CHAPTER 2: ANALYSIS OF ACCESS TO HEALTHCARE SERVICES

Overview of Chapter

Access to healthcare services for rural residents encompasses at least three dimensions: geographic, capacity and economic access. Geographic access indicates that residents are within a reasonable distance of a provider of a particular service. Capacity access measures if there are a sufficient number of providers in a location relative to the size of the population in the area. Economic access encompasses a range of issues ranging from providers' willingness to accept particular kinds of healthcare coverage to the affordability of services. We do not address economic access issues such as the health insurance status of the population, or cultural or language barriers to healthcare that may exist in this chapter, other than through qualitative information we have obtained through stakeholder comments and observations from prior research on the topic.

In the scope of work for this project, we proposed to first, develop a methodology for determining healthcare access guidelines to measure both geographic and capacity access, and second, to assess to what extent Wyoming residents have both geographic and capacity access.

While we were able to develop guidelines to assess geographic and capacity access, we were not able to gather reliable information about the number and location of existing providers, with the exception of hospitals and nursing homes, that serve the healthcare needs of the Wyoming population. This chapter presents our recommendations regarding the development of geographic and capacity access guidelines.

Methodology for Determining Geographic Healthcare Access Guidelines

Navigant Consulting presented the Rural Healthcare Study Subcommittee with several approaches to determining access guidelines for Wyoming, as discussed in Chapter 1. Based on feedback from Subcommittee members regarding several possible approaches, we determined that the best approach to determine access guidelines would be to adapt the VHA travel time guidelines. The VHA applies these guidelines to primary, hospital and tertiary care to measure access to healthcare services for a distinct veteran population in a geographic area. The VHA varies its travel guidelines based on population density. We developed six Wyoming-specific Community Categories based on population size as described in Table 2.1 on the following page. (Also see Appendix 1.)

We modified these guidelines for Wyoming specifically for the purpose of identifying areas in Wyoming where geographic access may be an issue; that is, communities that may not have access to a set of core services within the standard distances should be considered a priority as Wyoming develops efforts to improve access. These Wyoming-specific categories allow the analysis of healthcare services at the incorporated place, census

designated place and census block group level, which is the smallest designation for which population data is available.

Table 2.1: Wyoming-Specific Community Categories

Community Category	Population Size	Sample Towns
A	25,000 or more	Cheyenne, Casper and Laramie
B	8,000 to 24,999	Rawlins, Sheridan and Gillette
C	2,500 to 7,999	Kemmerer, Worland and Torrington
D	1,000 to 2,499	Guernsey, Afton and Glenrock
E	500 to 999	Dubois, Marbleton and Upton
F	499 or less	Ten Sleep, Meeteetse and Midwest

The Veterans Health Administration's travel time guidelines[36] for primary care and inpatient hospital services reflect the realization that in smaller communities travel distance to healthcare services is farther. We adjusted these guidelines as follows:

- We converted the VHA's travel times to distances because analysis of travel time data is complex and is not available for many small communities, whereas mileage data is readily available and can be used with data on locations of population clusters and healthcare providers. In converting the VHA travel guidelines to miles, we used the average speeds from the VHA's analysis for different types of roads to determine travel miles.

- We then adjusted these travel miles for travel conditions more representative of Wyoming by calculating minutes–to–miles adjustment factors using the ratios that the Health Resources and Services Administration uses as part of its methodology for identifying Health Professional Shortage Areas[37] — 30 minutes equates to 20 miles on primary roads and to 15 miles in mountainous terrain or on secondary roads. The result was to divide the travel miles determined in the first step by factors of 1.5 for Community Categories A – C and 2.0 for Categories

[36] Office of the Secretary, Department of Veterans Affairs "CARES Decision," (May 2004). Available online: http://www1.va.gov/cares.

[37] United States Department of Health and Human Services, Bureau of Health Professions, "Health Professional Shortage Area Primary Medical Care Designation Criteria." Available online: http://bhpr.hrsa.gov/shortage/hpsacritpcm.htm.

D – F, assuming that there are mainly secondary roads in areas of the State with Community Categories D – F.

The resulting Wyoming-specific access guidelines are shown in Table 2.2.

Table 2.2: Distance Guidelines for Primary Care and Hospital Care by Community Category

Type of Service	Category A – C Communities	Category D Communities	Category E and F Communities
Primary Care	20 miles	20 miles	30 miles
Hospital Care	40 miles	40 miles	55 miles

Ten core services were identified for use in evaluation of access to care. Table 2.3 shows for each of the core services, the distance guidelines in miles for the various Community Categories.

Table 2.3: Distance Guidelines in Miles for Core Services by Community Category

Core Services	Community Category Based on Population					
	A	B	C	D	E	F
	> 25,000	8,000 to 24,999	2,500 to 7,999	1,000 to 2,499	500 to 999	< 499
Primary Care Services	20	20	20	20	30	30
Obstetrical Care Services	20	20	20	20	30	30
Mental Health/Substance Abuse Services	40	40	40	40	55	55
Emergency Transportation Services	20	20	20	20	30	30
Dental Services	40	40	40	40	55	55
Home Health Services	40	40	40	40	55	55
Inpatient Hospital Services	40	40	40	40	55	55

Table 2.3: Distance Guidelines in Miles for Core Services by Community Category (Cont'd)

Core Services	Community Category Based on Population					
	A	B	C	D	E	F
	> 25,000	8,000 to 24,999	2,500 to 7,999	1,000 to 2,499	500 to 999	< 499
Nursing Facility Care Services	60	60	60	60	60	60
Pharmacy Services	40	40	40	40	55	55

These distances are target access guidelines for purposes of this Study. If the State were to use the VHA's model, the goal would be for 70 percent of Wyoming residents to have access to the above core services within the specified travel distance of their residence.

Methodology for Determining Capacity Access Guidelines

There are numerous sources of benchmarks for determining capacity access. We identified industry provider-to-population guidelines that can be used as benchmarks with which to compare provider-to-population ratios within geographic locations. This approach is very similar to the methodology that the Federal Health Resources and Services Administration uses to define Health Professional Shortage Areas and Medically Underserved Areas.[38] However, the Health Professional Shortage Areas definitions are minimum requirements, whereas the guidelines we identified for benchmarking purposes are goals or targets used for planning or evaluating healthcare resources by Federal and state programs, managed care organizations and state Certificate of Need programs. Exhibit 2.1, on the following page, shows the guidelines or target provider-to-populations ratios that can be used as benchmarks for the various core services, as well as for general surgeons, cardiologists and orthopedic surgeons.

