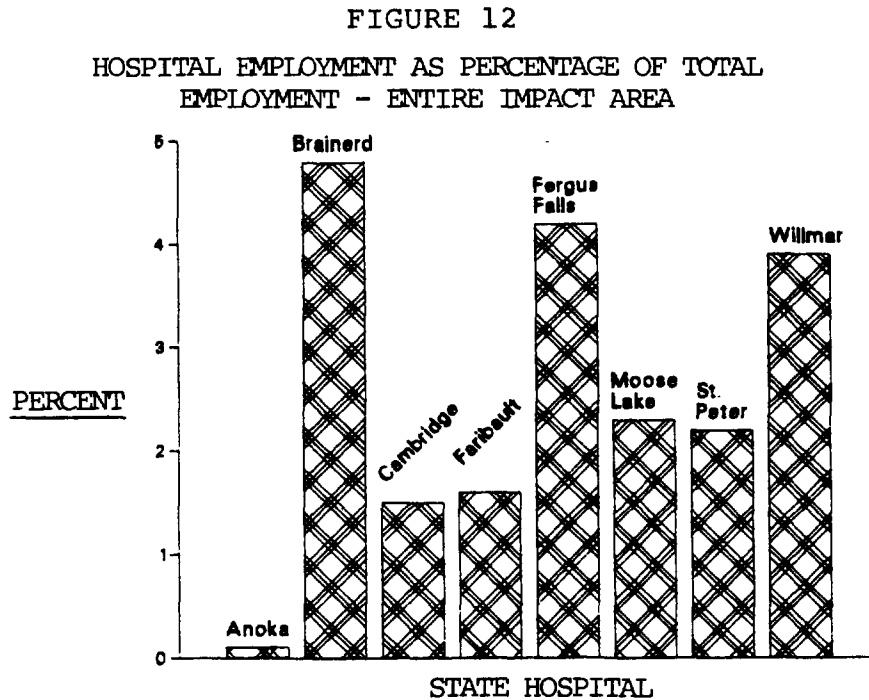
In examining the secondary impact zones and the balance of the impacted areas the relative effects of the dispersion of the workforce can be noted.   While direct employment loss at Anoka remains much less severe than at other institutions, the differences between the seven other institutions narrow considerably in large part due to the dispersion of the Moose Lake workforce. If we consider the primary and secondary zones together, the heaviest impact is still found in Moose Lake, but the difference between it and the other areas (notably Faribault) narrows considerably. However when we look at the entire impact area the share of the workforce accounted for by Moose Lake and Faribault State Hospitals drops considerably, reflecting the hospital workers who commute from Cloquet and Rochester. Similarly, the figures for St. Peter drop off considerably when the secondary zone is considered because of the large number of employees commuting 12 miles from Mankato.   When the entire impact zone is considered the impact is greatest in the Brainerd (4.8% of the area workforce), Fergus Falls (4.2%) and Willmar (3.9%) areas, reflecting the role these cities play as regional centers.   The impact in Anoka is still considerably less than that of the nearest state hospital.

Table 3 shows the percentage of total area wage and salary income accounted for by the state hospital. Hospital salaries for 1983 were obtained from the Department of Employee Relations, while total wage and salary income from the 1980 Census was inflated by the statewide growth in personal income from 1979 to 1983. The

comparative rankings of each community vary little from this table
to the previous table.   It should be noted that in each case
(except Anoka), hospital wages make up a greater percentage of
total area income than hospital jobs make up of total area em-
ployment.   This suggests that hospital jobs make up a higher share
of each region's better paying jobs. The disparity is greatest in
Moose Lake and Fergus Falls.

TABLE 3

HOSPITAL PAYROLL AS A PERCENT OF TOTAL AREA WAGE AND SALARY INCOME

State Hospital	Primary Zone	Primary & Secondary Zones	Entire Impact Area
Anoka	0.5%	0.2%	0.1%
Brainerd	7.6%	7.6%	6.7%
Cambridge	7.7%	4.4%	1.7%
Faribault	12.5%	12.5%	1.9%
Fergus Falls	10.5%	10.5%	10.1%
Moose Lake	28.8%	19.5%	5.2%
St. Peter	16.9%	3.4%	3.5%
Willmar	5.7%	6.4%	5.9%

Source: Department of Employee Relations, 1980 Census

Direct Employment Loss

The following figures reflect an assumption that immediately
following the possible closure of a hospital, all state hospital
workers will be considered unemployed. The Minnesota Department
of Economic Security (DES) has calculated alternative unemployment
estimates which recognize important exceptions to this assumption.
First, based on the age structure of hospital employees assump-
tions were made about the number of employees who would retire
following a hospital closure.   DES assumed that one-half of the
workers between the age of 55 and 61 and three-fourths of the
workers 62 or over who are eligible for retirement would do so.
This leads to an estimate of retirees totalling 1.7% of the hospi-
tal workforce.   Since 3.2% of the Rochester State Hospital work-
force retired following closing of that institution, this repre-
sents a conservative estimate.   Second, a number of employees will
transfer.   DES estimated a transfer rate of 3.5%.   It should be
kept in mind that the wages of transferees are still lost to the
local economy.   Third, DES assumed that 5% of the workforce would
immediately find private sector employment and another 5% would
drop out of the labor force. Fourth, a skeleton crew would likely

be kept on to maintain facilities until their disposition. Based
on the experience of Rochester, DES assumed that 15 employees
would be retained at each site for this purpose. Finally, a num-
ber of people currently hold second jobs and so would not join the
ranks of the unemployed (although total income would be reduced).
Based on national survey figures, 4.0% of state hospital employees
were assumed to be multiple job holders.

Table 4 presents the results of the DES "reasonable case" direct
unemployment estimates. The data used for these calculations can
be obtained only for counties, not for economic impact areas.
There is also some geographic overlap involving employees of Anoka
and Cambridge hospitals which will affect the results for the Min-
neapolis-St. Paul Metropolitan Statistical Area (MSA) and Isanti
County. The net effect of using this "reasonable case" model is a
reduction in unemployment of 1,239 over the "worst case" scenario.
The distribution of this reduction in unemployment is roughly pro-
portional around the state, so the relative standing of hospitals
and counties is not affected by a choice of the "worst case" or
"reasonable case" scenario.

TABLE 4

ALTERNATIVE ESTIMATES FOR DIRECT UNEMPLOYMENT BY COUNTIES

County	State Hospital	"Reasonable Case"	"Worst Case"
Aitkin	Moose Lake	8	11
Blue Earth-Nicollet	St. Peter	33	42
Carlton	Moose Lake	296	376
Cass	Brainerd	11	14
Crow Wing	Brainerd	497	637
Faribault	St. Peter	9	11
Goodhue	Faribault	26	33
Isanti	Cambridge, Anoka	430	545
Kanabec	Cambridge	34	43
Kandiyohi	Willmar	474	602
Le Sueur	St. Peter	137	175
Mille Lacs	Cambridge	25	33
Mpls-St. Paul (MSA)	Anoka, Cambridge	483	614
Morrison	Brainerd	14	17
Olmsted	Faribault	19	24
Ottertail	Fergus Falls	497	637
Pine	Moose Lake	143	183
Rice	Faribault	801	1,017
St. Cloud (MSA)	Willmar, Anoka	33	42
St. Louis	Moose Lake	9	12
Steele	Faribault	49	62
Waseca	Faribault	10	11

V. Indirect Employment Loss

When a major facility is shut down, the loss of jobs does not
end at that institution. Rather, there is an additional loss
of employment in industries that serve the facility and its
workers. This indirect loss of employment cannot be directly
calculated but must be estimated using a technique called
"multiplier analysis." The main difficulty in this procedure
is selection of a multiplier, that figure by which the direct
loss in payroll is multiplied to obtain the indirect effect. A
large number of theoretical approaches to this problem have
been suggested.

Multiplier analysis, like most economic forecasting, is an
inexact science. It seems prudent to examine more than one
model and provide a range of possible outcomes rather than
presenting one point estimate. Three models were chosen. The
first was proposed by the Research and Statistical Services
Division of the Minnesota Department of Economic Security (Pin-
ola and Graner, 1984). The second derives from an econometric
forecasting system developed for the Minnesota Department of
Revenue (Treyz, Erlich, and DePillis, 1983). Both are state-
wide models; that is, the choice of multiplier does not vary
from community to community. The method developed by the
Department of Economic Security enables forecasts for the
duration of unemployment, while the Revenue Department model
estimates in what sectors of the economy the indirect employ-
ment loss will occur. Multipliers derived from these two
models are quite similar, with the Department of Economic
Security model giving a multiplier of 1.67 and the Department
of Revenue model giving 1.69.

The third model involves the calculation of a separate multi-
plier for each community. This regional multiplier approach
results in a higher multiplier in urban areas than in rural
areas, reflecting the fact that money remains in an urban area
longer than it does in a rural area. A good purchased in an
urban area is more likely to have been manufactured in that
area (keeping that money in the community) than a good pur-
chased in a rural area. This effect, however, is thought to be
much more important for estimating the economic effect of
changes in manufacturing employment than for the effects of
changes in service sector employment, such as hospitals. The
method used for this report, called the "minimum requirements
technique," was originally derived for urban areas by Moore in
1973. This approach has since been adapted for use in rural
areas (Erickson, 1977) and has been found to produce reason-
ably accurate results when compared with a complete census of
all businesses and employers in a region (Gibson and Worden,
1981). The multipliers derived using this third approach are

presented in Table 5, and range from 3.3 in Anoka to 1.7 in Fergus
Falls.   This model represents an upper bound on reasonable multi-
plier estimates.

Assessment of indirect employment loss was completed for the en-
tire impact area, not for zones within these areas. The indirect
job loss resulting from the closing of a facility is not complete-
ly confined to that facility's community. It is reasonable to
assume that virtually all of the job loss will occur within the
economic impact area, but the models are not sufficiently detailed
to break down results within impact areas.

