SOUTH DAKOTA DEPARTMENT OF HEALTH

Data Analysis Summary

Strategic Analysis of South Dakota's Rural Healthcare Programs

July 26, 2024

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I. Introduction

Data Analysis Summary | Overview

From January to July 2024, Guidehouse gathered data from the South Dakota Department of Health (SDDOH) Office of Rural Health (ORH), internal inventories, and publicly available sources to conduct several quantitative and qualitative reviews. This Data Analysis Summary compiles those analytics and relevant observations. Guidehouse developed the following Data Analysis Summary, which contains the following for each section (as applicable):

Background: Describes, at a high-level, what is included in the section, including key steps Guidehouse executed to conduct the quantitative analysis or qualitative review.

Importance: Describes why a quantitative analysis or qualitative review is important in understanding healthcare access in rural South Dakota (SD).

Methodology: Provides a concise overview of the method, approach, and data sources used to inform the quantitative analysis or qualitative review.

Limitations: If applicable, outlines any constraints or weaknesses in the dataset(s) used that may affect the accuracy or reliability of the data and relevant findings.

Analytics & Observations: Summarizes analytics by leveraging data tables, maps, etc. and outlines key observations based on the data.

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Data Analysis Summary | Common Terms & Concepts

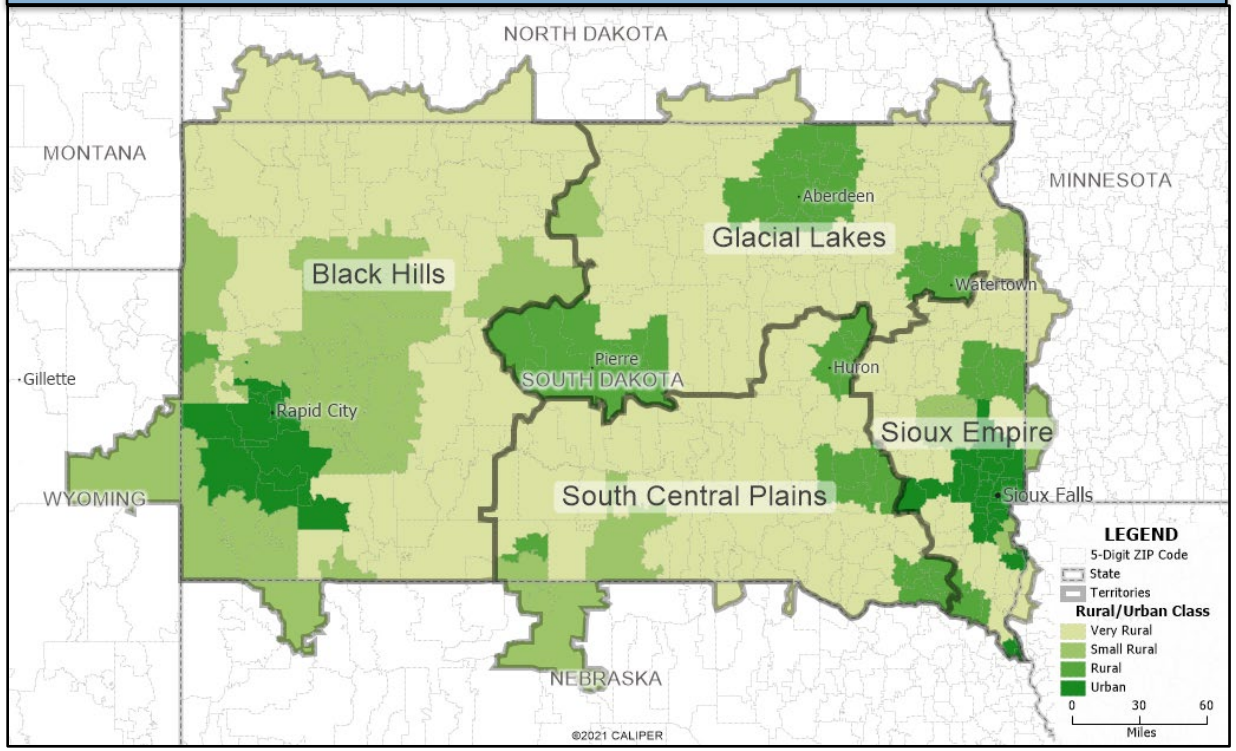
Guidehouse references several common terms and concepts accepted solely for our analyses throughout this Data Analysis Summary. We define these terms and concepts as outlined below in the context of these analyses.

Term / Concept	Description
1. Geographic Definitions	Guidehouse utilized three key geographic definitions to conduct the analyses: a. Geographic Definition 1: Strategic Analysis Geography (*see **Slide 6** for more detail).* *Note:* "Rural," "Small Rural," and "Very Rural" are classifications for rural areas. All instances of "rural" refer to rural areas in general. b. Geographic Definition 2: SD Only Strategic Analysis Geography (*see **Slide 7** for more detail).* c. Geographic Definition 3: Tribal Area Classification (*see **Slide 8** for more detail).*
2. Tribal Area (or Tribal)	A County that is in whole or in part comprised of one or more Federally-Classified Reservations.
3. Tribal Area Residents / Population	The population living in a Tribal Area (as defined above). This population may include Native Americans (as defined below) and/or non-Native Americans.
4. Native Americans	People who identify as Native American in the U.S. Census may include **enrolled Tribal members or individuals who self-identify as Native American but are not enrolled in a Tribe**. Given the high-level nature of this data and the lack of data on Tribal enrollment, Guidehouse was unable to differentiate between the two classifications.
5. Comparison States	ORH and Guidehouse selected Idaho (ID) and North Dakota (ND) as benchmark states for comparing SD's access to care. See ***Slide 9*** for more details about the criteria for these selections and the other states considered.
6. Four Dimensions of Access	Access is evaluated across **four dimensions**: type, concentration, proximity, and availability. See Slide 10 for more details.

Geographic Definition 1: Strategic Analysis Geography

To provide a more granular view of rurality across SD, Guidehouse worked with the ORH to confirm a definition of rurality, using HRSA's definition of rurality, the USDA's RUCA codes, and other demographic data such as population density. Geographies outside of SD are used in this definition and are included in specific analyses.

SD Strategic Analysis Geography[1]



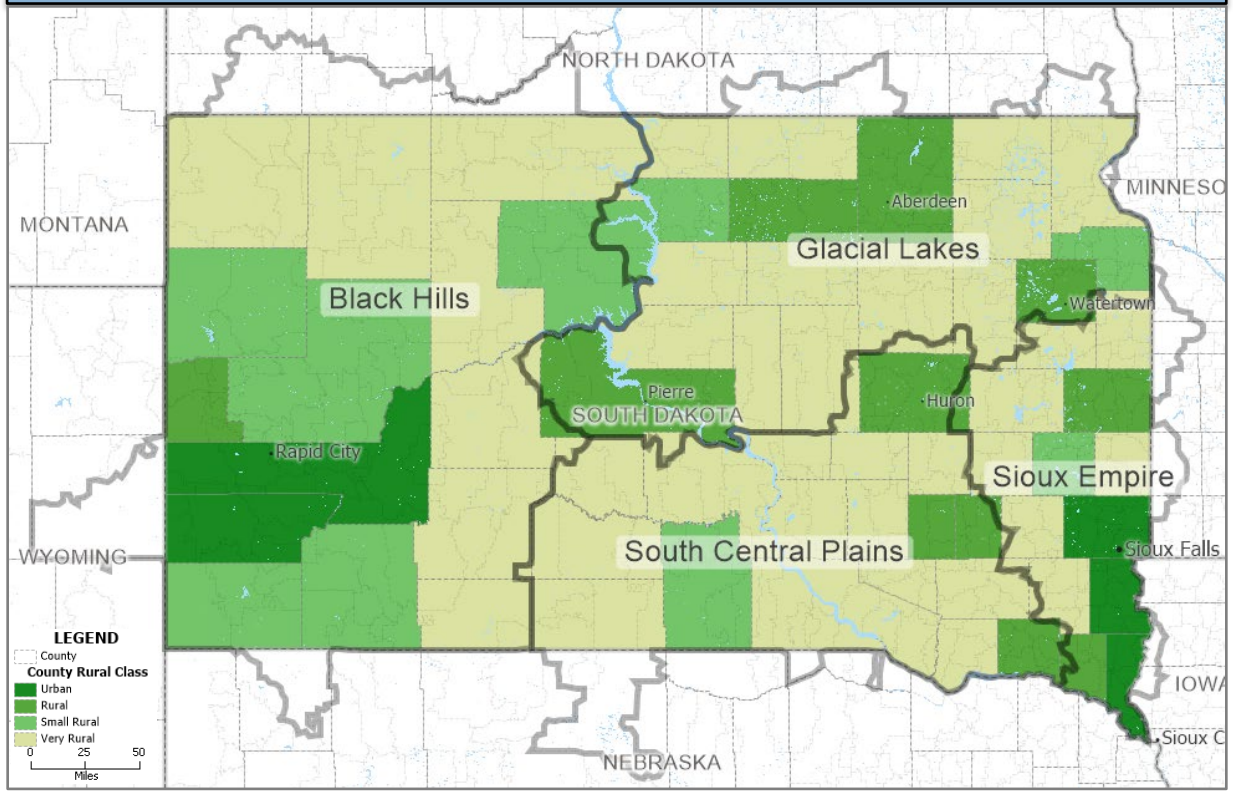
Rural / Urban Classifications	RUCA Code & Number of Zip Codes
Urban	**RUCA codes 1-3** 52 zip codes
Rural	**RUCA codes 4-6** 59 zip codes
Small Rural	**RUCA codes 7-9** 47 zip codes
Very Rural	**RUCA code 10** 253 zip codes

Source/Notes: 1) The SD Strategic Analysis Geography definition includes all zip codes in SD and zip codes shared with states bordering SD. It is based on a combination of HRSA's definition of rural areas, RUCA data, and evaluation of demographic factors such as population density.

Geographic Definition 2: SD Only Strategic Analysis Geography

SDDOH conducts planning based on four Hospital Regions, as outlined in the table below. To avoid underestimating care in Regions that included zip codes that SD shares with neighboring states and to analyze county-level data, Guidehouse utilized this geographic view in some analyses.

Regions – SDDOH Hospital Regions



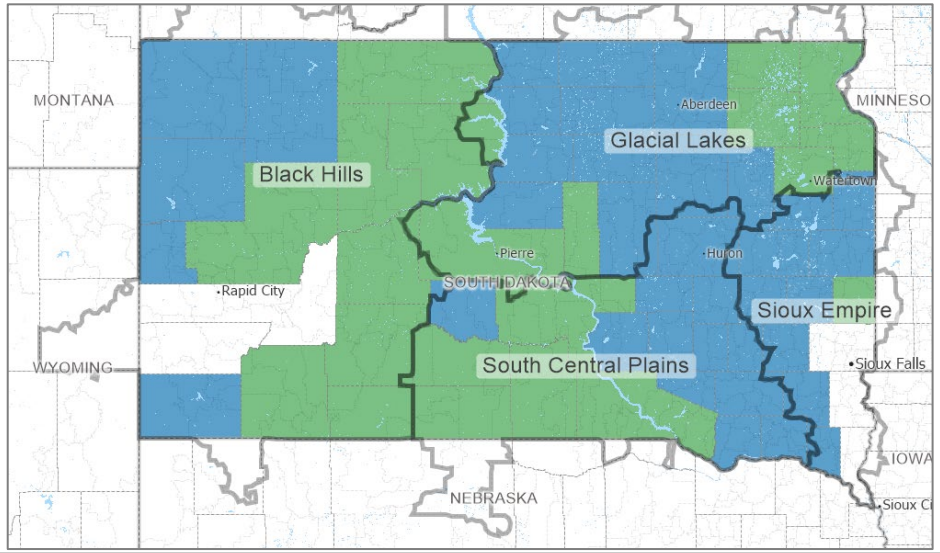
Region	Counties
Black Hills	Bennett, Butte, Corson, Custer, Dewey, Fall River, Haakon, Harding, Jackson, Lawrence, Meade, Oglala Lakota, Pennington, Perkins, Ziebach
Glacial Lakes	Brown, Campbell, Clark, Codington, Day, Edmunds, Faulk, Grant, Hand, Hughes, Hyde, Marshall, McPherson, Potter, Roberts, Spink, Stanley, Sully, Walworth
Sioux Empire	Brookings, Clay, Deuel, Hamlin, Kingsbury, Lake, Lincoln, McCook, Miner, Minnehaha, Moody, Turner, Union
South Central Plains	Aurora, Beadle, Bon Homme, Brule, Buffalo, Charles Mix, Davison, Douglas, Gregory, Hanson, Hutchinson, Jerauld, Jones, Lyman, Mellette, Sanborn, Todd, Tripp, Yankton

Source/Notes: Region definitions are based on SDDOH Hospital Regions- https://doh.sd.gov/media/i30fo3mf/sd_hospitalregions_map.pdf.

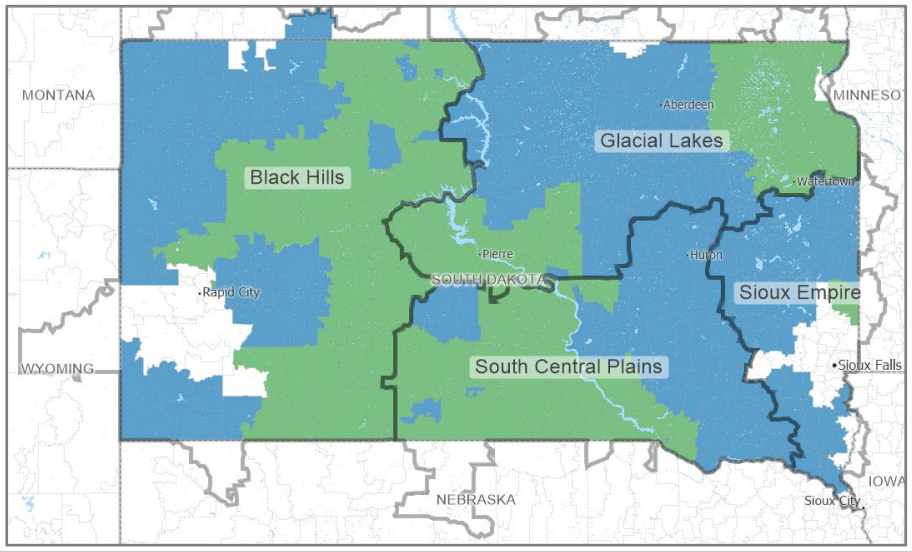
Geographic Definition 3: Tribal Area Classification

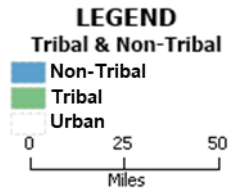
To understand the differences in rural healthcare access for Tribal and Non-Tribal Area populations, Guidehouse worked with the ORH to confirm a definition of SD counties that are in whole or in part comprised of one or more Federally-Classified Reservations.

SD Tribal & Non-Tribal Area Counties*



SD Tribal & Non-Tribal Area Zip Codes*





Category	Counties
Tribal Area	Bennett, Buffalo, Charles Mix, Codington, Corson, Day, Dewey, Grant, Gregory, Haakon, Hughes, Hyde, Jackson, Lyman, Marshall, Meade, Mellette, Moody, Oglala Lakota, Roberts, Stanley, Todd, Tripp, Ziebach
Non-Tribal Area	Aurora, Beadle, Bon Homme, Brookings, Brown, Brule, Butte, Campbell, Clark, Clay, Davison, Deuel, Douglas, Edmunds, Fall River, Faulk, Hamlin, Hand, Hanson, Harding, Hutchinson, Jerauld, Jones, Kingsbury, Lake, Lawrence, McCook, McPherson, Miner, Perkins, Potter, Sanborn, Spink, Sully, Turner, Walworth, Yankton
Urban - No Tribal Area Status	Custer, Lincoln, Minnehaha, Pennington, Union

Source/Notes: *Tribal and Non-Tribal Areas are based on the evaluation of zip codes and counties that are in whole or in part comprised of one or more Federally-Classified Reservations. Urban counties and zip codes are excluded. https://oglalalakota.sdcounties.org, https://www.justice.gov/usao-sd/indian-country.

