



Abt Associates Inc.

Cambridge, MA  
Bethesda, MD  
Chicago, IL  
Durham, NC  
Hadley, MA  
Lexington, MA

Abt Associates Inc.  
55 Wheeler Street  
Cambridge, MA 02138-1168

**Final Report –  
Supplemental Data  
(Assessment of Current  
Supply and Demand for  
LTC Services in the  
State)**

**Second Briefing**

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*Prepared for*  
Department of Social Services  
State of South Dakota  
Div of Adult Services and Aging  
700 Governors Drive  
Pierre, SD 57501

*Prepared by*  
Carol Simon, PhD  
Andrew Johnson, MA  
Victoria Shier, MPA

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# Summary and Roadmap

This document reviews Abt’s findings on the existing availability of LTC services in South Dakota. We describe the availability of services at the state level and at the county level and then compare service availability and utilization rates across the state. We focus on variation in service availability, gaps in coverage and mismatches between where services are and where the growth in the population of elders is the greatest.

We examine:

- Nursing Home Services
- Assisted Living Services
- Home Health Services
- Home and Community-based Services – including Adult Day Services, Homemaker and nutrition services

South Dakota is characterized by tremendous variation – in demographics, geography and availability of LTC. In each section we discuss

- Capacity:
  - How does capacity vary by county?
  - How does capacity vary by county as a proportion of elderly/need?
  - How do county-levels of capacity compare to county growth in the elderly population?
- Utilization, e.g.
  - How does occupancy vary by county?
  - How has the change in occupancy varied over time by county?
  - How does the population of residents/users as a proportion of elderly vary by county?
  - How does severity of illness or characteristics of utilization vary by county?
- Travel patterns/migration
  - Do the elderly in a county travel for services?
  - To which counties do elderly most often move to for services

In each section we present maps that illustrate variation in services by county. Tables highlight counties with particularly high or low levels of services and areas with acute mismatches between service availability and perceived need based on the numbers of elders in the community. We offer some preliminary conclusions at the end of each section.

# Nursing Facility Summary

County levels of nursing facility capacity and utilization are analyzed and compared to county elderly growth rates to identify areas within the state that have the potential for a mismatch of service availability and demand. Areas of low growth and high growth of elderly are compared to levels of capacity, utilization, change in utilization, and residents entering or leaving the state for service. The specific components of nursing facility capacity, utilization, and patient migration are further explored throughout this section in more detail.

**Table 1.1**

## Nursing Facility Summary of Standout Counties

	No Capacity (No facilities)	Lower Capacity (1-49 beds per 1,000 elderly)	Higher Capacity (100-199 beds per 1,000 elderly)	Lower Utilization (30%-69% occupancy rate)	Higher Utilization (80%-100% occupancy rate)
<b>Low Pop Growth (-3%-0%)</b>			McCook (SE)	Miner (SE)	Hughes (C)
<b>High Pop Growth (15+%)</b>	Corson (AI) Dewey (AI) Ziebach (AI) Campbell (C) Jones (C) Stanley (C) Sully (C) Todd (AI) Buffalo (AI) Shannon (AI)	Meade (W) Pennington (W)			Meade (W) Pennington (W) Jackson (AI) Custer (W)

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

Table 1.1 summarizes the counties that have low/negative elderly population growth (-3 to 0 percent) or high elderly population growth (15+ percent) and have no capacity (no facilities), low capacity (1 to 49 beds per 1000 elderly), high capacity (100 to 199 beds per elderly), low utilization (30 to 69 percent occupancy rate), or high utilization (80 to 100 percent occupancy rate).

One group of counties that stand out are counties with high elderly population growth and either no capacity (Corson, Dewey, Ziebach, Campbell, Jones, Stanley, Sully, Todd, Buffalo, Shannon), low capacity (Meade, Pennington), or high utilization (Meade, Pennington, Jackson, Custer). These counties either have no nursing facility resources or are likely to be the most constrained in nursing facility resources. Meade and Pennington counties also have low levels of nursing facility residents as a proportion of the elderly population (0 to 4 percent). Meade and Custer counties have a significant portion of facility residents coming from outside of the facility county (40+ percent of facility residents).

A second group of standout counties are those with low elderly population growth and high capacity (McCook) or low utilization (Miner). McCook County also has a high proportion of nursing facility residents compared to elderly population (10+ percent). Miner experienced a decrease in occupancy rates 2003 to 2005 (-20 to -5 percent change). These counties may currently have excess capacity or decreasing utilization or are likely to experience either of these situations in the future.

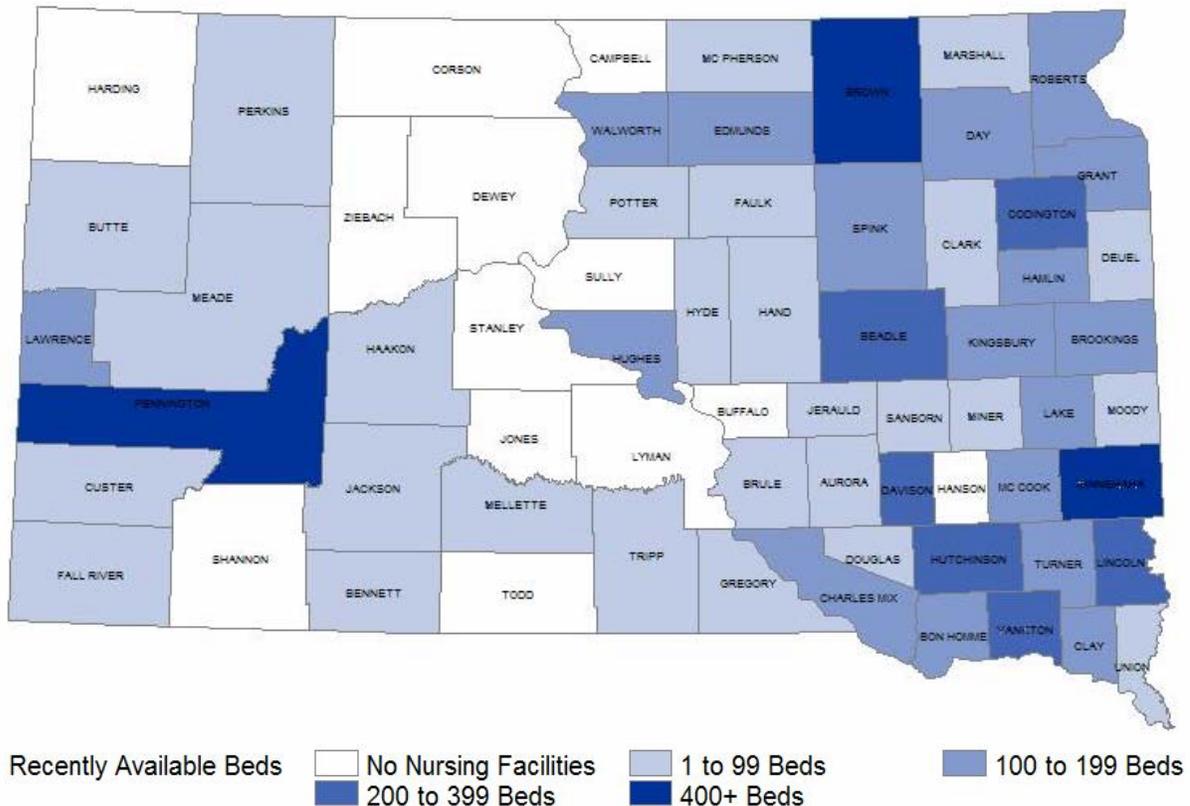
### Nursing Facility Capacity

The supply of nursing facility services in South Dakota is examined through county-level analyses of available beds. All analyses of available nursing facility beds are based on “recently available beds”. This variable was created to estimate available nursing facility beds because the number of licensed or available beds in each facility may vary greatly at different points in time and the number of moratorium beds may not be an accurate estimate of available beds in every county. ‘Recently available beds’ measures the greatest number of beds available in a facility during the past five years. County analyses throughout this section are based on facility-level data from the South Dakota Medical Facilities Report of 2005 Data. We focus on the following questions:

- How does Nursing Facility capacity vary by county?
- How does Nursing Facility capacity vary by county as a proportion of elderly?
- How do county levels of capacity compare to county growth in the elderly population?

Thirteen of South Dakota’s 66 counties have no available beds; 11 are frontier counties and two are rural counties (Exhibit 1.1). Six counties are American Indian, five are in the Central region, one in the Southeast, and one in the West.

*Exhibit 1.1: South Dakota Map: Number of Recently Available Nursing Facility Beds by County*

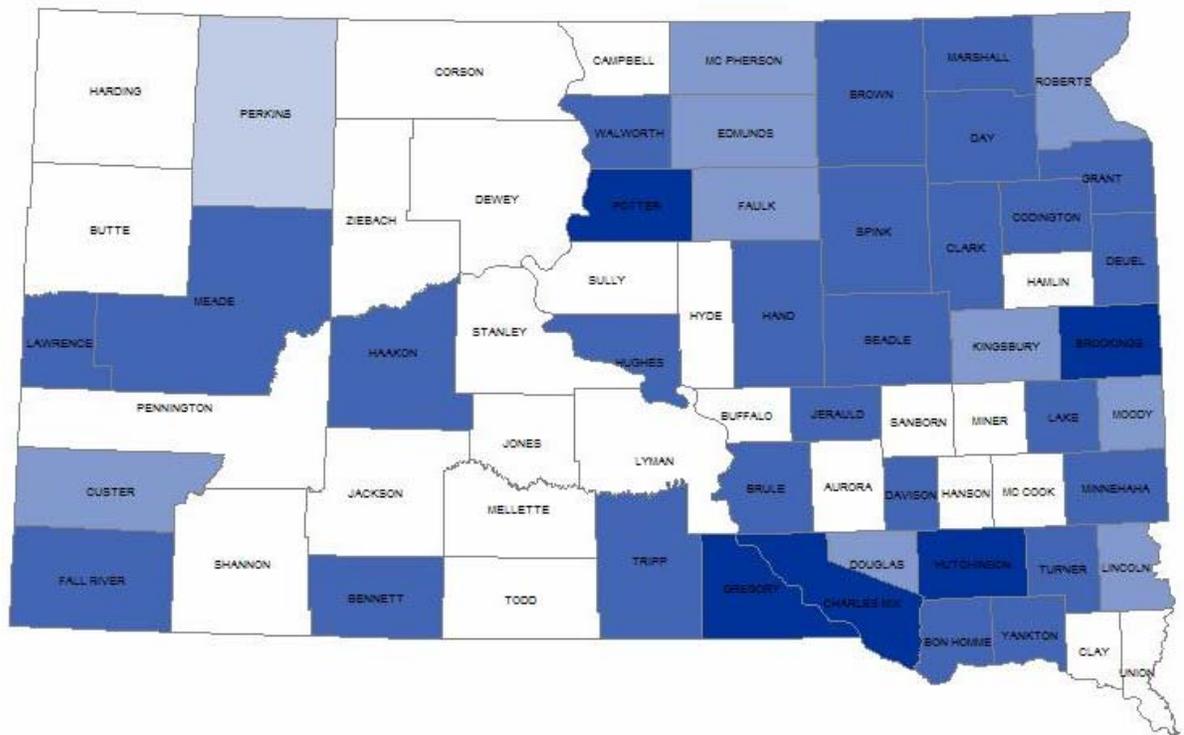


The national average elderly population growth is about 5 percent, while the South Dakota elderly population growth is about 10 percent between 2000 and 2005.<sup>1</sup> Two (Buffalo, Shannon) of these 13 counties have experienced relatively high growth between 25 and 40 percent in the elderly population from 2000 to 2005. Eight additional counties have experienced a relatively moderate growth between 15 and 24 percent in the elderly population.

South Dakota has 53 counties with nursing facilities; the majority of these counties (44) have either '1-99' or '100-199' available beds (Exhibit 1.1). Three counties have more than 400 available beds; two of these are urban counties (Minnehaha, Pennington) and one is rural (Brown), located in the Southeast, West, and Northeast, respectively.

The supply of nursing facility services can be supplemented by licensed swing beds in hospital facilities. Swing beds may be used for hospital services or for swing (nursing facility) services. The number of licensed swing beds per county is shown in Exhibit 1.2. Twenty-five counties have no swing beds, while five counties have between 20 and 30 swing beds.

*Exhibit 1.2: South Dakota Map: Number of Licensed Swing Beds by County 2005*



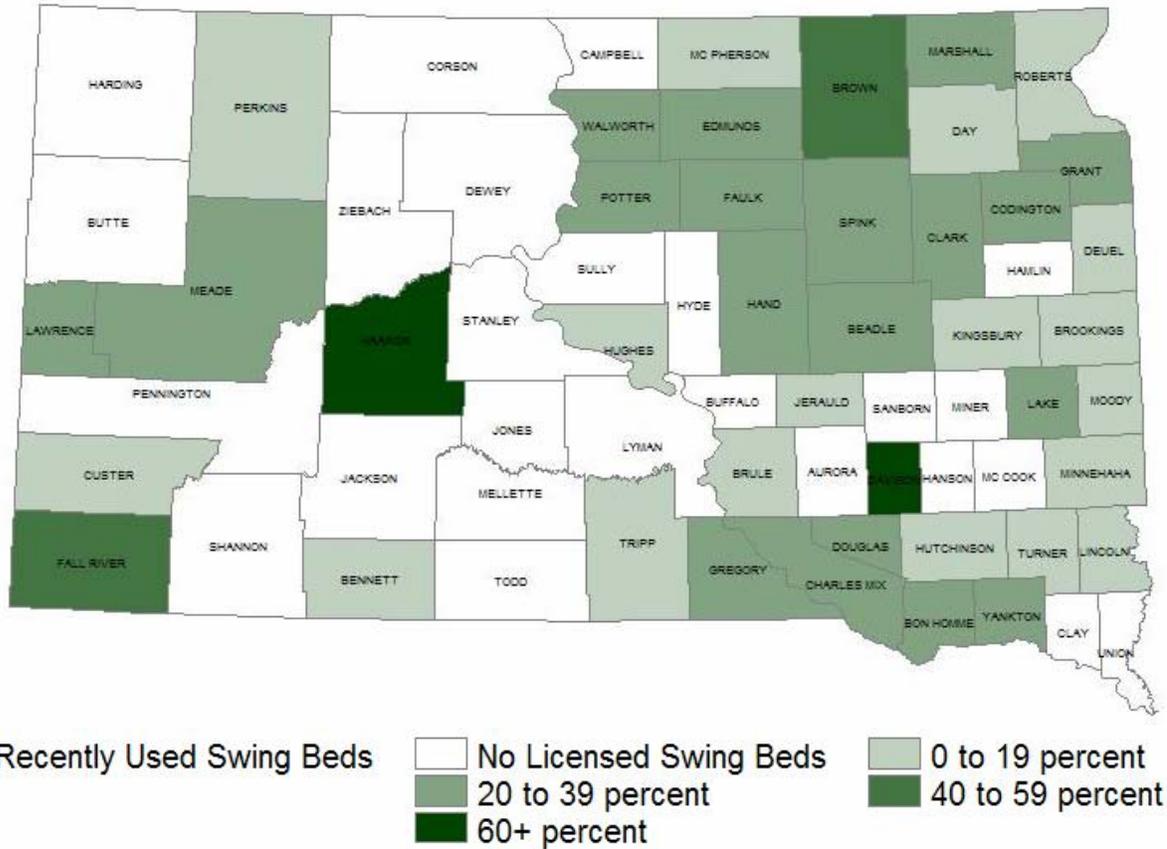
Licensed Swing Beds 2005     No Swing Beds     1 to 4 Swing Beds     5 to 9 Swing Beds  
 10 to 19 Swing Beds     20 to 30 Swing Beds

Because swing beds can be used for hospital or swing services, Exhibit 1.3 shows the percent of recently used swing beds for swing services by county. Of counties with swing beds, 18 have swing

<sup>1</sup> Based on Abt Associates analysis of U.S. Census Data for the U.S. and for South Dakota populations 65 and older, July 1, 2000 and July 1, 2005.

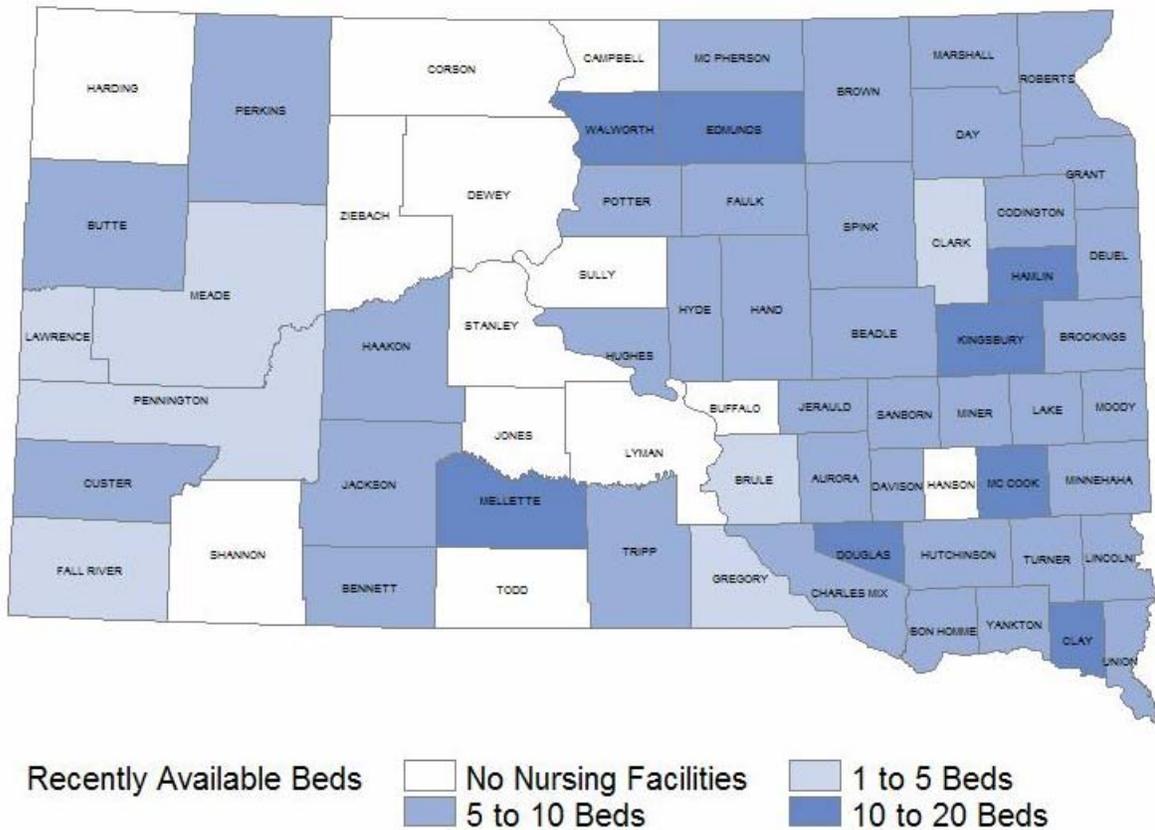
bed utilization for swing services less than 20 percent, while 2 counties have swing bed utilization for swing services greater than 60 percent.

*Exhibit 1.3: South Dakota Map: Percent of Recently Used Swing Beds for Swing Services by County 2005*



County-levels of available beds are normalized by the population of elderly in each county and differences across counties with relatively low and high levels of capacity per elderly population are examined (Exhibit 1.4).