It should be noted that for comparative purposes we are assuming
that in each case the full brunt of indirect effects are felt at
the same time.   This is not a realistic assumption; indirect
effects are likely to manifest themselves from one to ten years
after a hospital closure.   The Department of Economic Security
methodology makes it possible to examine how these indirect job
losses occur over time; these results are discussed in section IV.

Detailed descriptions of all three models are found in Appendix A.

TABLE 5

MULTIPLIERS DERIVED USING "REGIONAL MULTIPLIER" METHODOLOGY

Economic Impact Area	Multiplier
Anoka	3.3
Brainerd	1.8
Cambridge	2.2
Faribault	2.2
Fergus Falls	1.7
Moose Lake	1.8
St. Peter	2.0
Willmar	1.8

As can be seen in Table 6, the results from these three models
show little variation. The heaviest combined direct and indirect
impact would occur in the Fergus Falls area, where 7.8% of the
workforce would be unemployed as a result of the closing of the
hospital.   The next greatest impact would be felt in Brainerd,
where the unemployment rate would increase from between 5.9% and
6.1%.   Anoka once again shows the least severe effect, with an
increase in unemployment of 0.1%. The average of all three models
is presented in Figure 13.

TABLE 6

AVERAGE UNEMPLOYMENT (DIRECT AND INDIRECT)
AS PERCENTAGE OF 1980 WORKFORCE

State Hospital	D.E.S.	Revenue	"Regional Multiplier"
Anoka	0.1%	0.1%	0.1%
Brainerd	5.9%	5.9%	6.1%
Cambridge	1.7%	1.7%	1.9%
Faribault	1.9%	1.9%	2.1%
Fergus Falls	7.8%	7.8%	7.8%
Moose Lake	5.1%	5.1%	5.2%
St. Peter	2.7%	2.7%	2.9%
Willmar	4.7%	4.7%	4.8%

FIGURE 13

AVERAGE DIRECT AND INDIRECT UNEMPLOYMENT
AS PERCENTAGE OF 1980 WORKFORCE
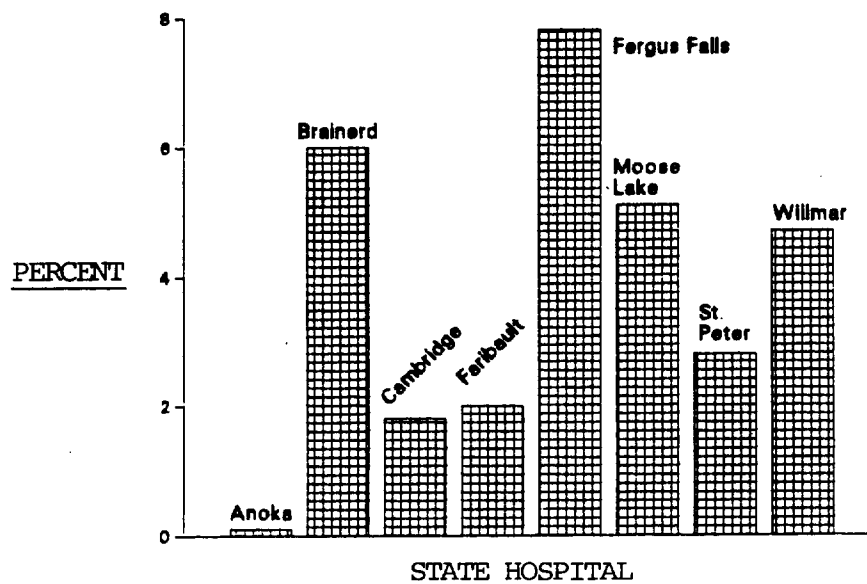
Source: Department of Employee Relations,
          1980 Census.

B. Duration of Job Loss

The methodology employed by the Department of Economic Secur-
ity enables us to make an estimate of unemployment (direct and
indirect) one year and two years following a closing. These
figures reflect the assumptions about retirement, transfer,
labor force dropouts, skeleton crews, and multiple job holders

described in section III. The estimates were derived using a
factor provided by the U.S. Bureau of Labor Statistics to
determine how many people remain in the pool of unemployed with
the passage of time. This factor is nationwide and does not
vary from hospital to hospital.

TABLE 7

JOB LOSS ONE AND TWO YEARS AFTER HOSPITAL CLOSURE

Economic	One Year			Two Years		
Impact Area	Direct	Indirect	Total	Direct	Indirect	Total
Anoka	9	40	49	1	65	66
Brainerd	49	74	123	3	118	121
Cambridge	42	70	112	2	112	114
Faribault	63	104	167	3	167	170
Fergus Falls	48	68	116	3	108	111
Moose Lake	43	52	95	2	84	86
St. Peter	40	80	120	2	127	129
Willmar	48	68	116	3	109	112

Source: Department of Economic Security, Research and Statistics
Service.

The reduction in direct unemployment is fairly rapid, and by
the end of the second year direct unemployment is negligible,
according to the Department of Economic Security. This reduc-
tion in direct unemployment, however, does not necessarily
result from persons finding jobs in the area. It may in part
reflect both persons leaving the area to search for work and
persons who drop out of the labor force.

The indirect effect, however, does not fully manifest itself
until the second year. This in part reflects the availability
of unemployment insurance to hospital workers. The DES method-
ology assumes that 50 percent of the multiplier effect would
occur within one year of the closure of the facility, with 30
percent occurring in the second year and the remaining 20 per-
cent three to ten years following a hospital shutdown. The
indirect effects of a hospital closure, therefore, will contin-
ue to manifest themselves long after the hospital is closed.

C. Industries Affected by Indirect Job Loss

The Department of Revenue model estimates in which sectors of
the economy indirect job loss would occur. As can be seen in
Table 8, most of the job loss would occur in the retail (38%)
and service (35%) sectors.

TABLE 8
INDIRECT JOB LOSS BY INDUSTRY

Industry (Percent of Total)	Job Loss
Manufacturing (4%)	
Durable Goods	1%
Nondurable Goods	3%
Construction (3%)	
Transportation & Public Utilities (4%)	
Transportation	2%
Communications	1%
Public Utilities	1%
Finance, Insurance, Real Estate (9%)	
Banking	3%
Insurance	2%
Credit & Finance	2%
Real Estate	2%
Retail Trade (38%)	
Eating & Drinking Establishments	11%
Rest of Retail	27%
Wholesale Trade (7%)	
Services (35%)	
Hotels	1%
Personal Services and Repairs	2%
Private Household Workers	3%
Auto Repair and Service	1%
Misc. Business Services	2%
Amusement and Recreation	2%
Motion Pictures	1%
Medical	13%
Misc. Professional Services	2%
Education	3%
Non-profit Organizations	5%

Source: Department of Revenue, Research Division.

VI. EFFECT OF STATE HOSPITAL PURCHASES

Purchases of goods by state hospitals comprise a small amount
of state hospital budgets. Purchases in FY '83 as a percent-
age of the total hospital budget ranged from a high of 12.4%
at Anoka to a low of 9.3% at Cambridge, a relatively narrow
range (Table 9). The dollar amount of purchases ranged from
$2.75 million at Faribault to $1.32 million at Anoka.

While purchases of this magnitude would at first glance seem
to have a substantial economic impact, the local impact is
considerably diluted by the fact that most purchases are not
made in the community but through centralized purchasing in

St. Paul. Examination of hospital records for FY '83 resulted in a list of purchases actually made in the city and county in which the hospital is located. These figures were then compared to total retail sales in the same locations over the same period of time obtained from the Minnesota Department of Revenue (1984).

TABLE 9

PURCHASES AS A PERCENTAGE OF TOTAL BUDGET FY '83

State Hospital	Purchases in Thousands	Total Budget in Thousands	Purchases as a % of Budget
Anoka	$1,317	$10,634	12.4%
Brainerd	$1,881	$17,176	11.0
Cambridge	$1,674	$18,049	9.3
Faribault	$2,758	$26,239	10.6
Fergus Falls	$1,610	$15,284	10.5
Moose Lake	$1,371	$12,260	11.2
St. Peter	$2,002	$18,614	10.8
Willmar	$1,703	$15,447	11.0

The degree to which local purchases ultimately affect the local economy is not clear. Much of the money spent at a clothing store, for example, is eventually passed along to manufacturers or suppliers outside of the area. The amount of money leaving the area (and its impact before it leaves) is impossible to determine. For simplicity we, therefore, assumed that all money arising from local purchases stayed in the community. This assumption has the effect of overstating the local economic impact that would result from the elimination of these purchases. Another difficulty is presented by the purchase of fuel and utilities. These are sometimes purchased from a local supplier (such as a municipal power company) or a large, centralized supplier with a small local office (such as Northern States Power). Very little of this money probably stays in the community, but isolated local impacts are possible. Results are thus presented in two ways: counting fuel and utility purchases as local purchases and excluding fuel and utility purchases (Tables 10 and 11).

Table 10 displays the share of each hospital's purchases which are made locally. If utilities are not included, local (county) purchases ranged from 4.0% of total non-utility and fuel purchases at Anoka to 18.7% at Willmar, with a median value of 13.2%. If utilities are included the importance of local purchases is substantially increased, ranging from 9.4% at Faribault to 41.2% at Moose Lake, with a median value of 20.8 percent.

TABLE 10

PERCENT OF STATE HOSPITAL PURCHASES MADE
IN HOST CITY/COUNTY FY '83
(Utilities Not Included)

State Hospital	Total Purchases	Locality by City/ County	Purchases in Locality	Percentage of Total Purchases
Anoka	$ 827,402	Anoka	$ 14,526	1.8%
		Anoka County	$ 32,964	4.0%
Brainerd	$1,021,986	Brainerd	$139,777	13.7%
		Crow Wing County	$151,683	14.8%
Cambridge	$1,033,207	Cambrige	$ 27,056	2.6%
		Isanti County	$ 47,709	4.6%
Faribault	$1,599,785	Faribault	$152,397	9.5%
		Rice County	$222,859	13.9%
Fergus Falls	$1,163,870	Fergus Falls	$167,156	14.4%
		Ottertail County	$172,218	14.7%
Moose Lake	$ 867,637	Moose Lake	$ 72,905	8.4%
		Carlton County	$110,027	12.7%
St. Peter	$1,245,717	St. Peter	$ 96,194	7.7%
		Nicollet County	$123,318	9.9%
Willmar	$1,230,950	Willmar	$230,384	18.7%
		Kandiyohi County	$230,942	18.7%

Sources: Department of Human Services, Financial Management
         Division; Department of Revenue.