After identifying five states with similar characteristics, ND and ID were selected as benchmarks to compare SD's access to care

States with Similar Population Densities to SD

State	2023 Population	2028 Population	5 Year Growth (%)	Total Square Miles	2023 Population Density (Population/ Square Mile)	Population Density State Ranking	Health Ranking (CW Fund)	Healthcare Quality Ranking (USNWR)
★ **Idaho**	1,941,262	2,045,143	5.4%	82,711	23.5	45	15	7
New Mexico	2,120,220	2,165,698	2.1%	121,301	17.5	46	47	32
South Dakota	903,685	923,914	2.2%	75,467	12.0	47	37	31
★ **North Dakota***	787,589	845,022	7.3%	68,933	11.4	48	21	40
Montana	1,117,737	1,153,663	3.2%	145,715	7.7	49	28	36
Wyoming	579,823	581,219	0.2%	97,107	6.0	50	34	43

Positive comparison point	Cells with comparable population density and population density state rankings, and health and healthcare quality rankings above SD are highlighted in green to indicate they may be a helpful point of comparison.
Negative comparison point	Cells with population density and population density state rankings above or below SD, and health and healthcare quality rankings below SD are highlighted in red to indicate they may not be a helpful point of comparison.

★ **ORH and Guidehouse-selected comparison states**

Sources: U.S. Census data accessed via Claritas (2023-2028; demographics). "2023 Scorecard on State Health System Performance," U.S. Healthcare Rankings by State 2023 | Commonwealth Fund. "Healthcare Quality," U.S. News and World Report Ranking by State.

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In this study, access is evaluated across four dimensions: type, concentration, proximity, and availability of access

Type of Access: Evaluates the **spectrum of practice locations** (physical or virtual) and **healthcare workers** (clinical and non-clinical) from which residents seek healthcare services. Gaps in the spectrum could indicate disparities in access to services.

Concentration of Access: Assesses variations in the availability of healthcare access per capita for various communities and Regions of the State. This helps understand **healthcare services distribution across populations and aids in benchmarking**.

Proximity of Access: Considers **how close residents are to the spectrum of healthcare services**, which indicates the ease with which residents can obtain services and **highlights areas where people face barriers to accessing healthcare**.

Availability of Access: Considers practice-level **factors that enable access, such as appointment availability and provider panel size**. Although this is not comprehensively addressed in our analysis, it is an important element of access.

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Testing our Hypotheses

Our Hypotheses	Key Takeaways
Social Drivers of Health. 1. Social factors greatly affect health outcomes in SD, most notably transportation, employment, insurance status, and health literacy which closely relate to healthcare access.	***Validated.*** 1. Transportation, health literacy, poverty, suicide, income, broadband, and affordability are **major barriers to access to healthcare** in rural SD.*
Department of Health Programs. 1. Access is a top concern and addressing this might include telehealth programs, expanding broadband, and recruiting more providers to the State. 2. ORH is working on expanding focus to include marginalized communities and better access to OB/GYN care.	***Refined.*** 1. Access remains a top concern, and **telehealth may be an opportunity to help address challenges**. Other challenges to access include **reimbursement structures and implications of potential federal guidelines** on health facility operation (e.g., Centers for Medicare & Medicaid Services [CMS] Minimum Staffing Standards for Long-Term Care Facilities). 2. Expansion of ORH **recruitment and career exploration programs** and **deepening relationships with Tribal leaders** are priorities for stakeholders.
Educational Programs. 1. It is common for some (but not all) MDs and DOs to move out of state after completing SD university, residency, and/or fellowship programs.	***Validated.*** 1. The SD rate of physician retention by residency location is similar to the national average. SD offers rural rotations and fellowship opportunities, but **rural facility capacity and student housing are barriers**. Stakeholders report **declining post-secondary enrollment**, and more partnerships with local colleges and universities are needed to expand the number of clinician education offerings in the State.

**Major barriers align with key themes mentioned by five or more stakeholder groups and key observations from the Environmental Scan.*

Testing our Hypotheses (continued)

Our Hypotheses

Healthcare Continuum Access & Workforce.

1. There are opportunities to expand service lines, especially in OB/GYN and outpatient surgery service lines.
2. The biggest gaps that exist in each county are primary care physicians, and certain specialists (e.g., OB/GYNs, specialized surgeons) and emergency care professionals (e.g., EMTs).
3. Opportunities for improved and expanded access include creating recruitment and retention plans for physicians and clinicians including expanding existing loan repayment programs and expanding telehealth services for non-urgent care.
4. Leading trends in rural healthcare include (but are not limited to) continuing lack of access in emergency care and multiple specialties (including primary care, cardiology and OB/GYN), expansion of telehealth and expansion of partnerships with major chains (e.g., CVS, Walgreens and Walmart) and other retailers that already have a footprint in rural areas.
5. Collaborative efforts including clinicians, communities, and local and county health departments are a priority for improving healthcare access.

Key Takeaways

Refined.

1. Opportunities exist to **expand health services across all service lines**, especially in the State's rural-classified areas.
2. **Pediatrics and psychiatry** were among the specialties with the **highest provider deficits in rural and Tribal Areas**, illustrating an opportunity to expand service lines and provider recruitment and retention efforts.
3. SD shows **a surplus of 64.9 primary care providers but has significant gaps in rural and Tribal Areas**, including **a shortage of 61.7 and 64.1 primary care providers in Very Rural and Non-Tribal Areas**, respectively.
    a. Very Rural and Non-Tribal Areas have the largest provider deficits compared to other rural and Tribal classifications.
    b. All areas classified as rural and Tribal rural have higher utilization rates of emergency rooms compared to their Urban and Non-Tribal counterparts.
4. **About one in five providers and clinicians working in SD plan to retire or leave the workforce in the next five years**, underscoring the immediate need to create and/or expand recruitment and retention plans for physicians and clinicians.
5. Workforce challenges exist across the healthcare ecosystem (i.e., all provider types, healthcare professions, emergency medical services, and administrative staff). **Deterrents to practice in a rural community include housing availability, geographic isolation from other providers, and limited daycare options**.

Testing our Hypotheses (continued)

Our Hypotheses

Healthcare Continuum Access & Workforce.

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5. Collaborative efforts including clinicians, communities, and local and county health departments are a priority for improving healthcare access.

Key Takeaways

Refined.

6. Additional opportunities for improved access include **expanding the ORH Recruitment Assistance Program**, encouraging practice at the **top of licensure**, **connecting providers to specialists** through formal networks (e.g., e-consults), and expanding **innovative delivery models** (e.g., mobile units).
7. **Telehealth utilization is higher in rural-classified areas**, which suggests that it may be a sustainable option for expanding access to care in rural communities.

Undetermined.

8. The current supply and demand for emergency care professionals could not be evaluated and remains undetermined.

Validated.

9. **Strategic partnerships** across the healthcare ecosystem are important to stakeholders.

Limitations of the Quantitative Analysis

Analysis	Limitation
Demographics	Demographic data was only available at the zip code level, so the data was aggregated based on the zip codes aligned with the area under evaluation. In some instances, due to a lack of access data for neighboring states, the zip codes SD shares with neighboring states were excluded to prevent underestimation of the evaluated data points.
Utilization of Services	The MedPAR Fee-for-Service (FFS) claims data did not include claims data for Indian Health Service (IHS) facilities, so IHS facilities were omitted from this analysis. The facilities highlighted in the analysis should allow for a robust view of healthcare utilization across the various Regions and areas. Still, Guidehouse recognizes the criticality of IHS facilities for Tribal Areas and this limitation.
Outmigration: Proximity of Providers and Services	The SDDOH had limited data available to quantify and understand the outmigration of health services. The State provided the number of discharges by patient origin, but this data lacked the site of service. The SD Association of Healthcare Organizations did not approve accessing the data necessary for this analysis. As advised by the Department's Epidemiology Team, Guidehouse used the 2017 SD County Vulnerability Assessment and its access to U.S. Census data via Claritas population data to derive insights into outmigration trends. The 2017 SD County Vulnerability Assessment included drivetime analyses for key health services, including Primary Care, Behavioral Health, and Emergency Care across the State.
Access to Physical Locations	Due to limitations in the care site types included in the "DOH Provider List" search tool, the SD-specific analyses by Region and rural classification did not include urgent cares. Urgent care data was incorporated into the state-level comparison of sites across SD, ND, and ID, which used data from Definitive Healthcare. The state comparison component references various external sources containing data for all three states, including Definitive Healthcare, the American Hospital Directory, the University of North Carolina (UNC) Sheps Center for Health Services Research, and the Kaiser Family Foundation.
Access Enablement	SDDOH did not have access to Access Enablement data (e.g., time to the next appointment, patient scheduling) to confirm the Availability of Access, so Guidehouse has described best practices for future consideration in this section.
Provider Availability Gap	Non-physician data sources only had information on Advanced Practice Registered Nurses (APRNs), Registered Nurses (RNs), and Licensed Practical Nurses (LPNs) at the county level; therefore, we assessed county-level rural classifications and county-level definitions of Tribal Areas ratios of those providers relative to land area and population. In addition, the CMS network adequacy methodology does not fully account for the capacity constraints of community providers when defining a county as having an "adequate" network. The counts of non-physician providers show their relative availability across different Regions in SD. However, this data does not provide insight into how much time these providers spend providing full-time healthcare in each Region.
Digital Access and Virtual Care	A limitation of this section is the lack of comprehensive data on digital and telehealth demand and utilization in SD. In addition, despite the myriad of digital health programs and efforts underway across the State, data and published information about where these programs operate and serve vary in level of specificity and the amount of information disclosed.

II. Demographic Analysis

Demographic Analysis | Overview

Background	In this section, we summarize the demographic characteristics of SD through a few perspectives: 1) SDDOH Hospital Regions ("Regions"), 2) degrees of rurality and urbanization in those Regions, and 3) the presence of Tribal Area Residents and land mass in those areas.
Importance	Evaluating demographic characteristics provides context about the people who live, work, and play in the State's communities. It also provides insight into the communities' health ecosystem characteristics (i.e., health outcomes, utilization patterns) and the health culture of residents, highlighting features to consider and incorporate into future initiatives that may be developed to help address observed access challenges.
Methodology	Three key geographic definitions were used throughout the Data Analysis phase of work to frame the evaluation of various data points. Different views of the geography were used based on the type of analysis and available data. The three geographic definitions used throughout the analysis include: • **Strategic Analysis Geography:** Demographics for rural classifications were based on all zip codes in SD and zip codes shared with states bordering SD to capture the SD population that would otherwise be excluded from the analyses, especially when those zip codes are aligned with other states. These zip codes were classified as 1) Urban, 2) Rural, 3) Small Rural, and 4) Very Rural based on the Health Resources and Services Administration (HRSA) definition of rural, the United States Department of Agriculture's (USDA) Rural-Urban Community Area (RUCA) Codes data, and evaluation of other demographic data, such as population density. • **SD Only Strategic Analysis Geography:** This demographic view excludes zip codes bordering SD to prevent overestimating the State's population. For example, demographic summaries of SDDOH Regions were based on an aggregation of zip codes that aligned to the counties that map to the Regions. As a result, zip codes that SD shares with other states are excluded from the analysis. • **Tribal Area Classification:** Presents a Tribal Area versus Non-Tribal Area view of SD. For this analysis, a Tribal Area is a County that is in whole or in part comprised of one or more Federally-Classified Reservations. Urban areas are excluded from this geographic perspective to allow for an apples-to-apples evaluation of differences between Tribal and Non-Tribal Areas. The population in a Tribal Area may include Native Americans and/or non-Native Americans.[1]
Limitations	Demographic data was only available at the zip code level, so the data was aggregated based on the zip codes aligned with the area under evaluation. In some instances, due to a lack of access data for neighboring states, the zip codes SD shares with neighboring states were excluded to prevent underestimation of the evaluated data points.

Notes: 1) Native Americans are people who identify as Native American in the U.S. Census, which may include enrolled Tribal members or individuals who self-identify as Native American but are not enrolled in a Tribe.

Key Takeaways: Demographic Analysis

Key Questions

Takeaways

Demographic Characteristics.

1. What are the demographic characteristics of SD and its Regions?
2. What insights do Rural/Urban classifications reveal about SD's Regions?

1. **SD's population is growing faster than the national average**, but Regions vary in population size and growth expectations. Sioux Empire has the largest population (390,599), and South Central Plains has the smallest (131,964). Sioux Empire leads the State's population growth with a 1.0% compound annual growth rate over five years.
2. **57% of the Strategic Analysis Geography's residents live in rural areas, with over a third living in the least densely populated rural areas (Small Rural and Very Rural)**. Given the geographic distribution of these populations, **less population density over larger land masses may complicate the provision of local healthcare access points**.
3. The population is projected to grow moderately, **driven by seniors, who use healthcare the most and often reside in rural areas**.

Rurality.

1. What implications do these findings have for addressing healthcare access challenges?

1. SD community characteristics, especially the degree of rurality and Tribal Area Resident presence, are important factors to consider when developing initiatives to address healthcare access challenges.

Geographic Definitions

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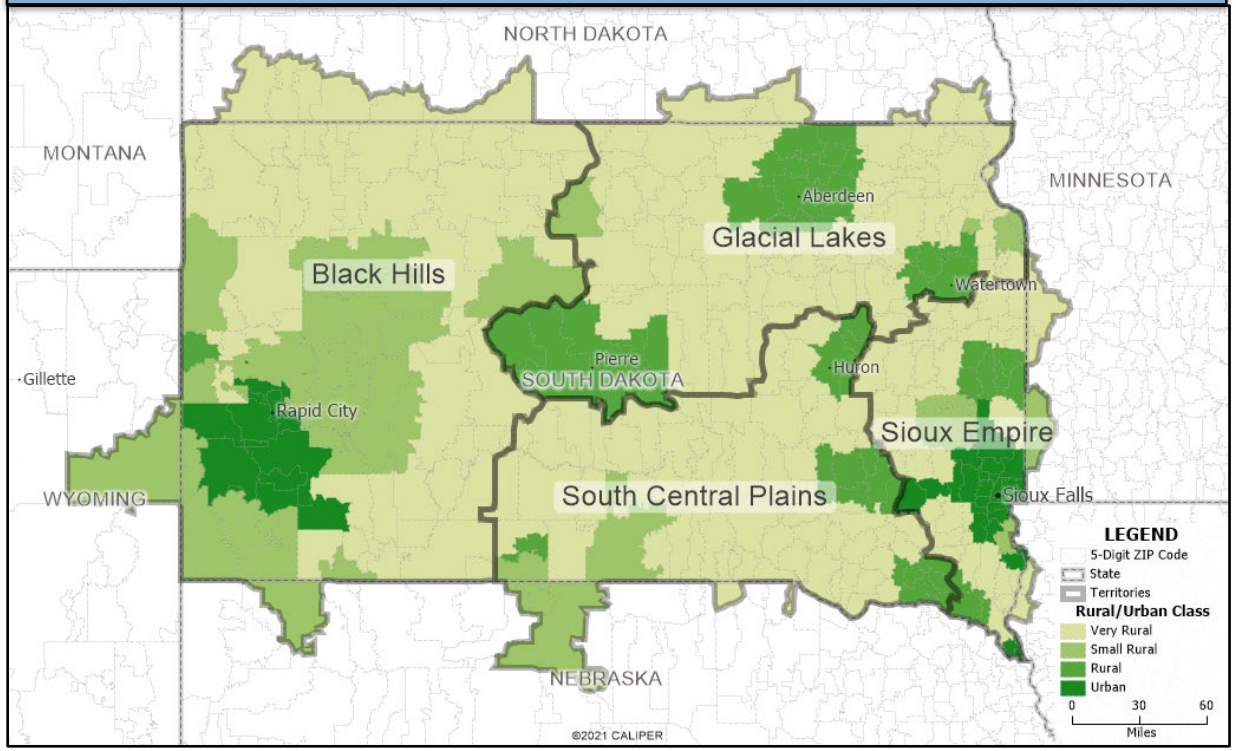
Geographic Definition 1: Strategic Analysis Geography

To provide a more granular view of rurality across SD, Guidehouse worked with the ORH to confirm a definition of rurality, using HRSA's definition of rurality, the USDA's RUCA codes, and other demographic data such as population density. Geographies outside of SD are used in this definition and are included in specific analyses.