Exhibit 1.4: South Dakota Map: Proportion of Recently Available Nursing Facility Beds per 100 Elderly by County



Counties with relatively low proportion of available beds per elderly (1-5 beds per 100 elderly), are located in the West (4), Central (2), and Northeast (1) and are frontier (4), rural (2), and urban (1) counties (Table 1.2). The majority of these counties had a relatively small growth in the elderly population between 1 and 9 percent. However two counties (Meade, Pennington), had a relatively high growth in their elderly population between 15 and 24 percent for 2000 – 2005.

Table 1.2

Counties with Low Proportion of Beds per Elderly: 1-5 Nursing Facility Beds per 100 Elderly

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Fall River	Gregory Brule	Clark		
<b>Rural</b>	Lawrence Meade				
<b>Urban</b>	Pennington				

Counties with a relatively high capacity of beds per elderly population (‘10 – 20 beds per 100 elderly’) are located in the Northeast (3), Southeast (2), Central (2), and American Indian (1) and are rural (5) and frontier (3) counties (Table 1.3). These counties have experienced a relatively low level of growth in their elderly populations between 2000 and 2005. Five of eight counties (Douglas,

Kingsbury, Hamlin, Clay, Mellette) between 1 and 9 percent growth in elderly population, one county had between -3 and 0 percent growth (McCook), and two counties had between 10 to 14 percent growth in elderly population (Edmunds, Walworth).

**Table 1.3**

**Counties with High Proportion of Beds per Elderly: 10-20 Nursing Facility Beds per 100 Elderly**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>			Edmunds Kingsbury		Mellette
<b>Rural</b>		Douglas Walworth	Hamlin	Clay McCook	
<b>Urban</b>					

**Capacity in Counties with Low and High Growth in the Elderly Population**

Counties with negative growth in elderly (-3 to 0%, 2000 - 2005) and relatively high growth in elderly (25 – 40%, 2000 - 2005) were examined to determine whether capacity in these counties is relatively low or high. Counties with a high growth in elderly between 2000 and 2005 and also a relatively low proportion of available beds per elderly population may need additional available beds to meet demands for nursing facility services. Counties with a low growth in the elderly population and also a high proportion of available beds per elderly population may not need any additional beds to meet demands for services.

Overall, counties with negative growth in elderly (-3 to 0%), have a moderate proportion of beds to elderly; three counties have 5-10 beds per 100 elderly and one county (McCook) has 10-20 beds per 100 elderly (Table 1.4).

**Table 1.4**

**Counties with negative/zero growth in elderly population (-3 to 0%) from 2000 to 2005**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>				Miner	
<b>Rural</b>		Hughes		Hutchinson McCook	
<b>Urban</b>					

Relatively high growth in elderly population from 2000 to 2005 (25 – 40%) occurred in two counties that have no facilities (Buffalo, Shannon) and two counties with a moderate proportion of beds to elderly, 5-10 beds per 100 elderly (Jackson, Custer). These counties are all located in frontier counties (Table 1.5).

**Table 1.5**

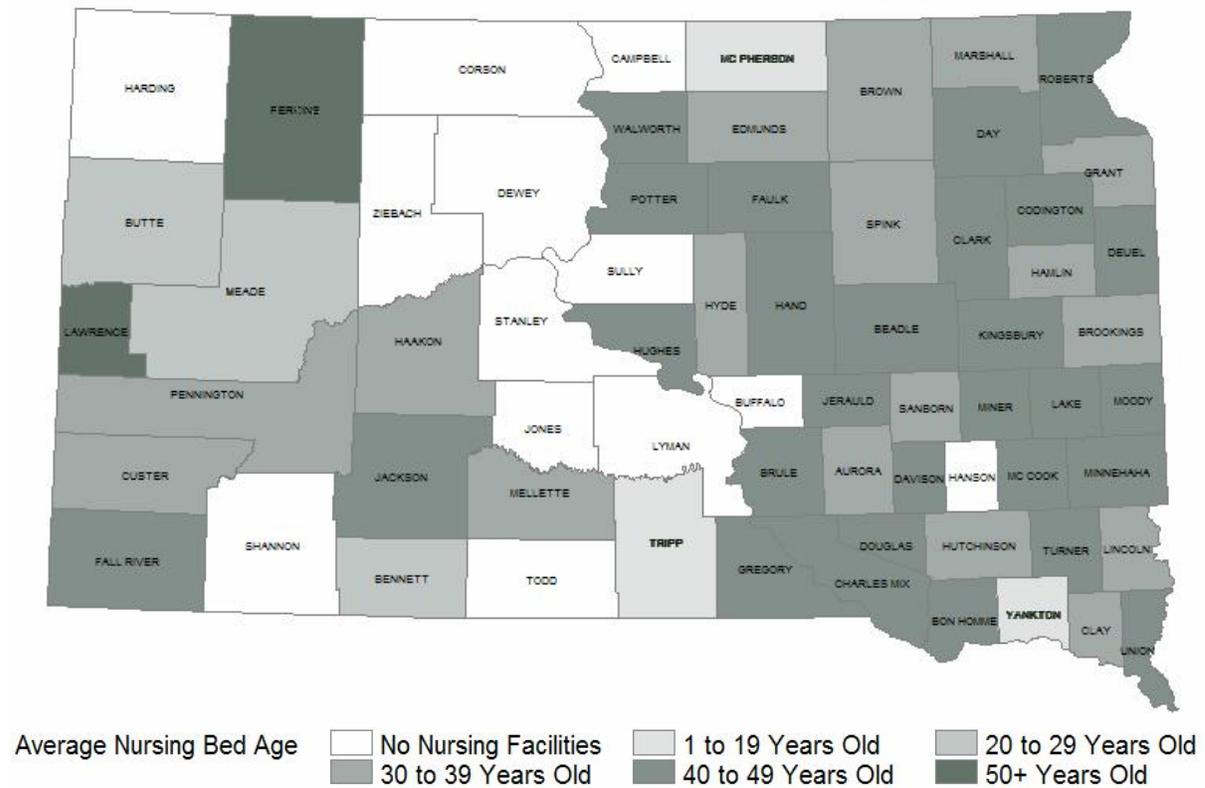
**Counties with relatively high growth in elderly population (25 to 40%) from 2000 to 2005**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Custer				Buffalo Shannon Jackson
<b>Rural</b>					
<b>Urban</b>					

### *Average Nursing Facility Age by County*

We assessed nursing facility age using two methods. First, we considered the age of the facility based on its original construction date. The original construction date is important as any later additions or renovations have to coordinate heating, cooling, electrical, etc systems with the original facility. Thus the original facility often limits the benefits of facility renovation and may limit the benefits of facility additions. For counties with multiple nursing facilities, the facilities were weighted by the number of beds in each facility. Thus, it is easier to consider the age of the average nursing facility bed in a county.

*Exhibit 1.11: South Dakota Map: Nursing Facility Bed Age since Original Construction by County*



The second method we used to assess nursing facility bed age was to consider how additions to a facility affected the average age of the facility. When we account for additions to a facility, the average age of a nursing facility bed decreases as shown in Exhibit 1.12. Of the 53 counties with nursing facilities, 26 contained at least one facility with an addition. For counties with a nursing facility addition, the age of the average nursing facility bed decreased by 7 years when additions were considered. Beds in facilities with more additions or more recent additions were more affected when we accounted for additions to a facility than facilities with 1 addition or additions constructed long ago.

*Exhibit 1.12: South Dakota Map: Nursing Facility Age of Original Construction and Additions by County*



Calculated Ave Nursing Bed Age

	No Nursing Facilities		1 to 19 Years Old
	20 to 29 Years Old		30 to 39 Years Old
	40 to 49 Years Old		

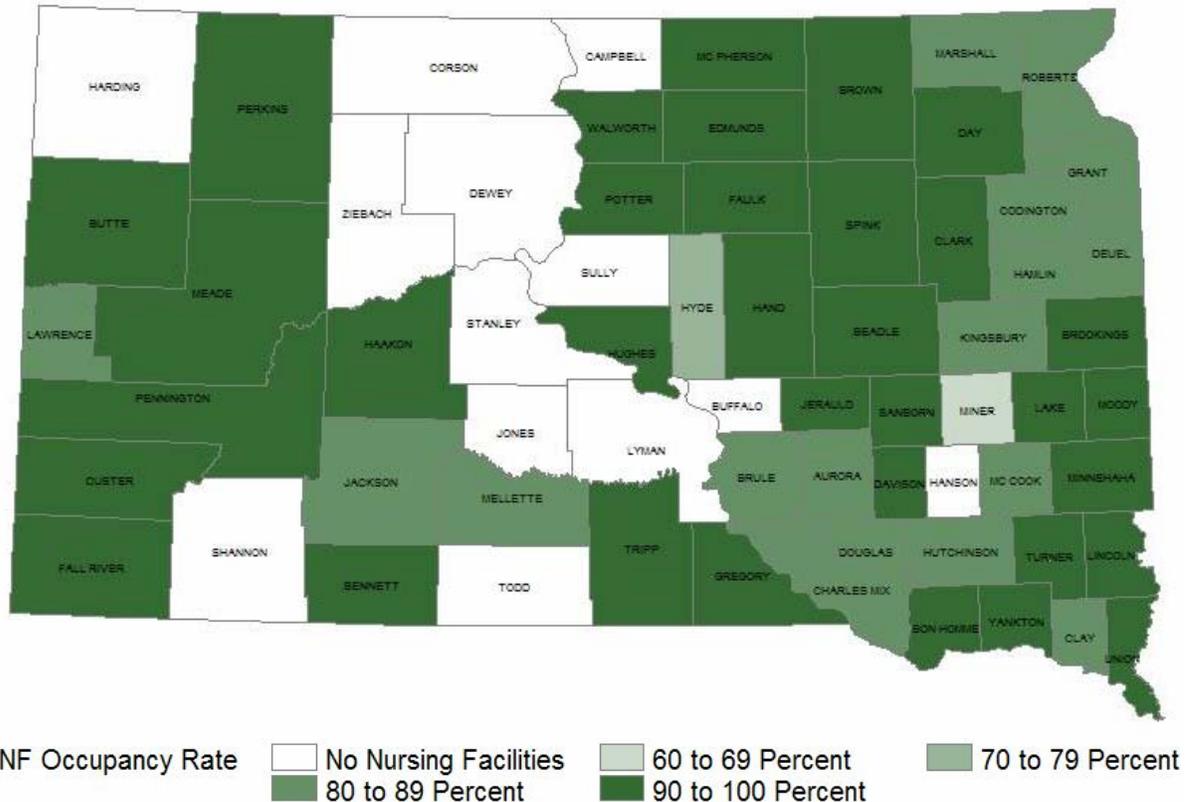
## Nursing Facility Utilization

The utilization of nursing facility services in South Dakota is examined through county-level analyses of occupancy rates. Similar to the nursing facility capacity analyses, all analyses of occupancy rates are based on the variable, “recently available beds”. Recently available beds measures the greatest number of beds available in a facility during the past five years. We focus on the questions:

- How does Nursing Facility occupancy vary by county?
- How does the change in Nursing Facility occupancy over time vary by county?
- How does the population of Nursing Facility residents as a proportion of Elderly vary by county?
- How does severity of illness in Nursing Facility residents vary by county?

Of 53 counties with nursing facilities, in 2005 the majority of counties (34) had 90 to 100 percent occupancy rate (Exhibit 1.5). One county had 60 to 69 percent occupancy, one county had 70 to 79 percent, and the remaining counties (17) had 80 to 89 percent occupancy. Counties with relatively low occupancy rates had negative growth in elderly population from 2000 to 2005 (Miner, Southeast) or 10 to 14 percent growth (Hyde, Central).

*Exhibit 1.5: South Dakota Map: Occupancy Rate of Recently Available Nursing Home Beds by County*



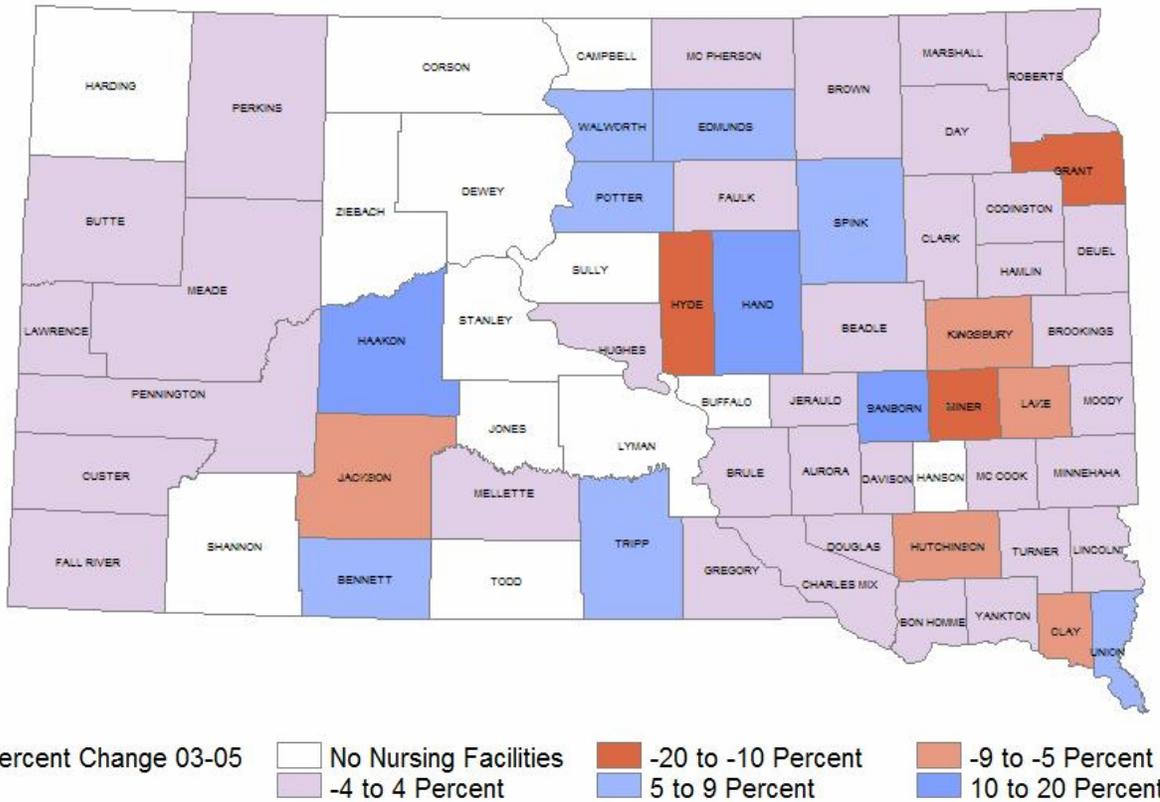
Counties with high occupancy rates in 2005 (90-100%), experienced low growth in their elderly populations. Twenty-one of these 34 counties had a 9% or less growth in elderly population. Only

three (Meade, Pennington, Custer) of the 34 counties with occupancy rate of 90 to 100 percent, had 15 percent or greater growth in elderly population from 2000 to 2005.

**Change in County Occupancy Rates 2003 to 2005**

We also examine the change in occupancy rates from 2003 to 2005 (using the recently available beds as the denominator) to determine where county-level occupancy rates are increasing and decreasing (Exhibit 1.6).

*Exhibit 1.6: Map: Percent Change in Occupancy Rate of Recently Available Nursing Home Beds by County 2003 - 2005*



Eight of 53 counties have experienced between -20 and -5 percent change in occupancy rates between 2003 and 2005 (Table 1.6). None of these counties are located in the Western or urban counties.

**Table 1.6**

**Counties with -20% to -5% Change in Occupancy Rate (2003 to 2005)**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>		Hyde	Kingsbury	Miner	Jackson
<b>Rural</b>			Grant	Clay Hutchinson Lake	

**Table 1.6****Counties with –20% to –5% Change in Occupancy Rate (2003 to 2005)**

<b>Urban</b>					
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Ten of 53 counties experienced a change between 5 and 20 percent in occupancy rates between 2003 and 2005 (Table 1.7). Most of the counties are frontier counties and none are located in the Western or urban counties.

**Table 1.7****Counties with 5% to 20% Change in Occupancy Rate (2003 to 2005)**

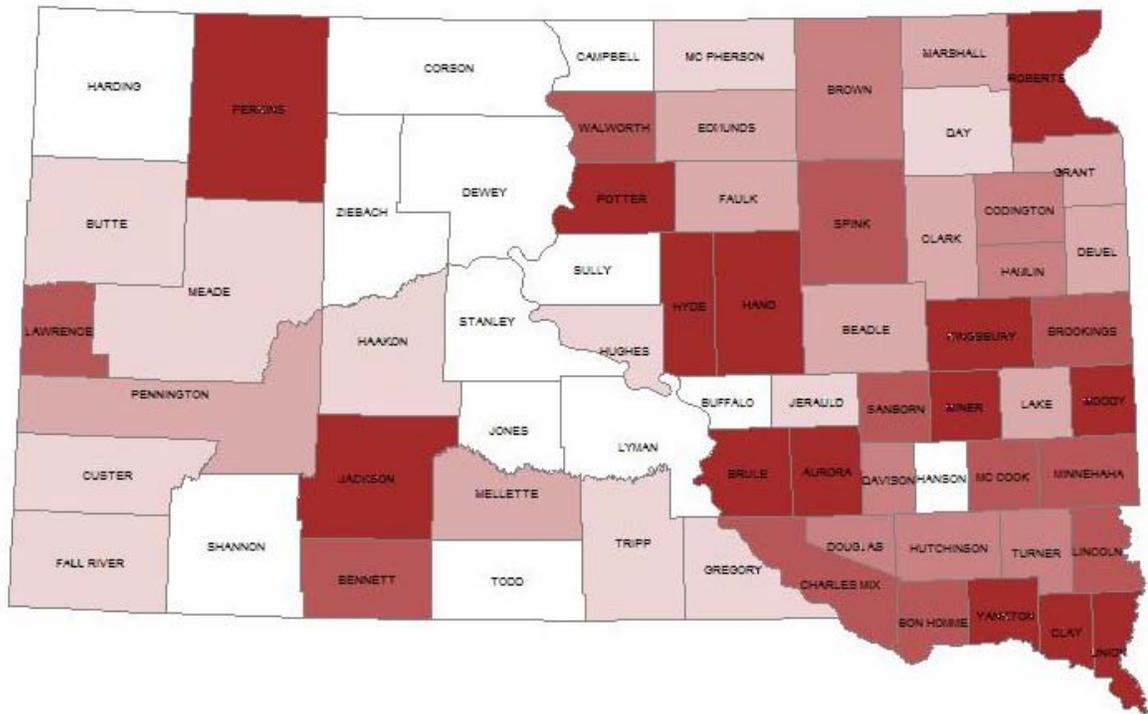
	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Potter Tripp Haakon Hand	Edmunds Spink	Sanborn	Bennett
<b>Rural</b>		Walworth		Union	
<b>Urban</b>					

In 1988, a moratorium was placed on increasing the number of nursing home beds in South Dakota. The moratorium was extended in 1991, 1993, 1995, and 2000. The difference in moratorium beds and recently available beds was examined to determine which counties have taken nursing facility beds ‘offline’ and are likely no longer available due to facility renovation or construction. Large differences in moratorium beds and recently available beds may indicate that utilization and capacity of moratorium beds has decreased in that county since 1988 (Exhibit 1.7).

Eleven counties have not decreased the number of ‘online’ beds; the number of recently available beds is the same as the moratorium beds. These frontier or rural counties are located in the Central (Gregory, Haakon, Hughes, Jerauld, Tripp), Northeast (Day, McPherson), and West (Butte, Custer, Fall River, Meade) regions of the state.

Fourteen counties have decreased the number of ‘online’ beds by 15+ percent; the number of recently available beds is 15+ percent less than the moratorium beds. These frontier or rural counties are located in Southeast (Clay, Miner, Moody, Union, Yankton), Central (Aurora, Brule, Hand, Hyde, Potter), Northeast (Kingsbury, Roberts), American Indian (Jackson), and West (Perkins) counties.