TABLE 11

PERCENT OF STATE HOSPITAL PURCHASES MADE
IN HOST CITY/COUNTY FY '83
(Utilities Included)

State Hospital	Total Purchases	Locality by City/County	Purchases in Locality	Percentage of Total Purchases
Anoka	$1,317,392	Anoka	$175,787	13.3%
		Anoka County	$516,130	39.2%
Brainerd	$1,881,299	Brainerd	$432,609	23.0%
		Crow Wing County	$445,015	23.7%
Cambridge	$1,674,291	Cambridge	$ 48,248	2.9%
		Isanti County	$299,282	17.9%
Faribault	$2,758,109	Faribault	$181,260	6.6%
		Rice County	$259,549	9.4%
Fergus Falls	$1,610,220	Fergus Falls	$270,712	16.8%
		Ottertail County	$275,930	17.1%
Moose Lake	$1,370,705	Moose Lake	$241,844	17.6%
		Carlton County	$565,846	41.2%
St. Peter	$2,002,330	St. Peter	$340,076	17.0%
		Nicollet County	$369,144	18.5%
Willmar	$1,702,971	Willmar	$513,540	30.2%
		Kandiyohi County	$514,655	30.2%

Sources: Department of Human Services, Financial Management
Division; Department of Revenue.

The best measure of the economic impact of purchases, however, is
the share that hospital purchases make up of the total retail
sales activity in the locality. As can be seen in Tables 12 and
13, this effect is very small in every case, amounting to about
one-third of one percent of city retail sales activity (in Moose
Lake) or less if utilities are not included and slightly over one
percent (in St. Peter) or less if utilities are included. The
impact on counties is even less, with only two counties (Nicollet
and Carlton) losing as much as one-half of one percent of its re-
tail sales in the event of a closing even if utilities are includ-
ed. If utilities are excluded from the tabulations, the greatest
county loss occurs in Rice County (Faribault State Hospital),
which would lose two-tenths of one percent of its retail sales.

Theoretically, the loss of purchasing power resulting from the cessation of state hospital purchases in the community would also result in the loss of some non-hospital jobs. This job loss was estimated using the Department of Revenue and Department of Economic Security models described in Section V.

TABLE 12

HOSPITAL PURCHASES AS A PERCENTAGE OF
LOCAL RETAIL SALES FY '83

(Utilities Not Included)

State Hospital	Locality by City/ County	Purchases in Thousands	Retail Sales in Thousands	Purchases as % of Retail Sales
Anoka	Anoka	$ 14	$100,396	0.01%
	Anoka County	$ 33	$585,027	0.01%
Brainerd	Brainerd	$140	$159,353	0.09%
	Crow Wing Co.	$152	$227,310	0.07%
Cambridge	Cambridge	$ 27	$ 43,199	0.06%
	Isanti County	$ 48	$ 67,042	0.07%
Faribault	Faribault	$152	$ 95,937	0.16%
	Rice County	$223	$156,785	0.14%
Fergus Falls	Fergus Falls	$167	$ 91,514	0.18%
	Ottertail Co.	$172	$185,929	0.09%
Moose Lake	Moose Lake	$ 73	$ 20,185	0.36%
	Carlton Co.	$110	$101,236	0.11%
St. Peter	St. Peter	$ 96	$ 27,115	0.35%
	Nicollet Co.	$123	$ 56,023	0.22%
Willmar	Willmar	$230	$120,121	0.19%
	Kandiyohi Co.	$231	$168,833	0.14%

Sources: Department of Human Services, Financial
          Management Division; Department of Revenue.

TABLE 13

HOSPITAL PURCHASES AS A PERCENTAGE OF
LOCAL RETAIL SALES FY '83
(Utilities Included)

State Hospital	Locality by City/ County	Purchases in Thousands	Retail Sales in Thousands	Purchases as % of Retail Sales
Anoka	Anoka	$176	$100,396	0.18%
	Anoka County	$516	$585,027	0.09%
Brainerd	Brainerd	$437	$159,353	0.27%
	Crow Wing County	$450	$227,310	0.20%
Cambridge	Cambridge	$ 48	$ 43,199	0.11%
	Isanti County	$272	$ 67,042	0.45%
Faribault	Faribault	$181	$ 95,937	0.19%
	Rice County	$260	$156,785	0.17%
Fergus Falls	Fergus Falls	$271	$ 91,514	0.30%
	Ottertail County	$276	$185,929	0.15%
Moose Lake	Moose Lake	$142	$ 20,185	1.20%
	Carlton County	$495	$101,236	0.56%
St. Peter	St. Peter	$340	$ 27,115	1.25%
	Nicollet County	$369	$ 56,023	0.66%
Willmar	Willmar	$283	$120,121	0.24%
	Kandiyohi County	$285	$168,833	0.17%

Sources: Department of Human Services, Management Division;
Department of Revenue.

These models estimate the statewide job loss that would result from a loss of a given amount of purchasing power. Because the loss of hospital purchases would probably not result in a state-wide loss of purchasing power, and because the job loss resulting from a loss of local purchases would likely be almost entirely local, the simulation was run only on local (county) purchases with the resulting employment loss considered to be entirely local. The results, displayed in Tables 14 and 15 indicate that the employment loss resulting from the cessation of hospital purchases alone is likely to be very small even if utilities are included in the tabulation of purchases. The greatest job losses are projected using the Department of Economic Security model. Under this model, if utilities are included as local purchases, employment losses range from 13 in Anoka County to 7 in Isanti, Kandiyohi, Ottertail, and Rice Counties. If utilities are not counted as local purchases, expected employment losses range from 6 in Kandiyohi and Rice Counties to 1 in Anoka and Isanti Counties. Using the Department of Revenue model the relative standing of localities remains the same, but the expected employment loss ranges from 9 to 4 if utilities are included and from 4 to 1 if they are not.

TABLE 14

ESTIMATED EMPLOYMENT LOSS RESULTING FROM
CESSATION OF LOCAL HOSPITAL PURCHASES
(Utilities Not Included)

| | | Estimated Local Employment Loss | |
| | | Dept. of Econ. Sec. | Dept. of Revenue |
Hospital	Locality		
Anoka	Anoka County	1 (13)	1 (9)
Brainerd	Crow Wing County	4 (11)	3 (8)
Cambridge	Isanti County	1 (7)	1 (5)
Faribault	Rice County	6 (7)	4 (4)
Fergus Falls	Ottertail County	4 (7)	3 (5)
Moose Lake	Carlton County	3 (12)	2 (8)
St. Peter	Nicollet County	3 (9)	2 (6)
Willmar	Kandiyohi County	6 (7)	4 (5)

Source: Department of Revenue.

Note: Estimated local employment loss figures including
       utilities are noted in parentheses.

The impact of the loss of state hospital purchases on both
local retail activity and employment is thus likely to be
quite small for any of the eight state hospitals. While some
variation between localities exist for this factor, they are
insignificant when compared with many of the other economic
impacts described in this report.

VII. EFFECTS OF OTHER HOSPITAL-RELATED SPENDING

Several other hospital-related factors have an effect on the
local economy. State hospital residents/patients spend money
that would be lost to the community if the hospital closed.
Families and other visitors also contribute to the local
economy as do volunteer organizations. A 1982 study of the
closing of Rochester State Hospital estimated that the com-
bined contribution of these effects was close to the contribu-
tion of hospital purchases (Rieder, 1982).

The largest single factor in this area is resident/patient
spending. Individuals have accounts at the hospital to be
used for purchases at canteens and local businesses. As part
of the Rochester study a survey was conducted which estimated
total annual spending of $1,536 per mentally ill patient.
Spending by mentally retarded residents was considerably
lower, averaging $439 per year. These figures will be used in
this report. No reliable data exist on spending by chemically
dependent patients. Following the assumption of the Rochester

study, it is assumed that persons with chemical dependency spend
an equal amount to mentally ill people.

TABLE 15
ESTIMATED SPENDING BY HOSPITAL RESIDENTS/PATIENTS

State Hospital	Spending by CD or MI People	Spending by MR People	Total
Anoka	$475,484		$475,484
Brainerd	$201,384	$156,236	$357,620
Cambridge		$220,982	$220,982
Faribault		$327,931	$327,931
Fergus Falls	$425,813	$107,059	$532,872
Moose Lake	$573,788	$49,352	$623,140
St. Peter	$643,983	$79,843	$723,836
Willmar	$611,267	$69,998	$681,265

Resident/patient spending ranges from an estimated high of
$724,000 per year at St. Peter to a low of $221,000 per year at
Cambridge. Cambridge and Faribault have relatively low spending
because those hospitals serve only mentally retarded people.

Visitors to the hospitals also contribute to the local economy.
Based on the Rochester study, it is assumed that each hospital
resident/patient received 1.5 visitors per month (a figure that
anecdotal evidence suggests may be too high) and that each visit
generated twelve dollars in local spending. Residents/patients at
hospitals located near larger urban areas, such as Anoka, may
receive more visitors, but these visitors probably spend less per
visit than those who must travel further. Under these as-
sumptions, visitor spending was found to range from $66,865 per
year at Anoka to $161,350 at Faribault (Table 16).

Resident/patient and visitor spending were combined for each
hospital. In order to get an idea of the importance of such
spending to the local economies these total figures were com-
pared to retail sales in each city (Table 17). Patient-visitor
spending as a percent of city retail sales ranged from a high of
13% in Moose Lake to a low of 1% in Brainerd. At St. Peter
patient and visitor spending represented 11% of retail sales while
the other five hospitals were at three percent or less.