For the remaining core services, we note that the supply of hospital beds is generally measured in terms of hospital days per 1,000 population; benchmarks for emergency transportation services are generally related to geographic access, not capacity; and for home- and community-based services, guidelines are generally determined based on the number of participants served; but these numbers consider the availability of the spectrum of long-term care services.

[38] Wyoming Office of Rural Health, "Wyoming Health Professional Shortage Area Maps Issued," (November 2003). Available online: http://wdh.state.wy.us/sorh/novemeber.htm.

Exhibit 2.1: Provider-to-Population Ratios Used as Benchmarks for Evaluating Wyoming Communities' Healthcare Resource Needs[39]

Services	Benchmark Provider-to-Population Ratio	Benchmark Source	HPSA Shortage Area Provider-to-Population Ratio
Primary Care Services	1 to 2,500	North Carolina Rural Health Research and Policy Analysis Center and Medicaid managed care programs	1 to 3,000 - 3,500[40]
OB/GYNs[41]	1 to 12,345	Dartmouth Atlas Project	Not Available
General Surgery Services-General Surgeons	1 to 10,989	Dartmouth Atlas Project	Not available
Cardiologists	1 to 31,250	Dartmouth Atlas Project	Not available
Orthopedic Surgeons	1 to 17,421	Dartmouth Atlas Project	Not available
Psychiatrists	1 to 15,000	State of Nevada's Strategic Plan[42]	1 to 20,000 - 30,000[43]
Dental Services - Dentists	1 to 3,000	Nevada's Strategic Plan	1 to 4,000 - 5,000[44]
Nursing Facility Care Services– Nursing Facility Beds and Hospital-based Skilled Nursing and other Long-term Care Beds	• 0.58 beds per 1,000 population (ages 0 to 64) • 10.95 beds per 1,000 population (ages 65 to 74) • 38.96 beds per 1,000 population (ages 75 to 84) • 120.69 beds per 1,000 population (ages 85 and over)	State of North Carolina 's Certificate of Need program[45]	Not Applicable

[39] See Appendix 2 for a description of benchmarks.
[40] United States Department of Health and Human Services, Bureau of Health Professions, "Health Professional Shortage Area Primary Medical Care Designation Criteria." Available online: http://bhpr.hrsa.gov/shortage/hpsacritpcm.htm.
[41] Like other physician-to-population ratios, OB/GYN-to-population ratios are expressed in terms of total population rather than in terms of the female population of reproductive age only.
[42] State of Nevada, Department of Human Services, "Strategic Plan for Rural Health Care," (October 2002). Available online: http://www.hr.state.nv.us/shcp/documents/RuralHealth_Documents/NVReportAppendix/ NV-Report-FINAL.pdf.
[43] United States Department of Health and Human Services, Bureau of Health Professions, "Health Professional Shortage Area Primary Medical Care Designation Criteria." Available online: http://bhpr.hrsa.gov/shortage/hpsacritpcm.htm.
[44] Ibid.
[45] North Carolina Department of Health and Human Services, *Proposed 2005 State Medical Facilities Plan*, p. 197.

Wyoming's Current and Future Demographics

Also affecting access to healthcare services in the future is the demographics of the State's population. Although Wyoming's population is not projected to grow significantly over the next 15 years, the composition of that population is expected to change significantly, having a major impact on the need for and use of healthcare services in the State.

The Wyoming Department of Administration and Information, Division of Economic Analysis, has projected the State's population for each year through 2020 and projects that the population will grow by 27,350 people between 2005 and 2020. This represents an increase of 5.4 percent over the 15-year period.

The age composition of the State's population is projected to change markedly over this time period as the numbers of elderly residents increase significantly. As Figure 2.1, on the following page, illustrates, an estimated 12.4 percent of Wyoming's population will be over age 65 in 2005 – nearly equal to the estimated 12.6 percent for the nation.

By 2015, the proportion of Wyoming's population that is over age 65 is projected to increase to 15.7 percent and to 18.2 percent in 2020. As Figure 2.2, on the following page, illustrates, most of the growth in the over age 65-category is projected to occur in the 65 to 74-age category, which is projected to grow 77 percent between 2005 and 2020. The 65 to 74-age category accounts for 66 percent of the projected population growth in the State over the next 10 years; it accounts for 93 percent of the projected population growth over the next 15 years. The 65 to 74-age category's share of the State's total population is projected to increase from 6.5 percent in 2005 to 11.0 percent in 2020. The State's population in the 75 to 84 and over age 85 categories is also projected to increase, but not as dramatically as the 65 to 74-age category. The State's population in the under age 65-category is projected to decrease slightly between 2005 and 2020.

These projected changes in the population's age composition will mean increased demand for some healthcare services in Wyoming in the future.

Figure 2.1: Proportion of 2005 Wyoming's[46] and United States'[47] Estimated Population, By Age Category