Exhibit 1.7: South Dakota Map: Percent of No longer Available Moratorium Nursing Facility Beds by County



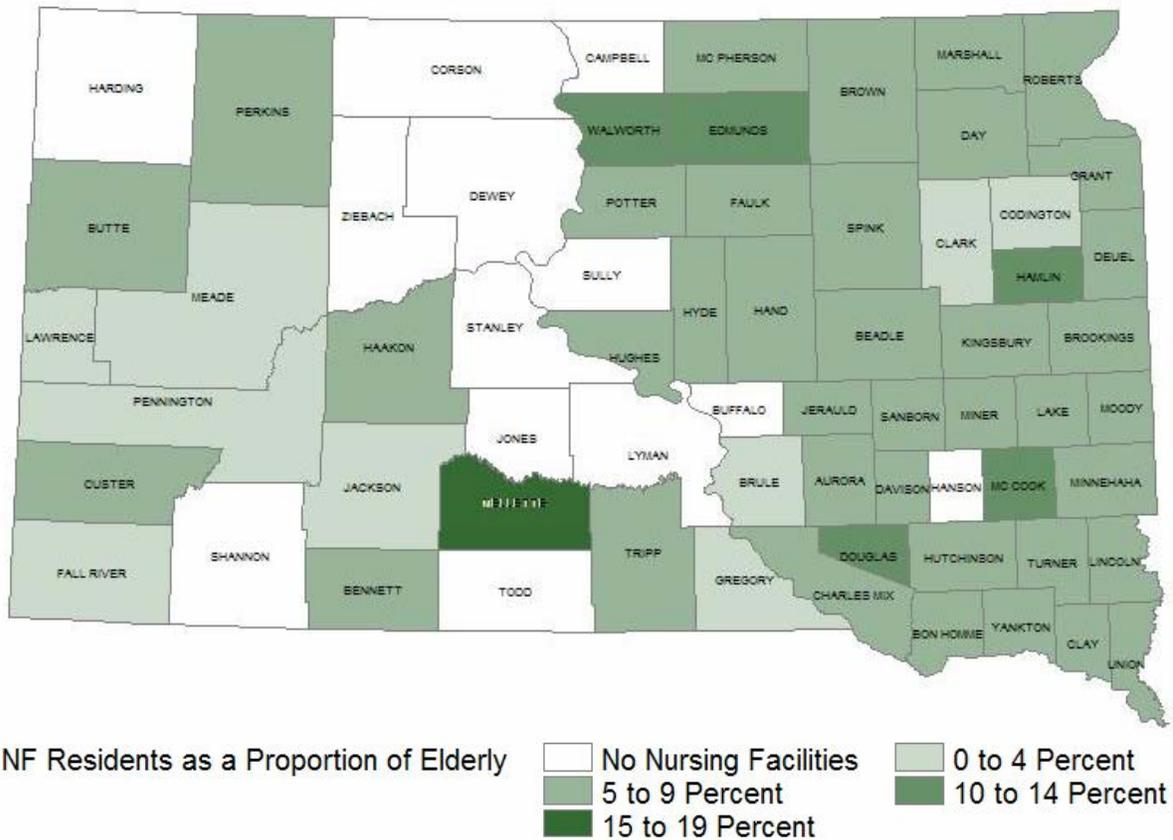
% No Longer Available NF Moratorium Beds

□ No Nursing Facilities	□ At Moratorium Capacity
■ 1 to 4 % Change	■ 5 to 9 % Change
■ 10 to 14 % Change	■ 15+ % Change

***Nursing Facility Residents as Proportion of Elderly***

In addition to occupancy rates, we examine the variation across counties of the population of nursing facility residents as a proportion of elderly to measure utilization of nursing facility services. This measurement describes the proportion of elderly that are served by nursing facilities in each county by comparing the 2005 average daily census of nursing facility residents to the county elderly population. Most counties with nursing facilities (38 of 53), have nursing facility populations that represents 5 to 9 percent of their elderly population (Exhibit 1.8). Six counties have nursing facility populations that represent 10 percent or more of their elderly population and nine counties have nursing facility populations that represent 0 to 4 percent of their elderly population.

*Exhibit 1.8: Map: Average Daily Census of Recently Available Nursing Home Beds as a Proportion of Elderly by County*



Counties with a relatively low proportion of nursing home residents per elderly population are located throughout South Dakota (Table 1.8). These counties also vary in the percent change in elderly population (2000 to 2005); four counties (Brule, Gregory, Clark, Lawrence) had between 1 and 9 percent change in elderly population, while three counties (Meade, Pennington, Jackson) had 15 percent or more growth in elderly population.

**Table 1.8****Counties where Nursing Home Residents represent 0%-4% of Elderly Population (2005)**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Fall River	Brule Gregory	Clark		Jackson
<b>Rural</b>	Lawrence Meade		Codington		
<b>Urban</b>	Pennington				

Counties with a relatively high proportion of nursing home residents per elderly population are located in Central or Eastern and frontier or rural counties (Table 1.9). These counties have experienced relatively small percentage growth in elderly population from 2000 to 2005. McCook had between -3 and 0 percent change in elderly population; Douglas, Hamlin, and Mellette experienced between 1 and 9 percent growth in elderly; Edmunds and Walworth experienced between 10 and 14 percent growth in elderly.

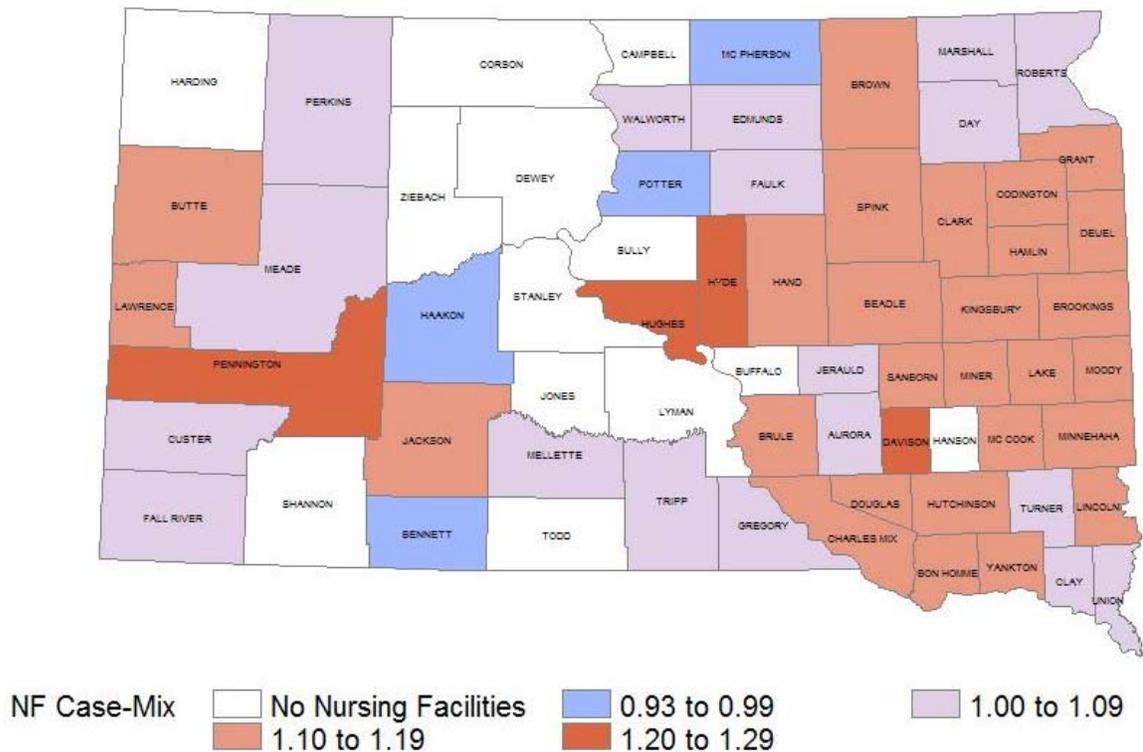
**Table 1.9****Counties where Nursing Home Residents represent 10% or more of Elderly Population, (2005)**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>			Edmunds		Mellette
<b>Rural</b>		Douglas Walworth	Hamlin	McCook	
<b>Urban</b>					

**Average Nursing Facility Case-mix by County**

The average nursing facility case-mix by county was examined to determine how illness severity in Nursing Facility residents varies by county. A case-mix score of 1.00 represents a patient with average severity of illness. Counties with an average case-mix less than 1.00 (0.93 to 0.99) are frontier counties located in American Indian (Bennett), Central (Haakon, Potter), and Northeast (McPherson) Regions. Counties with an average case-mix of 1.20 to 1.29 are located in frontier, rural and urban counties in Central (Hyde, Hughes), Southeast (Davison), and Western (Pennington) regions.

*Exhibit 1.9: South Dakota Map: Average Nursing Facility Case-Mix by County 2005*



The trend in nursing facility case-mix from 2001 to 2005 is examined by county (Exhibit 1.10). Counties with a negative trend (-.03 to -.02) in case-mix are frontier counties located in Central (Haakon), Northeastern (Faulk), and Western (Custer) regions. Counties with a large positive trend (.04 to .05) in case-mix are frontier counties in American Indian (Jackson), Central (Brule, Hyde), Northeast (Spink) regions.



### ***Utilization in Counties with Low and High Growth in the Elderly Population***

Counties with negative growth in elderly (-3 to 0%, 2000 - 2005) and relatively high growth in elderly (25 – 40%, 2000 - 2005) were examined to determine whether utilization in these counties is relatively low or high (Exhibit 1.5, Exhibit 1.8). Counties with high growth in elderly between 2000 and 2005 and also relatively high occupancy rates may need additional available beds to meet demands for nursing facility services. Counties with a low growth in the elderly population and also a low occupancy rates may not need any additional beds to meet demands for services.

Overall, counties with negative growth in elderly (-3 to 0%), have moderate/high occupancy rates; one county had 90 to 100 percent occupancy rate in 2005 (Hughes), two counties have 80 to 89 percent occupancy rate (Hutchinson, McCook). One county with negative growth in elderly also has low occupancy (60-69%) of nursing facility beds (Miner). These counties are located in the Southeast and Central regions of South Dakota (Table 1.4).

Relatively high growth in elderly population from 2000 to 2005 (25–40%) occurred in two counties that have no facilities (Buffalo, Shannon) and two counties with high occupancy rates. Jackson County had 80 to 89 percent occupancy in 2005 and Custer County had 90 to 100 percent occupancy in 2005. These counties are all located in frontier counties (Table 1.5), and Custer is a Western county and Jackson an American Indian county.

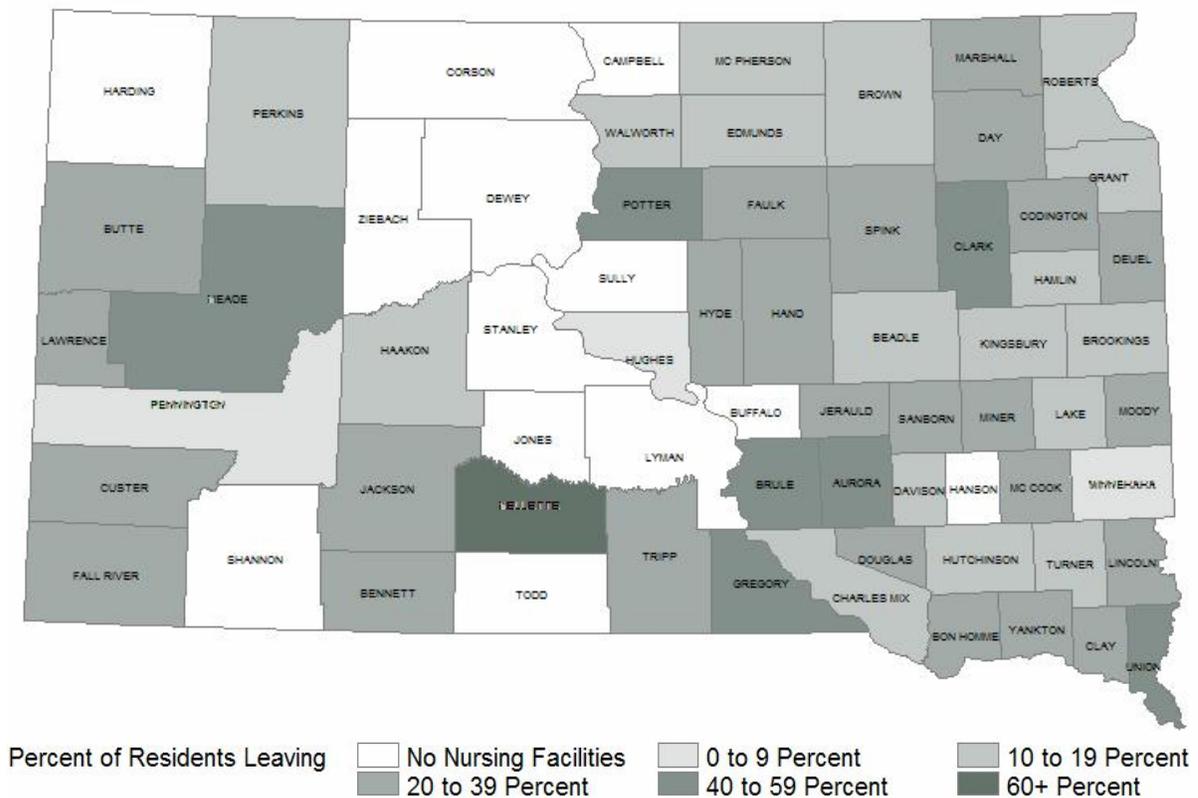
## Nursing Facility Patient Migration

Patient migration patterns for nursing residents are examined to determine which counties have residents who travel outside of their home county for services and which counties with services have residents from outside of the facility county. This section focuses on the following questions:

- Do the elderly in a county travel for Nursing Facility services?
- To which counties do elderly most often move for Nursing Facility Services?

Of the 53 counties with nursing facility services, three counties have 0 to 9 percent of residents who receive nursing facility services in the state leave their home county for services, 17 counties have 10 to 19 percent leave, 25 have 20 to 39 percent leave, seven have 40 to 59 percent leave, and one had 60+ percent leave (Exhibit 1.11). In counties with no facilities (13), 100 percent of residents who need nursing facility services leave the county.

*Exhibit 1.11: South Dakota Map: Percent of NF Residents Leaving Home County for Nursing Facility Services*



Percent of nursing facility residents leaving their home county for services are compared to the county occupancy rates of facilities in 2005 to determine whether residents are leaving counties in areas where facilities are full to capacity. All counties with 40 percent or more of their residents who receive nursing facility services leave their home county have 80 to 89 percent occupancy (Aurora, Brule, Mellette) or 90 to 100 percent occupancy (Gregory, Potter, Clark, Union, Meade) (Table 1.10). These counties are mainly located in Frontier counties within South Dakota.

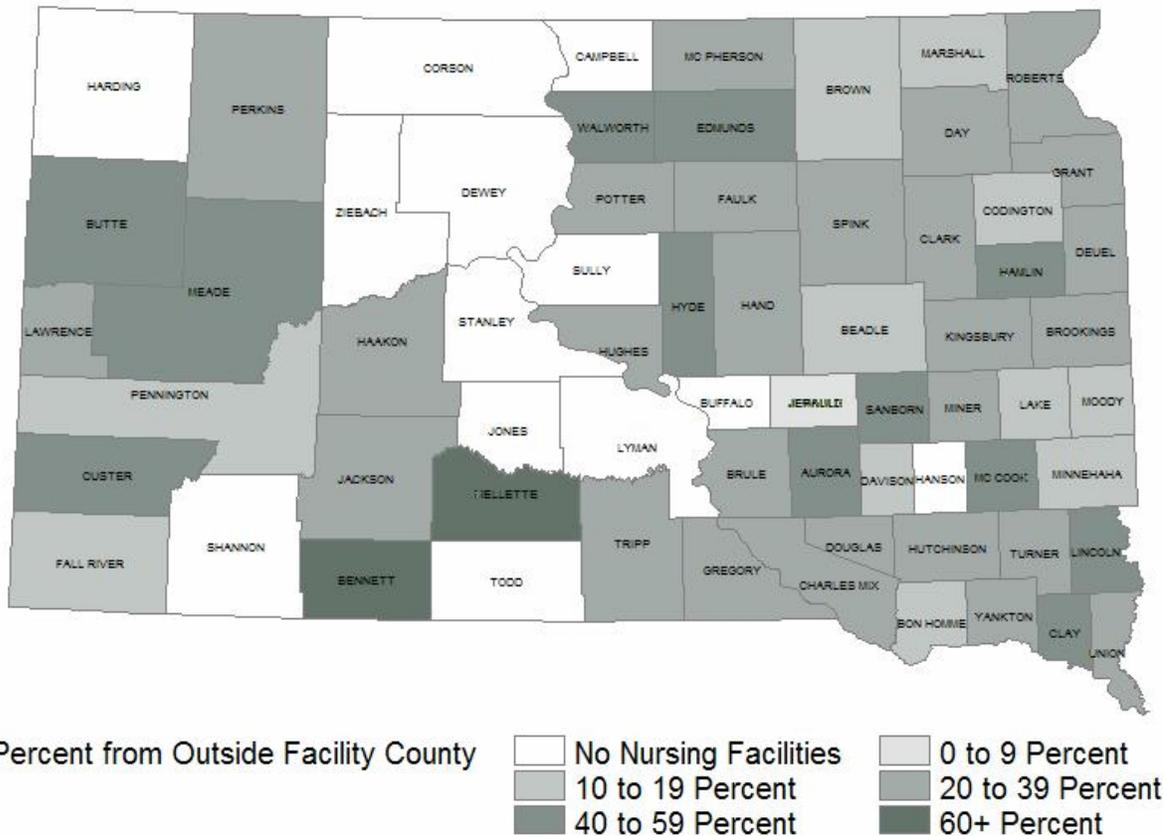
**Table 1.10**

**Counties where 40% or more of residents who receive nursing facility services leave their home county, 2005**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>		Aurora Brule Gregory Potter	Clark		Mellette
<b>Rural</b>	Meade			Union	
<b>Urban</b>					

Of the 53 counties, one has 0 to 9 percent coming from outside of the facility county, 11 counties have 10 to 19 percent of residents from outside the facility county, 27 counties have 20 to 39 percent of residents from outside, 12 have 40 to 59 percent of residents from outside, and 2 counties have 60+ percent of residents from outside (Exhibit 1.12).

*Exhibit 1.12: South Dakota Map: Percent of NF Residents Coming from Outside of Facility County for Nursing Facility Services*



Percent of nursing facility residents coming from another county for services are compared to the county occupancy rates of facilities in 2005 to determine whether residents are coming to areas with low utilization or high utilization of services. All of the counties with 40 percent or more of their residents from outside of the facility county have 80 to 89 percent occupancy (Aurora, Hamlin, Clay,

McCook, Mellette) or 90 to 100 percent occupancy (Edmunds, Sanborn, Butte, Custer, Walworth, Lincoln, Meade, Bennett) except for Hyde county, with 70 to 79 percent occupancy (Table 1.11).

**Table 1.11**

**Counties where 40% or more of residents come from outside of facility county, 2005**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Butte Custer	Hyde Aurora	Edmunds	Sanborn	Mellette Bennett
<b>Rural</b>	Meade	Walworth	Hamlin	Clay McCook Lincoln	
<b>Urban</b>					

Elderly in South Dakota do travel for Nursing Facility services. Home counties with residents who receive nursing facility services outside of their home county for services:

- Eight counties have 40% or more of residents who receive nursing facility services leave the home county for services.
- Counties with relatively high rates of residents leaving have 80 to 100 percent occupancy rates.