SD Strategic Analysis Geography[1]



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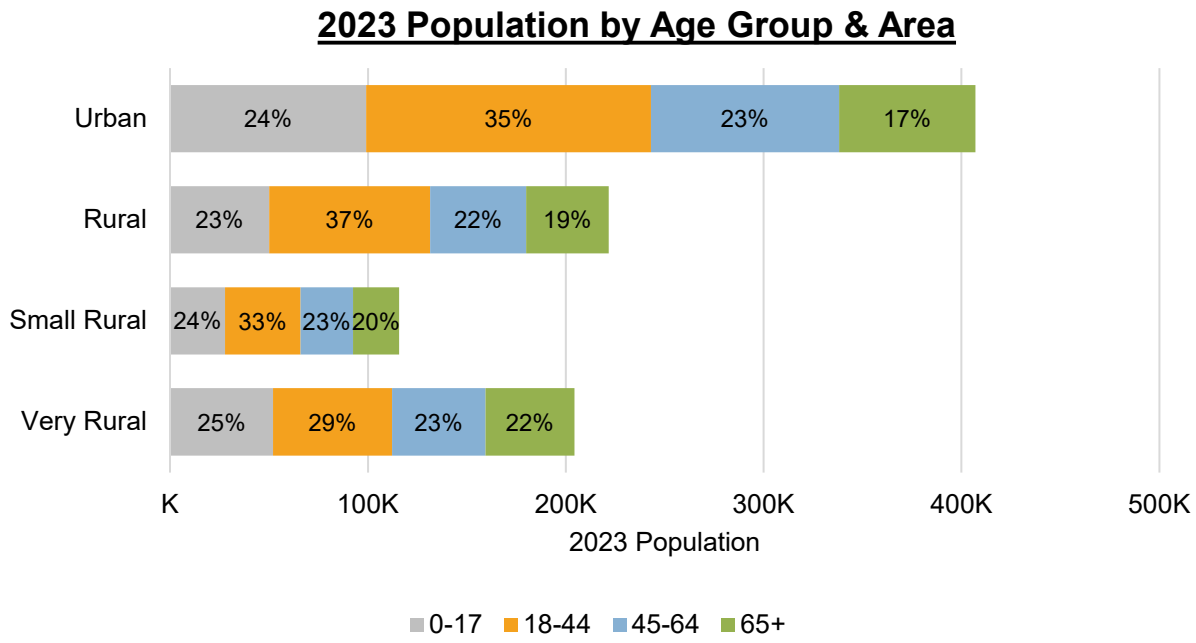
Source/Notes: 1) The SD Strategic Analysis Geography definition includes all zip codes in SD and zip codes shared with states bordering SD. It is based on a combination of HRSA's definition of rural areas, RUCA data, and the evaluation of demographic factors such as population density.

57% of the Geography's residents live in rural areas with equally sized populations in Rural and Very Rural areas

- Small Rural and Very Rural areas account for 34% of the Strategic Analysis Geography.
- Very Rural residents comprise one-fifth of the population in the Strategic Analysis Geography. Very Rural areas are less densely populated than larger rural areas; the geographic distribution of these residents may make healthcare access planning more challenging.

Areas	2023 Population	% of Statewide Population	CAGR* '23-'28
Urban	407,016	43%	1.2%
Rural	221,617	23%	0.4%
Small Rural	115,820	12%	0.3%
Very Rural	204,378	22%	0.0%
Strategic Analysis Geography[1]	948,831	100%	0.6%
United States	334,500,069	--	0.4%



CAGR = Compounding Annual Growth Rate

Source/Notes: U.S. Census data are accessed via Claritas 2023 population data and 2023-2028 population estimates and projections. The Strategic Analysis Geography definition includes all zip codes in SD and zip codes shared with states bordering SD; it is based on a combination of HRSA's definition of rural areas, RUCA data, and evaluation of demographic factors such as population density.

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Geographic Definition 2: SD-Only Strategic Analysis Geography

SDDOH conducts planning based on four Hospital Regions, outlined in the table below. To avoid underestimating care in Regions that included zip codes that SD shares with neighboring states and to analyze county-level data, Guidehouse utilized this geographic view in some analyses.

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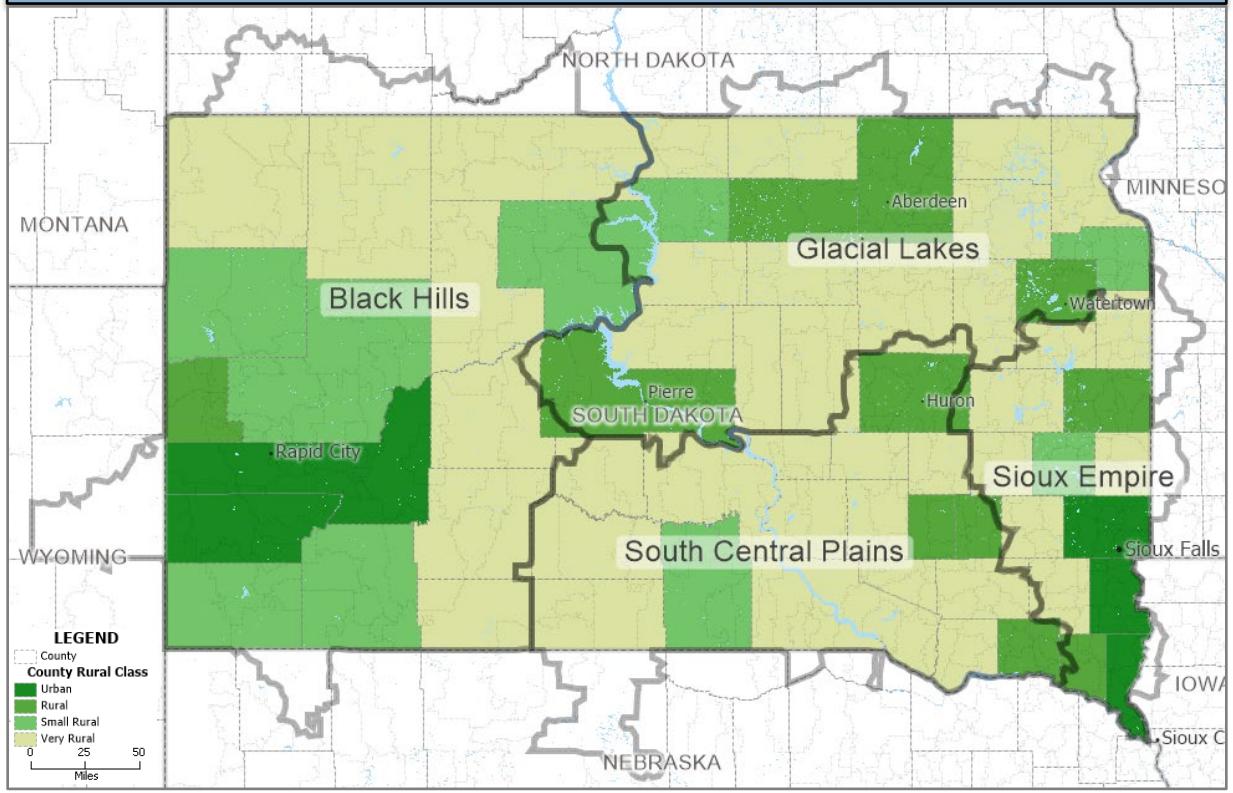

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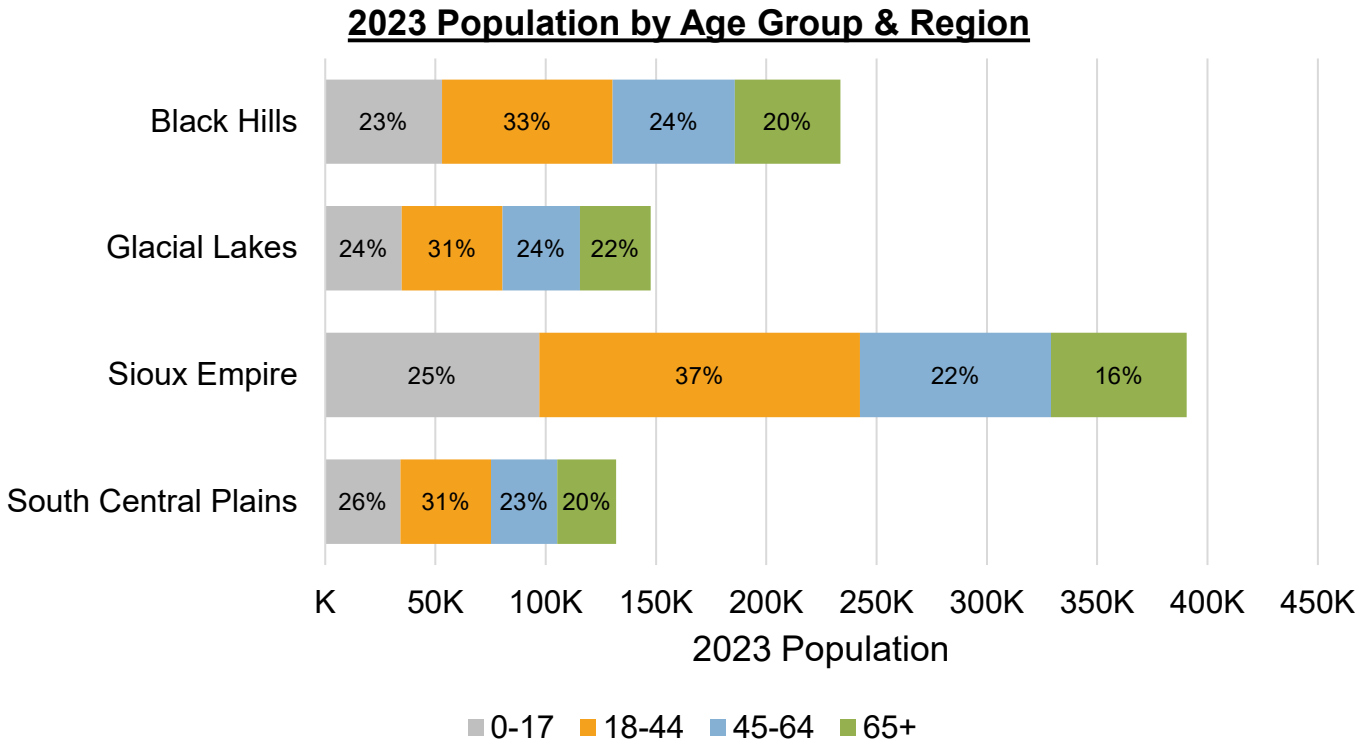
Source/Notes: Region definitions are based on SDDOH Hospital Regions- https://doh.sd.gov/media/i30fo3mf/sd_hospitalregions_map.pdf.

SD's Regions vary in size and growth expectations, and all Regions are anticipated to grow in the next five years

- 43% of SD's population is concentrated in Sioux Empire, where the highest population growth is expected within the next five years.
- Population growth is expected across all Regions, and statewide growth outpaces the national average.

Regions	2023 Population	% of SD Population	% CAGR* '23-'28
Black Hills	233,567	26%	0.7%
Glacial Lakes	147,555	16%	0.2%
Sioux Empire	390,599	43%	1.0%
South Central Plains	131,964	15%	0.2%
SD	903,685	100%	0.7%
United States	334,500,069	-	0.4%

**CAGR = Compound Annual Growth Rate*



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Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. SD population estimates based on zip codes primarily aligned with the SD Only Strategic Analysis Geography; excludes zip codes primarily aligned with other states.

Overall, the population is projected to grow moderately; seniors comprise nearly 20% of the population in rural areas

- Population growth trends indicate that rural areas in SD have a growth rate that matches or is below the statewide growth rate. Moreover, these rural areas have a greater proportion of the 65+ population than the State overall. **Aging populations use healthcare services at higher rates and have a greater need for caregiving**. 30% of older adults also have mobility constraints, making travel for care more challenging.[2,3]

2023 SD Demographics

Region/ Benchmark	Total Pop '23	Pop. CAGR* '23-'28	Pop. Density / square mile	Seniors N (% '23 Pop.)	Tribal Area Residents.** N (% '23 Pop)	Rural[1] N (% SD Pop.)	Urban[1] N (% SD Pop.)
Black Hills	233,567	0.7%	7.4	47,817 (20%)	46,008 (20%)	109,346 (12%)	124,221 (14%)
Glacial Lakes	147,555	0.2%	7.7	32,096 (22%)	77,861 (53%)	147,555 (16%)	--
Sioux Empire	390,599	1.0%	49.8	61,556 (16%)	3,793 (1%)	107,804 (12%)	282,795 (31%)
South Central Plains	131,964	0.2%	7.9	26,718 (20%)	34,531 (26%)	131,964 (15%)	--
SD	**903,685**	**0.7%**	**12.0**	**168,187 (19%)**	**162,193 (18%)**	**496,669 (55%)**	**407,016 (45%)**
United States	**334,500,069**	**0.4%**	**94.7**	**60,001,367 (18%)**	**--**	**--**	**--**

**CAGR = Compound Annual Growth Rate*

Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. 1) Rural comprises all zip codes in the SD-only strategic analysis geography definition that is primarily aligned with SD (excludes border state zip codes) and has a Rural, Small Rural, and Very Rural classification, while urban is any zip code classified as Urban. Percentage values may not add up due to rounding. 2) U.S. Department of Health and Human Services, "Social Determinants of Health and Older Adults," https://health.gov/our-work/national-health-initiatives/healthy-aging/social-determinants-health-and-older-adults. 3) Musich S, Wang SS, Ruiz J, Hawkins K, Wicker E. The impact of mobility limitations on health outcomes among older adults. Geriatr Nurs. 2018 Mar-Apr;39(2):162-169. doi: 10.1016/j.gerinurse.2017.08.002. Epub 2017 Sep 1. PMID: 28866316. Pop. = population **The population living in a Tribal Area which may include Native Americans and/or non-Native Americans.

The Urban population is the greatest in size throughout all of SD and represents the greatest projected growth

2023 SD Demographics

Classification/ Benchmark	Total Pop '23	Pop. CAGR '23-'28	Pop. Density / square mile	Seniors N (% '23 Pop.)	Tribal Area Residents.** N (% '23 Pop)[3]
Urban	407,065	1.2%	92.6	68,947 (17%)	--
Rural	221,617	0.4%	24.5	41,591 (19%)	49,568 (22%)
Small Rural	93,179	0.4%	7.2	18,470 (20%)	39,358 (42%)
Very Rural	181,873	0.0%	3.7	39,179 (22%)	73,267 (40%)
SD	**903,685**	**0.7%**	**12.0**	**168,187 (19%)**	**162,193 (18%)**
United States	**334,500,069**	**0.4%**	**94.7**	**60,001,367 (18%)**	**--**

**CAGR = Compound Annual Growth Rate*

Key Observations

- The Urban population is growing at the fastest rate and greater than SD overall.
- The Very Rural areas contain the largest proportion of senior residents compared to the other areas and the state, overall.
- Across the three rural classifications, Tribal Area Residents comprise greater than 20% of these areas, emphasizing the need to care for these populations differently to improve the overall healthcare provided.

Source/Notes: 1) U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections based on the SD only strategic analysis geography. Percentage values may not add up due to rounding. 2) U.S. Department of Health and Human Services, "Social Determinants of Health and Older Adults," https://health.gov/our-work/national-health-initiatives/healthy-aging/social-determinants-health-and-older-adults. 3) The population living in a Tribal Area which may include Native Americans and/or non-Native Americans.