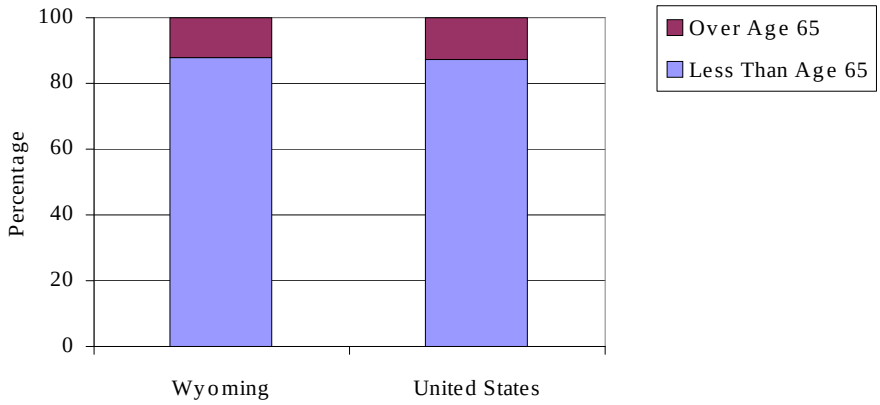
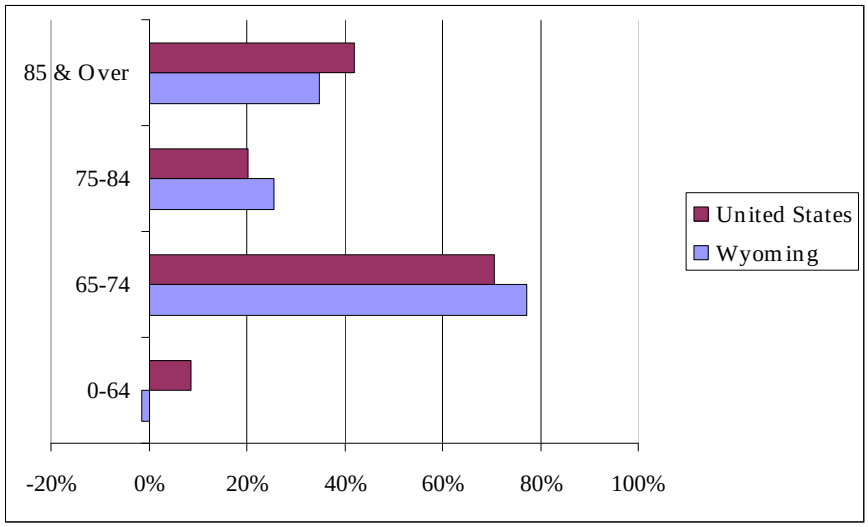


Figure 2.2: Percentage Change in the United States'[48] and Wyoming's[49] Projected Population 2005-2020, by Age Category



[46] Source: Department of Administration and Information, Economic Analysis Division, "Wyoming and County Projections by Age: 2003-2020." Available online: http://eadiv.wy.us/pop/agsx00_20.htm

[47] Source: United States Census Bureau, "Table 29: Projected Population of the United States by Age and Sex." Available online: http://www.census.gov/ipc/www/usinterimproj/natprojtab02a.xls

[48] Source: United States Census Bureau, "Table 29: Projected Population of the United States by Age and Sex." Available online: http://www.census.gov/ipc/www/usinterimproj/natprojtab02a.xls

[49] Source: Department of Administration and Information, Economic Analysis Division, "Wyoming and County Projections by Age: 2003-2020." Available online: http://eadiv.wy.us/pop/agsx00_20.htm

Data Limitations in Identifying Healthcare Resources

Using Medicaid and Medicare claims, professional society membership lists, State Department of Health licensing information and information from local health professionals, we attempted to identify the number, locations and practice patterns of providers of core services and other selected specialty services. We believed that claims data would provide good information to determine the number of actively practicing providers, as such data includes only those providers who actually submitted a bill for service. However, centralized claims databases that include all third-party payers do not exist, so we used Medicaid and Medicare claims data to identify providers and their locations. Unfortunately, however, even with extensive efforts by both Healthcare Commission and Navigant Consulting staff, we were not able to compile a list of core service providers that Commission members and the project team believed was accurate or adequate to assess geographic access, except relating to inpatient hospital and nursing facility services.

Appendix 3 provides a summary of the core services and the provider types who deliver the core services. We also provide, for future reference, data sources of provider information. As indicated above, we encountered numerous data collection and analysis challenges in our efforts to assess Wyoming residents' access to healthcare services, including the absence of accurate, consistently collected datasets that would allow us to determine the number of practicing professionals, estimate their full-time equivalency and identify the town where they provide services. There is no single source of information regarding the numbers and locations of practicing healthcare professionals.

We believe it is important to describe the limitations we and the Rural Healthcare Study Subcommittee identified because having up-to-date, accurate data is essential to the State's ability to plan for the healthcare needs of its residents and monitor whether healthcare resources are meeting those needs. The limitations we identified in the currently available data are described below:

- Although claims data provides a picture of actively practicing professionals because it reflects those who actually submitted bills for services, we found that the Medicare and Medicaid claims data did not always provide up-to-date information. With the help of knowledgeable local healthcare professionals and community members, we found that due to significant lags that can occur between when a service is provided and when it is paid for on a claim, claims data may contain information on providers who have left the State or are deceased. In addition, we found that information in the Medicare claims in particular, that indicated the location where the professional provided services, was often inaccurate.

- Licensure and professional society lists also have shortcomings. Licensure data includes practitioners who are not actively involved in patient care and licensure and professional society data may list practitioners' place of residence rather than where they provide services.

- A particularly challenging issue is the determination of whether professionals are practicing full- or part-time and whether they are practicing in more than one town or providing outreach services to other communities. The supply of healthcare providers is dynamic — practitioners enter and leave the state, newly trained practitioners establish new practices, while older practitioners retire or restrict their practices — presenting a challenge to capturing accurate counts of providers.

- Information on out-of-state healthcare professionals, who may be providing services to Wyoming residents either in Wyoming or in neighboring states, came from Medicaid claims data and information provided by community members, but this information does not provide a complete and accurate picture of the role of out-of-state professionals in providing healthcare to Wyoming residents. For example, Medicaid recipients may be less likely than residents with private insurance and Medicare coverage to travel out-of-state for healthcare because they lack financial resources to do so. Likewise, there is no information about residents of neighboring states that may be accessing services from Wyoming healthcare professionals. Data about Wyoming residents' actual utilization of healthcare services – where they receive them, how much and what types – and data about residents of neighboring states' utilization of Wyoming healthcare services are both essential to the State's healthcare services planning efforts. The State should consider ways of developing such databases.

- Information on the number, practice locations and patterns of physician assistants, nurse practitioners and clinical social workers is incomplete and does not accurately reflect providers who are actively practicing because these providers often bill under a supervising physician's name, so many of them cannot be identified from claims data.

- To accurately assess the supply, it is also necessary to determine whether providers are accepting new patients or whether they accept patients with various insurance plans. In Chapter 6, we recommend that the State develop and maintain a centralized database that contains the number and practice patterns of Wyoming's providers. We believe that this information is essential to the State's healthcare planning efforts.