Facility counties with nursing facility residents who come from outside the facility county:

- Fourteen facility counties have 40% or more of facility residents who come from outside the facility county.
- Counties with relatively high rates of residents entering have 80 to 100 percent occupancy rates, except Hyde (70-79% occupancy).

Several counties have both a relatively high proportion of nursing facility residents from their home county who travel outside of the home county for nursing facility services and a relatively high proportion of nursing facility residents coming from outside of the facility county for services:

- Meade County
- Aurora County
- Mellette County

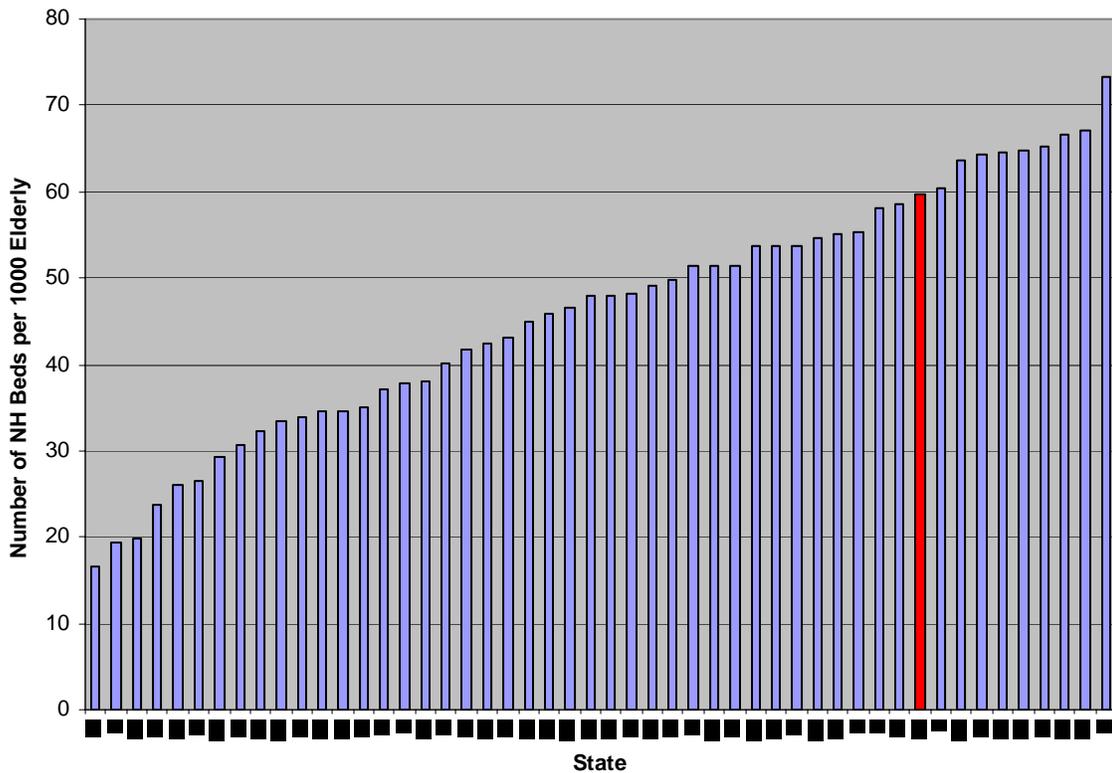
An economic measure of competition, the Herfindahl-Herschman Index is examined to determine which facility counties have many residents coming from outside the facility county and from many different counties. This facility county index takes into account both (1) the number of different counties that patients come from, and (2) the number of patients coming from each origin county. A lower index indicates that the facility county has nursing facility residents coming from many other counties and/or the portion of residents coming from each county is more evenly distributed among the counties. A higher index indicates that the facility county has nursing facility residents coming from few counties and/or large portions of the residents come from few counties. Two frontier counties, Jerauld (Central) and Marshall (Northeast) had high indices and therefore relatively very little travel by residents. Eleven frontier or rural counties had low indices and therefore had a relatively high amount of travel by nursing home residents. These counties include Bennett and

Mellette (American Indian); Aurora, Hyde, and Walworth (Central); Edmunds and Hamlin (Northeast); Sanborn and Clay (Southeast); Custer and Meade (West).

## State Comparison of Nursing Facility Capacity

Based on the Online Survey, Certification, and Reporting system (OSCAR), Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services<sup>2</sup>, and Elderly and non-institutionalized Disabled population data from the U.S. Census, we compared nursing home beds per elderly across all states. For all states in 2005, the average number of certified nursing home beds per 1,000 Elderly residents was 45. South Dakota in 2005 had 60 certified nursing home beds (Graph 1.1).

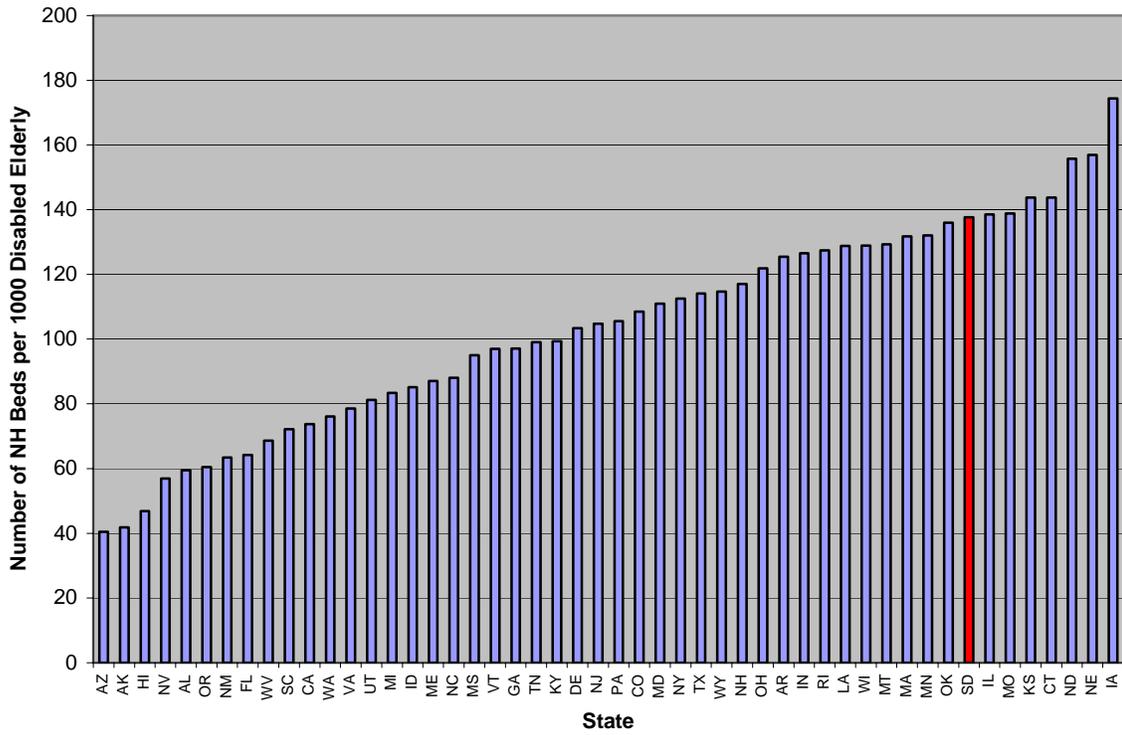
*Graph 1.1: Certified Nursing Home Beds per 1000 Elderly Residents*



The national average number of certified nursing home beds per 1,000 disabled elderly residents in 2005 was 101. South Dakota in 2005 had 138 certified nursing home beds per 1,000 disabled elderly residents (Graph 1.2).

<sup>2</sup> Total Number of Certified Nursing Facility Beds source is 2005 from Kaiser Family Foundation, [www.statehealthfacts.org](http://www.statehealthfacts.org). Original source is OSCAR data.

Graph 1.2: Certified Nursing Home Beds per 1000 Disabled Elderly Residents



# Assisted Living Summary

County levels of assisted living capacity and utilization are analyzed and compared to county elderly population growth rates to identify areas within South Dakota that have the potential for mismatch in service availability to service demand. Areas of low growth and high growth of elderly population are compared to levels of capacity, utilization, change in utilization, and residents entering or leaving the county for service. The specific components of assisted living capacity, utilization, and patient migration are further explored throughout this section in more detail.

**Table 2.1**

**Assisted Living Summary of Standout Counties**

	<b>No Capacity (No Facilities)</b>	<b>Low Capacity (1-24 beds per 1,000 elderly)</b>	<b>High Capacity (50-99 beds per 1,000 elderly)</b>	<b>Low Utilization (30%-69% occupancy rate)</b>	<b>High Utilization (80%-100% occupancy rate)</b>
<b>Low Pop Growth (-3% to 0%)</b>		Hughes (C)	Miner (SE)	Hutchinson (SE) McCook (SE)	Miner (SE) Hughes (C)
<b>High Pop Growth (15+ %)</b>	Corson (AI) Dewey (AI) Ziebach (AI) Todd (AI) Buffalo (AI) Jackson (AI) Shannon (AI) Jones (C) Stanley (C) Sully (C)	Meade (W) Pennington(W) Custer (W)	Campbell (C)	Campbell (C)	Meade (W) Pennington (W) Custer (W)

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

Table 2.1 summarizes the counties that have low/negative elderly population growth (-3 to 0 percent) or high elderly population growth (15+ percent) and have no capacity (no facilities), low capacity (1 to 24 beds per 1000 elderly), high capacity (50 to 99 beds per 1000 elderly), low utilization (30 to 69 percent occupancy rate), or high utilization (80 to 100 percent occupancy rate).

One group of standout counties include those with high elderly population growth and either no capacity (Corson, Dewey, Ziebach, Todd, Buffalo, Jackson, Shannon, Jones, Stanley, Sully), low capacity (Meade, Pennington, Custer), or high utilization (Meade, Pennington Custer). These counties either have no assisted living resources or are likely to be the most constrained in assisted living resources. Meade, Pennington, and Custer also have a low proportion of assisted living residents to elderly population (0 to 4 percent).

A second group of standout counties are those with low elderly population growth and high capacity (Miner) or low utilization (Hutchinson, McCook). These counties also have a low proportion of assisted living residents to elderly population (0 to 4 percent). Although Miner has low/negative elderly population growth and high capacity, it also has high occupancy rates has experienced a 5 to

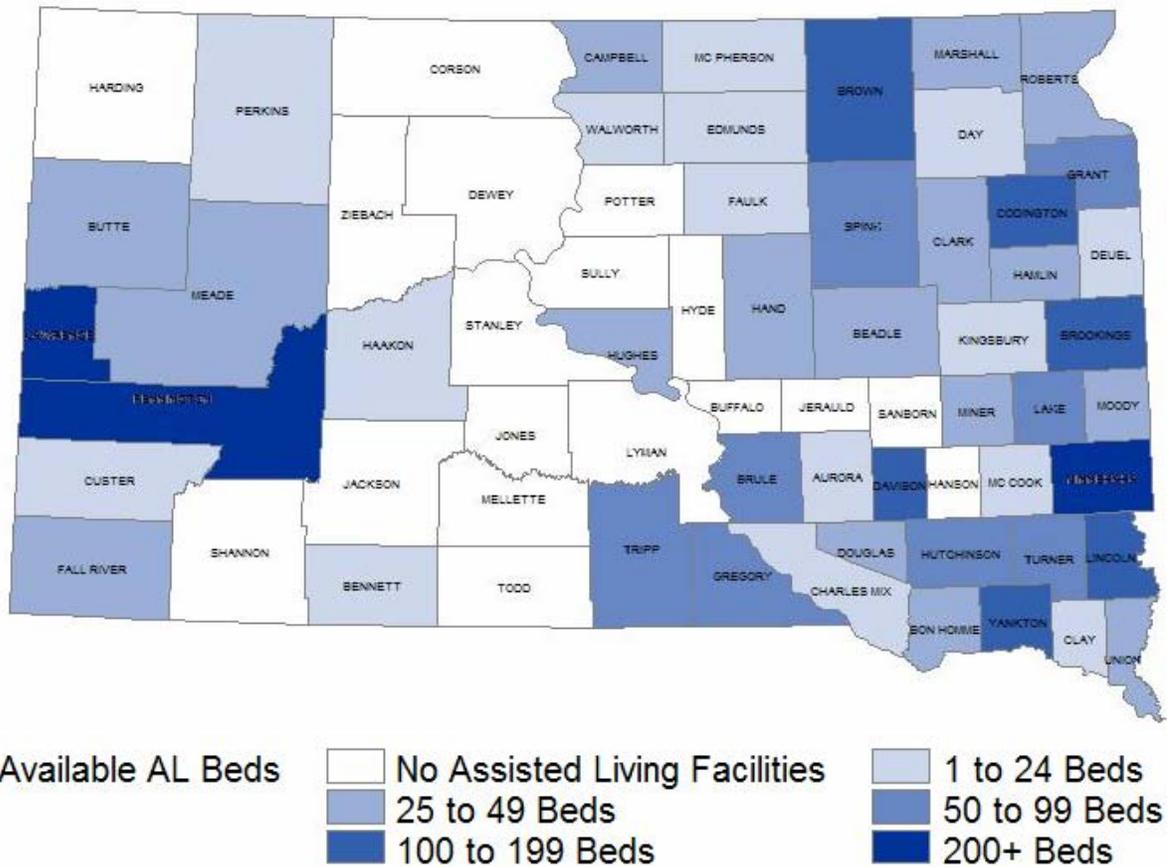
19 percent change in occupancy from 2003 to 2005. McCook County has 40 percent or more of its residents who receive assisted living services leave their home county. These counties may currently have excess capacity or decreasing utilization or are likely to experience either of these situations in the future.

### Assisted Living Capacity

The supply of assisted living services in South Dakota is examined through county-level analyses of available beds. County analyses of available beds throughout this section are based on facility-level data from the South Dakota Medical Facilities Report of 2005 Data. We focus on the following questions:

- How does Assisted Living Facility capacity vary by county?
- How does Assisted Living Facility capacity vary as a proportion of Elderly?
- How do county-levels of capacity compare to county growth in the elderly population?

*Exhibit 2.1: South Dakota Map: Number of Available Assisted Living Beds by County*



Eighteen of South Dakota’s 66 counties have no assisted living facilities; 16 are Frontier counties and two are rural counties (Table 2.2). Eight counties are American Indian, seven are in the Central region, two in the Southeast, and one in the West.

**Table 2.2**

**Counties with No Assisted Living Capacity**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Harding	Hyde, Jerauld Jones, Lyman Potter, Stanley Sully		Sanborn	Buffalo, Corson Dewey, Jackson Melleite, Shannon Ziebach
<b>Rural</b>				Hanson	Todd
<b>Urban</b>					

The national average elderly population growth is about 5 percent, while the South Dakota elderly population growth is about 10 percent between 2000 and 2005.<sup>3</sup> Three (Buffalo, Shannon, Jackson) of these 18 counties have experienced high growth (between 25 and 40 percent) in the elderly population from 2000 to 2005. Seven additional counties have experienced growth between 15 and 24 percent in the elderly population.

South Dakota has 48 counties with assisted living facilities; the majority of these counties (31) have either '1-24' or '25-49' available beds (Exhibit 2.1). Three counties have more than 200 available beds; two of these are urban counties (Minnehaha, Pennington) and one is rural (Lawrence), located in the Southeast, West, and West, respectively.

When comparing counties with assisted living capacity to the elderly population, differences across counties with relatively low and high levels of capacity per elderly population are examined (Exhibit 2.2).

<sup>3</sup> Based on Abt Associates analysis of U.S. Census Data for the U.S. and for South Dakota populations 65 and older, July 1, 2000 and July 1, 2005.



Of counties with a relatively high capacity of beds per elderly population ('5-10 beds per 100 elderly'), five are frontier and two are rural. One is located in the West, three in the Central region, one in the Northeast, and two in the Southeast (Table 2.4). The majority of these counties had a small growth in the elderly population; Miner County experienced -3 to 0% growth in elderly between 2000 and 2005 and Brule, Tripp, Lawrence, Clark counties experienced 1 to 9% growth.

**Table 2.4**

**Counties with High Proportion of Beds per Elderly: 5-10 Assisted Living Beds per 100 Elderly**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Brule Tripp Campbell	Clark	Miner	
<b>Rural</b>	Lawrence			Lincoln	
<b>Urban</b>					

**Capacity in Counties with Low and High Growth in the Elderly Population**

Counties with negative growth in elderly (-3 to 0%, 2000 - 2005) and relatively high growth in elderly (25 - 40%, 2000 - 2005) were examined to determine whether capacity in these counties is relatively low or high. Counties with a high growth in elderly between 2000 and 2005 and also a relatively low proportion of available beds per elderly population may need additional available beds to meet demands for assisted living services. Counties with a low growth in the elderly population and also a high proportion of available beds per elderly population may not need any additional beds to meet demands for services.

Overall, counties with negative growth in elderly (-3 to 0%), have a moderate proportion of beds to elderly; two counties (Hutchinson, McCook) have -5 beds per 100 elderly, one county (Hughes) has 1-2 beds per 100 elderly, and one county (Miner) has 5-10 beds per 100 elderly (Table 2.5).

**Table 2.5**

**Counties with negative/zero growth in elderly population (-3 to 0%) from 2000 to 2005**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>				Miner	
<b>Rural</b>		Hughes		Hutchinson McCook	
<b>Urban</b>					

Relatively high growth in elderly population from 2000 to 2005 (25 – 40%) occurred in three counties that have no facilities (Buffalo, Shannon, Jackson) and one county with a low proportion of beds to elderly, 1-2 beds per 100 elderly (Custer). These counties are all located in frontier counties (Table 2.6).

**Table 2.6**

**Counties with relatively high growth in elderly population (25 to 40%) from 2000 to 2005**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Custer				Buffalo Shannon Jackson
<b>Rural</b>					
<b>Urban</b>					

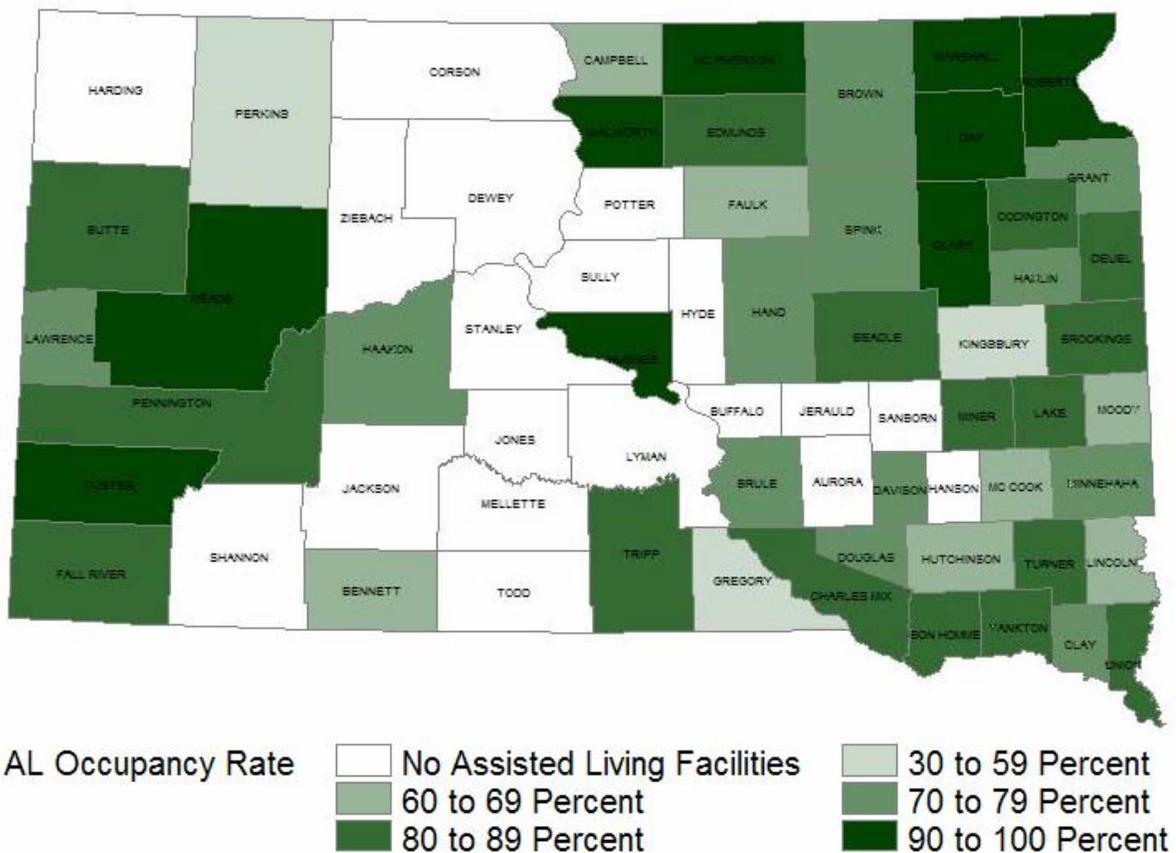
## Assisted Living Utilization

The utilization of assisted living services in South Dakota is examined through county-level analyses of occupancy rates. We focus on the questions:

- How does Assisted Living occupancy vary by county?
- How does the change in Assisted Living occupancy over time vary by county?
- How does the population of Assisted Living residents as a proportion of Elderly vary by county?