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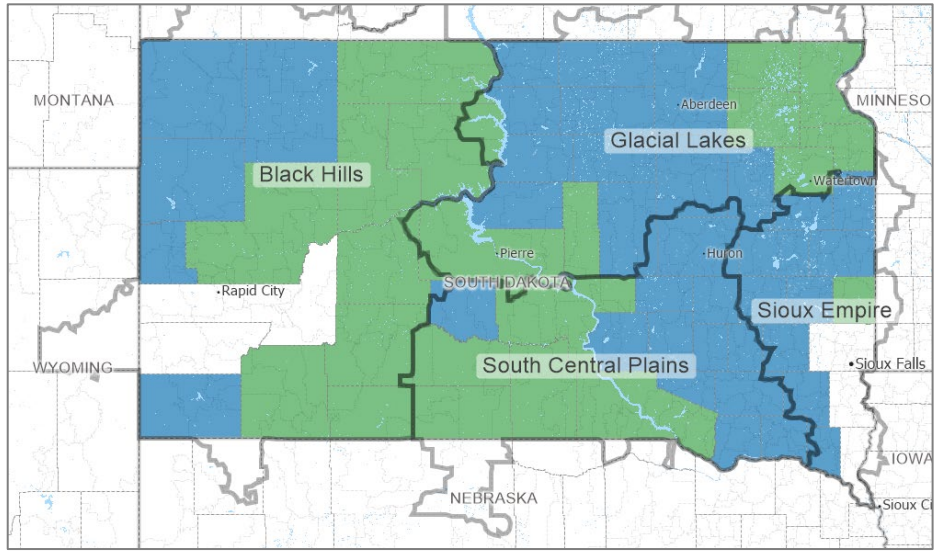
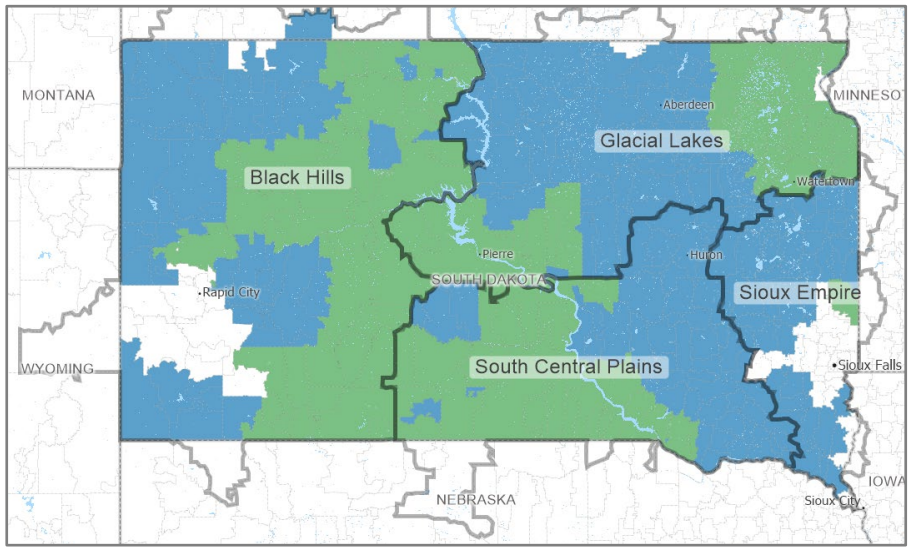
Geographic Definition 3: Tribal Area Classification

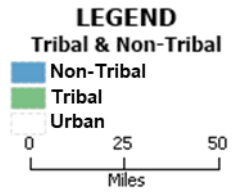
To understand the differences in rural healthcare access for Tribal and Non-Tribal Area populations, Guidehouse worked with the ORH to confirm a definition of SD counties that are in whole or in part comprised of one or more Federally-Classified Reservations.

SD Tribal & Non-Tribal Area Counties*



SD Tribal & Non-Tribal Area Zip Codes*





Category	Counties
Tribal Area	Bennett, Buffalo, Charles Mix, Codington, Corson, Day, Dewey, Grant, Gregory, Haakon, Hughes, Hyde, Jackson, Lyman, Marshall, Meade, Mellette, Moody, Oglala Lakota, Roberts, Stanley, Todd, Tripp, Ziebach
Non-Tribal Area	Aurora, Beadle, Bon Homme, Brookings, Brown, Brule, Butte, Campbell, Clark, Clay, Davison, Deuel, Douglas, Edmunds, Fall River, Faulk, Hamlin, Hand, Hanson, Harding, Hutchinson, Jerauld, Jones, Kingsbury, Lake, Lawrence, McCook, McPherson, Miner, Perkins, Potter, Sanborn, Spink, Sully, Turner, Walworth, Yankton
Urban - No Tribal Area Status	Custer, Lincoln, Minnehaha, Pennington, Union

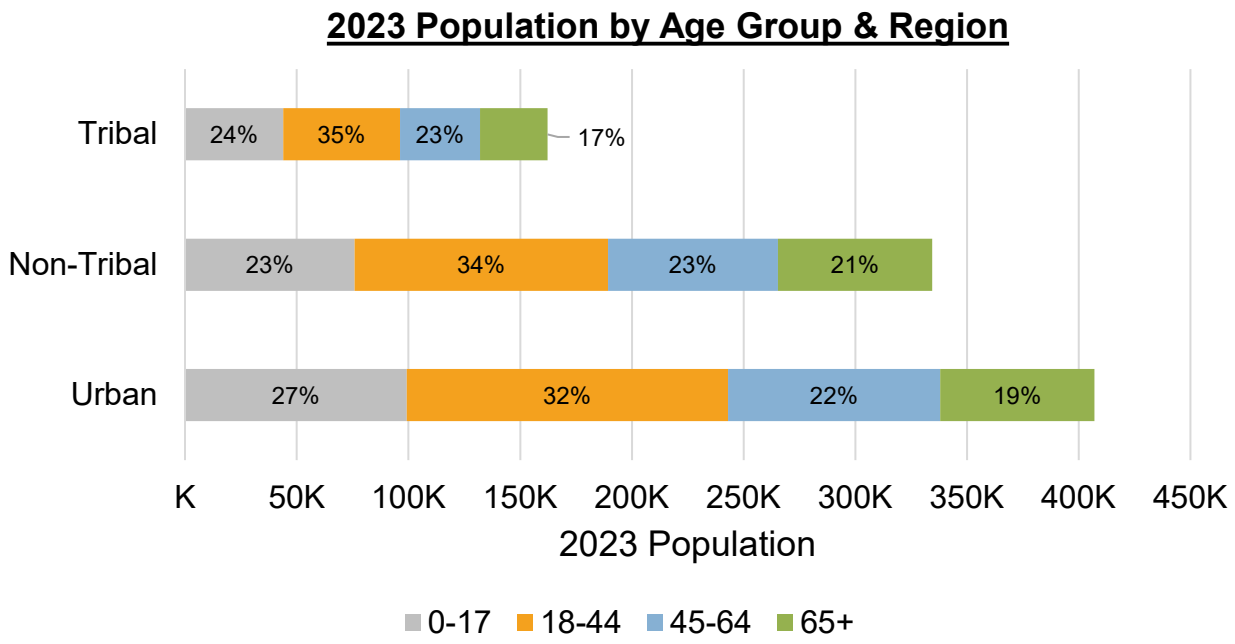
Source/Notes: *Tribal and Non-Tribal Areas are based on the evaluation of zip codes and counties that are in whole or in part comprised of one or more Federally-Classified Reservations. Urban counties and zip codes are excluded. https://oglalalakota.sdcounties.org, https://www.justice.gov/usao-sd/indian-country

18% of South Dakotans live in Tribal Areas, where projected growth is lower than the State average

- Almost a fifth (18%) of SD's total population comprises Tribal Area Residents.
- The population living in Tribal Areas is expected to grow over the next five years, but at a slower rate than the State average, with most growth taking place with the urban population.
- While the Tribal Area population is half the size of Non-Tribal, the population age distribution is similar.

Areas	2023 Population	% of SD Population	CAGR^ '23-'28
Tribal*	162,193	18%	0.2%
Non-Tribal	334,476	37%	0.5%
Urban	407,016	45%	1.5%
SD	903,685	100%	0.9%
United States	334,500,069	--	0.4%

^CAGR = Compound Annual Growth Rate



Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. Tribal and Non-Tribal Areas are based on evaluating zip codes and counties that are in whole or in part comprised of one or more Federally-Classified Reservations. https://oglalalakota.sdcounties.org, https://www.justice.gov/usao-sd/indian-country. * Tribal population in this view reflects all people (Native American and Other races) who live in *zip codes* determined as Tribal reservations and areas with a Tribal presence.

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Regional Drill-Downs

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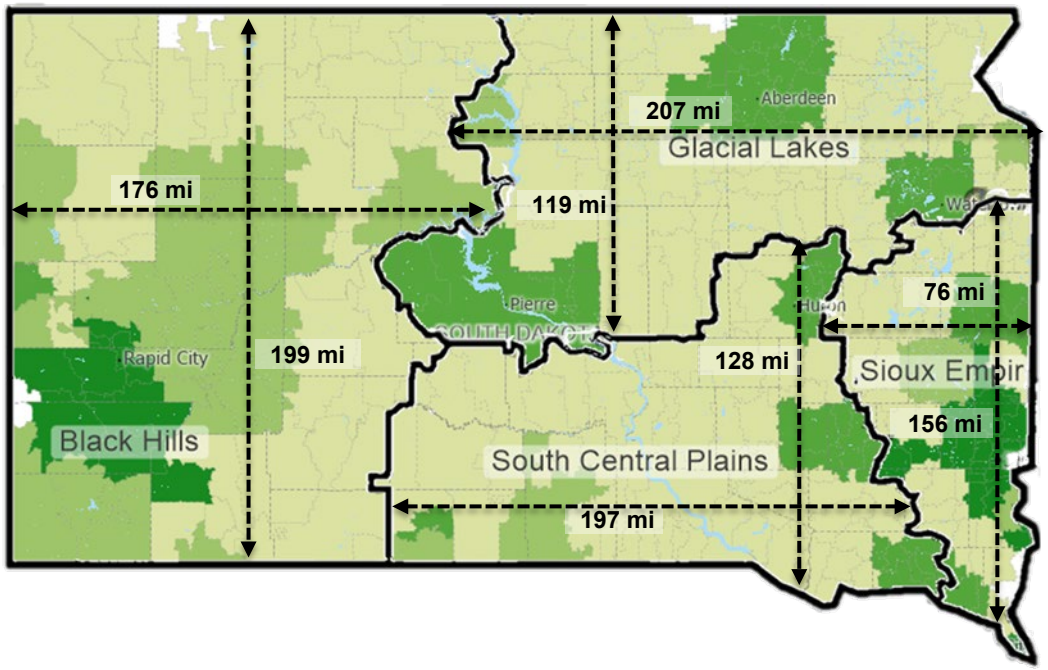
Assessing the State from a regional and rural classification lens highlights that most of the State is considered rural

2023 Demographics: All Regions[1]



2023 SD Population - Regions by Rural Classification

Classification	Black Hills	Glacial Lakes	Sioux Empire	South Central Plains	SD
Urban	53%	0%	72%	0%	45%
Rural	7%	61%	13%	49%	25%
Small Rural	26%	7%	4%	6%	10%
Very Rural	14%	32%	11%	45%	20%
Region Pop.	**233.6K**	**147.6K**	**390.6K**	**132.0K**	**903.7K**
Tribal[2]	20%	53%	1%	26%	18%
Non-Tribal	27%	47%	27%	74%	37%
Urban	53%	0%	72%	0%	45%

2023 SD Land Mass (Sq. Mi.) - Regions by Rural Classification

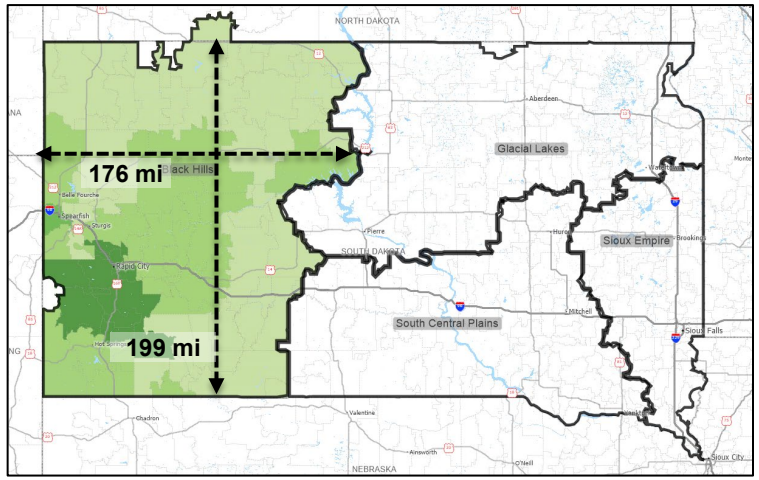
Classification	Black Hills	Glacial Lakes	Sioux Empire	South Central Plains	SD
Urban	8%	0%	22%	0%	6%
Rural	1%	29%	14%	13%	12%
Small Rural	34%	2%	9%	7%	17%
Very Rural	57%	69%	55%	81%	65%
Region Sq. Mi.	**31.7K**	**19.2K**	**7.9K**	**16.7K**	**75.5K**
Tribal[2]	49%	40%	3%	50%	42%
Non-Tribal	43%	60%	75%	50%	52%
Urban	8%	0%	22%	0%	6%

Value is higher than the State average

Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. 1) Geography comprises all zip codes in the SD strategic analysis geography primarily assigned to SD (excludes zip codes shared with other states). 2) Tribal, in this view, reflects the population living in a Tribal Area, which may include Native Americans and/or non-Native Americans (excludes urban areas). Percentage values may not add up due to rounding. Pop. = population.

Black Hills is unique, with its population split between urban and rural, and ~50% of the land mass is a Tribal Area

Black Hills



*From **North to South** of Black Hills, the distance represents **3+ hours in drive-time**. From **East to West**, distance represents **~3 hours in drive-time.***

2023 Demographic Overview: Black Hills[1]

Value is higher than the State average

Classification	Black Hills Population	SD Population	Black Hills Land Mass	SD Land Mass
Urban	53%	45%	8%	6%
Rural	7%	25%	1%	12%
Small Rural	26%	10%	34%	17%
Very Rural	14%	20%	57%	65%
Region Pop. / Sq Mi.	**233.6K**	**903.7K**	**31.7K**	**75.5K**
Tribal[2]	20%	18%	49%	42%
Non-Tribal	27%	37%	43%	52%
Urban	53%	45%	8%	6%

Key Observations

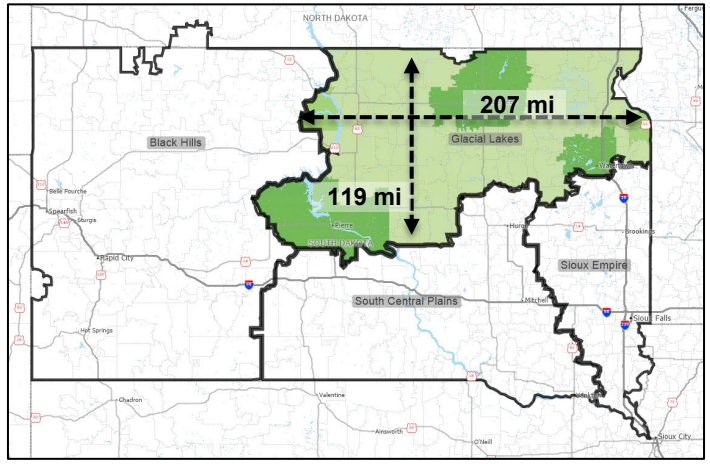
When the rurality, Tribal Areas, and land mass composition of the Regions are evaluated, the characteristics of each Region are more clearly seen.

- A little more than half of Black Hills' population lives in urban areas, yet about 40% of residents live in areas with higher degrees of rurality. The two classifications comprise nearly all of the Region's population and may require different approaches when planning to address access challenges.
- Tribal Areas contain about 20% of the Region's population and cover half of its land mass.
- Rural populations in the Region account for 47% of the population but occupy 92% of the Region's land mass, indicating that rural residents live in areas with very low population density. This may mean that healthcare services are equally geographically distributed or may require further travel to access.

Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. 1) Geography comprises all zip codes in the Region and SD strategic analysis geography that is primarily assigned to SD (excludes zip codes shared with other states). 2) Tribal, in this view, reflects the population living in a Tribal Area, which may include Native Americans and/or non-Native Americans (excludes urban areas). Percentage values may not add up due to rounding. Pop. = population.