As with hospital purchases, the loss of visitor and patient spend-
ing will also have an effect on job loss. This effect was estimat-
ed using the Department of Economic Security model used for hospi-
tal purchases. Estimates of increased job loss from this cause
range from 21 jobs in St. Peter to 8 in Cambridge (Table 16).
These figures probably overestimate job loss, however. Much of
the patient spending takes place in the hospital canteen; the loss

of these jobs has already been calculated in the discussion of
direct employment loss (Section IV).

TABLE 16

EFFECTS OF PATIENT & VISITOR SPENDING

State Hospital	Patient Spending	Visitor Spending	City Retail Sales	% Retail Sales	Estimated Job Loss
Anoka	$475,484	$ 66,865	$26,810,898	2.0%	14
Brainerd	357,620	105,192	42,934,934	1.1	11
Cambridge	220,982	108,792	10,959,632	3.0	8
Faribault	327,930	161,349	26,179,123	1.9	12
Fergus Falls	532,872	112,526	24,343,106	2.7	16
Moose Lake	623,140	104,972	5,595,342	13.0	18
St. Peter	723,826	129,844	7,826,847	10.9	21
Willmar	681,265	120,401	32,694,316	2.5	20

VIII. PAYMENTS TO TERMINATED EMPLOYEES

Hospital employees will not experience an immediate cessation of
all income upon termination. A variety of programs exist which
will help mitigate this impact. Among these programs are unem-
ployment compensation, severance pay, and retirement benefits.
The costs of these programs are borne by the state and not the
local government.

It is difficult to estimate how these programs will affect each
state hospital region. In most cases the effect will probably
be proportional to hospital payroll, although some hospitals may
have more persons eligible for early retirement than others.
The exact impact will depend on any terms that may be negotiated
as part of a hospital closure.

One important effect of temporary programs such as unemployment
insurance or severance pay is to delay the indirect employment
effect resulting from a closure and discussed in Section V. The
calculations performed by the Department of Economic Security
and presented in Section V reflect this factor.

IX. MIGRATION

The ultimate local economic impact of a hospital closure will
depend on the propensity of workers and their families to stay
in the area. In general, the more families move out, the more
severe the economic impact (although certain factors, such as
demand for social services, will be reduced if many people leave
the area).

In general, the propensity to move following loss of a job is
low. Numerous studies have been completed on migration in areas
affected by plant closings and severe unemployment, all of

which have found relatively little migration following job loss.
The recent experience of the Minnesota Iron Range is illustrative.
Despite massive unemployment for a long period of time and the
prospect that many jobs will never again exist, population de-
clines in Iron Range communities have in general been five percent
or less (Office of State Demographer, 1984). Typically, migration
following high regional unemployment is slow, involving primarily
young people (particularly recent high school graduates and young
workers) (Schnitzer, 1970; Buss and Redburn, 1983). Reasons cited
for not moving include social ties in the community, the cost and
trouble of moving, difficulties in selling a house, and the per-
ceived lack of job prospects elsewhere (Smith and Fowler, 1964).

Two factors will determine the relative economic impact of migra-
tion. The first is the proportion of the total area population
made up of potential migrants, and the second, the propensity of
these potential migrants to actually move. The number of poten-
tial migrants will be directly proportional to the direct and
indirect unemployment effects described in Sections III and IV.
The proportion of potential migrants will be heaviest in the
Fergus Falls and Brainerd areas and lightest in Anoka (Table 6).

Several factors affect the propensity to move. First is the per-
ceived prospect for gaining employment in the same community or
within a reasonable commuting range. This is discussed in Section
X. Second, is the perceived prospect of obtaining employment some-
where else. This factor in large part will depend on state policy
regarding transfers and reassignments. The 1984 Survey of State
Hospital Employees (State Planning Agency, 1985) asked workers
where they would most likely have to move in order to work in
their preferred field if their current job were to be abolished.
An average of 38% reported that they would not have to move or
would have to move within their county. This figure varied from
25% at Moose Lake to 59% at Anoka (Table 17).

TABLE 17

"WHERE WOULD YOU MOST LIKELY HAVE TO MOVE YOUR RESIDENCE
IN ORDER TO WORK IN YOUR PREFERRED FIELD?   (N = 3,520)

Hospital	Would not have to move	Within the county	Within rest of Minnesota	Rest of U.S.
Anoka	50%	9%	32%	9%
Brainerd	27%	7%	39%	27%
Cambridge	33%	7%	50%	10%
Faribault	28%	9%	42%	21%
Fergus Falls	26%	6%	48%	21%
Moose Lake	21%	4%	54%	21%
St. Peter	33%	6%	45%	17%
Willmar	26%	10%	49%	16%

Source: 1984 State Hospital Employee Survey, State Planning Agency

A third factor is the employment situation of spouses and other
family members. A person with an employed spouse is less likely
to move than a single person or one with a non-working spouse,
particularly if the salary of the spouse is greater than that of
the hospital employee. The 1984 Survey of State Hospital Employ-
ees was used to determine the number of state hospital employees
with other household wage earners. More than half (57%) of the
state hospital workers statewide reported other household wage
earners, with very little variation among hospitals (Table 18).

TABLE 18

PERCENTAGE OF HOSPITAL EMPLOYEES WITH OTHER WORKERS
IN HOUSEHOLD (N = 3,656)

State Hospital	No other workers	One other worker	Two or more other workers
Anoka	50%	45%	5%
Brainerd	46%	51%	2%
Cambridge	42%	53%	5%
Faribault	44%	51%	5%
Fergus Falls	40%	53%	6%
Moose Lake	43%	55%	3%
St. Peter	41%	55%	5%
Willmar	41%	56%	2%

Source: 1984 State Hospital Employee Survey, State Planning
         Agency.

Another major factor is home ownership. Renters have an easier
time moving than do home owners. Seventy-four percent of state
hospital employees own their homes, a figure close to the average
for the entire state population. Home ownership ranges from 80%
at Moose Lake to 69% at Anoka (Table 19). However, homeowners in
an otherwise prosperous area are likely to have an easier time
moving than home owners in an area where economic conditions make
it difficult to sell a house.

TABLE 19
HOME OWNERSHIP OF STATE HOSPITAL EMPLOYEES (N = 3,557)

State Hospital	Own Home	Rent
Anoka	69%	31%
Brainerd	76%	24%
Cambridge	70%	30%
Faribault	72%	28%
Fergus Falls	74%	26%
Moose Lake	80%	20%
St. Peter	77%	23%
Willmar	74%	26%

Source: 1984 State Hospital Employee Survey, State Planning
         Agency.

Finally, the age of the employee will also play a part; younger
employees are more likely to move than older ones. The median
age of state hospital employees ranges from 33 at Faribault to
40 at Anoka and Fergus Falls. More significantly, Faribault
and Cambridge have a much higher proportion of very young (less
than 24) workers than other institutions, indicating that migra-
tion in these areas may occur sooner than at the other six
(Table 20).

When all factors are considered, there appears to be little
difference from region to region in the propensity to move. On
those factors where a difference does exist, indications are
that residents of the Anoka region would be most mobile. But
Anoka State Hospital employees are also the least likely to
feel they have to move in order to find other work. On a
relative basis, therefore, migration will not be a significant
factor. On an absolute basis, however, its long-term effect
could be severe in all locations except Anoka.

TABLE 20

AGE OF STATE HOSPITAL EMPLOYEES

State Hospital	<24	24-35	36-47	48-59	60-65	65+	Median
Anoka	5%	33%	34%	20%	7%	1%	40
Brainerd	7%	39%	26%	22%	6%	1%	38
Cambridge	15%	39%	24%	17%	6%	1%	35
Faribault	21%	37%	30%	16%	6%	1%	33
Fergus Falls	7%	34%	23%	27%	7%	1%	40
Moose Lake	8%	38%	27%	20%	6%	1%	38
St. Peter	8%	40%	26%	19%	5%	0	36
Willmar	9%	41%	23%	20%	7%	1%	35

Source: Department of Employee Relations, August 20, 1984.

X. ALTERNATIVE EMPLOYMENT

The severity of economic impact will greatly depend on the ease
of finding other work. The availability of other work, particu-
larly work in the employee's field, will not be the same from
area to area. In general, an employee in a major metropolitan
area will have an easier time finding work than one in a small,
relatively isolated town.

No estimate of the number of employees at each hospital who
could expect to readily find work in the area in their field can
be made. There are indicators that show at which hospitals the
search for alternative employment would be most and least

difficult.   The first of these is the current unemployment rate in
the region.   Alternative employment would be more difficult in an
area suffering from high unemployment than an area with low unem-
ployment.   Second, the most likely source of employment for many
hospital employees is the health services industry. The 1980
Census provided a count of the number of persons employed in the
health services industry.   If hospital jobs account for a large
percentage of area health service jobs, we can conclude that
obtaining alternative health service employment in the event of a
hospital closure will be extremely difficult.

It should be noted that these results only reflect current labor
market conditions.   Redevelopment of the hospital facility or the
development of alternative care facilities for hospital residents/
patients would. change the job market for hospital employees.
These factors are discussed later in this report.

Table 21 presents July, 1984 unemployment rates in hospital coun-
ties or regions. Unemployment data are only available on a county
basis and cannot be calculated for economic impact areas. In
addition, unemployment rates are not tabulated for Anoka and Nic-
ollet Counties.   For Anoka State Hospital, the unemployment rate
for the Minneapolis-St. Paul MSA is the best available. Data for
Nicollet County are combined with data for Blue Earth County.
These unemployment rates vary from a high of 10.1 percent in
Carlton County (Moose Lake) to a low of 4.7 percent in Blue Earth
and Nicollet counties (St. Peter). With the exception of Willmar,
unemployment rates are presently highest in the areas where the
state hospitals account for the greatest percentage of area jobs.
A hospital closure in some cases would clearly exacerbate an
already bad situation.