Of 48 counties with assisted living facilities, 9 counties had 90-100% occupancy rate, 16 had 80-89% occupancy rate, 12 had 70-79% occupancy, seven had 60-69% occupancy, the remaining three counties had 30-59% occupancy, and one had missing occupancy data (Exhibit 2.3).<sup>4</sup> The three counties with extremely low occupancy rates had a low growth in elderly population from 2000 to 2005 (1 – 9%), are located in frontier counties in the Northeast (Kingsbury), West (Perkins), and Central (Gregory).

*Exhibit 2.3: South Dakota Map: Occupancy Rate of Available Assisted Living Beds by County*



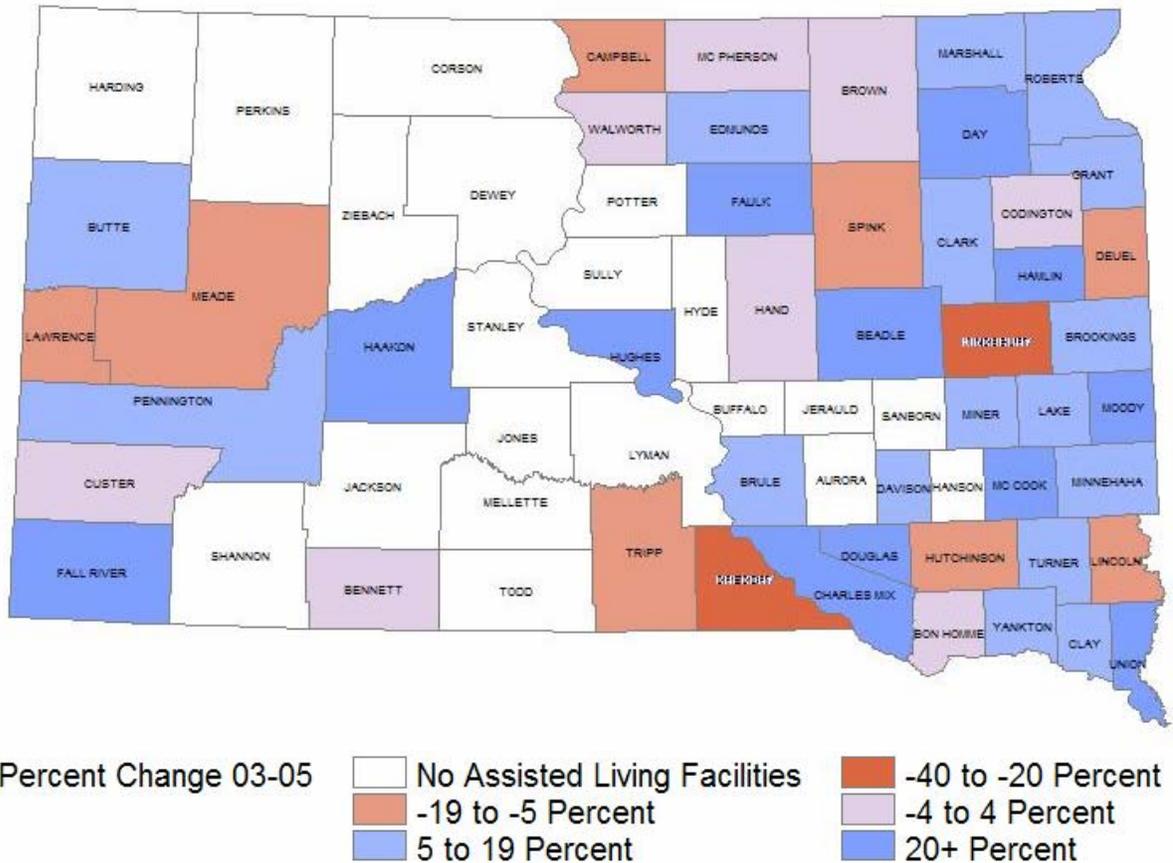
<sup>4</sup> The only facility located in Aurora County, Stickney Manor LLC did not submit data in 2005 for the South Dakota Medical Facilities Report of 2005 Data

Counties with high occupancy rates in 2005 (90 -100%), experienced low growth in their elderly populations. Six of these nine counties had a 9 percent or less growth in elderly population. Only two (Meade, Custer) of the nine counties with occupancy rate of 90 to 100 percent, had 15 percent or greater growth in elderly population from 2000 to 2005.

**Change in County Occupancy Rates 2003 to 2005**

We also examine the change in occupancy rates from 2003 to 2005 to determine where county-level occupancy rates are increasing and decreasing (Exhibit 2.4).<sup>5</sup>

*Exhibit 2.4: South Dakota Map: Percent Change in Occupancy Rate of Available Assisted Living Beds by County 2003 – 2005*



<sup>5</sup> Excludes Perkins and Aurora Counties. Aurora county assisted living facility did not submit 2005 data and Perkins county assisted living facility did not submit 2003 data for the South Dakota Medical Facilities Reports.

Ten counties have experienced between –40 and –5 percent change in occupancy rates between 2003 and 2005 (Table 2.7). None of these counties are located in American Indian counties.

**Table 2.7**

**Counties with –40% to –5% Change in Occupancy Rate (2003 to 2005)**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Gregory Tripp Campbell	Kingsbury Deuel Spink		
<b>Rural</b>	Lawrence Meade			Hutchinson Lincoln	
<b>Urban</b>					

Twelve counties experienced a change of 20 percent or greater in occupancy rates between 2003 and 2005 (Table 2.8). None of the counties are in Urban or American Indian regions.

**Table 2.8**

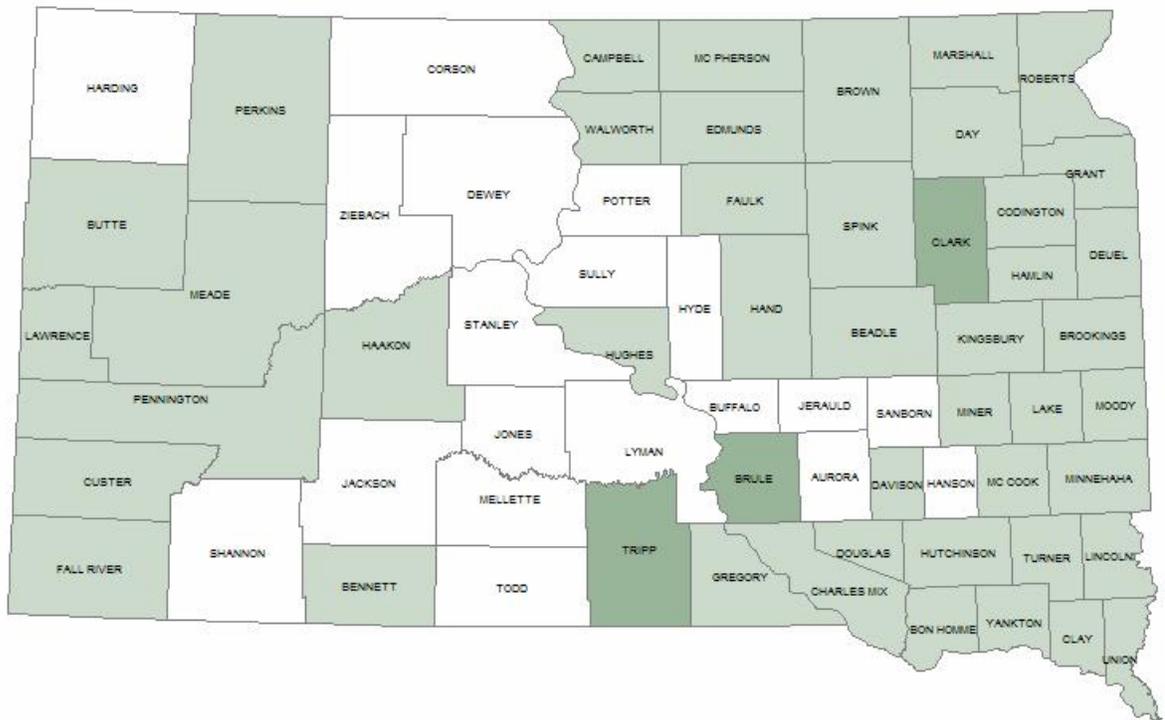
**Counties with 20%+ Change in Occupancy Rate (2003 to 2005)**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Fall River	Haakon	Day Faulk		
<b>Rural</b>		Hughes Charles Mix Douglas	Beadle Hamlin	McCook Union Moody	
<b>Urban</b>					

***Assisted Living Residents as Proportion of Elderly***

In addition to occupancy rates, we examine the variation across counties of the population of assisted living residents as a proportion of elderly to measure utilization of assisted living services. This measurement describes the proportion of elderly that are served by assisted living facilities in each county by comparing the 2005 average daily census of assisted living residents to the county elderly population. Most counties with nursing facilities (44 of 47), have assisted living populations that represents 0 to 4 percent of their elderly population (Exhibit 2.5). Three counties have assisted living populations that represent 5 to 9 percent or more of their elderly population.

*Exhibit 2.5: Map: Average Daily Census of Assisted Living Residents as a proportion of Elderly by County*



AL Residents as a Proportion of Elderly     No Assisted Living Facilities     0 to 4 Percent  
 5 to 9 Percent

Counties with a moderate proportion of assisted living residents (5 to 9 percent) per elderly population are located in Central or Eastern and frontier or rural counties (Table 2.9). These counties have experienced relatively small percentage growth in elderly population from 2000 to 2005; all three counties experienced between 1 and 9 percent growth in elderly.

**Table 2.9**

**Counties where Assisted Living Residents represent 5 to 9 percent of Elderly Population, 2005**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Brule Tripp	Clark		
<b>Rural</b>					
<b>Urban</b>					

*Utilization in Counties with Low and High Growth in the Elderly Population*

Counties with negative growth in elderly (-3 to 0%, 2000 - 2005) and relatively high growth in elderly (25 – 40%, 2000 - 2005) were examined to determine whether utilization in these counties is relatively low or high (Exhibit 2.3, Exhibit 2.5). Counties with high growth in elderly between 2000 and 2005 and also relatively high occupancy rates may need additional available beds to meet demands for assisted living services. Counties with a low growth in the elderly population and also low occupancy rates may not need any additional beds to meet demands for services.

Overall, counties with negative growth in elderly (-3 to 0%), have moderate/high occupancy rates; one county had 90-100% occupancy rate in 2005 (Hughes), one county has 80-89% occupancy rate (Miner). Two counties with negative growth in elderly also have low occupancy (60-69%) of assisted living beds (Hutchinson, McCook). These counties are located in the Southeast and Central regions of South Dakota (Table 2.5).

Relatively high growth in elderly population from 2000 to 2005 (25 – 40%) occurred in three counties that have no facilities (Buffalo, Shannon, Jackson) and one county with high occupancy, Custer County, which had 90-100% occupancy in 2005. These counties are all located in frontier counties (Table 2.6), and Custer is a Western county while the rest are American Indian.

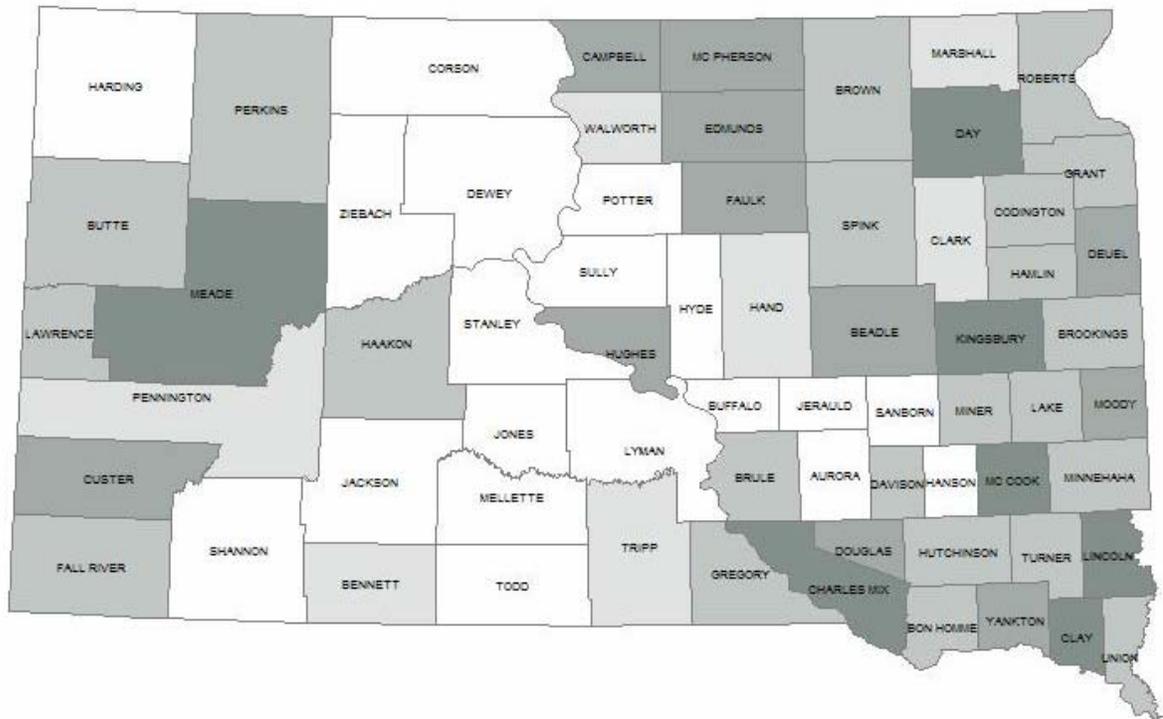
## Assisted Living Patient Migration

Patient migration patterns for assisted living residents are examined to determine which counties have residents who travel outside of their home county for services and which counties with services have residents from outside of the facility county. This section focuses on the following questions:

- Do the elderly in a county travel for Assisted Living services?
- To which counties do elderly most often move for Assisted Living Services?

Of the 47 counties with assisted living services and occupancy data<sup>6</sup>, seven counties have 0 to 9 percent of residents who receive assisted living services in the state leave their home county for services, 22 counties have 10 to 19 percent, 11 have 20 to 39 percent leave, and seven have 40 to 59 percent leave (Exhibit 2.6). Counties with no assisted living facilities (18) have 100 percent of residents leave for services.

*Exhibit 2.6: South Dakota Map: Percent of AL Residents Leaving Home County for Assisted Living Services*



Percent of Residents Leaving

	No Assisted Living Facilities		0 to 9 Percent
	10 to 19 Percent		20 to 39 Percent
	40 to 59 Percent		

<sup>6</sup> The only facility located in Aurora County, Stickney Manor LLC did not submit data in 2005 for the South Dakota Medical Facilities Report of 2005 Data

Percent of assisted living residents leaving their home county for services are compared to the county occupancy rates of facilities in 2005 to determine whether residents are leaving counties in areas where facilities are full to capacity. Of counties with 40 to 59 percent of their residents who receive nursing facility services leave their home county, one county (Kingsbury) has 30 to 59 percent occupancy, two counties (Lincoln, McCook) have 60 to 69 percent occupancy, one county (Clay) has 70 to 79 percent occupancy, one county has 80 to 89 percent occupancy (Charles Mix), and two counties (Day, Meade) have 90 to 100 percent occupancy (Table 2.10). None of these counties are located in American Indian counties or urban regions.

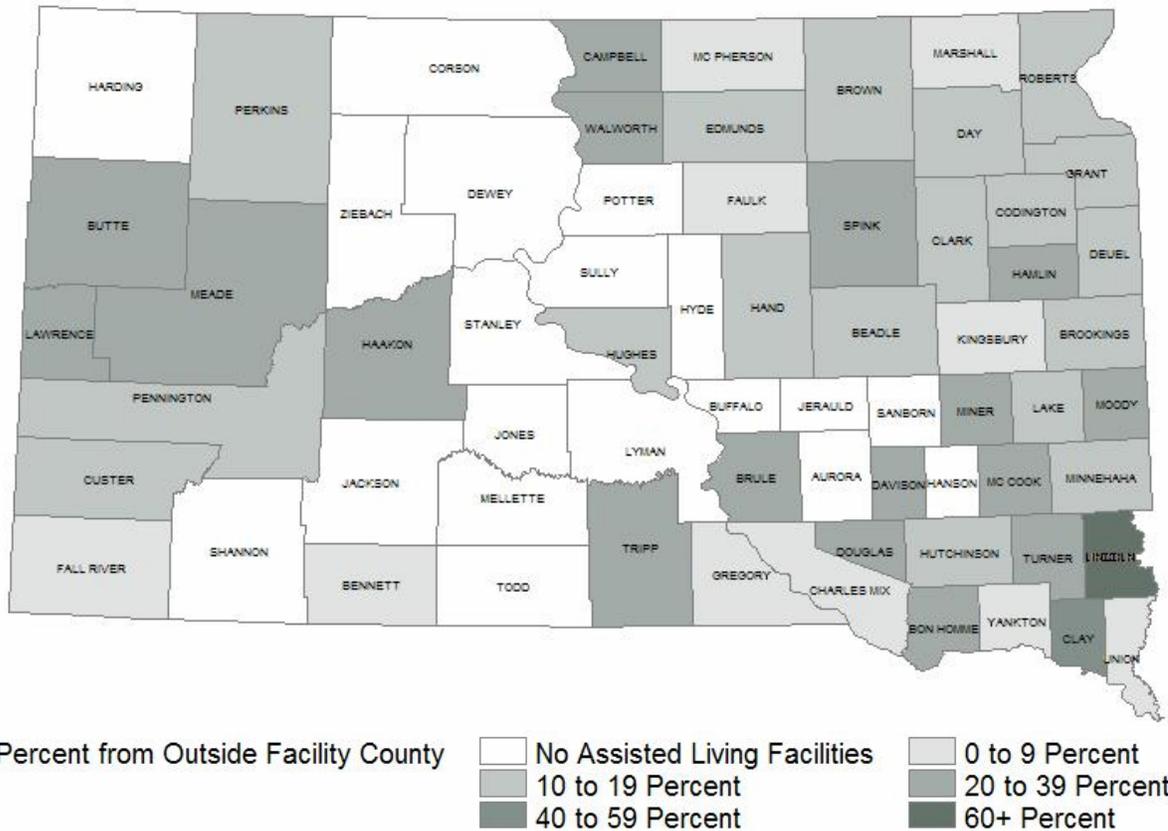
**Table 2.10**

**Counties where 40% or more of residents who receive assisted living services leave their home county, 2005**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>			Kingsbury Day		
<b>Rural</b>	Meade	Charles Mix		Lincoln McCook Clay	
<b>Urban</b>					

Of the 47 counties, 10 have 0 to 9 percent assisted living residents coming from outside of the facility county, 18 counties have 10 to 19 percent of residents from outside the facility county, 17 counties have 20 to 39 percent of residents from outside, one has 40 to 59 percent of residents from outside, and one county has 60+ percent of residents from outside (Exhibit 2.7).