Findings Regarding Inpatient Hospital and Nursing Facility Care Services

We were able to use existing data to assess access to inpatient hospital and nursing facility services.

Inpatient Hospital Services

Few Wyoming residents appear to lack adequate geographical access to inpatient hospital care services. (See Appendix 4 for a description of the geographic mapping methodology we used.) The largest communities that may not have adequate access to hospital services are Dubois and Pinedale, both of which are in the Southwestern/Western (TRAC 4) region of the State. There are also a number of communities that appear to have only marginal access to inpatient hospital services in the Central (TRAC 2) and Southwestern/Western (TRAC 4) regions of the State between the perimeter of Lander, Rawlins, Casper and Buffalo. (See Appendix 5.)

We recognize, however, that the presence of a hospital in a community does not suggest access to all hospital services and that limited access may be especially problematic for some individuals who need more frequent hospital services, such as the elderly. In addition, not all hospitals provide the same range of services. Exhibit 2.2, on the following page, shows some of the different types of services offered by Wyoming hospitals. This exhibit demonstrates that all hospitals in Wyoming have an emergency room and most hospitals offer obstetrical services. We further recognize, however, that much of this information is self-reported, and with the exception of the cost report information, none is subject to review.

Many of the Wyoming's hospitals have a special designation from the Federal Centers for Medicare and Medicaid Services known as Critical Access Hospital status. This special status, designed to help relieve the financial strain on small rural hospitals, exempts them from the Medicare Prospective Payment Systems for inpatient and outpatient services and instead allows Medicare to reimburse them for 101 percent of their reasonable costs. Critical Access Hospitals are required to make 24-hour emergency care services available, provide no more than 25 beds for acute inpatient care and maintain an annual average length of stay of no longer than 96 hours. These restrictions on numbers of beds and length of stay limit the service offerings in Critical Access Hospitals.[50]

Although many hospitals in Wyoming offer some surgery services, Wyoming Medical Center and United Medical Center appear to have the most comprehensive services. Based

[50] United States Department of Health and Human Services, Centers for Medicare and Medicaid Services, "Critical Access Hospital Program," (December 2004). Available online: http://www.cms.hhs.gov/medlearn/2CritAccssHospProfctsht.pdf.

Exhibit 2.2: Wyoming Acute Care Hospitals – Selected Service Characteristics[51], Numbers of Beds and Average Daily Census

Hospital	Emergency Room	Obstetrical Services	Surgical Services	Radiology-Therapeutic Services[52]	Critical Access Hospital Status[53]	Rural Health Center Affiliate	Number of Beds[54] and (Average Daily Census)[55] by Type Reported for 2003			
							Acute[56]	Skilled Nursing Facility	Other Beds[57]	Total Beds
Campbell County (Gillette)	✓	✓	✓	✓			127 (35)	0	0	127 (35)
Carbon County Memorial (Rawlins)	✓	✓	✓	✓			25 (14)	0	10 (10)	35 (24)
Converse County Memorial (Douglas)	✓	✓	✓	✓	✓	✓	25 (7)	0	0	25 (7)
Crook County Memorial (Sundance)[58]	✓			✓	✓	✓	16 (2)	32 (24)	1 (1)	49 (27)

[51] Source: Hospital websites, the American Hospital Association Guide 2003 Edition and Medicare cost reports for provider fiscal year 2003. We confirmed obstetrical services using Medicaid claims data by identifying hospitals that had delivery claims during State Fiscal Years 2003 and 2004. The Rural Healthcare Subcommittee provided the information for Niobrara Health & Life Center, which is not yet open.

[52] Stratcenter, "Hospitals Database." Available online: http://www.stratcenter.com/StratCenter/Company.Results.aspx?COTYPEPRNTID=73608.

[53] Hospitals designated as Critical Access Hospitals according to information from the Wyoming Office of Rural Health as of January 24, 2005.

[54] Beds reported by hospitals on their fiscal year 2003 Medicare cost reports, except for several hospitals that have been designated as Critical Access Hospitals (CAHs) since they filed their 2003 cost reports. For those CAHs, we have assumed the maximum 25 acute care beds allowed for CAHs, unless we had information of a lower bed count.

[55] Numbers in parentheses are average daily census figures calculated from inpatient hospital days reported by hospitals on their fiscal year 2003 Medicare cost reports.

[56] Includes adult and pediatric acute, intensive care, psychiatric and rehabilitation beds. Hospitals did not report their numbers of swing beds, but reported swing bed days. In calculating the Acute Average Daily Census we included swing bed reported days.

[57] Includes nursing facility and hospice beds.

Exhibit 2.2: Wyoming Acute Care Hospitals – Selected Service Characteristics[59], Numbers of Beds and Average Daily Census (Cont'd)

Hospital	Emergency Room	Obstetrical Services	Surgical Services	Radiology-Therapeutic Services	Critical Access Hospital Status	Rural Health Center Affiliate	Number of Beds and (Average Daily Census) by Type Reported for 2003			
							Acute	Skilled Nursing Facility	Other Beds	Total Beds
Goshen Community (Torrington)	✓	✓	✓	✓	✓		25 (16)	0	0	25 (16)
Hot Springs County Memorial (Thermopolis)	✓	✓	✓	✓	✓	✓	25 (6)	0	0	25 (6)
IHC Evanston Regional (Evanston)	✓	✓	✓	✓			38 (10)	0	0	38 (10)
Ivinson Memorial (Laramie)	✓	✓	✓	✓	*Pending*		99 (28)	8 (4)	0	107 (32)
Johnson County Memorial (Buffalo)	✓	✓	✓	✓	✓		24 (8)	50 (49)	0	74 (57)
Lander Medical Center (Lander)	✓	✓	✓	✓			89 (24)	0	0	89 (24)

[58] Crook County Memorial Hospital has three affiliated rural health clinics: Hulett Clinic, Moorcroft Clinic and Sundance Clinic.