TABLE 21

JULY, 1984 UNEMPLOYMENT RATES IN STATE HOSPITAL COUNTIES

State Hospital	County	Unemployment Rate
Anoka	Metro Counties	5.0%
Brainerd	Crow Wing	8.0%
Cambridge	Isanti	6.8%
Faribault	Rice	7.1%
Fergus Falls	Ottertail	7.9%
Moose Lake	Carlton	10.1%
St. Peter	Nicollet/Blue Earth	4.7%
Willmar	Kandiyohi	5.3%

Source: Department of Economic Security, November, 1984.

Hospital jobs account for a very large proportion of all health service jobs in several regions. The greatest percentage is found in the Fergus Falls economic impact area, where the hospital is responsible for 44 percent of all health service industry jobs. Brainerd and Moose Lake hospitals also account for 30 percent or more of their region's health service jobs. Table 22 and Figure 14 list percentages for all eight hospitals. The figure for Faribault reflects the fact that the economic impact area includes Rochester with its substantial health care employment.
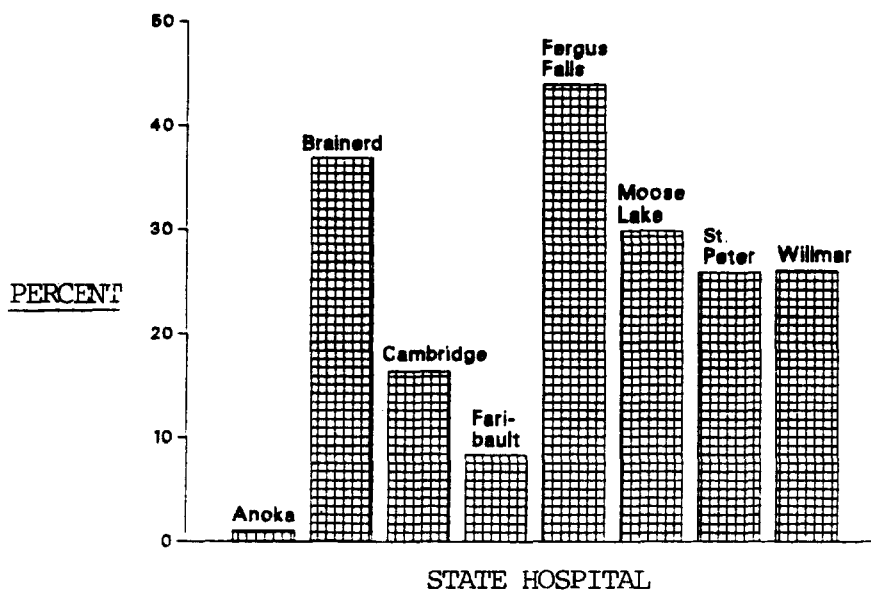
TABLE 22

HOSPITAL EMPLOYMENT AS A PERCENTAGE OF ALL EMPLOYMENT
IN THE HEALTH CARE INDUSTRY BY ECONOMIC IMPACT AREA

Economic Impact Area	Percent
Anoka	1%
Brainerd	37%
Cambridge	16%
Faribault	8%
Fergus Falls	44%
Moose Lake	30%
St. Peter	26%
Willmar	26%

Source: Bureau of Census, 1980

FIGURE 14

HOSPITAL EMPLOYMENT AS PERCENTAGE
OF EMPLOYMENT IN HEALTH CARE INDUSTRY

Source: Department of Employee Relations, 1980 Census.

XI. *REUSE OF HOSPITAL FACILITIES*

Whether or not a state hospital facility is reused will have a
major effect on the overall economic impact of a closure. A
reused facility will likely generate jobs and may possibly re-
turn tax-exempt land to the local property tax rolls. Reuse of
hospital facilities can be either public or private. The two
hospitals recently closed in Minnesota were redeveloped as pub-
lic facilities, Hastings State Hospital as a veterans' home, and
Rochester State Hospital as a federal prison.

Redevelopment for public use would probably depend little on the
location of the facility but would depend extensively on the
condition of the hospital buildings and infrastructure. A de-
tailed report on physical facilities was prepared as a separate
portion of the state hospital study (State Planning Agency,
1985). The results of this study found that Brainerd, Moose
Lake, St. Peter and Willmar State Hospitals had the highest
overall ratings for physical condition of main buildings, with
Anoka, Faribault, Fergus Falls and Cambridge State Hospitals
having lower ratings (Table 23).

TABLE 23

PHYSICAL CONDITION RATINGS OF STATE HOSPITAL MAIN BUILDINGS
(Includes Vacant Space)

State Hospital	Good-Excellent or Excellent	Fair-Good or Good	Fair	Fair-Poor or Poor
Anoka	5%	16%	32%	47%[a]
Brainerd	47%	40%	7%	7%
Cambridge	14%	41%	41%	5%
Faribault	13%	53%	10%	25%
Fergus Falls	16%	44%	28%	12%
Moose Lake	33%	62%	0%	0%
St. Peter	39%	28%	22%	11%
Willmar	17%	61%	22%	0%

[a]Includes 2 cottages which have been identified for demolition.
   If these 2 were eliminated, the percentage would be 37%.

Source: State Planning Agency, 1985.

Reuse by the private sector is an alternative to another public
facility with the added advantage of returning the property to the
local tax rolls. However, the hospital buildings are likely to be of
little use to a private developer who will probably be interested
only in the land and the infrastructure. The potential for private

sector reuse will be extremely dependent on the location of the
campus.   Other factors include the surrounding population base,
transportation facilities, availability and cost of energy,
proximity to industrial markets, the availability of a trained
workforce and the degree of amenities found in the area.

The population base can be defined as the population of the econo-
mic impact area.   These range from 824,000 in Anoka to 22,000 in
Fergus Falls.   Cambridge and Faribault also have population bases
over 100,000 (Faribault because of its proximity to Rochester).
In addition, Moose Lake is reasonably close to the more than
100,000 people in the Duluth area, although this area is not in-
cluded in the economic impact zone (Table 24).

TABLE 24

POPULATION OF ECONOMIC IMPACT AREAS

Area	1980 Population	Area	1980 Population
Anoka	823,724	Fergus Falls	21,855
Brainerd	35,322	Moose Lake	33,613
Cambridge	118,768	St. Peter	67,901
Faribault	143,774	Willmar	36,385

It is difficult to make a comparative ranking of transportation
facilities, but considerable variation from community to community
is apparent when evaluated on a qualitative basis.   Four state hos-
pitals, Anoka, Faribault, Fergus Falls, and Moose Lake, lie within
five miles of an interstate highway.   A fifth, Cambridge, is only
14 miles from the nearest interstate.   St. Peter, while not near an
interstate, does lie on a modern four-lane highway (TH 169) with
excellent access to the Twin Cities. Highway access, however, would
appear to be a serious drawback for Willmar and Brainerd.   Access
to air transportation is a problem for most locations.   Only Anoka
lies within 20 miles of a major commercial airport.   Brainerd has a
small commercial airport, and St. Peter is about 20 miles from the
small commercial facility at Mankato, but all other hospital sites
are at least 35 miles from the nearest commercial air facility.
Willmar, again, would appear to be at the greatest disadvantage.
Rail access, however, is fairly good.   While no hospital has a rail
siding on site, all communities are on a main line with at least
daily service (Department of Energy and Economic Development, 1973
- 74).   Anoka, with its proximity to the large rail depots of Min-
neapolis and St. Paul, and Willmar, which is on the main line be-
tween Chicago and Seattle, would appear to rank best on this issue.

A separate report in this series discussed energy use and costs and found significant variation between energy costs faced by the state hospitals (State Planning Agency, 1985). While there is no guarantee that the energy supplies and prices available to the state hospitals would be available to a private developer, they do provide some guidance as to what energy costs private industry might face at each site. Fergus Falls (1.12 cents/kwh) and Willmar (1.16 cents/kwh) pay the lowest electricity costs of all hospitals. These hospitals purchase electricity directly from a wholesaler, the Western Area Power Administration. Moose Lake (6.22 cents/kwh) and Cambridge (6.01 cents/kwh) pay the most. Moose Lake buys its electricity from the local municipal utility while Cambridge buys from a local cooperative.

Heating costs depend on the type of fuel used. Fergus Falls and Cambridge have coal-burning heating plants and pay $1.96/MMBTU and $2.40/MMBTU respectively. The other six hospitals heat with natural gas and pay between $4.14/MMBTU and $4.96/MMBTU. New and more efficient heating plants could be constructed as part of any new development. However, Fergus Falls would appear to have an overall advantage on the other sites regarding energy prices.

TABLE 25

ENERGY PRICES AT STATE HOSPITALS FY '83

State Hospital	Electricity Price ($ per kwh)	Heating Fuel Price ($ per MMBTU)	Heating Fuel
Anoka	$.0371	$4.40	Natural Gas
Brainerd	$.0540	$4.36	Natural Gas
Cambridge	$.0601	$2.40	Coal, Gas
Faribault	$.0368	$4.14	Natural Gas
Fergus Falls	$.0112	$1.96	Coal
Moose Lake	$.0622	$4.98	Natural Gas
St. Peter	$.0399	$4.16	Natural Gas
Willmar	$.0166	$4.38	Natural Gas

Source: State Planning Agency, 1985.

Proximity to industrial markets is, of course, quite important for large scale private economic development. This can be measured in two ways. The first is by the amount of manufacturing employment in the site's county, and the second is by the distance to the major industrial market of Minneapolis-St. Paul and the distance to the nearest city of 50,000 or more. These factors are presented in Table 26. Anoka has a substantial advantage on both factors, with Brainerd, Willmar, and Fergus Falls at a disadvantage.

TABLE 26

PROXIMITY TO INDUSTRIAL MARKETS

State Hospital	County Manufacturing Employment 1982	Distance to Mpls-St. Paul (miles)	Closest Large City	Distance (miles)
Anoka	19,583	20	Minneapolis	20
Brainerd	1,646	125	Duluth	113
Cambridge	968	40	Minneapolis	40
Faribault	2,780	55	Rochester	54
Fergus Falls	2,496	175	Fargo	56
Moose Lake	2,348	100	Duluth	33
St. Peter	3,696	66	Minneapolis	66
Willmar	1,961	93	Minneapolis	93

Source: Bureau of the Census, 1984.