*Exhibit 2.7: South Dakota Map: Percent of AL Residents Coming from Outside of Facility County for Assisted Living Services*



Percent of assisted living residents coming from another county for services are compared to the county occupancy rates of facilities in 2005 to determine whether residents are coming to areas with low utilization or high utilization of services. The two counties with 40% or more of their residents from outside of the facility county have 60 to 69 percent occupancy (Lincoln) and 70 to 79 percent occupancy (Clay) (Table 2.11). Both of these counties are rural, Southeastern counties.

**Table 2.11**

**Counties where 40% or more of residents come from outside of facility county, 2005**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>					
<b>Rural</b>				Clay Lincoln	
<b>Urban</b>					

Elderly in South Dakota do travel for Assisted Living services. Home counties with residents who receive assisted living services outside of the home county for services:

- Seven counties have 40% or more of residents who receive nursing facility services leave their home county for services.

- Kingsbury has a high rate of residents leaving and 30 to 59 percent occupancy; Lincoln and McCook have high rates of residents leaving and 60 to 69 percent occupancy; Clay has a high rate of residents leaving and 70 to 79 percent occupancy. Charles Mix, Day, and Meade have high rates of residents leaving and 80 to 100 percent occupancy.

Facility counties with assisted living residents who come from outside the facility county:

- Only two facility counties have 40% or more of facility residents who come from outside the facility county.
- Both counties with high rates of residents entering (Lincoln, Clay) have relatively low occupancy rates (60 to 69 percent, 70 to 79 percent).
- Both of these counties also have a high proportion of assisted living residents from their home county who travel outside of the home county for assisted living services.

## Home Health Summary

Because Home Health services are not facility dependent, capacity for and utilization of services are determined through a balance of the supply and the demand for services. Supply of Home Health services is mainly determined by availability of workforce. In some areas of South Dakota, lack of a consistent demand for services in a concentrated area makes travel costs prohibitive. In other areas of South Dakota, competition from other nursing positions and jobs make a steady supply of Home Health nurses difficult to support. Finally, some areas of South Dakota face challenges from both supply of nurses and demand for services and are unable to offer any Home Health services.

**Table 3.1**

### Home Health Agencies Summary of Standout Counties

	<b>No Capacity (No facilities)</b>	<b>Lowest Capacity (1-49 beds per 1,000 elderly)</b>	<b>Highest Capacity (100-199 beds per 1,000 elderly)</b>	<b>Lowest Utilization (30%-60% occupancy)</b>	<b>Highest Utilization (80%-100% occupancy rate)</b>
<b>Low Pop Growth (-3%-0%)</b>		Hughes (C)	McCook (SE) Miner (SE)	Miner (SE) Hutchinson (SE)	
<b>High Pop Growth (15%- 40%)</b>	Jones (C) Buffalo (AI)	Pennington (W) Shannon (W)	Ziebach (AI)	Campbell (C) Sully (C) Todd (AI) Custer (W)	Dewey (AI)

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

Table 3.1 summarizes the counties that have either low elderly population growth (-3 to 0 percent) or high population elderly population growth (15 to 40 percent) and have no capacity, relatively low capacity compared the rest of the state, relatively high capacity, relatively low utilization, or relatively high utilization. One group of counties that standout are counties with high elderly population growth and either no capacity (Jones, Buffalo), low capacity (Pennington, Shannon), or low utilization (Campbell, Sully, Todd, and Custer). These counties are likely to feel the most constrained by Home Health resources. Another group of standout counties are those with low elderly population growth and relatively high capacity (McCook, Miner) or relatively high utilization (none). These counties may currently have excess capacity or decreasing utilization or are likely to experience either of these phenomena in the near future.

Finally, the counties with low elderly population growth and relatively low capacity (Hughes) or low utilization (Miner, Hutchinson) as well as those with high elderly population growth and relatively high capacity (Ziebach) or utilization (Dewey) are likely to be most well-matched for Home Health services in the coming years, and are likely to feel fewer constraints from Home Health resources.



**Table 3.2****Counties with No Home Health Service Capacity**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Harding	Hyde Jones			Buffalo
<b>Rural</b>					
<b>Urban</b>					

The national average elderly population growth was about 5 percent, while the South Dakota elderly population growth was about 10 percent between 2000 and 2005.<sup>7</sup> Two counties (Harding, Hyde) experienced elderly population growth above the South Dakota average (10 to 14 %), Jones experienced even higher elderly population growth (15 to 24 %), and Buffalo experience elderly population growth between 25 and 40 percent.

Of the 62 South Dakota counties with some Home Health service capacity, 11 were covered by one HHA, 19 were covered by two, 16 were covered by three, five were covered by four, and 11 were covered by five, six, or seven HHAs.

***Comparisons of Counties with the Fewest HHAs per Elderly Residents***

Fifteen counties had relatively few number HHAs per elderly residents, 42 counties had a low or moderate number, and five counties had a relatively high number of HHAs per elderly residents.

Of counties with relatively few HHAs per elderly residents, two are urban, eight are rural, and five are frontier. Three are located in the Western, three in the Central, four in the Northeast, and four in the Southeast region. One county is American Indian (Table 3.3).

**Table 3.3****Counties with the Lowest Number of HHAs per Elderly Residents**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Butte	Hand Tripp	McPherson		Shannon
<b>Rural</b>	Lawrence	Hughes	Brown Codington Beadle	Lake Davison Yankton	
<b>Urban</b>	Pennington			Minnehaha	

Of these counties, Hughes experienced low elderly population growth between -3 and 1 percent, four (Minnehaha, Codington, Hand, and Butte) experienced moderate elderly population growth between

<sup>7</sup> Based on Abt Associates analysis of U.S. Census Data for the U.S. and for South Dakota populations 65 and older, July 1, 2000 and July 1, 2005.

10 and 14 percent, Pennington experienced high elderly population growth between 15 and 24 percent, and Shannon experienced very high elderly population growth between 25 and 40 percent.

***Comparisons of Counties with the Greatest Number of HHAs per Elderly***

Five South Dakota counties have a relatively high number of HHAs per elderly residents (Table 3.4). Of these counties, one is in the Central region, two are in the Southeast, and two are American Indian. One of these counties is rural and four are frontier.

**Table 3.4**

**Counties with the Greatest Number of HHAs per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Lyman		Miner	Ziebach Mellette
<b>Rural</b>				McCook	
<b>Urban</b>					

Of these counties, two (McCook, Miner) experience no or decreasing elderly population growth between -3 to 0 percent, Mellette experienced low elderly population growth between one and nine percent, Lyman experienced moderate elderly population growth between 10 to 14 percent, and Ziebach experienced elderly population growth between 15 and 24 percent. Trends for capacity analyses are similar when comparing counties with Home Health service capacity to the disabled elderly population.

***Comparison of Capacity for Counties with Low and High Elderly Population Growth***

Four counties (Miner, Hughes, Hutchinson, McCook) experienced elderly population growth between -3 and 0 percent for 2000 to 2005. Three of these counties are rural and one is frontier. Three are located in the Southeast region and one is located in the Central region. Miner and McCook had a greater number of HHAs serving the county per elderly, while Hughes had relatively few HHAs per elderly. Hutchinson had relatively few HHAs per elderly residents serving the county.

Four counties (Custer, Jackson, Shannon, Buffalo) experienced elderly population growth between 25 and 40 percent for 2000 to 2005. Three of these counties are American Indian, while one is located in the West. All four counties are frontier counties. Custer and Jackson had relatively few HHAs serving the county per elderly and Shannon had even fewer. Buffalo had no Home Health service capacity for 2006.

## Home Health Utilization

When addressing utilization of services, we focus on the questions:

- How does Home Health utilization vary by county as a proportion of elderly?
- How does Home Health utilization vary by county as a proportion of disabled elderly?

Of the 62 South Dakota counties with Home Health service capacity, 25 counties had a very low relative proportion of Home Health episodes of care per elderly residents during 2006, 15 counties had a low relative proportion of Home Health episodes per elderly, 21 counties had a moderate relative proportion of Home Health episodes per elderly, and one county had a high relative proportion of Home Health episodes of care per elderly.

### *Comparison of Counties with the Fewest Home Health Episodes per Elderly*

Of the 25 counties with relatively few Home Health episodes of care per elderly residents during 2006, 17 are frontier and eight are rural. Of these counties, six are located in the Northeast, five in the Southeast, ten in the Central region, one in the West, and three are American Indian (Table 3.5).

**Table 3.5**

#### **Counties with the Fewest Home Health Episodes of Care per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Perkins	Brule Campbell Hand Lyman Potter Sully Aurora	Day Edmunds Faulk Marshall McPherson	Miner Sanborn	Jackson Mellette
<b>Rural</b>		Charles Mix Douglas Walworth	Grant	Hanson Hutchinson Lake	Todd
<b>Urban</b>					

Of these counties, five (Hand, Lyman, Edmunds, Walworth, Sanborn) experienced elderly population growth between 10 and 14 percent, three (Todd, Campbell, Sully) experienced elderly population growth between 15 and 24 percent, and Jackson experienced elderly population growth between 25 and 40 percent.

### *Comparison of Counties with Relatively Moderate and Great Number of Home Health Episodes per Elderly*

Of the 21 counties with a moderate relative proportion of Home Health episodes of care per elderly residents during 2006, eight are frontier counties, 11 are rural, and two are urban (Exhibit 3.4). Of these 21 counties, six are located in the Northeast, six in the Southeast, two in the Central region,

three in the West, and four are American Indian (Table 3.6). Dewey County (Frontier, American Indian) had the greatest number of Home Health episodes of care per elderly resident during 2005.

**Table 3.6**

**Counties with a Moderate Relative Proportion of Home Health Episodes of Care per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Stanley Gregory	Clark Deuel		Bennett Corson Shannon Ziebach
<b>Rural</b>	Lawrence Meade		Brookings Hamlin Codington Beadle	Bon Homme Clay Lincoln McCook Yankton	
<b>Urban</b>	Pennington			Minnehaha	

Of these counties, McCook experienced elderly population growth between -3 and 0 percent, five counties (Meade, Corson, Ziebach, Stanley, Pennington) experienced elderly population growth between 15 and 24 percent, and Shannon experienced elderly population growth between 25 and 40 percent. Trends for Home Health episodes per 1,000 disabled elderly residents are similar to trends for Home Health episodes per 1,000 elderly residents.

***Comparison of Utilization for Counties with Low and High Elderly Population Growth***

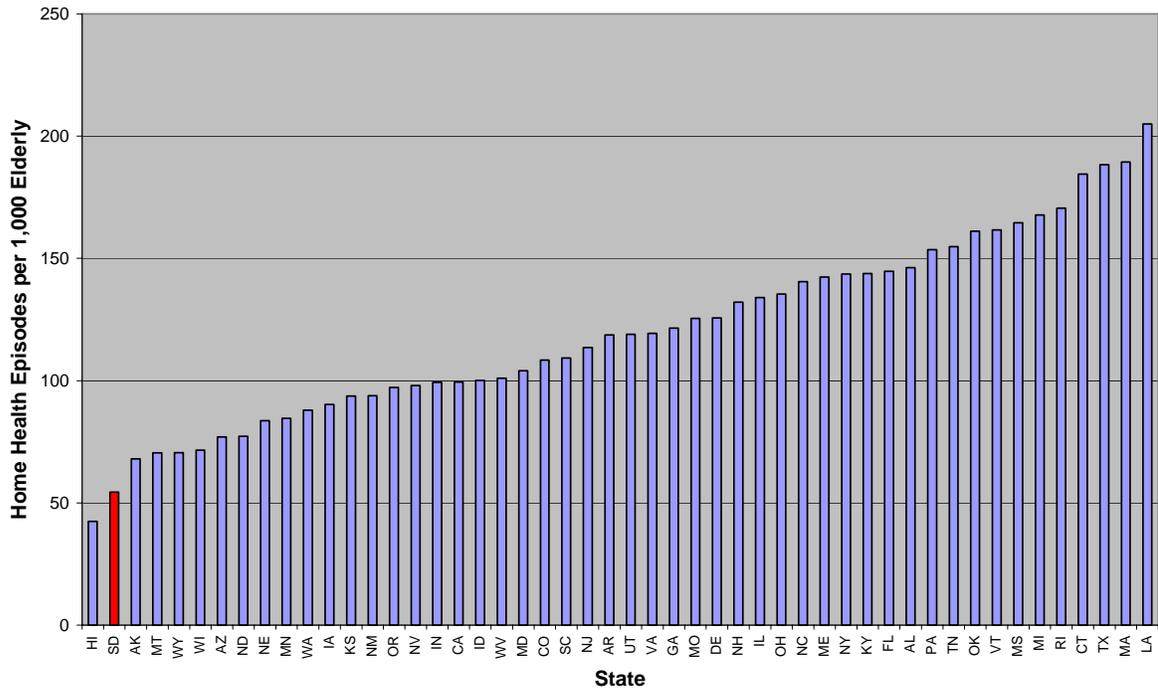
Of the four counties (Miner, Hughes, Hutchinson, McCook) that experienced elderly population growth between -3 and 0 percent for 2000 to 2005, two counties (Miner, Hutchinson) had a very low relative proportion of Home Health episodes, Hughes among the fewest Home Health episodes, and McCook had a moderate number of Home Health episodes per elderly residents.

Of the four counties (Custer, Jackson, Shannon, Buffalo) that experienced elderly population growth between 25 and 40 percent for 2000 to 2005, Jackson and Custer had among the fewest Home Health episodes per elderly residents, and Shannon had a moderate number of Home Health episodes. Buffalo had no Home Health services for 2006.

## State Comparison of Home Health Utilization

Using data for Medicare and Medicaid patients available from Home Health Compare, and Elderly and non-institutionalized Disabled<sup>8</sup> population data from the U.S. Census, we compared Home Health utilization rates across all states. For all states in 2006, the average number of Home Health episodes per 1,000 elderly residents was 119 with a standard deviation of 38. South Dakota in 2006 had 54 Home Health episodes per 1,000 Elderly residents, which is about 1.7 standard deviations below the national average (Graph 3.1).

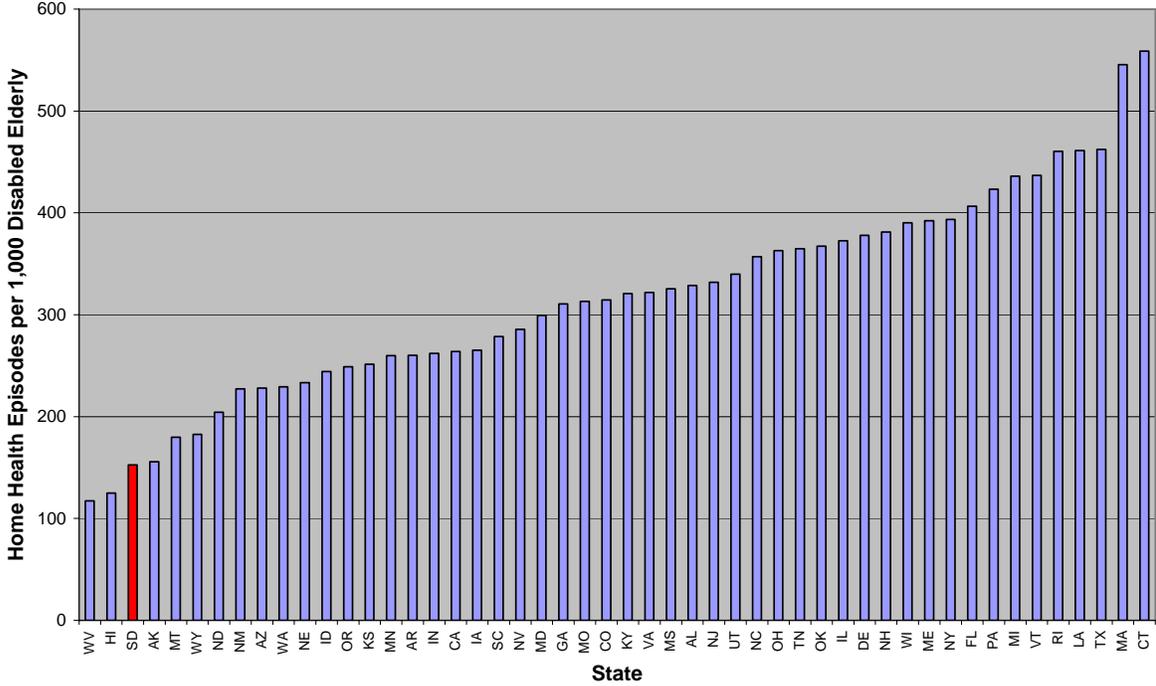
Graph 3.1: Number of Home Health Episodes per 1,000 Elderly Residents



The national average number of Home Health episodes per 1,000 disabled elderly residents in 2006 was 319 with a standard deviation of 101. South Dakota in 2006 had 152 Home Health episodes per 1,000 disabled elderly residents, which is about 1.6 standard deviations below the national average (Graph 3.2).

<sup>8</sup> All other Elderly Disabled population analyses are for both institutionalized and non-institutionalized populations, only the state comparison for Elderly Disabled is for non-institutionalized population only.

Graph 3.2: Number of Home Health Episodes per 1,000 Disabled Elderly Residents



# Home and Community Based Services Summary

The Home and Community Based Services (HCBS) with data available to analyze are Adult Day services, Senior Center services, Nutrition programs, and Homemaker / In-Home services. Because some HCBS are not facility dependent and others are, capacity and utilization of services are analyzed in different units of service. Supply of and demand for Adult Day and Senior Center services are analyzed at the facility level, while Nutrition programs and Homemaker / In-Home services are analyzed according to service area. For areas of South Dakota with no supply of HCBS, it is assumed that there is unmet demand, even though this demand cannot be quantified. The lack of HCBS capacity in some areas of South Dakota may be due to either a lack of supply or a lack of the constant demand required in order to support service supply.

In this section, descriptive terms such as “few” and “many” are used relative to the rest of South Dakota only, and should not be generalized as absolute terms. For example, many counties with “many” Adult Day facilities relative to South Dakota still in fact have low capacity relative to national averages. Overall, availability of HCBS is quite sparse in South Dakota compared to the rest of the nation – a fact that these intra-state comparisons do not reflect.