Glacial Lakes contains the most residents residing within Tribal Areas compared to the other three Regions

Glacial Lakes



*From **North to South** of Glacial Lakes, the distance represents **2 hours in drive-time**. From **East to West**, distance represents **3+ hours in drive-time.***

2023 Demographic Overview: Glacial Lakes[1]

Value is higher than the State average

Classification	Glacial Lakes Population	SD Population	Glacial Lakes Land Mass	SD Land Mass
Urban	0%	45%	0%	6%
Rural	61%	25%	29%	12%
Small Rural	7%	10%	2%	17%
Very Rural	32%	20%	69%	65%
Region Pop. / Sq Mi.	**147.6K**	**903.7K**	**19.2K**	**75.5K**
Tribal[2]	53%	18%	40%	42%
Non-Tribal	47%	37%	60%	52%
Urban	0%	45%	0%	6%

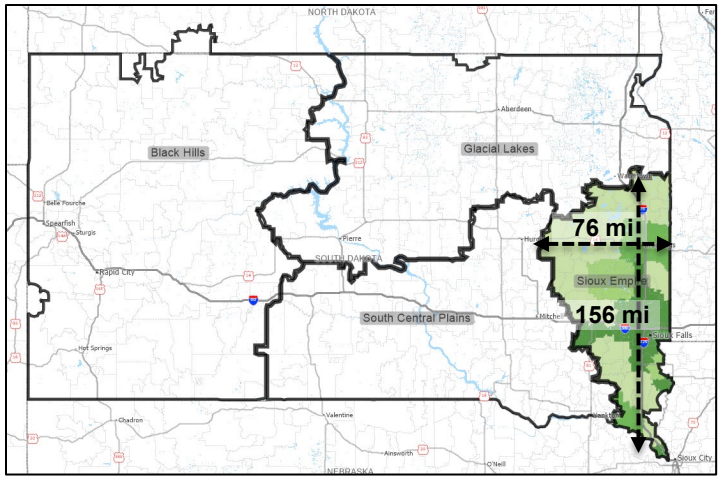
Key Observations

- Glacial Lakes' population lives entirely in areas classified as rural, with one-third of the population living in the most rural classification (Very Rural), which covers 69% of the Region's land mass.
- Very Rural residents are likely to face the most access challenges since population density tends to be low in these areas.
- With 100% of the population residing in rural areas and Tribal Areas accounting for 53% of the Region's population (the largest percentage across the four Regions), there are notable cultural factors that should be considered when addressing access challenges observed in the Region.

Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. 1) Geography comprises all zip codes in the Region , and in the SD strategic analysis, geography that is primarily assigned to SD (excludes zip codes shared with other states). 2) Tribal, in this view, reflects the population living in a Tribal Area, which may include Native Americans and/or non-Native Americans (excludes urban areas). Percentage values may not add up due to rounding. Pop. = population.

Sioux Empire is comprised of a primarily Urban population and has the largest Urban population across the four Regions

Sioux Empire



*From **North to South** of Sioux Empire, the distance represents **2+ hours in drive-time**. From **East to West**, distance represents **1+ hours in drive-time.***

2023 Demographic Overview: Sioux Empire[1]

Value is higher than the State average

Classification	Sioux Empire Population	SD Population	Sioux Empire Land Mass	SD Land Mass
Urban	72%	45%	22%	6%
Rural	13%	25%	14%	12%
Small Rural	4%	10%	9%	17%
Very Rural	11%	20%	55%	65%
Region Pop. / Sq Mi.	**390.6K**	**903.7K**	**7.9K**	**75.5K**
Tribal[2]	1%	18%	3%	42%
Non-Tribal	27%	37%	75%	52%
Urban	72%	45%	22%	6%

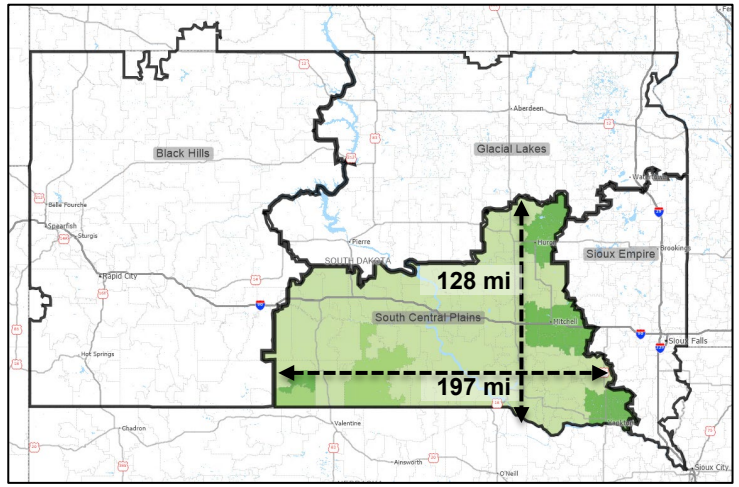
Key Observations

- 72% of Sioux Empire residents live in urban areas, making it the Region with the highest percentage of urban residents.
- Very Rural residents in Sioux Empire are less likely to face challenges accessing resources in their home Region than Very Rural residents of other Regions because they have a shorter distance to travel to reach urban areas, which are likely to have more resources.
- While Urban populations make up the majority of the population in Sioux Empire, 28% of residents live in Rural areas, which must be accounted for in terms of ensuring adequate access to care.

Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. 1) Geography comprises all zip codes in the Region, and in the SD strategic analysis, geography that is primarily assigned to SD (excludes zip codes shared with other states). 2) Tribal, in this view, reflects the population living in a Tribal Area, which may include Native Americans and/or non-Native Americans (excludes urban areas). Percentage values may not add up due to rounding. Pop. = population.

South Central Plains Region is distinct among the Regions with the greatest proportion of people in Very Rural areas

South Central Plains



*From **North to South** of South Central Plains, the distance represents **~2 hours in drive-time**. From **East to West**, distance represents **3+ hours in drive-time.***

2023 Demographic Overview: South Central Plains[1]

Value is higher than the State average

Classification	SCP Population	SD Population	SCP Land Mass	SD Land Mass
Urban	0%	45%	0%	6%
Rural	49%	25%	13%	12%
Small Rural	6%	10%	7%	17%
Very Rural	45%	20%	81%	65%
Region Pop. / Sq Mi.	**132.0K**	**903.7K**	**16.7K**	**75.5K**
Tribal[2]	26%	18%	50%	42%
Non-Tribal	74%	37%	50%	52%
Urban	0%	45%	0%	6%

Key Observations

- 100% of the population lives in areas classified as rural.
- The majority (81%) of South Central Plains land mass is located in Very Rural areas – the highest proportion of Very Rural land mass among the four Regions.
- More than a quarter of South Central Plains' population comprises residents living in Tribal Areas – the second greatest proportion of Tribal Area residents across the four geographic Regions.
- Moreover, 50% of South Central Plains' land mass comprises Tribal Areas, which can potentially create access barriers that other, Non-Tribal Areas may not face.

Source/Notes: U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. 1) Geography comprises all zip codes in the Region, and in the SD strategic analysis, geography that is primarily assigned to SD (excludes zip codes shared with other states). 2) Tribal, in this view, reflects the population living in a Tribal Area, which may include Native Americans and/or non-Native Americans (excludes urban areas). Percentage values may not add up due to rounding. SCP = South Central Plains, Pop. = population.

III. Access Locations Gap Analysis

Access to Physical Locations Analysis | Overview

Background	This section analyzes site location numbers for the State's four Regions (Black Hills, Glacial Lakes, Sioux Empire, South Central Plains), four rural classifications (Urban, Rural, Small Rural, Very Rural), and Tribal Area classifications with site data standardized to account for relative population (sites per 100,000 population) and distance (sites per 10,000 square miles).
Importance	Analyzing variances in healthcare site locations across SD provides insight into where and what kind of location gaps exist, which can pinpoint healthcare access challenges, including highlighting areas where residents may travel farther for care.
Methodology	**Data sources:** SD-specific site locations analysis: Guidehouse Rural Health Index, "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); SD Strategic Data Analysis geographic definition (excluding zip codes shared with other states). State comparison site locations analysis: Definitive Healthcare 2024, the American Hospital Directory, Guidehouse Rural Health Index, the UNC Sheps Center for Health Services Research, and Kaiser Family Foundation. In this section, we: • Evaluate the number of site locations in SD, relative to both distance and population, to understand Regions and rural classifications in which access gaps exist, • Highlight specific location-type gaps across SD, • Compare SD's site location numbers to benchmark states (nearby states with similar geographies and demographics) to identify relative opportunities for SD to improve healthcare access, and • Pinpoint future gaps in location types based on the projected five-year needs.
Limitations	Due to limitations in the care site types included in the "DOH Provider List" search tool, the SD-specific analyses by Region and rural classification did not include urgent cares. Urgent care data was incorporated into the state-level comparison of sites across SD, ND, and ID, which used data from Definitive Healthcare. The state comparison component references various external sources containing data for all three states, including Definitive Healthcare, the American Hospital Directory, the UNC Sheps Center for Health Services Research, and the Kaiser Family Foundation.

Access to Physical Locations Analysis | Key Takeaways

Key Questions

Takeaways

Access to Healthcare Locations.

1. What is the current state of access to healthcare locations in SD, by Region and rural classification?
2. Which areas have the least access to care, relative to distance, and relative to population?

1. SD has **more hospitals, hospital beds, nursing facilities, and IHS facilities per 10,000 square miles and 100,000 people than ND and ID**, indicating that residents in SD and ID have greater access to these facilities.
2. Most South Dakotans (57%) live in rural-classified areas, yet **urban areas have more care sites per 10,000 square miles**.
3. Investments in care sites are generally made in more populated areas, which will likely generate the greatest demand. Consistent with this, the **Glacial Lakes Region, which is entirely rural, has the lowest care sites relative to population and land mass.**
4. Tribal Areas **experienced lower rates of care sites per 10,000 square miles compared to Non-Tribal Areas,** illustrating the necessity of IHS facilities as critical care sites for Tribal Area populations.

Future Site Need & Opportunities.

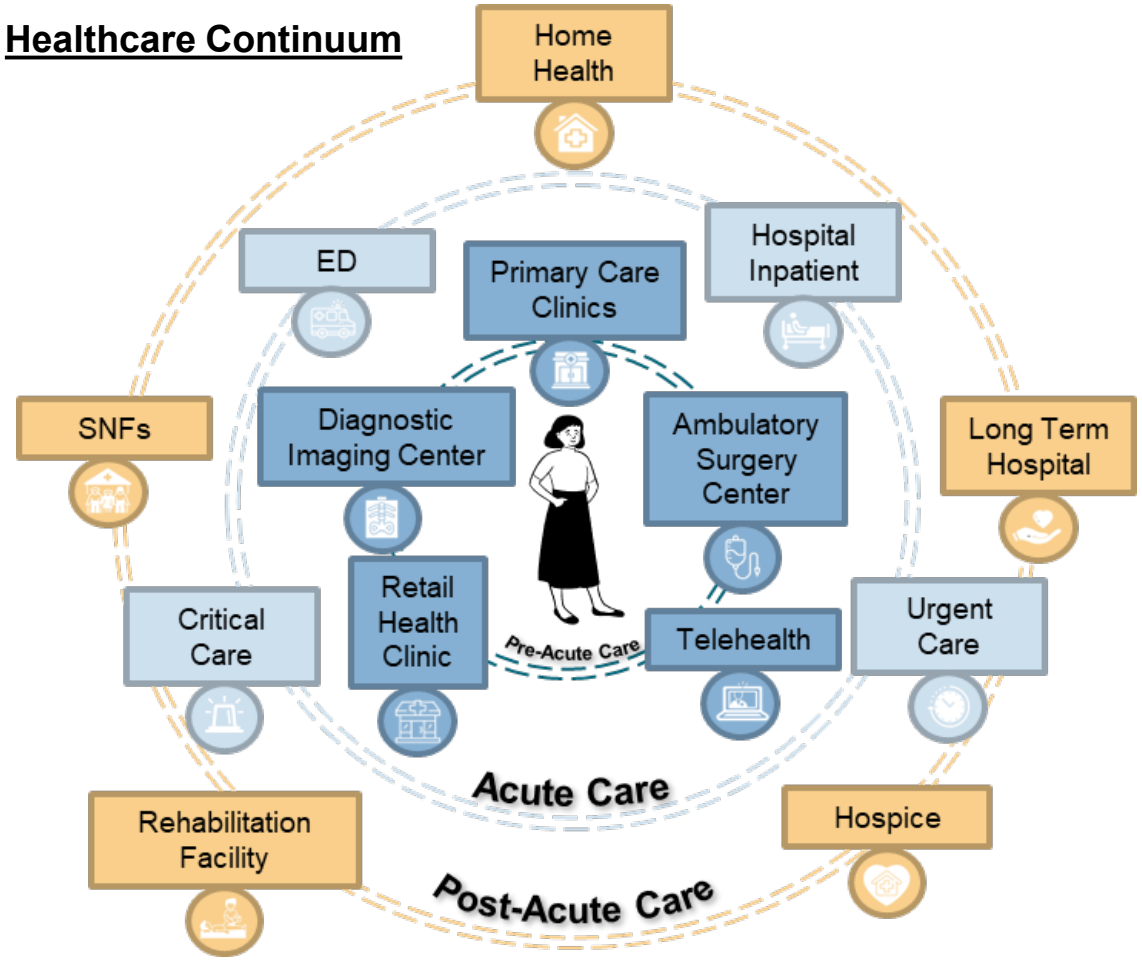
1. Which areas and Regions have the greatest future site need based on future projections?
2. Where do opportunities exist to expand healthcare site access in SD?

1. The **Glacial Lakes Region, followed by the Black Hills Region, has the lowest overall care sites per 10,000 square miles**, indicating access gaps and residents traveling further for care.
2. **The Sioux Empire Region, classified as 72% urban and 1% Tribal, has the greatest access** to most care sites per 10,000 square miles, indicating that residents may not have to travel far for care.
3. The Black Hills, Glacial Lakes, and South Central Plains Regions all **lack specialized hospitals** proportional to the needs of these areas.

Access to healthcare is a continuum incorporating multiple types of locations and providers accessed for different needs

While substituents exist across the continuum (e.g., the services of an ASC might be met in a different setting or vice versa), most people will access pre-acute, emergency, acute, and post-acute services over their lifetime.

Healthcare Continuum

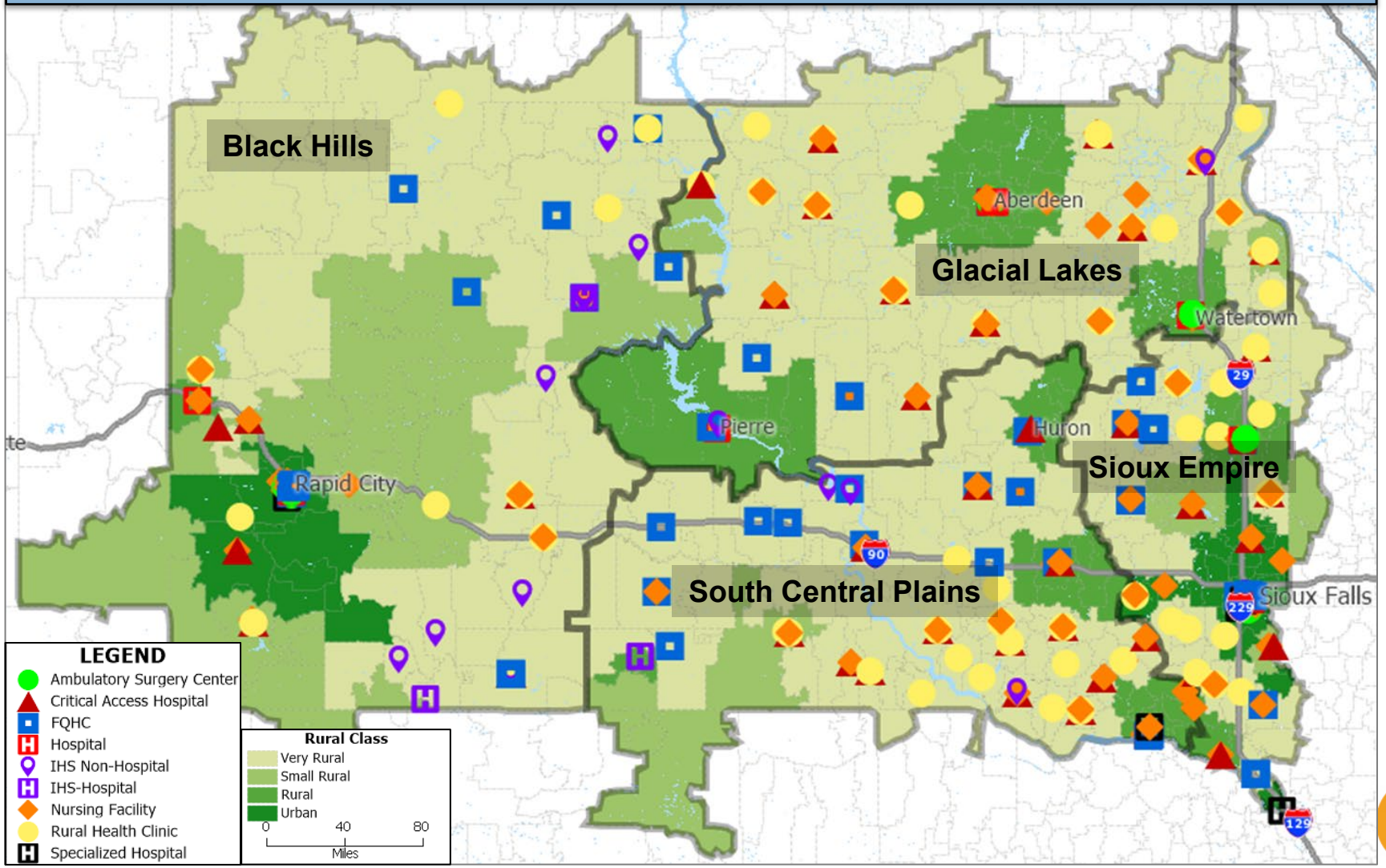


	Description	Example Facilities
Pre-Acute Care	Pre-acute care is any care provided before a patient needs acute services. Pre-acute care includes routine services (e.g., outpatient chronic care services) and preventative care (e.g., well visits, routine screening, etc.).	•Telehealth •Retail Health Clinics •Primary Care Clinic •ASC •Diagnostic Imaging Center
Emergency Care	Emergency care is powerfully aligned with primary health care and pre-acute care as it provides first-contact clinical care for those who are acutely ill or injured and need immediate care.	•Emergency Department
Acute Care	Acute care is an active, short-term treatment for an episode of illness or severe injury.	•Critical Care •Hospital (inpatient) •Urgent Care •Trauma Care
Post-Acute Care	Post-acute care often includes palliative or rehabilitative services that patients receive after or in place of a stay in an acute care hospital.	•Skilled Nursing Facility •Inpatient Rehab Facility •Hospice •Home Health •Long-term Acute Care Hospital •Outpatient Social Work •Palliative Care

Source: Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; Claritas (2023 population); Maptitude mapping software. Rural = Rural, Small Rural and Very Rural; Definitive Healthcare Definitions (Acute Care, Post-Acute Care); World Health Organization

Care sites are scattered across SD, with noticeably fewer care sites in rural areas

SD Locations by Region



Key Observations

- Across the State of SD, 63 hospitals, 15 surgery centers, 96 nursing facilities, and 160 RHCs or FQHCs offer varying access to residents of rural and Tribal Areas.
- **Urban areas, especially around Sioux Falls, have more care sites** than rural areas.
- **The Black Hills Region has the fewest care sites in the State.**
  - There are very few facilities in the northwest area of the Black Hills Region, which contains Federally-Classified Reservations and is largely rural-classified.
  - **Tribal Areas contain about 20% of Black Hill's population** and cover half of its land mass.