Many employers show a preference for regions with significant scenic, recreational, or cultural resources. Each of the eight state hospital sites has something to offer in this regard. However, Anoka stands out because of its proximity to the cultural advantages of the Twin Cities area, while Brainerd is located in the center of a popular resort area.

The availability of a trained labor force is quite important to industrial development. The number of trained workers available is directly proportional to the area population, meaning that Anoka would have a considerable edge in this regard. However, if we view redevelopment as a means of supplying jobs for workers displaced by the closing of a state hospital it is important to realize that these workers have few skills that would be of use outside of the health care industry and would require retraining for other occupations.

In summary, Anoka would appear to present by far the greatest opportunity for industrial development. The other seven locations each have a unique combination of advantages and disadvantages that make relative ranking impossible. One strong cautionary note must be sounded, however. While 31 state hospitals have closed nationwide, none have been redeveloped by private industry (State Planning Agency, 1985). One has been sold to a religious group and one to a college, but the rest have been reused by the public sector.

XII. LOCAL GOVERNMENT HEALTH CARE EXPENDITURES

While most of the funding for state hospitals comes from the state and federal governments, a portion does come from county government. As the closing of a state hospital may affect the amount that hospital's county pays for treatment of its mentally retarded, mentally ill, or chemically dependent citizens, local economic impact is possible. A discussion of this issue will be presented in other reports.

XIII. SOCIAL SERVICE COST TO LOCAL GOVERNMENTS

The large increase in local unemployment which will follow a state hospital closing will certainly place demands on the provision of social services ranging from emergency food shelves to mental health counseling. These services are provided by the state, county government, city government, and private organizations. However, it is likely that the greatest impact will fall at the county level. While we cannot directly estimate the cost to county government of providing these services, we can look at relative impact by tabulating the number of state hospital employees living in each county (Table 27).

TABLE 27

STATE HOSPITAL EMPLOYEES BY COUNTY OF RESIDENCE

County	State Hospital Employees
Rice	1,017
Crow Wing	647
Ottertail	637
Kandiyohi	605
Isanti	545
Nicollet	455
Carlton	377
Anoka	287
Pine	184
Le Sueur	176
Blue Earth	173
Hennepin	129
Chisago	74
Steele	62
Kanabec	46
Mille Lacs	37
Ramsey	35
Goodhue	33
Olmsted	26
Stearns	23
Sherburne	21
Morrison	18
St. Louis	17
Cass	15

Note: Counties with fewer than 15 state hospital employees are not listed. Some counties include employees from more than one state hospital.

Source: Department of Employee Relations, August 7, 1984.

The impact on local social services will also depend on the speed and likelihood of obtaining alternative employment, indirect employment effects, and migration. However, it seems that at least 12 counties would experience significant strain on their social service agencies should the hospital in their area close. Rice County would be by far the hardest hit due to the large work force at Faribault State Hospital. Crow Wing (Brainerd), Ottertail (Fergus Falls), and Kandiyohi (Willmar) Counties would also experience particularly severe effects.

The strain on city and private services would also depend on the concentration of the hospital workforce. The impact would likely be greatest at a community such as Fergus Falls, where a high percentage of the workforce lives in the city, than in a community such as St. Peter or Anoka, where the workforce is spread over a larger area, incorporates several counties, and represents a smaller overall share of the area population. The concentration of workers in the primary impact zone (Table 2) provides a good guide to the relative burden on city and private services.

XV. EFFECT ON LOCAL TAX REVENUES

In general, closing of a state hospital would reduce local tax receipts. The effect, however, would likely be minor. The principal source of revenue for local governments is the property tax. Property tax revenues will decline if households move from the area to seek employment elsewhere and abandon (rather than sell) their property, if the delinquency rate increases, or if the pressures on the real estate market force housing values down. Again, the greater the concentration of hospital employees, the more likely a deleterious effect on local government revenues.

Increased tax revenues could result if alternative use of the hospital facilities (now tax exempt) results in the property placed on the tax rolls. This, however, presumes private sector rather than public sector development of the property. Section XI of this report deals with the prospects for private redevelopment.

XVI. LOCAL GOVERNMENT EXPENDITURES

The existence of a large facility such as a state hospital inevitably makes some demands on local government services, and the closing of a hospital could result in savings to the local government. In practice, however, savings are not likely to be significant. Local governments do provide police and fire protection to the state hospitals, but the hospitals reimburse the local governments for these services. Roads leading to

state hospitals are state highways; the state is responsible
for their maintenance. In some cases, the hospitals purchase
electricity, water, or sewer services from municipalities. Any
economic impact would occur only if the hospitals were subsidi-
zing or being subsidized by other users, or if the closure of a
state hospital enabled the municipal utility to avoid future
capital expenditures. These factors are extremely difficult to
assess and are unlikely to be significant.

XVII. SUMMARY

- In the case of seven of the eight state hospitals, the local
  economy will be hard-pressed to accommodate the increase in
  unemployed workers. The economy of the Twin Cities area is
  probably sufficient to accommodate any change in Anoka State
  Hospital.

- In addition to the direct loss of hospital employment, a
  significant loss in non-hospital employment will follow the
  closing of a state hospital. The full effect of this loss
  will occur over a ten year period.

- On a local level, state hospital employment has the greatest
  impact on the Moose Lake area, where 19 percent of the work-
  force is employed by the hospital. In the Anoka area, less
  than one percent of the workforce is employed by the hospi-
  tal. In the remaining six communities the state hospital
  accounts for 4 and 9 percent of the workforce.

- On a regional level, the effect of a state hospital closure
  would be greatest in the Fergus Falls region, where eight
  percent of the workforce would be unemployed as the result
  of a hospital closure. The impact would be the least in the
  Anoka region, where only one-tenth of one percent of the
  workforce would be affected. In the other six communities
  between two and six percent of the workforce would be
  affected.

- Areas affected by the closing of a state hospital are not
  likely to experience substantial population losses in the
  short run. However, a long range population decline is
  likely unless the local economy is strong (as in the case of
  Anoka) or redevelopment efforts are successful.

- Purchases made by the state hospitals have little effect on
  the local economy.

- With the exception of Anoka, the prospects for local reem-
  ployment of state hospital employees in the health services
  industry without the development of new jobs are not good.

Redevelopment of hospital facilities for public sector use will depend on the condition of buildings and infrastructure. Brainerd, Fergus Falls, Moose Lake, and St. Peter are currently in the best condition.

For private redevelopment the hospital buildings are probably of little use, although the land and infrastructure have value. Private redevelopment is highly dependent on location. Anoka State Hospital is the most likely site for private redevelopment. However, there is no precedent for private redevelopment of a hospital campus in the U.S., based on recent survey results.

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APPENDIX A

TECHNICAL DOCUMENTATION OF ECONOMIC MODELS

I. Department of Economic Security

Dr. Rudy Pinola of the Research and Statistics Division, Minnesota Department of Economic Security provided estimates of direct and indirect unemployment resulting from the closure of state hospitals. Dr. Pinola's study was based on data at the county level, including all counties where at least six state hospital employees resided. Adaptation of this method to economic impact areas was done by state hospital study staff.

Two different scenarios were employed in developing unemployment estimates. The first was a "worst case" scenario, assuming that all employees of a closed hospital, as well as indirectly affected non-hospital workers, would be unemployed. The second, "reasonable case", scenario assumes that retirements, transfers to other state service, labor force drop-outs, private sector job transfers, need for skeleton crews, and adjustments for multiple job holders would mitigate the immediate effects on employment. Indirect job losses would also be added in this scenario. Besides estimating immediate unemployment effects, the study includes estimates of unemployment after 27, 52, and 104 weeks have passed.

Explanation of Variables

Retirement. Retirees would move from "employment" to "not in the labor force." The report combined data from the State Planning Agency and the Minnesota State Retirement System to develop a matrix of state hospital employees by county of residence, age group, and length of service. It was assumed that none of the employees less than 55 years of age would choose to retire. For the age group 55 through 61, it was assumed that 50% of those workers eligible to retire would do so. Of the age group 62 and over, it was assumed that 75% of those eligible would retire. These assumptions resulted in an estimate of 98 retirees out of a total of 5821 employees.

Transfer. The labor force status of employees who transfer to other positions within the state system would not change. The study assumes that 3.5% of state hospital employees would transfer within the state system. This is an arbitrary but conservative assumption, resulting in a total of 204 transferees among all eight state hospitals.

Accept Jobs in the Private Sector or Drop Out of the Labor Force (LFDO). The labor force status of those going to private industry would not change. LFDOs do not affect the unemployment rate as

much as those who lose their jobs and wish to be re-employed,
because the former are not in the labor force and are therefore
not considered unemployed. It was assumed that five percent of
state hospital employees would join the private sector, and five
percent would be LFDOs.

Skeleton Crew. It was assumed that 15 people would be needed at
each state hospital as monitors until disposition of the buildings
and grounds is completed.

Multiple Job Holders. Following Bureau of Labor Statistics (BLS)
standards, those people who might be laid off from state hospital
jobs, but who hold more than one job, would still be considered
employed. Because reliable state data do not exist, national data
from 1981 were used. At that time, 4.9% of employed people held
more than one job. It was decided to use the more conservative
figure of 4% of state hospital employees as multiple job holders.

Unemployed 27 Weeks or Longer. To determine how many displaced
workers would still be unemployed six months following the closure
of a state hospital, national data from the Current Population
Survey were reviewed. Duration factors were developed for three
ranges of unemployment levels: low (6% and under), medium (6.1%
through 9.1%) and high (9.2% and higher). In February, 1980, the
U.S. actual unemployment rate was 6.0%. Six months later 18.2% of
"other job losers" (as distinct from "job losers ... on layoff")
were unemployed 27 weeks or longer. The middle range factor was
25.6%, based on a U.S. rate of 9.1% in May, 1982, while the high
range of 28.0% was based upon the highest U.S. rate in modern
times of 11.4% in January, 1984. The relevant duration factors
were then used to determine the number of unemployed workers in
each county at the time of closing who would still be unemployed
27 weeks or later.