[59] Source: Hospital websites, the American Hospital Association Guide 2003 Edition and Medicare cost reports for provider fiscal year 2003. We confirmed obstetrical services using Medicaid claims data by identifying hospitals that had delivery claims during State Fiscal Years 2003 and 2004. The Rural Healthcare Subcommittee provided the information for Niobrara Health & Life Center, which is not yet open.

Exhibit 2.2: Wyoming Acute Care Hospitals – Selected Service Characteristics[60], Numbers of Beds and Average Daily Census (Cont'd)

Hospital	Emergency Room	Obstetrical Services	Surgical Services	Radiology-Therapeutic Services	Critical Access Hospital Status	Rural Health Center Affiliate	Number of Beds and (Average Daily Census) by Type Reported for 2003			
							Acute	Skilled Nursing Facility	Other Beds	Total Beds
Niobrara Health & Life Center[61] (Lusk)	*Planned*				*Pending*	*Planned*	4 (NA)	0	20 (NA)	24 (NA)
North Big Horn (Lovell)	✓		✓	✓	✓	✓	15 (3)	85 (62)	0	100 (65)
Platte County Memorial (Wheatland)	✓	✓	✓	✓	✓		25 (12)	0	43 (42)	68 (54)
Powell (Powell)	✓	✓	✓	✓	✓		25 (9)	100 (93)	0	125 (102)
Riverton Memorial (Riverton)	✓	✓	✓	✓			59 (14)	0	0	59 (14)
Sheridan County Memorial (Sheridan)	✓	✓	✓	✓			66 (33)	0	0	66 (33)

[60] Source: Hospital websites, the American Hospital Association Guide 2003 Edition and Medicare cost reports for provider fiscal year 2003. We confirmed obstetrical services using Medicaid claims data by identifying hospitals that had delivery claims during State Fiscal Years 2003 and 2004. The Rural Healthcare Subcommittee provided the information for Niobrara Health & Life Center, which is not yet open.

[61] Expected to open in 2005; the 20 other beds are swing beds.

Exhibit 2.2: Wyoming Acute Care Hospitals – Selected Service Characteristics[62], Numbers of Beds and Average Daily Census (Cont'd)

Hospital	Emergency Room	Obstetrical Services	Surgical Services	Radiology-Therapeutic Services	Critical Access Hospital Status	Rural Health Center Affiliate	Number of Beds and (Average Daily Census) by Type Reported for 2003			
							Acute	Skilled Nursing Facility	Other Beds	Total Beds
South Big Horn (Basin)	✓				✓	✓	6 (1)	37 (30)	0	43 (31)
South Lincoln (Kemmerer)	✓	✓	✓	✓			16 (3)	0	24 (21)	40 (24)
St. John's (Jackson)	✓	✓	✓	✓		✓	48 (28)	8 (5)	52 (49)	108 (82)
Star Valley (Afton)	✓	✓	✓	✓	✓		15 (6)	0	24 (23)	39 (29)
Sweetwater County Memorial (Rock Springs)	✓		✓	✓			99 (20)	0	0	99 (20)
United Medical Center (Cheyenne)	✓	✓	✓	✓			187 (106)	12 (10)	0	199 (116)
Washakie County Memorial (Worland)	✓	✓	✓	✓	✓		25 (11)	0	0	25 (11)

[62] Source: Hospital websites, the American Hospital Association Guide 2003 Edition and Medicare cost reports for provider fiscal year 2003. We confirmed obstetrical services using Medicaid claims data by identifying hospitals that had delivery claims during State Fiscal Years 2003 and 2004. The Rural Healthcare Subcommittee provided the information for Niobrara Health & Life Center, which is not yet open.

Exhibit 2.2: Wyoming Acute Care Hospitals – Selected Service Characteristics[63], Numbers of Beds and Average Daily Census (Cont'd)

Hospital	Emergency Room	Obstetrical Services	Surgical Services	Radiology-Therapeutic Services	Critical Access Hospital Status	Rural Health Center Affiliate	Number of Beds and (Average Daily Census) by Type Reported for 2003			
							Acute	Skilled Nursing Facility	Other Beds	Total Beds
West Park (Cody)	✓	✓	✓	✓	✓		32[64] (25)	128 (85)	0	160 (110)
Weston County Memorial (Newcastle)	✓	✓	✓	✓	✓		25 (5)	51 (44)	0	76 (49)
Wyoming Medical Center (Casper)	✓	✓	✓	✓			166 (96)	15 (8)	0	181 (104)

[63] Source: Hospital websites, the American Hospital Association Guide 2003 Edition and Medicare cost reports for provider fiscal year 2003. We confirmed obstetrical services using Medicaid claims data by identifying hospitals that had delivery claims during State Fiscal Years 2003 and 2004. The Rural Healthcare Subcommittee provided the information for Niobrara Health & Life Center, which is not yet open.

[64] Includes seven distinct part psychiatry beds.

on the Wyoming hospital discharge database, we found that 14 hospitals in Wyoming performed some type of cardiac surgery on inpatients in State Fiscal Year 2003. The majority of these surgeries occurred in Wyoming Medical Center and United Medical Center. We also found that 19 hospitals performed some type of orthopedic surgery in State Fiscal Year 2003. Again, the majority of these were in Wyoming Medical Center and United Medical Center.

A hospital's average daily census — that is, the number of patients in its beds on any given day over the course of a year — is a more reliable indicator of a hospital's size than its reported or licensed number of beds. The last column in Exhibit 2.2, on the previous page, shows hospitals' average daily census based on the patient days they reported on their Medicare cost reports for 2003. This information shows that for many hospitals, there is a significant difference between their number of reported and occupied beds.

There are approximately 2.6 acute care[65] hospital beds per 1000 population in Wyoming, the same as for the United States as a whole. Wyoming's acute care hospital days per 1000 population are lower than those for the United States as a whole, in part, because 16 percent of Wyoming residents' hospitalizations occur in neighboring states (see Chapter 4). The occupancy rate for Wyoming acute care beds is approximately 40 percent compared with 64 percent for all hospitals in the United States. Thus, the current supply of hospital beds in the State appears reasonable.