**Table 4.1**

**Adult Day Service Summary of Standout Counties**

	No Capacity		Fewest Facilities / Elderly	Most Facilities / Elderly
<b>Low Pop Growth (-3%-0%)</b>			Hughes (C)	McCook (SE)
<b>High Pop Growth (15%-40%)</b>	Meade (W) Campbell (C) Sully (C) Corson (AI) Todd (AI) Jackson (AI)	Stanley (C) Jones (C) Buffalo (AI) Ziebach (AI) Dewey (AI) Shannon (AI)	Pennington (W) Custer (W)	

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

Table 4.1 summarizes the counties that have either low elderly population growth (-3 to 0 percent) or high population elderly population growth (15 to 40 percent) and have no capacity, among the fewest number of facilities per elderly, or among the greatest number of facilities per elderly. One group of counties that stand out are counties with high elderly population growth and either no capacity (Meade, Stanley, Campbell, Jones, Sully, Buffalo, Corson, Ziebach, Todd, Dewey, Jackson, and Shannon) or among the fewest facilities per elderly (Pennington, Custer). These counties are likely to feel the most constrained Adult Day resources and services that are substitutes. Another group of standout counties are those with low elderly population growth and among the greatest number of facilities per elderly (McCook). McCook County may currently have either excess capacity or decreasing utilization or it is likely to experience either of these phenomena in the near future.

The counties with low elderly population growth and among the fewest number of facilities per elderly (Hughes) are likely to be most well-matched for Adult Day services in the coming years and are likely to feel fewer constraints from Adult Day services.

**Table 4.2**

**Senior Center Services Summary of Standout Counties**

	No Capacity	Fewest Centers / Elderly	Most Centers / Elderly
<b>Low Pop Growth (-3%-0%)</b>		Hughes (C)	
<b>High Pop Growth (15%-40%)</b>	Stanley (C) Corson (AI)	Meade (W) Pennington (W) Custer (W) Shannon (AI)	Buffalo (AI)

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

Table 4.2 summarizes the counties that have either low or high elderly population growth and have no capacity, among the fewest number of Senior Centers per elderly residents, or among the greatest number of Senior Centers per elderly residents. One group of counties that standout are counties with high elderly population growth and either no capacity (Stanley, Corson) or among the lowest capacity (Meade, Pennington, Custer, Shannon). These counties are likely to feel the most constrained by Senior Center resources and services that are substitutes.

The county with low elderly population growth and among the lowest capacity (Hughes) as well as the county with high elderly population growth and among the highest capacity (Buffalo) are likely to be most well-matched for Senior Center services in the coming years and are likely to feel fewer constraints due to Senior Center services.

**Table 4.3**

**Nutrition Services Summary of Standout Counties**

	No Programs	Fewest Programs / Elderly	Most Programs / Elderly
<b>Low Pop Growth (-3%-0%)</b>		Hughes (C) Hutchinson (SE)	
<b>High Pop Growth (15%-40%)</b>	Buffalo (AI)	Meade (W) Pennington (W) Custer (W) Shannon (AI)	Campbell (C) Corson (AI) Ziebach (AI) Todd (AI) Dewey (AI)

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

Table 4.3 summarizes the counties that have either low or high elderly population growth and are served by no, relatively few, or relatively many Nutrition programs per elderly residents. One group of counties that standout are counties with high elderly population growth and either no Nutrition service (Buffalo) or among the fewest number of Nutrition programs per elderly serving the county

(Meade, Pennington, Custer, Shannon). These counties are likely to feel the most constrained by Nutrition services.

The counties with low elderly population growth and the fewest programs per elderly (Hughes, Hutchinson) as well as the counties with high elderly population growth and the highest programs per elderly (Campbell, Corson, Jones, Ziebach, Todd, Dewey) are likely to be most well-matched for Nutrition services in the coming years and are likely to feel fewer constraints due to Nutrition services.

**Table 4.4**

**Homemaker / In-Home Service Summary of Standout Counties**

	<b>No Agencies in County</b>	<b>Fewest Agencies / Elderly</b>	<b>Most Agencies / Elderly</b>	<b>Fewest Clients / Elderly</b>	<b>Most Clients / Elderly</b>
<b>Low Pop Growth (-3%-0%)</b>	Miner (SE) McCook (SE)	Hughes (C) Hutchinson (SE)			
<b>High Pop Growth (15%-40%)</b>	Meade (W) Campbell (C) Corson (AI) Jones (C) Sully (C) Ziebach (AI) Todd (AI) Stanley (C) Custer (W) Jackson (AI) Shannon (AI) Buffalo (AI)	Pennington (W)		Corson (AI) Jones (C) Sully (C) Ziebach (AI)	

Key: (C): Central region, (W): West, (NE): Northeast, (SE): Southeast, (AI): American Indian

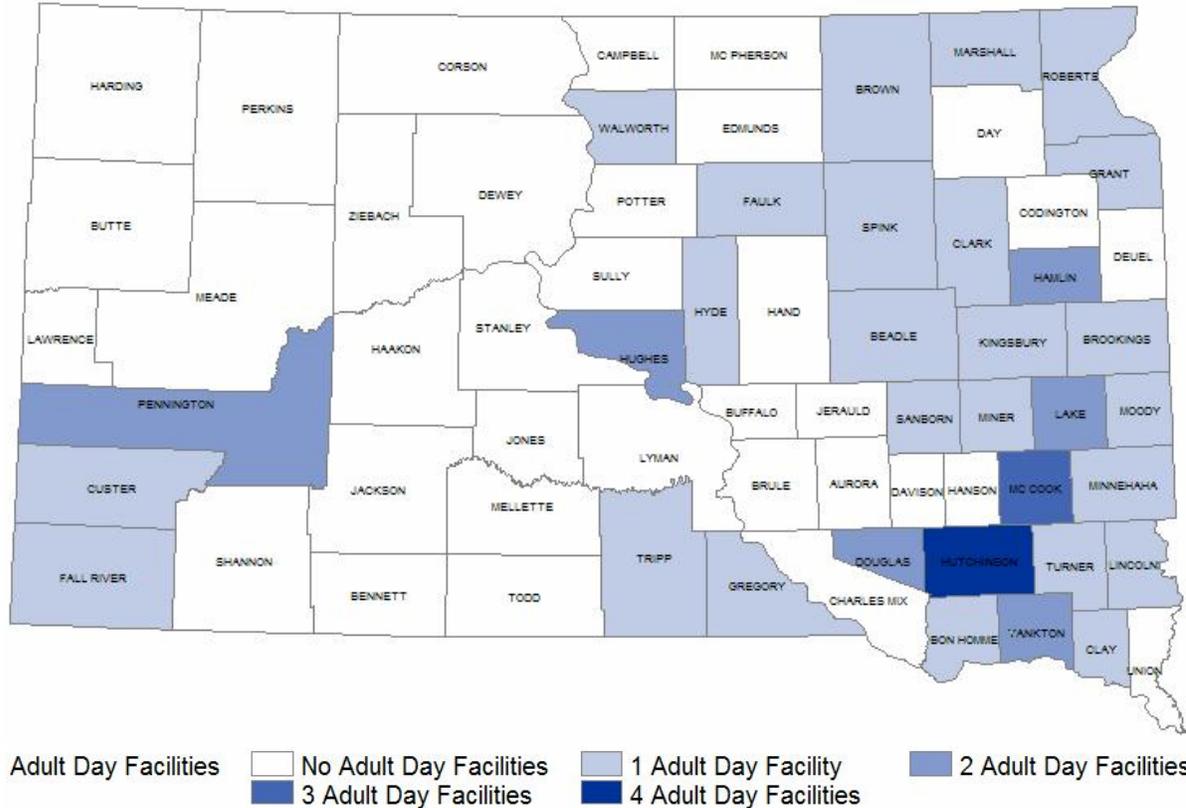
Table 4.4 summarizes the counties that have either low or high elderly population growth and no capacity, the fewest number of Homemaker agencies per elderly residents, the most agencies per elderly residents, the fewest number of In-Home service clients per elderly residents, or the most clients per elderly residents. One group of counties that stand out are those with high elderly population growth and either no Homemaker agencies located in the county (Meade, Campbell, Corson, Jones, Sully, Ziebach, Todd, Stanley, Custer, Jackson, Shannon, Buffalo), the fewest number of agencies per elderly residents (Pennington), or the fewest clients per elderly residents (Corson, Jones, Sully, Ziebach). These counties are likely to feel the most constrained by Homemaker and In-Home services.

The counties with low elderly population growth and no Homemaker agencies in county (Miner, McCook) or the fewest agencies per elderly residents (Hughes, Hutchinson) are likely to be most well-matched for Homemaker and In-Home services in the coming years and are likely to feel fewer constraints due to these services.

## Adult Day Service Capacity

Each Adult Day facility is unique based on the services provided, payment source, and organization. However, data on services provided is difficult to obtain or nonexistent. Exhibit 4.1 presents the number of Adult Day facilities by county.

*Exhibit 4.1: South Dakota Map: Number of Adult Day Facilities by County*



As of early 2007, 34 of South Dakota's 66 counties had no Adult Day facilities. Of these 34 counties, 12 are located in the Central region, five are in the West, five are in the Northeast, three are in the Southeast, and nine are American Indian (Table 4.5). Twenty-six of the 34 counties with no Adult Day facilities are frontier counties, while eight are rural counties.

**Table 4.5**

**Counties with No Adult Day Facilities**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Butte Harding Perkins	Aurora Brule Campbell Haakon Hand Jerauld Jones Lyman Potter Stanley Sully	Day Deuel Edmunds McPherson		Bennett Buffalo Corson Dewey Jackson Mellette Shannon Ziebach
<b>Rural</b>	Lawrence Meade	Charles Mix	Codington	Davison Hanson Union	Todd
<b>Urban</b>					

In this section, descriptive terms such as “few” and “many” are used relative to the rest of South Dakota only, and should not be generalized as absolute terms. For example, many counties with “many” Adult Day facilities relative to South Dakota still in fact have low capacity relative to national averages.

The national average elderly population growth is about 5 percent, while the South Dakota elderly population growth is about 10 percent between 2000 and 2005.<sup>9</sup> Nine counties (Meade, Campbell, Corson, Jones, Sully, Ziebach, Todd, Dewey, Stanley) experienced elderly population growth well above the South Dakota average between 15 and 24 percent. Three counties (Jackson, Shannon, Buffalo) experienced even higher elderly population growth between 25 and 40 percent.

Of the 32 counties with some Adult Day service capacity, 24 were covered by one Adult Day facility, six were covered by two facilities, one was covered by three facilities, and one was covered by four facilities.

When comparing the Adult Day Service capacity to the elderly population, 24 had a very low relative proportion of Adult Day facilities, six had a low relative proportion of Adult Day facilities, and two had a moderate relative proportion of Adult Day facilities per elderly residents.

***Comparison of Counties with the Fewest Adult Day Facilities per Elderly***

Of counties with the fewest number of Adult Day facilities per elderly residents, two are urban, 14 are rural, and eight are frontier. Three are located in the West, four in the Central region, nine in the Northeast, and eight in the Southeast (Table 4.6).

<sup>9</sup> Based on Abt Associates analysis of U.S. Census Data for the U.S. and for South Dakota populations 65 and older, July 1, 2000 and July 1, 2005.

**Table 4.6****Counties with the Fewest Adult Day Facilities per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Fall River Custer	Tripp Gregory	Spink Kingsbury Clark Marshall		
<b>Rural</b>		Walworth Hughes	Brown Beadle Brookings Roberts Grant	Lincoln Turner Yankton Bon Homme Clay Moody Lake	
<b>Urban</b>	Pennington			Minnehaha	

Of these counties, five (Fall River, Moody, Walworth, Lincoln, Minnehaha) experienced moderate elderly population growth between 10 and 14 percent, Pennington experienced high elderly population growth between 15 and 24 percent, and Custer experienced very high elderly population growth between 25 and 40 percent.

***Comparison of Counties with an Average Number Adult Day Facilities per Elderly***

Two South Dakota counties had close to the average number of Adult Day facilities per elderly residents (Table 4.7). Douglas County is rural and located in the Central region. McCook County is rural and located in the Southeast.

**Table 4.7****Counties with an Average Number of Adult Day facilities per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>					
<b>Rural</b>		Douglas		McCook	
<b>Urban</b>					

Both Douglas and McCook counties experienced elderly population growth between zero and one percent from 2000 to 2005. Trends for capacity analyses are similar when comparing counties with Adult Day service capacity to the disabled elderly population.

***Comparison of Adult Day Capacity for Counties with Low and High Elderly Population Growth***

Four counties (Miner, Hughes, Hutchinson, McCook) experienced elderly population growth between -3 and 0 percent from 2000 to 2005. Three of these counties are rural and one is a frontier county. Three of these counties are located in the Southeast and one is located in the Central region. Hughes, Hutchinson, and Miner had among the fewest Adult Day facilities per elderly residents, and McCook had an average number of Adult Day facilities per elderly residents serving the county.

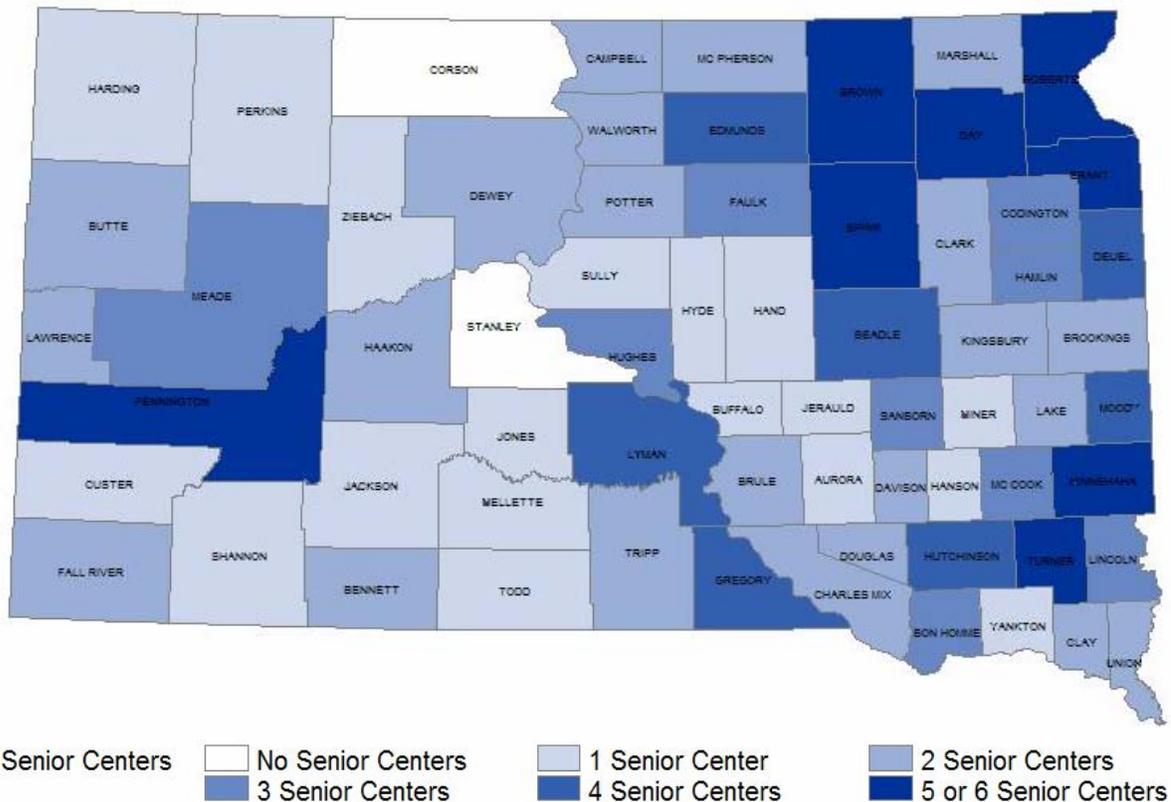
Four counties (Custer, Jackson, Shannon, Buffalo) experienced elderly population growth between 25 and 40 percent from 2000 to 2005. One of these counties is located in the West, and three are American Indian. All four counties are frontier counties. Jackson, Shannon, and Buffalo had no Adult Day facilities serving the county. Custer had among the fewest number of Adult Day facilities per elderly residents serving the county.

## Senior Center Service Capacity

Each Senior Center provides a unique mix of the services, but there is more similarity than for Adult Day Services. In this section, descriptive terms such as “few” and “great” are typically used relative to the rest of South Dakota only, and should not be generalized as absolute terms.

Exhibit 4.2 presents the number of Senior Centers by county.

*Exhibit 4.2: South Dakota Map: Number of Senior Centers by County*



As of early 2007, two of South Dakota’s 66 counties had no Senior Centers. Corson is a frontier county and is American Indian. Stanley is a frontier county located in the central region (Table 4.8).

**Table 4.8**

### Counties with No Senior Centers

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>		Stanley			Corson
<b>Rural</b>					
<b>Urban</b>					

Both Corson and Stanley Counties experienced elderly population growth between 15 and 24 percent from 2000 to 2005.

Of the 64 counties with some Senior Center service capacity, 18 were covered by one Senior Center, 22 were covered by two Senior Centers, nine were covered by three Senior Centers, seven were covered by four Senior Centers, and eight were covered by five or six Senior Centers.

When comparing the Senior Center service capacity to the elderly population, 26 counties had among the fewest number of Senior Centers per elderly residents, 12 still had relatively few Senior Centers, 11 had an average number of Senior Centers per elderly residents, nine had a relatively large number of Senior Centers per elderly residents, and six counties had among the most Senior Centers per elderly residents.

***Comparison of Counties with the Fewest number of Senior Centers per Elderly Residents***

Of counties with the fewest number of Senior Centers per elderly residents, two are urban, 15 are rural, and nine are frontier. Seven are located in the West, six in the Central region, five in the Northeast, seven in the Southeast, and one is American Indian (Table 4.9).

**Table 4.9**

<b>Counties with the Lowest Number of Senior Centers per Elderly Residents</b>					
	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Custer Fall River Perkins Butte	Hand Aurora Tripp	Kingsbury		Shannon
<b>Rural</b>	Lawrence Meade	Charles Mix Hughes Walworth	Brookings Codington Brown Beadle	Yankton Davison Lincoln Lake Union Clay	
<b>Urban</b>	Pennington			Minnehaha	

Of these counties, seven (Fall River, Hand, Walworth, Butte, Codington, Lincoln, Minnehaha) experienced moderate elderly population growth between 10 and 14 percent, Meade and Pennington experienced high elderly population growth between 15 and 24 percent, and Shannon and Custer experienced very high elderly population growth between 25 and 40 percent.

***Comparison of Counties with the Greatest Number of Senior Centers per Elderly Residents***

Six South Dakota counties had among the greatest number of Senior Centers per elderly residents (Table 4.10). One is in the West, two are in the Central region, one is in the Northeast, one is in the Southeast, and one is American India. All six counties are frontier counties.

**Table 4.10**

**Counties with the Greatest Number of Senior Centers per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Harding	Haakon Lyman	Faulk	Sanborn	Buffalo
<b>Rural</b>					
<b>Urban</b>					

Three counties (Lyman, Sanborn, Harding) experienced elderly population growth between 10 and 14 percent from 2000 to 2005. Buffalo experienced elderly population growth between 25 and 40 percent.

***Comparison of Senior Center Service Capacity for Counties with Low and High Elderly Population Growth***

Four counties (Miner, Hughes, Hutchinson, McCook) experienced elderly population growth between -3 and 0 percent from 2000 to 2005. Hughes had among the fewest number of Senior Centers per elderly residents, Hutchinson and Miner had slightly more but still relatively few Senior Centers per elderly, and McCook had an average number of Senior Centers per elderly residents serving the county.

Four counties (Custer, Jackson, Shannon, Buffalo) experienced elderly population growth between 25 and 40 percent from 2000 to 2005. Custer and Shannon had among the fewest number of Senior Centers per elderly, Jackson had slightly more but still relatively few Senior Centers per elderly, and Buffalo had among the highest number of Senior Centers per elderly residents serving the county.