Unemployed 52 Weeks and 104 Weeks. A Bureau of Labor Statistics
procedure for "surviving" unemployment compensation "exhaustees"
was used to calculate the unemployed after 52 and 104 weeks. Each
year BLS supplies a factor which is applied weekly to the pool of
people who have exhausted their Unemployment Insurance benefits to
determine how many people remain in the pool of unemployed with
the passage of time. The 1984 factor of .962, the highest ever
experienced, was used in this study.

Estimating Indirect Income Effects

In order to estimate the indirect effect on employment of a state
hospital shutdown, the notion of a multiplier effect on reverse
income generation was used. In addition, it was assumed that the
full indirect effects would not be felt instantaneously, but would
begin to show up one to two years after a closure of facilities.

To develop the reverse income multiplier, it was necessary to
first estimate the loss in income generation that results from the
outflow of sales receipts to purchase goods from outside the area.
To estimate this outflow, the retail mark-up on various goods
normally purchased in the community was researched. It was felt
that an average mark-up on all items of the consumer market basket
would amount to 40 percent, leaving a loss of 60%. The reciprocal
of this loss, 1/.60, is the estimated income multiplier, 1.67. The
income multiplier could then be used to determine the decrease in
income from a reduction in expenditures in the community by the
State for state-operated hospitals. This would mean that if state
financed payrolls in a community fell by $200,000, the ultimate ef-
fect on overall income generation would be a reduction of $200,000
x 1.67, or $334,000, of which $200,000 is the direct and $134,000
the indirect effect due to the multiplier.

Estimating the Indirect Employment and Unemployment Effects. The
indirect portion of the income loss noted above represents income
support to jobs that are indirectly supported by state expendi-
tures through operation of the multiplier. Having estimated the
indirect income effect of a reduction in state expenditures, it is
left to determine the indirect effect on employment that would
result from such an income effect. The indirect effects of a
reduction in state expenditures on state hospitals is likely to be
concentrated in the service sector. It was assumed that $40,000
in annual spending would be needed to support a position in the
service sector.

Using the above example to illustrate the indirect employment
effect, there would be an indirect reduction in income generation
of $134,000. Dividing this amount by $40,000 would result in a
loss of 3.35 positions in the service sector. The indirect loss
in employment was adjusted in the same way as the direct loss to
reflect retirees, transfers, and multiple job holders.

Finally, it was noted that the full reverse multiplier effect
would not be instantaneous. It was therefore assumed that 50
percent of the multiplier effect would occur one year after clo-
sure of a facility, and an additional 30 percent in the second
year, providing close to a worst case scenario.

II. Minnesota Forecasting and Simulation Model (MNFS-53) -
     Department of Revenue

The Research Division of the Minnesota Department of Revenue
applied the Minnesota Forecasting and Simulation model (MNFS-53)
to forecast the economic changes brought on by various government
policies. MNFS-53 is based on a model originally developed by
Treyz, Friedlanender, and Stevens (1983) for the Commonwealth of

Massachusetts.   The TFS model structure is based on econometric
theory and uses data and parameter estimates which are valid for
all regions of the U.S. However, specific coefficients and time
series for the model of Minnesota are based on Minnesota data
only.

The forecasts generated by MNFS-53 are highly detailed, including
prices, local-national relative business costs, employment, wage
rate changes, residential and nonresidential investment, the con-
sumer price index, and personal income. Generating the forecasts
involves the simultaneous solution of a large number of equations,
which can be divided into three sets: demand and supply linkages,
cost linkages, and wage determination linkages. Within each set
of equations, a change in any one variable will reverberate
throughout the entire model.

The third set of equations mentioned above, Wage Determination
Linkages, is the one directly applicable to the study of state
hospital closings.   A change imposed from outside the system, in
this case a decrease in hospital employment, will cause changes
throughout the system. Population will shift as wage rates change
in response to the decreased demand for labor in the industry.
Changes in the number of available workers will also exert counter
pressures on wages.   As the changes move through the system over
time, a new equilibrium level of employment will be reached in the
region.   It is the difference between this new level and the
original level of employment which is the indirect employment
effect forecast for a state hospital closure.

III.   Regional Multiplier Model

In this model a different trade multiplier was calculated for each
state hospital economic impact area. The first step in the pro-
cess was the determination of an impact zone around each hospital.
Once the impact zone was defined, a multiplier was calculated for
each area.   The direct income loss to a region as a result of the
closure of a state hospital was then determined. When the multi-
plier for a region was applied to direct income loss in that
region, the additional, indirect income loss was found. Finally,
the indirect loss in area income was translated into indirect loss
in employment.

Calculating the Multipliers.   The multipliers are based on the
formula

$$M(i) = 1/(1-Kb)$$

where M(i) is the multiplier for region i, K represents the
proportion of a dollar of local consumption which is retained in
the region, and b is the propensity of households to consume
locally.

In order to determine M, it is necessary to find Kb. Moore (1973) estimated that Kb=-6.67 + 11.9(log(10) population). In a later work, Erickson (1977) found that the Moore equation was appropriate for larger urban areas, but that for areas with population under 50,000, Kb=-42.77 + 19.03(log(10) population) gave a more appropriate multiplier. The Moore equation was therefore used in calculating the multiplier for the impact area around Anoka State Hospital, while the Erickson equation was used for the remaining seven state hospitals. The population for each area was based upon zip code data. The number of persons residing in each of the zip code zones included in the impact area around each hospital was found, and the total for each area was substituted into the above equations for Kb. The results of those calculations were in turn substituted into the equation for M(i), resulting in a multiplier for each hospital region. Multipliers ranged from 3.3 in the Anoka region to 1.7 at Fergus Falls.

Determining Direct Income Loss

The direct income loss to an area due to the closure of a state hospital is primarily comprised of the wage and salary income lost by laid-off hospital workers. For this study, a list of employees' bi-weekly net pay by zip code was used. Their zip codes in this list were matched with the list of numbers of employees by zip code to obtain the total direct income loss for each zone within each economic impact area. The direct income loss was then converted from a bi-weekly to an annual basis.

Calculating Indirect Income Loss. Besides the direct loss of wage and salary income due to closure of a facility in an area, there is an additional, indirect loss due to the "multiplier effect". To determine the extent of the indirect loss, the multipliers for each region were applied to the direct loss for each zone within that region. As an example, the multiplier for the Willmar area was calculated to be 1.79. If the shutdown of the Willmar State Hospital resulted in lost wages of $200,000, the total income loss in the Willmar area would be $200,000 x 1.79, or $358,000. Of this total, $158,000 would be the indirect loss. This income would have supported non-hospital jobs in the area.

Translating Indirect Income Loss into Indirect Employment Effects. Following the example of the Department of Economic Security model discussed in Part I of the appendix, it was estimated that $40,000 in spending per year was needed to support one service sector job. For each zip code area, total indirect income loss was divided by $40,000 to find the number of non-hospital positions which would be lost in the area if a hospital closed. Finally, the indirect job losses for each zip code area were summed for the entire hospital region to give total indirect job loss as a result of closing each hospital. The number of jobs lost ranged from a high of 365 in the Faribault State Hospital economic impact area to 113 in the Moose Lake economic impact area.

APPENDIX B

Results using alternative impact areas for Faribault and Moose Lake

During the review and comment period for this report, the Coalition of Concerned Citizens for Moose Lake State Hospital and representatives of Faribault State Hospital suggested Cloquet and Rochester not be included in their respective economic impact areas. The following tables and figures reflect some of the results found in this report had they been compiled using the area boundaries suggested by these groups. Time limitations prevented recalculation of the multiplier analysis to conform to these boundaries. In each case, the absolute indirect unemployment effect would decrease as the multiplier would be applied to a smaller base.
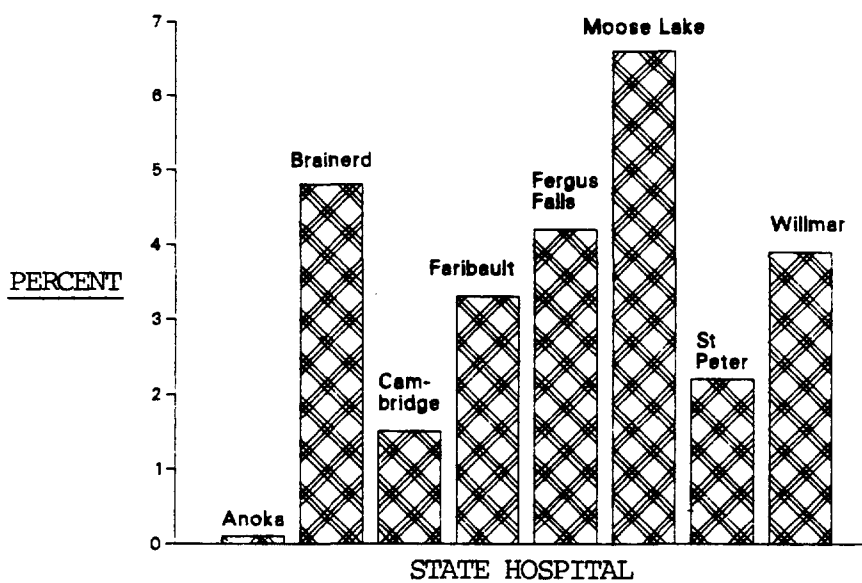
TABLE 1 (Adjusted)
ALTERNATIVE ECONOMIC IMPACT AREAS

State Hospital	Primary Impact Zone	Secondary Impact Zone	Remainder of Impact Area	
Faribault	55021	55021	55046	55057
			55049	55060
			55052	55087
			55053	55946
				56096
Moose Lake	55767	55707	55072	55735
	55783	55757	55704	55756
		55762	55712	55760
		55795	55718	55778
			55726	55787
			55729	55798

TABLE 2 (Adjusted)
STATE HOSPITAL EMPLOYMENT AS A PERCENT OF TOTAL AREA EMPLOYMENT

State Hospital	Primary Zone	Primary & Secondary Zones	Entire Impact Area
Anoka	0.5%	0.2%	0.1%
Brainerd	5.5%	5.5%	4.8%
Cambridge	6.2%	3.5%	1.5%
Faribault	9.4%	9.4%	3.3%
Fergus Falls	6.9%	6.9%	4.2%
Moose Lake	18.8%	13.3%	6.6%
St. Peter	8.2%	2.1%	2.2%
Willmar	4.0%	4.5%	3.9%

FIGURE 12 (ADJUSTED)

HOSPITAL EMPLOYMENT AS PERCENTAGE OF TOTAL
EMPLOYMENT - ENTIRE IMPACTED AREA

Note: Economic impact areas as defined by representa-
       tives from Faribault and Moose Lake State Hos-
       pitals.