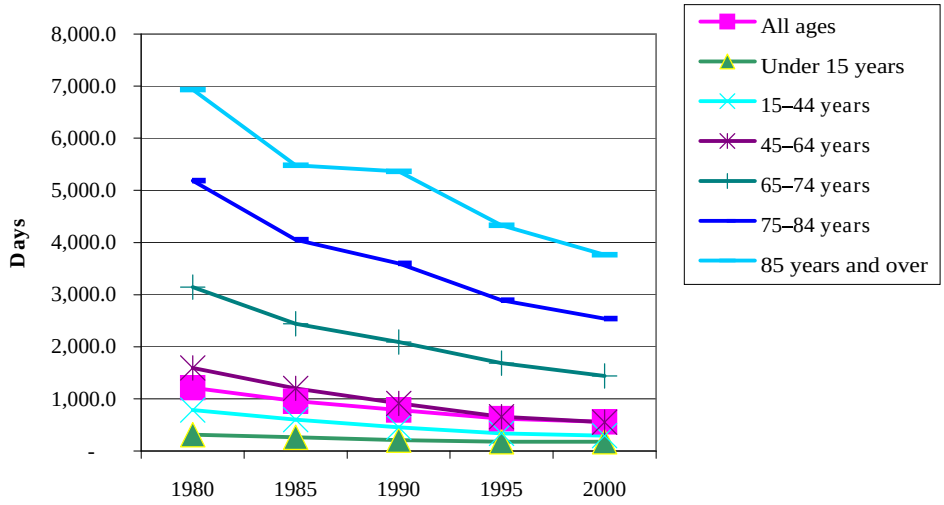
In assessing the need for inpatient acute care hospital beds for the future, we wanted to account for the projected aging of Wyoming's population because utilization of inpatient hospital services increases with age.[66] We also wanted to account for the historical trend in the United State's per capita inpatient hospital utilization, which is expected to continue.

While average per capita utilization of most major healthcare services has been relatively constant for several decades, this is not the case for per capita hospital utilization. Due to changes in technology and pressures from payers to shift care to lower cost settings, both the number of hospital admissions and the average lengths of stay have been declining for several decades. Overall, the average number of hospital days per 1000 population has decreased steadily, as shown in Figure 2.3, on the following page.

[65] Excludes hospital-based skilled nursing and other nursing facility beds, but includes beds in psychiatric and rehabilitation units. [Source: Health Forum LLC, an affiliate of the American Hospital Association, "Hospital Statistics," (2005 edition).]

[66] United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, "National Hospital Discharge and Ambulatory Surgery Data," (September 2, 2004). Available online: http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm.

Figure 2.3: United States Hospital Days per 1000 population, by Age Group



Source: United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, "Average Length of Stay and Days of Care for Hospital Discharges by First-Listed Diagnosis, Age, Sex, and Race," *United States, NHDS, NHCS(HDL00a)*, (1970-2000). Available online: http://209.217.72.34/aging/ReportFolders/ reportfolders.aspx.

Using the National Hospital Discharge Survey's[67] data on inpatient acute care hospital days per 1000 population from 1990 through 2000, we computed the average 5-year percentage decrease in national hospital utilization per 1000 population for each of the six age-groupings. We assumed that the 1990 through 2000 average 5-year rate of decrease in inpatient acute care hospital days per 1000 population would slow by 50 percent in future years when projecting hospital utilization rates for the age-groupings for future years. We then applied these projected national hospital days per 1000 population to Wyoming's projected population by age group for 2010, 2015 and 2020.

The effect of the declining trend in hospital utilization per 1000 population outweighs the effects of Wyoming's aging population on total hospital days — that is, the total acute care hospital days for the Wyoming population will continue to decline even as the population ages. For this reason, the current number of acute care hospital beds appears to be sufficient for the State's population through 2020.

The fact that 16 percent of Wyoming residents' hospitalizations occur in neighboring states further supports this conclusion, because our methodology for projecting Wyoming's total hospital days assumes that all Wyoming residents are hospitalized in Wyoming. However, if the State's two largest hospitals, Wyoming Medical Center and United Medical Center,

[67] United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, "National Hospital Discharge and Ambulatory Surgery Data," (September 2, 2004). Available online: http://www.cdc.gov/nchs/about/major/hdasd/nhds.htm.

were to launch successful efforts to expand their services to reduce the number of Wyoming residents who go to neighboring states for inpatient hospital services, these hospitals might need more acute care beds.

Although the current number of acute care hospital beds appears to be sufficient for the future, the services that Wyoming hospitals will need to provide will change due to the change in the age mix of patients. For example, applying inpatient days per 1,000 from the

Using National Hospital Discharge Survey data, we estimate that the 45 to 64 age group currently accounts for the largest portion of total inpatient hospital days in Wyoming, followed by the 15 to 44 age group. However, by 2015 and 2020, the 65 to 74 age group will account for the largest portion of Wyoming inpatient hospital days, followed by the 75 to 84 age group. We expect that this will cause major changes in the mix of diagnoses, increase the case mix, change the types of care provided and the staffing needed. These older patients will likely have an increased need for assistance with activities of daily living such as mobility, toileting and dressing.

Nursing Facility Care Services

The principal determinant of nursing facility care service use is the age of the population; the older the population, the greater the use of these services.

We reviewed the bed-to-population ratios that several states use for their Certificate of Need (CON) programs. We recognized that home- and community-based services meet an increasingly large proportion of long-term care needs in Wyoming and across the nation, so we wanted to use as a benchmark a population-to-bed ratio from a state that has a system of care that incorporates home- and community-based care. We found that North Carolina and Oregon are two such states.

In 2002, for example, North Carolina received two Federal Systems Change grants, totaling $1.3 million, to connect many long-term care initiatives already underway. These initiatives aimed to increase options for consumer choice, service, support and self-direction.[68] As another example, Oregon ranks high nationally on Medicaid long-term care spending devoted to home- and community-based care.[69] We compared North Carolina's and Oregon CON guidelines for nursing facility bed-to-population ratios and found that they are very similar. Oregon's CON demonstration of need rule is 35 to 45 nursing facility beds per 1,000 persons age 65 and older. The rules further state that localities with sufficient access to

[68] Barbara Coleman, Wendy Fox-Grage, and Donna Folkemer, "State Long-Term Care: Recent Developments and Policy Directions 2003 Update," (2003). Available online: http://www.ncsl.org/programs/health/forum/ltc/ltcmain.htm.