Source/Notes: Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); Maptitude mapping software.

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South Dakotans have more access to hospitals and nursing homes than peer states

Care Sites/10,000 Square Miles (100 x 100 Sq. Mi)

Site Type	SD	ND	ID
ASC	3.4	4.5	9.7
FQHCs / RHCs	15.0	12.9	31.1
Hospital Sites[2]	8.0	6.7	5.4
IHS Facility (Hospital)[3]	0.5	0.3	0.0
IHS Facility (Non-Hospital)[3]	2.7	1.6	0.8
Nursing Facility	13.0	11.2	9.7
Specialized Hospital	0.5	0.9	1.0
Urgent Care	4.1	3.6	9.8
Total Hospital Beds[1]	566.9	481.9	433.8

Care Sites/100,000 Population

Site Type	SD	ND	ID
ASC	2.9	3.9	4.1
FQHCs / RHCs	12.5	11.3	13.2
Hospital Sites[2]	6.6	5.8	2.3
IHS Facility (Hospital)[3]	0.4	0.3	0.0
IHS Facility (Non-Hospital)[3]	2.2	1.4	0.4
Nursing Facility	10.8	9.8	4.1
Specialized Hospital	0.4	0.8	0.4
Urgent Care	3.4	3.2	4.2
Total Hospital Beds[1]	473.4	421.8	184.8

Key Observations

- **SD has more hospitals, hospital beds, nursing facilities, and IHS facilities** than ND and ID per 10,000 square miles and 100,000 people, indicating that residents have greater access to these facilities than residents in ND and ID.
  - While South Dakotans have fewer specialized surgery (ASCs) and hospital sites than ND and ID, some of these cases may be treated in general hospitals across SD, depending on the services offered by the hospital.
  - SD's ratio of hospital beds per 1,000 population (4.61) is higher than the national average (2.35), ND (4.26) and ID (1.85).[4]
- **South Dakotans have access to more nursing facilities than peer states,** but the average number of beds in SD (58.8) is lower than the national average (106.6), ND (68.1), and ID (75.6).[5]
- **SD has moderate access to FQHCs, RHCs, and urgent care centers,** which may indicate an opportunity to expand access to these primary care locations.
  - ID has over three times as many FQHCs as SD per 10,000 square miles.

Highest  ***Lowest***

The color-coding scale shows the highest, middle, and lowest location numbers in each row with green, yellow, and red highlights, respectively.

Source/Notes: Various external sources with standardized site type data for SD, ND, and ID, including information from the American Hospital Directory, American Hospital Association, University of North Carolina Sheps Center for Health Services Research, Kaiser Family Foundation, and the Guidehouse Rural Health Index (including information sourced from Definitive Healthcare),1) General + Specialized + Critical Access Hospitals + IHS Hospital Facilities, 2) General + Critical Access Hospitals + IHS Hospital Facilities. FQHC = Federally Qualified Health Center, ASC = Ambulatory Surgery Center. 3) 2023 IHS Facilities (Locations | Indian Health Service (IHS)). 4) Hospital Beds per 1,000 Population by Ownership Type | KFF. 5) Average Number of Certified Nursing Facility Beds | KFF (KFF methodology not outlined on the website).

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The Glacial Lakes Region, followed Black Hills Region, has the greatest access gaps to care sites

SD Care Sites/10,000 Square Miles (100 x 100 Sq. Mi)

Site Type	Black Hills	Glacial Lakes	Sioux Empire	South Central Plains
ASC	1.6	2.1	6.4	0.6
FQHCs / RHCs	12.9	13.0	61.1	27.6
Hospital Sites[2]	2.5	7.8	14.0	9.0
IHS Facility (Hospital)[3]	0.9	0.0	0.0	0.6
IHS Facility (Non-Hospital)[3]	4.1	1.0	2.5	1.8
Nursing Facility	6.0	14.1	35.7	13.2
Specialized Hospital	0.9	0.0	7.6	0.6
Total Hospital Beds[1]	234.4	224.0	1,967.9	292.7
Population Density	*7.4*	*7.7*	*49.8*	*7.9*

SD Care Sites/100,000 Population

Site Type	Black Hills	Glacial Lakes	Sioux Empire	South Central Plains
ASC	2.1	2.7	1.3	0.8
FQHCs / RHCs	17.6	16.9	12.3	34.9
Hospital Sites[2]	3.4	10.2	2.8	11.4
IHS Facility (Hospital)[3]	1.3	0.0	0.0	0.8
IHS Facility (Non-Hospital)[3]	5.6	1.4	0.5	2.3
Nursing Facility	8.1	18.3	7.2	16.7
Specialized Hospital	1.3	0.0	1.5	0.8
Total Hospital Beds[1]	318.5	291.4	395.5	369.8

Highest  ***Lowest***

The color-coding scale shows the highest, second-highest, second-lowest, and lowest location numbers in each row with a range of green, yellow, orange, and red highlights, respectively.

Key Observations

- Investments in care sites are generally made in higher-populated areas, likely generating the greatest demand. Consistent with this, the **Glacial Lakes Region, which is entirely rural, has the lowest number of care sites relative to population and land mass.**
  - Glacial Lakes has the lowest ratio of hospital beds per 1,000 population (2.9), which is lower than the State average (4.61), and Sioux Empire (3.9), which is primarily urban.[4] This may suggest that beds aren't distributed across the state effectively and equitably.
- **Residents in the Black Hills and Glacial Lakes Regions have fewer care sites than others.**
  - These Regions account for 42% of the State's population and have fewer overall sites per 10,000 square miles.
- **The Sioux Empire Region, classified as 72% urban and 1% Tribal, has the greatest access** to most care sites per 10,000 square miles, indicating that residents may not have to travel far for care.
  - Although the Region has a low ratios of FQHCs/RHCs, hospital sites and IHS facilities per 100,000 population, this may be due to higher capacity at these care sites. For example, hospital sites ratio per 100,000 population is the lowest, but hospital beds per 100,000 population is the highest across the Regions.

Source/Notes: Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); SD Strategic Data Analysis geographic definition (excluding zip codes shared with other states. 1) General + Specialized + Critical Access Hospitals + IHS Hospital Facilities, 2) General + Critical Access Hospitals + IHS Hospital Facilities + staffed beds for community hospitals. FQHC = Federally Qualified Health Center; 3) 2023 IHS Facilities (Locations | Indian Health Service (IHS)) 4) Hospital Beds per 1,000 Population by Ownership Type | KFF

There are disproportionately fewer care sites in SD's rural and Tribal Areas relative to population and distance

SD Care Sites/10,000 Square Miles (100 x 100 Sq. Mi)

Site Type	Urban	Rural	Small Rural	Very Rural	Non-Tribal[3]	Tribal[3]
ASC	20.5	6.6	0.0	0.0	3.0	0.6
FQHCs / RHCs	61.4	18.8	9.3	21.1	10.6	17.3
Hospital Sites[2]	11.4	11.1	5.4	5.5	7.9	4.7
IHS Facility (Hospital)[3]	0.0	0.0	2.3	0.2	0.0	1.2
IHS Facility (Non-Hospital)[3]	6.8	1.1	4.7	2.0	0.7	5.3
Nursing Facility	45.5	22.1	8.6	9.2	16.4	7.8
Specialized Hospital	20.5	1.1	0.0	0.0	2.3	0.0
Total Hospital Beds[1]	4,412.1	634.3	164.1	98.4	630.2	148.9

SD Care Sites/100,000 Population

Site Type	Urban	Rural	Small Rural	Very Rural	Non-Tribal[3]	Tribal[3]
ASC	2.2	2.7	0.0	0.0	1.8	1.1
FQHCs / RHCs	6.6	7.7	12.9	57.2	19.3	10.3
Hospital Sites[2]	1.2	4.5	7.5	14.8	4.7	8.5
IHS Facility (Hospital)[3]	0.0	0.0	3.2	0.5	0.0	2.3
IHS Facility (Non-Hospital)[3]	0.7	0.5	6.4	5.5	0.4	9.7
Nursing Facility	4.9	9.0	11.8	24.7	9.8	14.2
Specialized Hospital	2.2	0.5	0.0	0.0	1.4	0.0
Total Hospital Beds[1]	476.4	258.6	226.4	266.1	374.9	272.1
Population Density	*92.6*	*24.5*	*7.2*	*3.7*	*5.5*	*16.8*

Highest ***Lowest***

The color-coding scale shows the highest, second-highest, second-lowest, and lowest location numbers in each row with a range of green, yellow, orange, and red highlights, respectively.

Key Observations

- Despite 57% of the State's population living in rural-classified areas, **Urban areas have the most care sites per 10,000 square miles** for every site type except RHCs and IHS hospital facilities.
  - Urban areas have lower care sites per 100,000 population, given that **45% of the population lives within a very small area** (6% of the total land in SD).
- **Small Rural and Tribal Areas have fewer care sites per 100,000 population** than other Regions, meaning residents have to travel longer distances for hospital care.
- Not all communities need local access to an ASC or specialized hospital. Services in an ASC may be provided in a local hospital, and specialized hospital care typically offers high-complexity care that may benefit from centralization to attract providers and patients.
- **Tribal Areas experienced lower rates of care sites per 10,000 square miles compared to Non-Tribal Areas,** illustrating the necessity of IHS facilities as a critical care site for Tribal Area populations.

Source/Notes: Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); SD Strategic Data Analysis geographic definition (excluding zip codes shared with other states. 1) General + Specialized + Critical Access Hospitals + IHS Hospital Facilities, 2) General + Critical Access Hospitals + IHS Hospital Facilities + staffed beds for community hospitals. FQHC = Federally Qualified Health Center, ASC = Ambulatory Surgery Center. 3) 2023 IHS Facilities (Locations | Indian Health Service (IHS)). 4) Tribal and Non-Tribal Areas reflects ratios for select group of counties (62) that only have one Tribal/Non-Tribal classification. Data for counties with multiple classifications like Oglala Lakota, which has Tribal and Non-Tribal zip codes aligned to it, were excluded from the Tribal vs. Non-Tribal analysis.

Care gaps exist at varying rates across the SD Regions and rural and Tribal Area populations

SD Care Sites/10,000 Square Miles (100 x 100 Sq. Mi)

Site Type	Black Hills				Glacial Lakes			Sioux Empire				South Central Plains		
	Urban	Rural	Small Rural	Very Rural	Rural	Small Rural	Very Rural	Urban	Rural	Small Rural	Very Rural	Rural	Small Rural	Very Rural
ASC	18.8	0.0	0.0	0.0	7.1	0.0	0.0	23.0	9.3	0.0	0.0	4.8	0.0	0.0
FQHCs / RHCs	**30.1**	**0.0**	**5.6**	**6.6**	**5.3**	**59.9**	**12.1**	**40.3**	**27.8**	**0.0**	**48.7**	**19.2**	**17.5**	**18.6**
Hospital Sites[2]	7.5	45.4	1.9	1.6	7.1	59.9	6.8	17.3	18.5	27.6	9.3	14.4	8.8	8.2
IHS Facility (Hospital)[3]	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
IHS Facility (Non-Hospital)[3]	7.5	0.0	5.6	2.7	1.8	0.0	0.8	5.8	0.0	0.0	2.3	0.0	0.0	2.2
Nursing Facility	33.9	45.4	5.6	1.6	15.9	59.9	12.1	63.4	37.1	27.6	25.5	28.8	8.8	11.2
Specialized Hospital	11.3	0.0	0.0	0.0	0.0	0.0	0.0	34.6	0.0	0.0	0.0	4.8	0.0	0.0
Total Hospital Beds[1]	**2,057.7**	**1,999.8**	**96.6**	**27.5**	**423.1**	**1,496.4**	**106.7**	**8,016.8**	**685.9**	**454.9**	**106.7**	**1,035.4**	**219.1**	**183.7**

SD Care Sites/100,000 Population

Site Type	Black Hills				Glacial Lakes			Sioux Empire				South Central Plains		
	Urban	Rural	Small Rural	Very Rural	Rural	Small Rural	Very Rural	Urban	Rural	Small Rural	Very Rural	Rural	Small Rural	Very Rural
ASC	4.0	0.0	0.0	0.0	4.4	0.0	0.0	1.4	2.0	0.0	0.0	1.5	0.0	0.0
FQHCs / RHCs	**6.4**	**0.0**	**10.0**	**37.5**	**3.3**	**20.7**	**33.8**	**2.5**	**6.1**	**0.0**	**48.7**	**6.2**	**25.6**	**42.0**
Hospital Sites[2]	1.6	5.8	3.3	9.4	4.4	20.7	19.0	1.1	4.1	12.9	9.3	4.6	12.8	18.5
IHS Facility (Hospital)[3]	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7
IHS Facility (Non-Hospital)[3]	1.6	0.0	10.0	15.6	1.1	0.0	2.1	0.4	0.0	0.0	2.3	0.0	0.0	5.0
Specialized Hospital	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0	1.5	0.0	0.0
Nursing Facility	7.2	5.8	10.0	9.4	9.9	20.7	33.8	3.9	8.1	12.9	25.5	9.3	12.8	25.2
Total Hospital Beds[1]	**440.3**	**256.1**	**171.1**	**156.4**	**263.9**	**517.5**	**297.9**	**492.2**	**150.4**	**212.9**	**106.7**	**333.9**	**319.4**	**415.4**

Key Observations

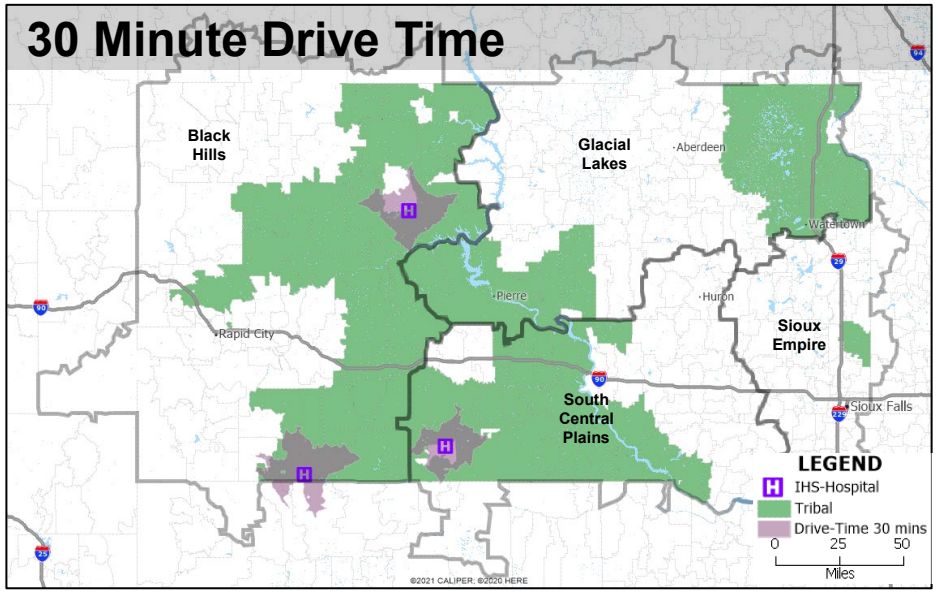
- **The Black Hills rural-classified areas have relatively large gaps in care sites relative to population and distance,** indicating fewer overall locations, longer distances to receive care, and fewer locations relative to population.
- **The South Central Plains Region has consistent gaps across many care sites,** especially in Small and Very Rural areas.