Source: Department of Employee Relations, 1980 Census.

TABLE 3 (ADJUSTED)

HOSPITAL PAYROLL AS A PERCENT OF TOTAL AREA WAGE AND SALARY INCOME

State Hospital	Primary Zone	Primary & Secondary Zones	Entire Impact Area
Anoka	0.5%	0.2%	0.1%
Brainerd	7.6%	7.6%	6.7%
Cambridge	7.7%	4.4%	1.7%
Faribault	12.5%	12.5%	4.6%
Fergus Falls	10.5%	10.5%	10.1%
Moose Lake	28.8%	19.5%	9.7%
St. Peter	16.9%	3.4%	3.5%
Willmar	5.7%	6.4%	5.9%

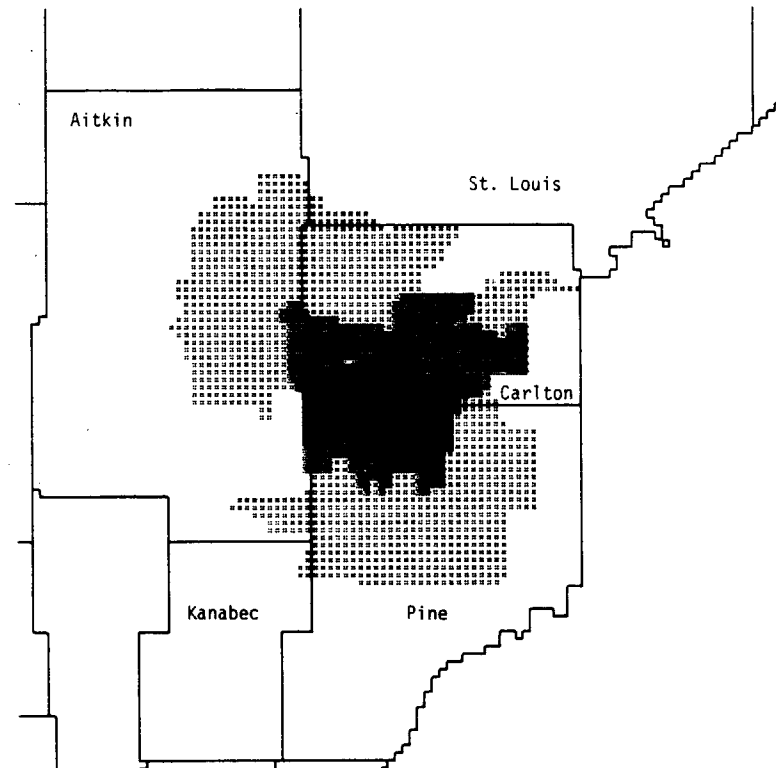Source: Department of Employee Relations, 1980 Census

FIGURE 5 (ALTERNATIVE)

ECONOMIC IMPACT AREA FOR
FARIBAULT STATE HOSPITAL
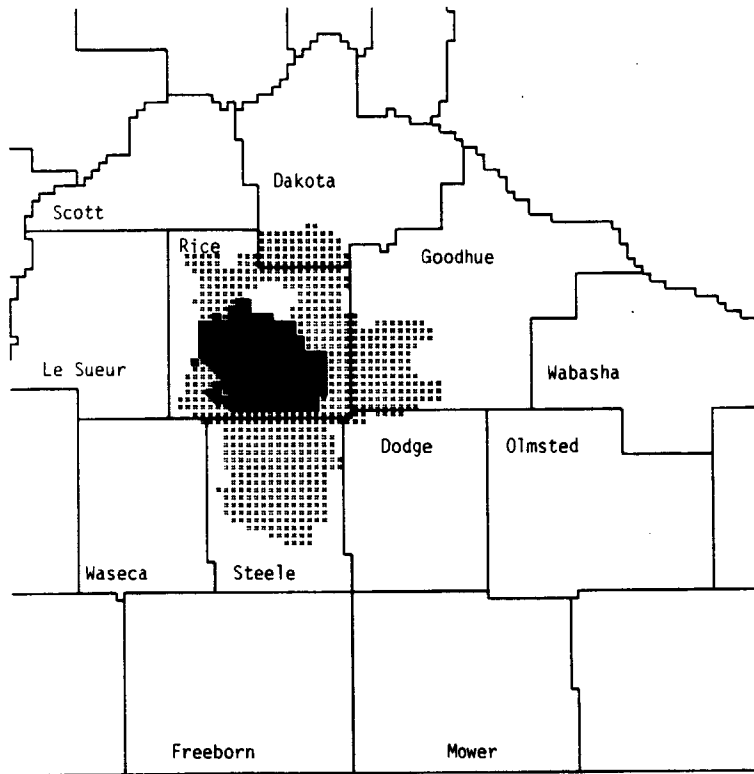
■ Primary Zone

▦ Remainder of Impact Area

Note: Economic impact areas as
defined by representa-
tives of Faribault State
Hospital.

FIGURE 7 (ALTERNATIVE)

ECONOMIC IMPACT AREA FOR
MOOSE LAKE STATE HOSPITAL

■ Primary Zone

▦ Secondary Zone

▦ Remainder of Impact Area

Note: Economic impact areas as de-
fined by representatives of
Moose Lake State Hospital.
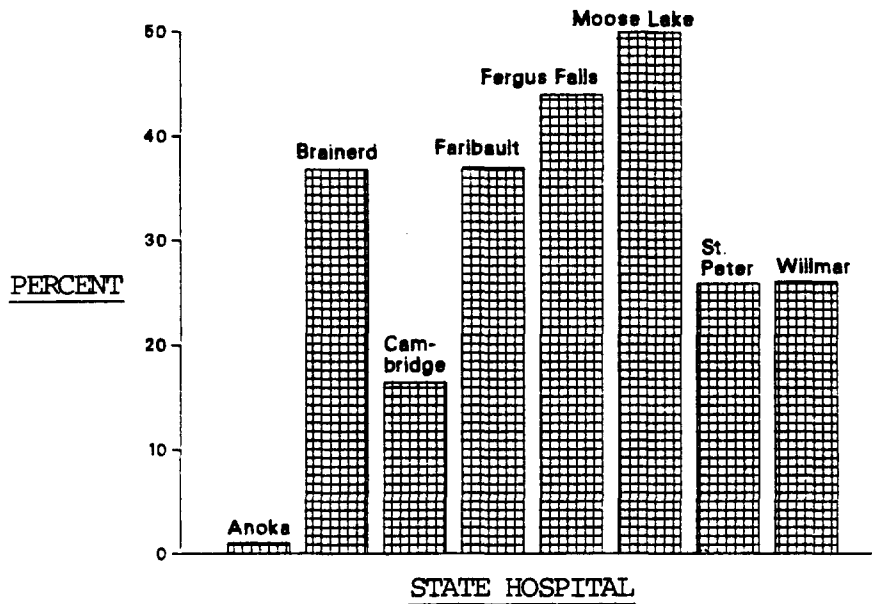
TABLE 22 (Adjusted)

HOSPITAL EMPLOYMENT AS A PERCENTAGE OF ALL EMPLOYMENT
IN THE HEALTH CARE INDUSTRY BY ECONOMIC IMPACT AREA

Economic Impact Area	Percent
Anoka	1%
Brainerd	37%
Cambridge	16%
Faribault	37%
Fergus Falls	44%
Moose Lake	50%
St. Peter	26%
Willmar	26%

FIGURE 14 (ADJUSTED)

HOSPITAL EMPLOYMENT AS PERCENTAGE
OF EMPLOYMENT IN HEALTH CARE INDUSTRY

STATE HOSPITAL

Note: Economic impact areas as defined by representa-
tives of Faribault and Moose Lake State Hos-
pitals.

Source: Department of Employee Relations, 1980 Census.

The 1984 Legislature mandated that a study and plan for Minnesota State Hospitals be prepared (Chapter 654, Section 19).

An Institutional Care and Economic Impact Planning Board was created composed of the following state agency heads: Sister Mary Madonna Ashton, Dept. of Health; Barbara Beerhalter, Dept. of Economic Security; Gus Donhowe, Dept. of Finance; Bill Gregg, Dept. of Veterans Affairs; Sandra Hale, Dept. of Administration; Leonard Levine, Dept. of Human Services; Orville Pung, Dept. of Corrections; David Reed, Dept. of Energy & Economic Development; Nina Rothchild, Dept. of Employee Relations; James Solem, Housing Finance Agency; and Tom Triplett, Chair, State Planning Agency.

Responsibility for the studies was given to the Developmental Disabilities Program/Council of the State Planning Agency.

Eight technical papers have been prepared to respond to the legislative requirements. This paper may be cited:

State Planning Agency. (1985, January). Policy Analysis Series Paper No. 4: The economic impact of Minnesota State Hospitals. St. Paul, MN: Developmental Disabilities Program, State Planning Agency.

"Residents" refer to people with mental retardation who live in state hospitals.

"Patients" refer to people with mental illness and people with chemical dependency who receive services at the state hospitals.

Additional free copies of reports or information about this project can be received from:

Developmental Disabilities Program
State Planning Agency
201 Capitol Square Building
550 Cedar St.
St. Paul, MN 55101
612-296-4018