[69] National Governor's Association, *2004 National Governor's Association Data Book*, (2004).

alternative services may need fewer than 35 beds.[70] North Carolina's CON guidelines for nursing facility beds are based on bed-to-population use rates in four age groupings.[71] Applying North Carolina's use rates to Wyoming's projected population for the corresponding age groupings yields 26 to 37 beds per 1,000 persons age 65 and older, which is comparable to Oregon's guidelines.

We chose North Carolina's nursing facility bed-to-population ratios as the benchmark to use for Wyoming because they differentiate age groupings for elderly population and these age categories are projected to increase significantly in Wyoming. (See Appendix 5 for more details.)

We estimated that Wyoming currently has 3,051 nursing facility beds.[72] Applying the above benchmark ratios to the State's 2005 estimated population in the corresponding age groupings, and using North Carolina's target occupancy of 90 percent, we estimated the State's current nursing facility bed need is 2,749, as shown in Table 2.4 below. Thus, on a statewide basis, the current supply of nursing facility beds is sufficient now and through 2010. However, by 2015, Wyoming will need an estimated 322 additional nursing facility beds and by 2020, an estimated 311 more.

Table 2.4: Estimated Nursing Facility Bed Benchmarks and Number of Beds Needed to Meet Benchmark: 2005-2020

County	Estimated Current Number of Beds	Estimated Current Number of Nursing Facilities	Estimated 2005 Bed Benchmark	County	Estimated Current Number of Beds	Estimated Current Number of Nursing Facilities	Estimated 2005 Bed Benchmark
Albany	152	2	126	Lincoln	48	2	85
Big Horn	212	3	90	Natrona	435	4	409
Campbell	150	1	102	Niobrara	20	1	19
Carbon	146	3	80	Park	228	2	180
Converse	60	1	61	Platte	43	1	64

[70] Oregon Department of Human Services, Public Health, "Demonstration of Need for Long-Term Care Services," *Oregon Administrative Rule 333-610-0010*, (October, 15 2004). Available online: http://arcweb.sos.state.or.us/rules/OARs_300/OAR_333/333_610.html.

[71] North Carolina Department of Health and Human Services, *Proposed 2005 State Medical Facilities Plan*, p. 197.

[72] This includes hospital-based skilled nursing and other nursing facility beds.

Table 2.4: Estimated Nursing Facility Bed Benchmarks and Number of Beds Needed to Meet Benchmark: 2005-2020 (Cont'd)

County	Estimated Current Number of Beds	Estimated Current Number of Nursing Facilities	Estimated 2005 Bed Benchmark	County	Estimated Current Number of Beds	Estimated Current Number of Nursing Facilities	Estimated 2005 Bed Benchmark
Crook	32	1	40	Sheridan	230	2	205
Fremont	195	3	209	Sublette	50	1	33
Goshen	75	1	103	Sweetwater	160	2	142
Hot Springs	60	1	42	Teton	60	1	56
Johnson	50	1	60	Uinta	60	1	68
Laramie	447	4	466	Washakie	87	1	60
Lincoln	48	2	85	Weston	51	1	49
				Grand Total[73]	**3,051**	**40**	**2,749**

Currently, nine counties — Converse, Crook, Fremont, Goshen, Johnson, Laramie, Lincoln, Platte and Uinta — have fewer nursing facility beds than the benchmark. By 2020, 10 additional counties will have fewer beds than the benchmark, and require an estimated 810 beds to meet benchmark bed numbers in each county. Exhibit 2.3, on the following page, provides estimates of the number of additional beds needed for each county for each five-year interval. (Also see Appendix 4.)

TRAC 1: Northeast

This region consists of Crook, Weston, Campbell and Sheridan Counties, and part of Johnson County. Currently, two of these counties — Johnson and Crook — fall short of the benchmark number of nursing facility beds. Between these two counties, an additional 18 beds are needed. By 2020, an additional 125 nursing facility beds will be needed in all five counties to meet the targeted amount. Public health nurses confirm that Johnson County may need additional beds, as patients are put on a waiting list at times.

[73] The grand total may not sum due to rounding.

Exhibit 2.3: Nursing Facility Bed-to-Population Ratios and Number of Additional Nursing Facility Beds Needed to Meet Benchmark for Counties in Need Of Beds: 2005-2020

County[74]	Region	Current Number of Beds[75]	Current Number of Nursing Facilities[76]	Total Number of Beds Needed in 2005	Additional Beds Needed to Meet Benchmark			
					2005	2010	2015	2020
Johnson	TRAC 1 and 2: Northeast and Central	50	1	60	10	18	29	38
Crook	TRAC 1: Northeast	32	1	40	8	11	16	22
Weston	TRAC 1: Northeast	51	1	49		2	5	7
Sheridan	TRAC 1: Northeast	230	2	205			12	28
Campbell	TRAC 1: Northeast	150	1	102			3	30
Fremont	TRAC 2 and 4: Central and Southwest	195	3	209	14	42	71	96
Converse	TRAC 2: Central	60	1	61	1	10	19	28
Natrona	TRAC 2: Central	435	4	409		48	106	125
Goshen	TRAC 3: Southeast	75	1	103	28	33	36	40
Platte	TRAC 3: Southeast	43	1	64	21	26	29	35
Laramie	TRAC 3: Southeast	447	4	466	19	61	100	155
Albany	TRAC 3: Southeast	152	2	126			7	25
Niobrara	TRAC 3 and 2: Southeast and Central	20	1	19				1
Lincoln	TRAC 4: Southwest/West	48	2	85	37	50	65	78
Uinta	TRAC 4: Southwest/West	60	1	68	8	15	26	33
Teton	TRAC 4: Southwest/West	60	1	56		10	30	60
Sublette	TRAC 4: Southwest/West	50	1	33				4
Sweetwater	TRAC 4: Southwest/West	160	2	142				1
Park	TRAC 5 : Northwest	228	2	180				4

[74] Counties not listed in exhibit do not have a projected need for nursing facility beds.
[75] Wyoming Department of Health, Office of Health Facilities, "Wyoming Licensed and/or Certified Health Care Facilities, Nursing Care Facilities, faxed to NCI on September 9, 2004."
[76] Facilities include both nursing homes and hospitals with nursing facility beds.