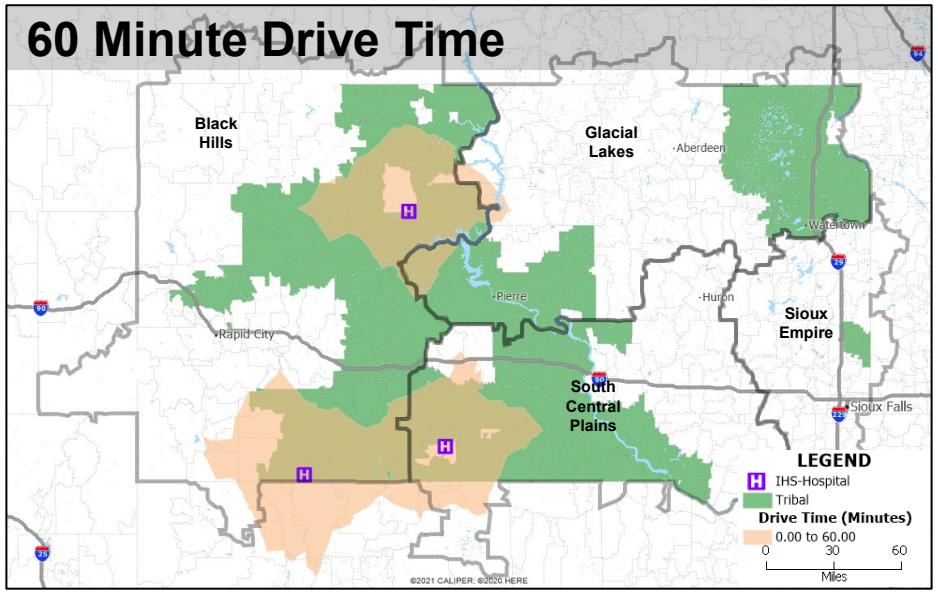
Highest ***Lowest***

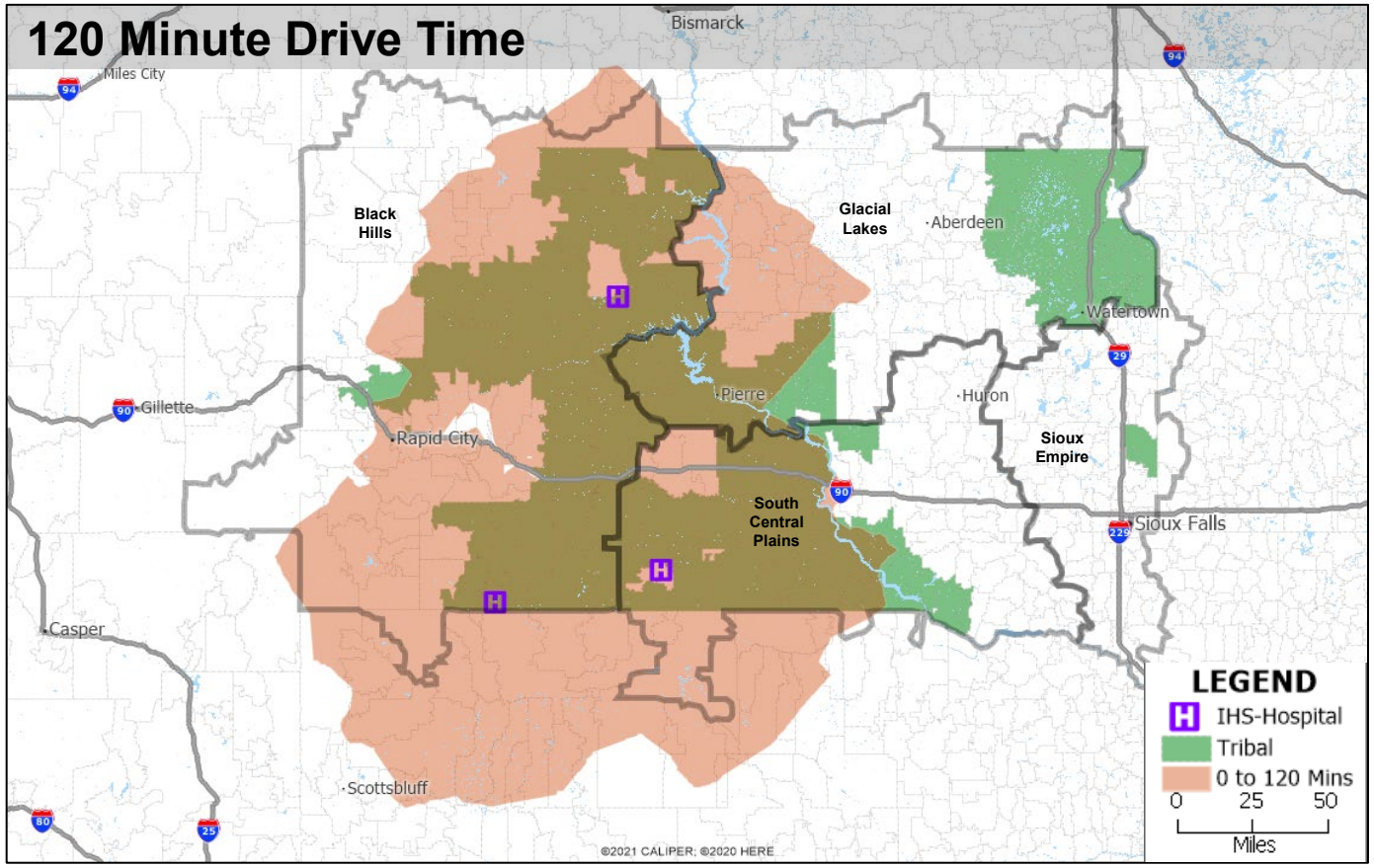
The color-coding scale shows the highest, second-highest, second-lowest, and lowest location numbers in each row with a range of green, yellow, orange, and red highlights, respectively.

Source/Notes: Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); SD Strategic Data Analysis geographic definition (excluding zip codes shared with other states. 1) General + Specialized + Critical Access Hospitals + IHS Hospital Facilities, 2) General + Critical Access Hospitals + IHS Hospital Facilities + staffed beds for community hospitals. FQHC = Federally Qualified Health Center, ASC = Ambulatory Surgery Center. 3) 2023 IHS Facilities (Locations | Indian Health Service (IHS)). 4) Tribal and Non-Tribal Areas reflect ratios for a select group of counties (62) that only have one Tribal/Non-Tribal classification. Data for counties with multiple classifications, like Oglala Lakota, which has Tribal and Non-Tribal zip codes aligned to it, were excluded from the Tribal vs. Non-Tribal analysis.

Many Tribal Area populations need to travel over 120 minutes to access an IHS Hospital Facility





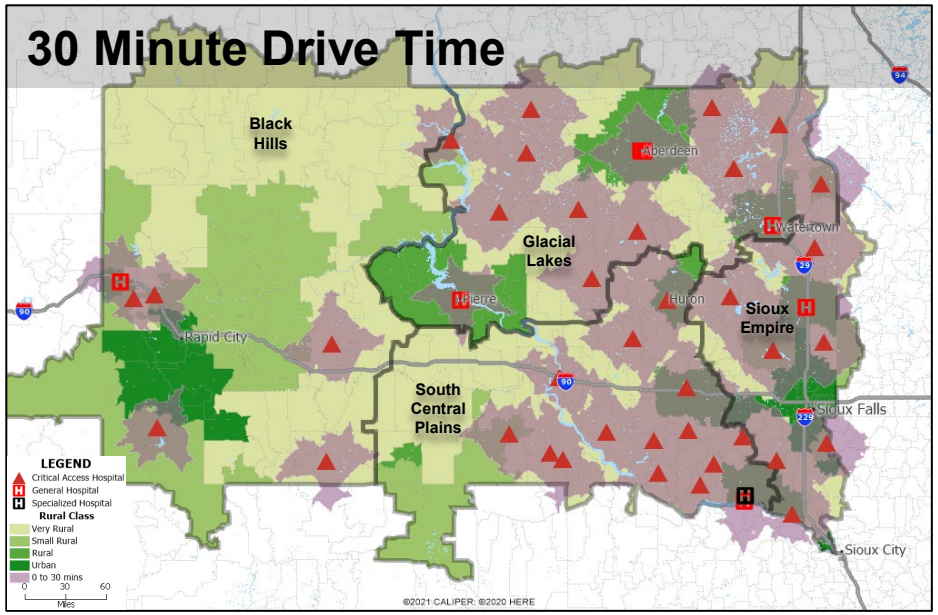


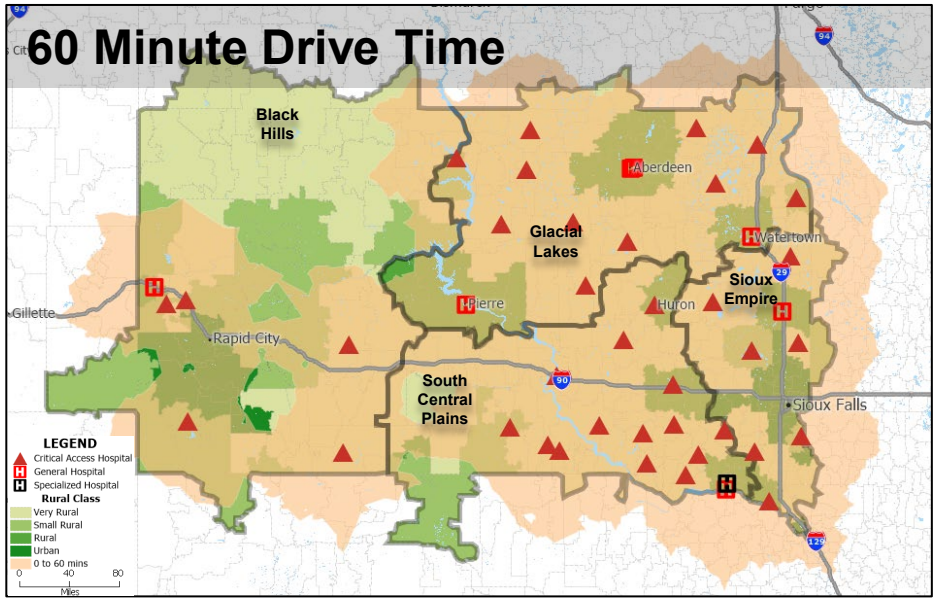
Key Observations

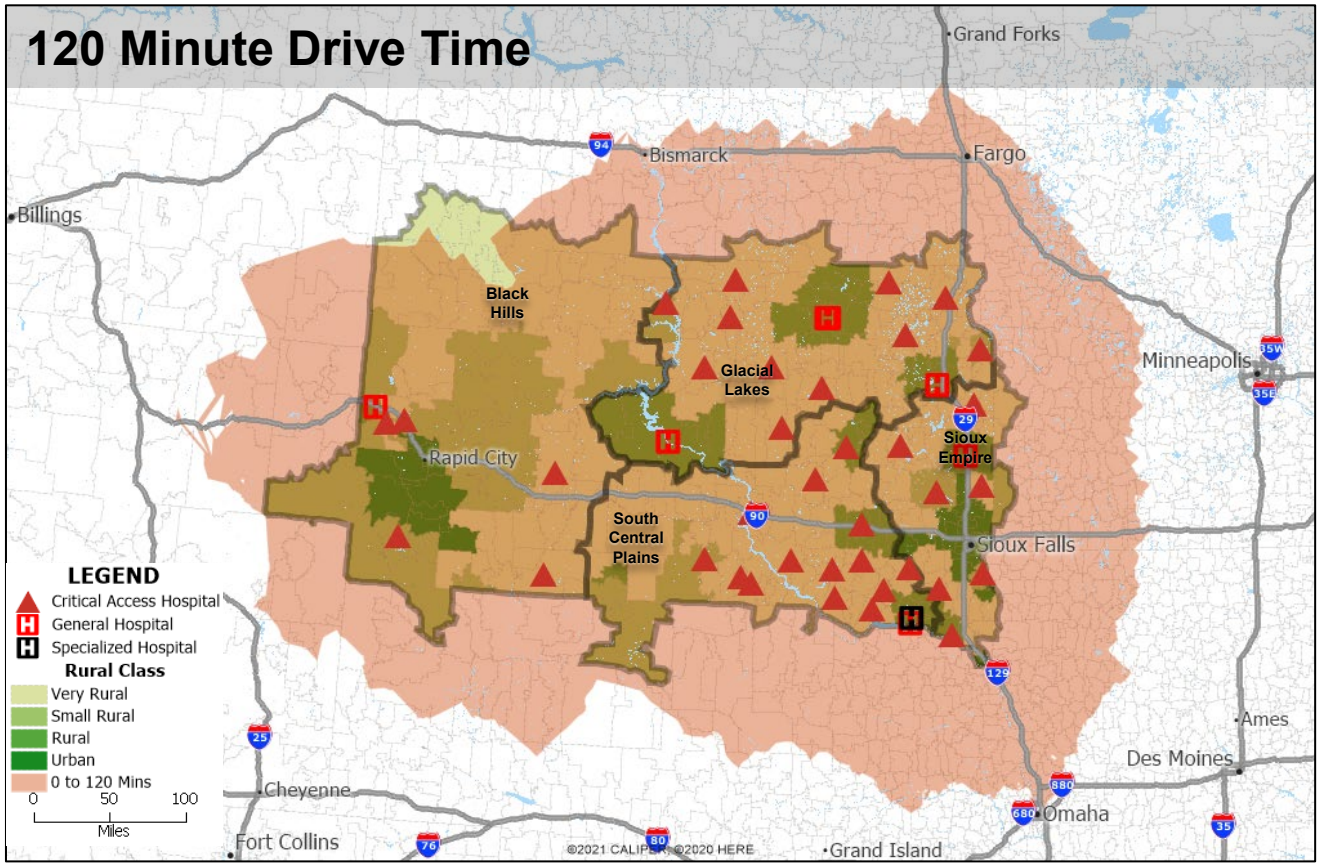
- Residents in most Tribal Areas must travel over 120 minutes to access IHS hospital facilities.
- The Tribal Areas in Glacial Lakes have no access to an IHS hospital and rely on Critical Access Hospitals for inpatient care.

Source/Notes: Maptitude mapping software; Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); SD Strategic Data Analysis geographic definition

Many rural communities have access to an acute care hospital within 60 minutes from where they live







Key Observations

- Most rural South Dakotans must travel over 60 minutes to access emergency and hospital-based care.
- Black Hills residents must travel over 120 minutes to access acute hospital care. Travel times vary by Region and rurality but are further than CMS' network adequacy standards (75 minutes for acute hospital care).