Of the 64 counties with some Nutrition services available, 12 counties were served by one Nutrition program, 17 were served by two programs, 20 were served by three or four programs, five were served by five or six programs, and 10 were served by seven or more Nutrition programs.

Sixteen counties had among the fewest number of Nutrition programs per elderly residents, 20 had slightly more but still relatively few Nutrition programs per elderly residents, 17 had an average number of Nutrition programs per elderly residents, six had a relatively large number of Nutrition programs per elderly residents, and five had among the highest number of Nutrition programs per elderly residents serving the county.

***Comparison of Counties with the Fewest Nutrition Programs per County***

Of the 16 counties with among the fewest number of Nutrition programs per elderly residents, two are urban, 10 are rural, and four are frontier. Five are located in the West, three in the Central region, two in the Northeast, five in the Southeast, and one is American Indian (Table 4.12).

**Table 4.12**

**Counties with the Fewest Nutrition Programs per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Butte Custer	Tripp			Shannon
<b>Rural</b>	Lawrence Meade	Hughes Walworth	Codington Brown	Yankton Lincoln Hutchinson Clay	
<b>Urban</b>	Pennington			Minnehaha	

Of these counties, two (Hughes, Hutchinson) experienced low elderly population growth between -3 and 0 percent, two (Meade, Pennington) experienced relatively high elderly population growth between 15 and 24 percent, and two (Custer, Shannon) experienced very high elderly population growth between 25 and 40 percent.

***Comparison of Counties with the Most Nutrition Programs per Elderly Residents***

Five South Dakota counties had among the most Nutrition programs per elderly residents (Table 4.13). Four of these counties are frontier counties, and one is a rural county. All five of these counties are American Indian.

**Table 4.13**

**Counties with the Greatest Number of Nutrition Programs per Elderly Residents**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>					Corson Dewey Melleite Ziebach
<b>Rural</b>					Todd
<b>Urban</b>					

Melleite County experienced elderly population growth between one and nine percent. The other four counties (Corson, Dewey, Ziebach, Todd) experienced elderly population growth between 15 and 24 percent. Trends for capacity analyses are similar when comparing counties with Nutrition program service capacity to the disabled elderly population.

***Comparison of Nutrition Service Capacity for Counties with Low and High Elderly Population Growth***

Four counties (Miner, Hughes, Hutchinson, McCook) experienced elderly population growth between -3 and 0 percent from 2000 to 2005. Hughes and Hutchinson had among the fewest number of Nutrition programs per elderly residents, and McCook and Miner had an average number of Nutrition programs per elderly residents serving the county.

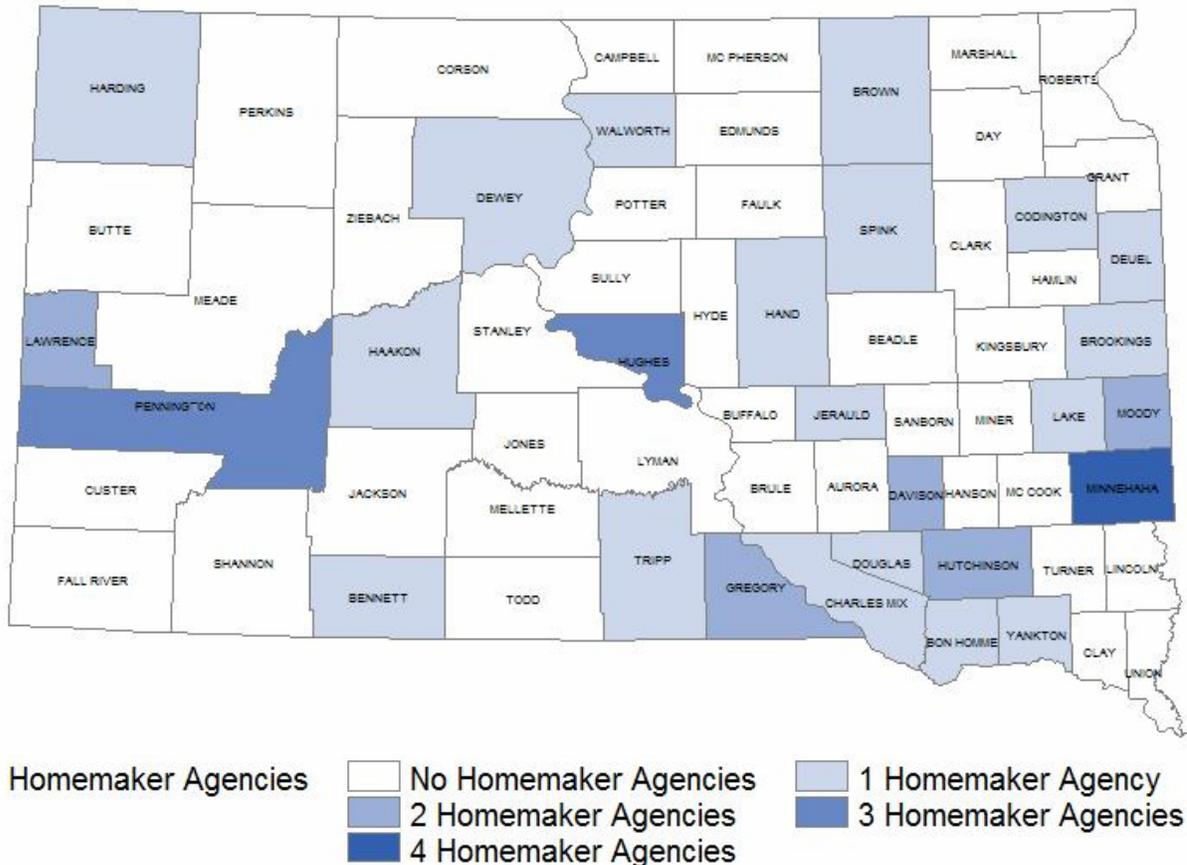
Four counties (Custer, Jackson, Shannon, Buffalo) experienced elderly population growth between 25 and 40 percent from 2000 to 2005. Custer and Shannon had among the fewest number of Nutrition programs per elderly residents, and Jackson had an average number of Nutrition programs per elderly residents serving the county. Buffalo had no Nutrition programs serving the county.

## Homemaker / In-Home Service Availability

Every county in South Dakota is served by a Homemaker agency; however, counties in which more Homemaker agencies are located are likely to receive more coverage than counties in which fewer agencies are located. In this section, descriptive terms such as “few” and “great” are typically used relative to the rest of South Dakota only, and should not be generalized as absolute terms.

We present the number of Homemaker agencies by county in Exhibit 4.4.

*Exhibit 4.4: South Dakota Map: Number of Homemaker Agencies Located in each County*



As of 2006, 40 of South Dakota’s 66 counties had no Homemaker agencies located in them. Of these 40 counties, five are located in the West, nine are located in the Central region, 11 are located in the Northeast, 8 are located in the Southeast, and seven are American Indian (Table 4.14). Twenty-eight of these counties are frontier counties, and 12 counties are rural counties.

**Table 4.14**

**Counties with No Homemaker Facilities 2006**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Perkins Fall River Butte Custer	Potter Aurora Brule Lyman Hyde Campbell Jones Sully Stanley	Day McPherson Clark Faulk Kingsbury Marshall Edmunds	Miner Sanborn	Mellette Corson Ziebach Jackson Shannon Buffalo
<b>Rural</b>	Meade		Grant Hamlin Beadle Roberts	McCook Clay Hanson Turner Union Lincoln	Todd
<b>Urban</b>					

Eight counties (Meade, Campbell, Corson, Jones, Sully, Ziebach, Todd, Stanley) experienced elderly population growth well above the South Dakota average between 15 and 24 percent. Four counties (Custer, Jackson, Shannon, Buffalo) experienced even higher elderly population growth between 25 and 40 percent.

Of the 26 counties with Homemaker agencies located in them, 18 have one Homemaker agency, five have two Homemaker agencies, two have three Homemaker agencies, and one has four Homemaker agencies located within the county.

When comparing the Homemaker agency location to the elderly population, 19 have among the fewest number of Homemaker agencies located within the county per elderly residents. The remaining seven have a relatively greater number of Homemaker agencies located within the county per elderly residents, and one of these has a relatively large number.

***Comparison of Counties with the Fewest Homemaker / In-Home Agencies per Elderly Residents***

Of counties with the fewest number of Homemaker agencies located within the county per elderly residents, two are urban, 13 are rural, and four are frontier counties. Two are located in the West, six in the Central region, five in the Northeast, and six in the Southeast (Table 4.15).

**Table 4.15****Counties with the Fewest Homemaker Agencies Located within the County per Elderly Residents**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>		Tripp Hand	Spink Deuel		
<b>Rural</b>	Lawrence	Charles Mix Walworth Douglas Hughes	Brown Codington Brookings	Yankton Lake Davison Bon Homme Hutchinson	
<b>Urban</b>	Pennington			Minnehaha	

Of these counties, four counties (Hand, Walworth, Codington, Minnehaha) experienced relatively moderate elderly population growth between 10 and 14 percent, and Pennington experienced relatively high elderly population growth between 15 and 24 percent.

*Comparison of Counties with the Greatest Number of Homemaker / In-Home Service Availability*

Seven South Dakota Counties had among the greatest number of Homemaker agencies per elderly residents located within the county (Table 4.16). One of these counties is located in the West, three in the Central region, one in the Southeast, and two are American Indian. Six of these seven counties are Frontier and one is rural.

**Table 4.16****Counties with the Greatest Number of Homemaker Agencies per Elderly Residents**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Harding	Jerauld Gregory Haakon			Dewey Bennett
<b>Rural</b>				Moody	
<b>Urban</b>					

Three of these counties (Jerauld, Gregory, Haakon) experienced elderly population growth between one and nine percent from 2000 to 2005. Three counties (Moody, Harding, Bennett) experienced elderly population growth between 10 and 14 percent and Dewey experienced elderly population growth between 15 and 24 percent for this period. Trends for capacity analyses are similar when comparing counties with Homemaker Agencies located within them to the disabled elderly population.

*Comparison of Homemaker / In-Home Service Capacity for Counties with Low and High Elderly Population Growth*

Four counties (Miner, Hughes, Hutchinson, McCook) experienced elderly population growth between -3 and 0 percent from 2000 to 2005. Hughes and Hutchinson had among the lowest number of

Homemaker agencies located within each county per elderly residents, while Miner and McCook had no Homemaker agencies located within each county.

Four counties (Custer, Jackson, Shannon, Buffalo) experienced elderly population growth between 25 and 40 percent from 2000 to 2005. All four counties had no Homemaker Agencies located within the county.

## Homemaker / In-Home Service Utilization

Utilization of HCBS is difficult to assess due to differences in the unit of analysis and availability of data sources. The only utilization data available for HCBS is the number of Homemaker / In-Home Service clients served for the years 2004, 2005, 2006. In this section, descriptive terms such as “few” and “great” are typically used relative to the rest of South Dakota only, and should not be generalized as absolute terms.

All counties had at least one client receiving In-Home services during 2006. Twelve counties in South Dakota had among the fewest number of In-Home service clients per elderly residents, 33 counties had slightly more but still relatively few In-Home service clients per elderly residents, 17 counties had an average number of In-Home service clients per elderly residents, and four counties had among the greatest number of In-Home service clients per elderly residents.

### *Comparison of Counties with the Fewest Homemaker / In-Home Service Clients*

Of the 12 counties with the fewest number of In-Home service clients per elderly residents, eight are frontier and four are rural. Of these counties, five are located in the Central region, two are located in the Northeast, three in the Southeast, and two are American Indian (Table 4.17).

**Table 4.17**

#### **Counties with the Fewest In-Home Service Clients per Elderly Residents 2006**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>		Potter Sully Jones Lyman Hyde	Faulk		Corson Ziebach
<b>Rural</b>			Grant	Hanson Moody Lincoln	
<b>Urban</b>					

Of these counties, four counties (Lyman, Moody, Hyde, Lincoln) experienced elderly population growth between 10 and 14 percent and four counties (Corson, Jones, Sully, Ziebach) experienced elderly population growth between 15 and 24 percent.

### *Comparison of Counties with the Greatest Number of Homemaker / In-Home Service Utilization*

Of the four counties with the greatest number of In-Home service clients per elderly residents during 2006, two are frontier counties and two are rural (Table 4.18). One of these counties is located in the West, two are located in the Central region, and one is located in the Northeast.

**Table 4.18**

**Counties with the Greatest Number of In-Home Service Clients per Elderly Residents 2006**

	<b>West</b>	<b>Central</b>	<b>Northeast</b>	<b>Southeast</b>	<b>American Indian</b>
<b>Frontier</b>	Harding		Edmunds		
<b>Rural</b>		Charles Mix Douglas			
<b>Urban</b>					

Douglas and Charles Mix Counties experienced elderly population growth between 1 and 9 percent and Harding and Edmunds Counties experienced elderly population growth between 10 and 14 percent.

***Comparison of Homemaker / In-Home Service Utilization for Counties with Low and High Elderly Population Growth***

Of the four counties (Miner, Hughes, Hutchinson, McCook) that experienced elderly population growth between -3 and 0 percent from 2000 to 2005, two counties (Miner, Hughes) had an average number of In-Home service clients per elderly residents, and two counties (Hutchinson, McCook) had a relatively small number of In-Home service Clients per elderly residents.

Of the four counties (Custer, Jackson, Shannon, Buffalo) experienced elderly population growth between 25 and 40 percent from 2000 to 2005, all four counties had an average number of In-Home Service clients per elderly residents in 2006.

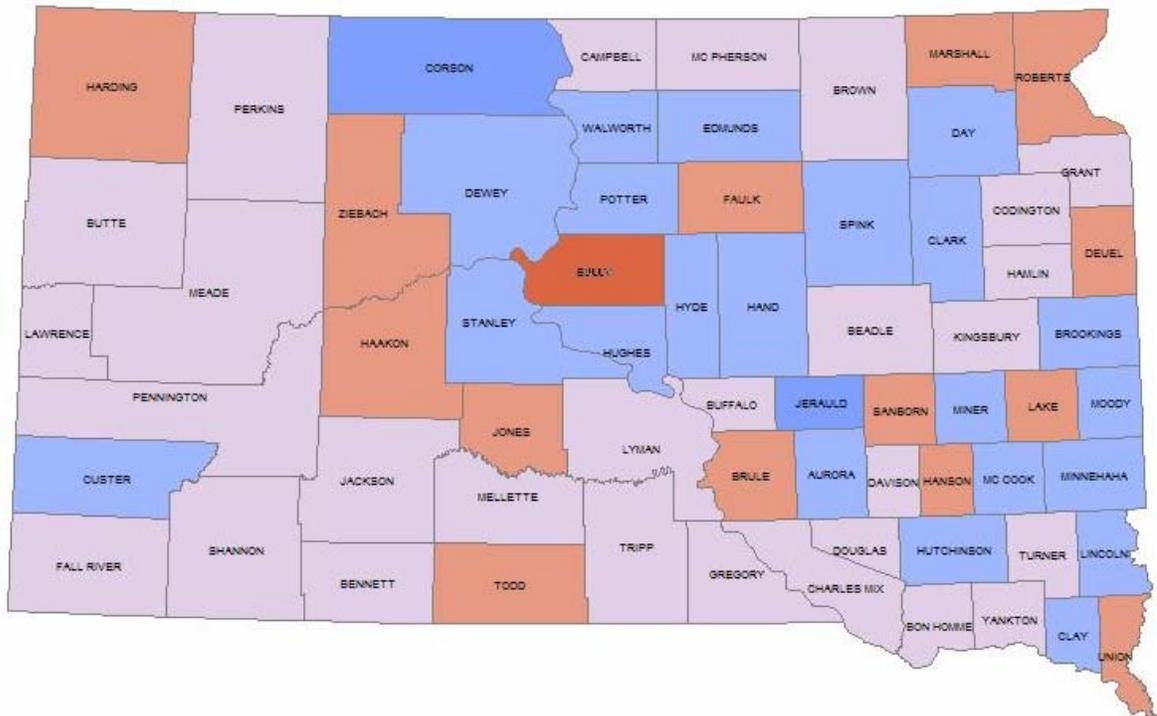
***Homemaker / In-Home Service Utilization Comparison for the Elderly Disabled population***

Trends for In-Home service clients per disabled elderly residents are similar to trends for In-Home service clients per elderly residents.

***Changes in Homemaker / In-Home Service Utilization 2004 to 2006***

Of all South Dakota counties between 2004 and 2006, one county experienced a decrease in the number of In-Home Service clients greater than 40 percent, 14 counties experienced a decrease between 10 and 39 percent, 28 counties experienced almost no change in number of In-Home Service Clients, 21 counties experienced an increase between 10 and 39 percent, and 2 counties experienced an increase in the number of In-Home Service clients greater than 40 percent (Exhibit 4.5).

*Exhibit 4.5: South Dakota Map: Percent Change in the Number of In-Home Service Clients between 2004 and 2006 by County*



***Comparison of Counties with the Largest Decrease in Homemaker / In-Home Service Utilization***

Of the 15 counties that experienced a *decrease* in In-Home Service clients greater than 10 percent, 10 counties are frontier counties and five are rural counties. Of these counties, one is in the West, four are in the Central region, four are in the Northeast, four are in the Southeast, and two are American Indian (Table 4.19).

**Table 4.19****Counties with Greater than 10 percent *Decrease* in the Number of In-Home Service Clients between 2004 and 2006**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Harding	Sully Jones Haakon Brule	Faulk Deuel Marshall	Sanborn	Ziebach
<b>Rural</b>			Roberts	Hanson Lake Union	Todd
<b>Urban</b>					

Of the 15 counties with a greater than 10 percent decrease in the number of In-Home Service clients between 2004 and 2006, two (Sanborn, Harding) experienced elderly population growth between 10 and 14 percent, and four (Jones, Sully, Ziebach, Todd) experienced elderly population growth between 15 and 24 percent.

***Comparison of Counties with the Largest Increase in Homemaker / In-Home Service Utilization***

Of the 23 counties that experienced an *increase* in the number of In-Home Service clients greater than 10 percent between 2004 and 2006, one is urban, eight are rural, and 14 are frontier counties. One of these counties is located in the West, eight are located in the Central region, five are located in the Northeast, seven are located in the Southeast, and two are American Indian (Table 4.20).

**Table 4.20****Counties with Greater than 10 percent *Increase* in the Number of In-Home Service Clients between 2004 and 2006**

	West	Central	Northeast	Southeast	American Indian
<b>Frontier</b>	Custer	Aurora Hyde Stanley Hand Potter Jerauld	Day Spink Edmunds Clark	Miner	Dewey Corson
<b>Rural</b>		Hughes Walworth	Brookings	McCook Hutchinson Clay Moody Lincoln	
<b>Urban</b>				Minnehaha	

Of the 23 counties with a greater than 10 percent *increase* in the number of In-Home Service clients between 2004 and 2006, four (Miner, Hughes, Hutchinson, McCook) experienced elderly population growth between -3 and zero percent, and eight (Day, Brookings, Spink, Aurora, Clay, Clark, Potter, Jerauld) experienced elderly population growth between one and nine percent.

***Comparison of Changes in Homemaker / In-Home Service Utilization for Counties with Low and High Elderly Population growth***

Of the four counties (Miner, Hughes, Hutchinson, McCook) that experienced elderly population growth between -3 and 0 percent from 2000 to 2005, all four experienced an increase in the number of In-Home Service clients between 10 and 39 percent.

Of the four counties (Custer, Jackson, Shannon, Buffalo) that experienced elderly population growth between 25 and 40 percent from 2000 to 2005, Custer experienced an increase in the number of In-Home Service clients between 10 and 39 percent, while Jackson, Shannon, and Buffalo Counties experienced no change in the number of In-Home Service clients between 2004 and 2006.