TRAC 2: Central

This region consists of all of Natrona and Converse Counties, a large part of Fremont County, and small parts of Johnson, Niobrara and Carbon Counties (we discussed the need for beds for Johnson County above and we will discuss need for Niobrara and Carbon in the Southeast section below). Currently Fremont and Converse Counties fall short of the benchmark number of beds. Between these two counties an additional 15 beds are needed, with a large majority (14 out of 15) needed in Fremont County. By 2020, an additional 249 beds will be needed to serve residents of Fremont, Converse and Natrona Counties.

TRAC 3: Southeast

This region consists of all of Albany, Platte, Goshen and Laramie Counties and part of Niobrara and Carbon Counties. Currently three of these six counties — Goshen, Platte and Laramie — fall short of the benchmark number of nursing facility beds. Between these three counties, an additional 68 beds are needed. By 2020, an additional 256 nursing facility beds are needed among five counties; Carbon County does not have a projected need for nursing facility beds through 2020. Public health nurses in Platte County confirm this need; they indicate that Wheatland's nursing home maintains a waiting list of 15 to 20 people.

TRAC 4: Southwest/West

This region consists of all of Sweetwater, Uinta, Lincoln, Sublette and Teton Counties and part of Fremont County (bed need for Fremont County is discussed above). Currently, two of these counties — Lincoln and Uinta — fall short of the benchmark. Together these counties need an additional 45 beds, with a large majority of the beds (37) needed in Lincoln County. By 2020, 176 nursing facility beds will be needed in the four counties to meet the benchmark.

Alternative Definitions of Healthcare Provider Need

Two Federal designations – Health Professional Shortage Areas and Physician Scarcity Areas – define scarcity or shortage levels for the purposes of determining where physicians, dentists and other health professionals are most lacking.

Health Professional Shortage Areas

Many Federal programs, the most prominent of which is the National Health Service Corps, use the Health Professional Shortage Area (HPSA) designation to determine eligibility or as

a funding preference.[77] The Health Resources and Services Administration (HRSA) Bureau of Health Professions defines a HPSA as a geographic area or population group with a shortage of primary medical care, dental health providers or mental health providers. The Health Resources and Services Administration considers several factors in determining HPSAs. For example, the primary care the scoring methodology includes four factors:

1. Population-to-primary care physician ratio
2. Percentage of the population with incomes below 100 percent of poverty level
3. Infant mortality rates/low birth weight rates
4. Travel time/distance to nearest available source of care

As shown in Table 2.5, many areas in Wyoming meet the HPSA definitions.

Table 2.5: Health Professional Shortage Areas in Wyoming[78]

Health Professional Shortage Area Provider Category	Geographic Areas
Primary Care Services	Counties: Carbon, Converse, Crook, Niobrara, Platte, Sublette, Sweetwater, Uinta, Washakie, Uinta and Weston Other geographic areas: • Southern Campbell county • Dubois, Kaycee, Pine Bluffs, Kemmerer, Cokeville, Meeteetse (and surrounding areas) • Arapaho Indian Health Center
Dental Services	Over half of Wyoming's counties, 13 of 23 counties, are designated as dental HPSAs. The following cases are the most urgent based on HRSA's need estimates: Albany, Carbon, Converse, Fremont, Goshen, Lincoln, Park, and Platte.
Mental Health/Substance Abuse Services	All of Wyoming's 23 counties are designated as mental health HPSAs. Based on HRSA's estimates of the number of full-time equivalent providers needed and its priority scores, the areas in most urgent need include: Goshen, Sweetwater, Uinta, Teton, Fremont, Park, Natrona, Niobrara, Park, Platte and Sheridan counties.

[77] United States Department of Health and Human Services, Bureau of Health Professions, "Health Professional Shortage Area Primary Medical Care Designation Criteria." Available online: http://bhpr.hrsa.gov/shortage/hpsacritpcm.htm.

[78] Health Resources and Services Administration, "Health Professional Shortage Areas, Ad-Hoc Query Selection." Available online: http://belize.hrsa.gov/newhpsa/newhpsa.cfm.

The Health Resources Services Administration's designations reflect providers in 2001, 2002 or 2003, depending on the county. In addition, HPSA designation does not take into account geographic barriers, travel patterns and physical proximity that may not be accounted for in the HPSA designation process.

Physician Scarcity Areas

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA) authorized a five percent bonus payment to physicians for services provided in zip codes and counties designated as Physician Scarcity Areas.[79] The Centers for Medicare and Medicaid Services define a Physician Scarcity Area as a United States county with a low ratio of primary care or specialty physicians to Medicare beneficiaries. CMS also designates certain zip codes outside these counties as Physician Scarcity Areas. The Physician Scarcity

Area bonus payment is provided as an incentive to provide primary care services to Medicare recipients in rural areas.

The legislation provides bonus payments for primary care physicians in general practice, family practice, internal medicine and obstetrics and gynecology (OB/GYN). In addition, it authorizes an equal bonus for non-primary care specialists practicing within a separately defined list of Physician Scarcity Areas. The payments went into effect on January 1, 2005, and continue through December 31, 2007.

In Wyoming, CMS has designated Big Horn, Carbon, Niobrara, Sheridan and Weston counties as primary care Physician Scarcity Areas. In addition to zip codes from these counties, the complete listing of Physician Scarcity Area zip codes also includes several zip codes in Laramie and Natrona counties. Specialty Physician Scarcity Areas include Big Horn, Converse, Crook, Goshen, Hot Springs, Johnson, Lincoln, Niobrara, Platte, Sublette, Washakie and Weston counties. Several zip codes in Laramie and Natrona counties are also included in the complete specialty physician list.

It is important to consider the limitations of the Medicare Physician Scarcity Area designation. To start, the ratios used to create the Physician Scarcity Area designations consist of active Medicare providers and beneficiaries. Thus, Medicare's ratios focus on the more elderly rural populations. Physician Scarcity Area designations do not take into account local geographic and travel time considerations.

[79] United States Congress, *Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Pub. L. No. 108-173, 117 Stat 2066* (2003).