Source/Notes: Maptitude mapping software; CMS network adequacy standard; Guidehouse Rural Health Index (including information sourced from Definitive Healthcare) and "DOH Provider List: Search" web-based tool; U.S. Census data accessed via Claritas (2023 population); SD Strategic Data Analysis geographic definition

IV. Access Enablement

Access Enablement | Overview

Background	Access to providers is evaluated using multiple methodologies, including the physical availability and proximity of a specialized location (e.g., a cancer center), the presence of a provider to treat the illness (e.g., an oncologist), and the ability to get into the provider (e.g., the ability to book an appointment in a timely manner). This section explores the seven domains of the Guidehouse Access Enablement Model, and the role SD can play in enabling access to healthcare.
Importance	Guidehouse reviewed each of the seven domains of the Guidehouse Access Enablement Model: • **Appointment Scheduling:** The potential application of "direct / guided" scheduling practices can alleviate the need to use the PCP as a gatekeeper or an inappropriate stop at an emergency room. When combined with expanded telehealth access, there can be powerful tools to reduce unnecessary provider visits so that scarce resources can be optimally utilized. While we realize that SD does not directly schedule patients, we work to understand how a sample of network providers compares to scheduling leading practices. • **Patient Navigation:** Technology-enabled patient navigation can help patients know where to go next. This can significantly reduce cycle time and improve quality and access. • **Financial Clearance:** Access to real-time financial eligibility information can alleviate the need for prior authorization that often gets in the way of patient care. Investment in these areas can have a direct impact on the time it takes to fulfill a patient's need. In this study, we will seek to compare financial eligibility processes and procedures to those of other high-performing States. • **Supply vs. Demand Management:** Efficient scheduling practices can greatly enhance a provider's daily ability to see more patients. While we realize that SD does not directly schedule patients, we work to understand how a sample of network providers compares to scheduling leading practices. • **Innovative Care Models:** While SD has long recognized the important role that Advanced Practice Providers (APPs) play in providing access, there may be consideration of expanding the scope of practice for other non-MD healthcare providers who can continue to work with MDs and APPs practice at the top of their license. This study will review the scope of practice guidelines for various providers and compare those to those of other high-performing states. • **Workflow Efficiency:** Reducing the administrative burden on healthcare providers enables them to spend more time directly with patients. As an example, using provider work time to review and approve routine medication refills can be significant. Consideration of alternative, algorithmic resources could improve care and access. In this study, we will work to understand how a sample of network providers score with respect to workflow efficiency.
Methodology	In this section, we: • Summarize the six dimensions that enable and expand provider availability and access. • Outline key provider availability and access enablement challenges that emerged from stakeholder interviews. • Explore the various programs and initiatives ORH can consider to address these challenges and enable provider access.
Limitations	This conceptual analysis should be used to supplement the other analytics conducted in this engagement to further validate findings. Data specific to quantifying each of the seven domains of the Guidehouse Access Enablement Model was limited and not available. (e.g., data of the next available appointments at the State level was not available in order to quantify the ability to book an appointment with different provider types across the State).

Guidehouse's Access Enablement Model assesses six dimensions for operational improvements to expand access to the current provider workforce

Growth Enablers – Patient Entry and Navigation

Capacity Enablers – Efficiency / Supply

Initiation
(Entry Point to System)

- Patient self-selects into system
- Provider decides patient needs an appointment (to PC, SC, ancillary)
- Patient requires follow-up post discharge
- PCP & SC relationship

Appointment Scheduling

- Direct-scheduling
- Guiding scheduling
- Self-scheduling
- Coordinated access centers

Patient Navigation / Keepage

- Patient preferences
- Referral screening
- Order acceptance
- Appt. scheduling
- Referral tracking

Financial Clearance

- Authorizations
- Eligibility
- Patient responsibility

Supply vs. Demand Management

- Capacity Management – Template governance, standardization, and design
- Modified advanced access for primary and specialty care

Innovative Care Models

- APP workforce strategies
- Care team deployment
- Screening clinics and virtual triage

Workflow Efficiency

- Care coordination (e.g., in-basket mgmt.) and automation
- Reminders and triggers (i.e., preventative, gaps in care, maintenance, AWV)

Digital Front Door and Virtual Care Enablers

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Key factors impact provider availability and access in SD

Key Challenges

1.  Physician and other healthcare professional recruitment challenges exist across the country, but especially for rural-classified areas in SD.

2.  Policies, reimbursement rates, and State regulations challenge expanding digital and virtual healthcare.

3.  Cultural dynamics and the rurality of SD create access issues and impact health outcomes.

4.  Administrative burdens and a lack of resources create operational challenges for providers in rural areas.

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Health systems can implement a variety of programs and initiatives to enable provider access at the local level

Workflow Efficiency

- **Effective triage process in place** to ensure that patients receive appropriate level of care and physician clinical time is optimized.
- **Centralize functions of the office/clinic** that can be centralized to reduce the burden on individual practices.
- **Effective care coordination** between the nurses, PCPs, and specialists
- **Automate** processes to the extent possible.

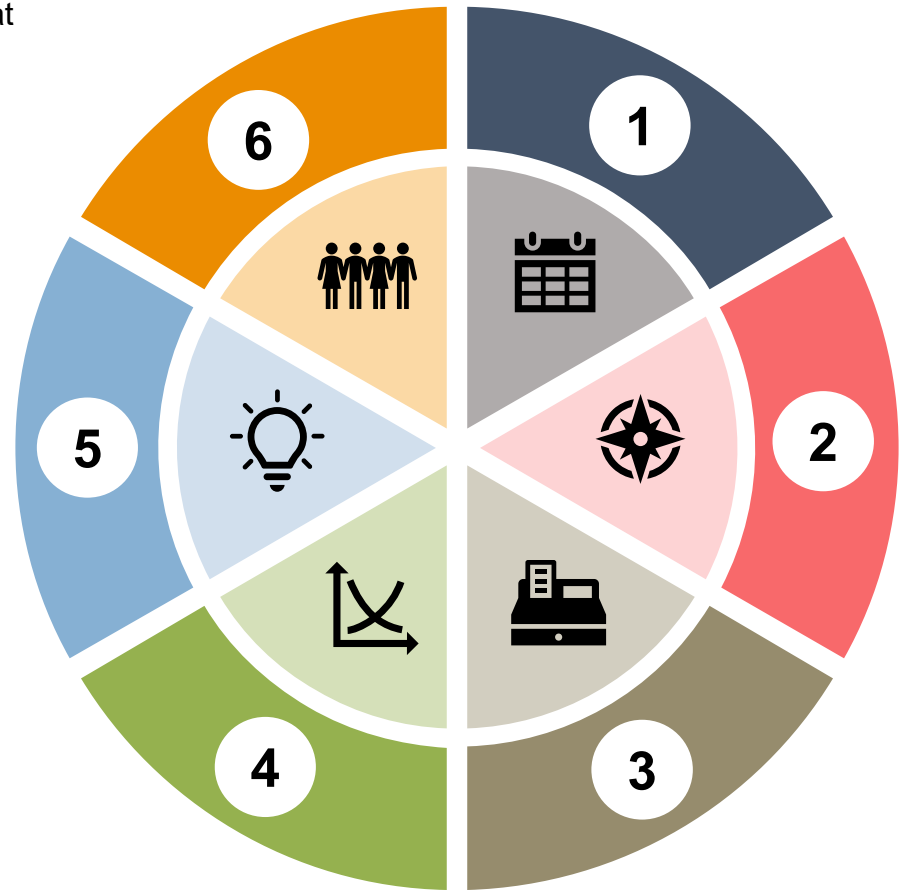
Innovative Care Models

- **Leveraging digital capabilities and technology** to expand access to care (i.e., telehealth).
- Use of **mid-level providers to serve as physician extenders** to increase access.
- Creating **walk-in clinic hours to enhance access** for more episodic cases.
- **Cross-training** of medical assistants or administrative personnel to fulfill multiple roles.

Supply vs. Demand Management

- Effectively **assessing the clinical resources available** to meet the community's needs.
- Leveraging available patient activity data to **determine the types of providers needed most and times when providers are needed most.**

Access Enablement Domains



Appointment Scheduling

- **Balancing availability vs need of providers** for urban vs rural areas.
- Creating a **seamless and easy process for patients to schedule appointments**
- **Central scheduling.**
- Scheduling assistance from **patient navigators.**

Patient Navigation

- **Effective and easy-to-understand directions** for patients to find care in a complex healthcare environment.
- Easy to access **personnel for communication with clinical providers**
- **Dedicated personnel for assistance with scheduling.**

Financial Clearance

- **Use of financial counselors** to assess patient insurance coverage.
- Obtaining **prior authorizations** from payers.
- Ensuring that **patients understand their financial responsibilities** related to the care provided.
- Provide available resources that patients can use to seek **supplemental insurance for healthcare claims.**

ORH can explore a variety of opportunities to address challenges related to enabling provider access

Primary care from **non-traditional providers** (e.g., EMS)

Enhance recruitment efforts of physicians from in-State

School-based healthcare clinics (grade school and universities)

Optimize practice of care by providers from neighboring states

HIPAA-compliant **community telemedicine sites** and funding for improve device access

Incentivize high-need specialty care providers to deliver care in **rural areas**

Connect patients to financial resources and services

State **policy to prevent "closed panels"**, especially for the underserved

Optimize use of underutilized physician capacity

Establish a statewide **provider-to-provider e-consult program**

Enhance State-funded **mobile healthcare clinics**

Enhance services at **local health offices** and **common locations** (e.g., Farm office)

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V. Utilization of Services

Utilization Analysis | Overview

Background	In this section, we: 1. Assess utilization of services patterns across the Medicare FFS population, including what services are utilized and where patients are going. 2. Understand how utilization patterns vary by Region, rurality, and Tribal Area. 3. Compare SD utilization rates with ID and ND.
Importance	Analysis of healthcare utilization patterns informs what types of care rural South Dakotans seek and where.
Methodology	**Data sources:** MedPAR 2022 FFS Claims **Members:** Defined as beneficiaries enrolled in Medicare and not a Health Maintenance Organization (HMO) member in ID, ND, and SD. Utilization for members who live in a Region (residence) reflects the utilization of all facilities, including facilities members use that are located outside the member's home Region; geographic filters are only applied to the beneficiary's/member's residence **Notes:** When a telehealth visit has multiple CPT/Diagnosis codes in the claim, Guidehouse used the primary CPT code (the CPT code with the highest charge $ amount) and corresponding diagnosis for each visit. Guidehouse used the following methodology to determine rurality and Tribal Area classifications for counties across SD. **Rural** • Using the RUCA codes and categories outlined in the geographic definitions, counties with a singular rural classification were categorized accordingly. • For counties with ***multiple RUCA classifications across multiple zip codes***, Guidehouse determined rurality based on the zip with most of the county's population. **Tribal Areas** • Guidehouse determined the Tribal Area classifications at the zip code level using data from the SD Association of County Officials, United States Attorney's Office, District of SD, and the SD Department of Tribal Relations. • If any zip code within a specific county comprises one or more Federally-Classified Reservations, the entire respective county is determined as "Tribal." • All urban counties were removed from the Tribal Area-related analyses to focus findings on rural areas only.
Limitations	The MedPAR FFS claims data did not include claims data for IHS facilities, so IHS facilities were omitted from this analysis. The facilities highlighted in the analysis should allow for a robust view of healthcare utilization across the various Regions and areas. Still, Guidehouse recognizes the criticality of IHS facilities for Tribal Areas and this limitation. While 100% of facility claims data was available for facility utilization analysis, only professional claims data was limited for SD patients; as such, utilization rate calculations reflect rates for a 5% sample size of professional claims data.

Utilization Analysis | Overview (continued)

The table below summarizes the MedPAR provider numbers and physician claims codes used for each place of service within the utilization analysis.

Place of Service Definitions and Sources

Place of Service	Data Source	Type
Hospitals	MedPAR IP claims, excluding IRF and IP Psychiatric facilities defined by provider numbers below	Facility
Specialized Hospital	MedPAR IP Psychiatric facility claims defined by provider number with the last 4 digits between 4000 - 4499	Facility
Specialized Hospital	MedPAR IRF claims defined by provider number with the last 4 digits between 3025 - 3099	Facility
Ambulatory Surgery Center (ASC)	MedPAR Physician claims with place of service code 24	Professional
Nursing Facility	MedPAR SNF claims	Facility
Rural Health Clinic (RHC)	MedPAR Physician claims (excluding with place of service code 72)	Professional
FQHC	MedPAR Physician claims with place of service code 50	Professional
Telehealth	MedPAR Physician claims with place of service codes 02 or 10	Professional
Urgent Care/ Retail Clinic	MedPAR Physician claims with place of service codes 20 or 17	Professional
Emergency Room	MedPAR ED OP claims with revenue codes 0450 - 0459, 0981 and HCPCs codes 99281 - 99285	Facility
Clinics	MedPAR Physician claims with place of service codes 49 or 11	Professional
Hospital Outpatient Department (HOPD)	MedPAR OP claims not defined as ED	Facility

Source: MedPAR 2022 FFS Claims

Utilization Analysis | Overview (continued)

The tables below summarize SD's rural and Tribal classifications by County. County-level rural and Tribal Area classifications were used to understand the utilization trends of rural and Tribal communities compared to their urban and Non-Tribal counterparts.

SD Classifications by County

County	Tribal Area Status	Rural Status
Aurora	N	Very Rural
Beadle	N	Rural
Bennett	Y	Very Rural
Bon Homme	N	Very Rural
Brookings	N	Rural
Brown	N	Rural
Brule	N	Very Rural
Buffalo	Y	Very Rural
Butte	N	Small Rural
Campbell	N	Very Rural
Charles Mix	Y	Very Rural
Clark	N	Very Rural
Clay	N	Rural
Codington	Y	Rural
Corson	Y	Very Rural
Custer	No Tribal Status	Urban
Davison	N	Rural
Day	Y	Very Rural
Deuel	N	Very Rural
Dewey	Y	Small Rural
Douglas	N	Very Rural
Edmunds	N	Rural

County	Tribal Area Status	Rural Status
Fall River	N	Small Rural
Faulk	N	Very Rural
Grant	Y	Small Rural
Gregory	Y	Very Rural
Haakon	Y	Very Rural
Hamlin	N	Very Rural
Hand	N	Very Rural
Hanson	N	Rural
Harding	N	Very Rural
Hughes	Y	Rural
Hutchinson	N	Very Rural
Hyde	Y	Very Rural
Jackson	Y	Very Rural
Jerauld	N	Very Rural
Jones	N	Very Rural
Kingsbury	N	Very Rural
Lake	N	Small Rural
Lawrence	N	Rural
Lincoln	No Tribal Status	Urban
Lyman	Y	Very Rural
Marshall	Y	Very Rural
McCook	N	Very Rural

County	Tribal Area Status	Rural Status
McPherson	N	Very Rural
Meade	Y	Small Rural
Mellette	Y	Very Rural
Miner	N	Very Rural
Minnehaha	No Tribal Status	Urban
Moody	Y	Very Rural
Oglala Lakota	Y	Small Rural
Pennington	No Tribal Status	Urban
Perkins	N	Very Rural
Potter	N	Very Rural
Roberts	Y	Very Rural
Sanborn	N	Very Rural
Spink	N	Very Rural
Stanley	Y	Rural
Sully	N	Very Rural
Todd	Y	Very Rural
Tripp	Y	Small Rural
Turner	N	Very Rural
Union	No Tribal Status	Urban
Walworth	N	Small Rural
Yankton	N	Rural
Ziebach	Y	Very Rural

Source: U.S. Census data accessed via Claritas 2023; 2017 SD County Vulnerability Assessment; SD Association of County Officials, United States Attorney's Office, District of SD, and the SD Department of Tribal Relations; USDA Economic Research Service Rural-Urban Commuting Area Codes

Utilization Analysis | Overview (continued)

The tables below summarize ID's rural and Tribal classifications by County. County-level rural and Tribal classifications were used to understand the utilization trends of rural and Tribal communities compared to their urban and Non-Tribal counterparts.

ID Classifications by County

County	Tribal Area Status	Rural Status
Ada County	No Tribal Status	Urban
Adams County	N	Very Rural
Bannock County	No Tribal Status	Urban
Bear Lake County	N	Very Rural
Benewah County	Y	Small Rural
Bingham County	Y	Rural
Blaine County	N	Rural
Boise County	No Tribal Status	Urban
Bonner County	N	Rural
Bonneville County	No Tribal Status	Urban
Boundary County	Y	Very Rural
Butte County	N	Very Rural
Camas County	N	Very Rural
Canyon County	No Tribal Status	Urban
Caribou County	N	Small Rural
Cassia County	N	Rural
Clark County	N	Very Rural
Clearwater County	Y	Small Rural
Custer County	N	Very Rural
Elmore County	N	Rural
Franklin County	N	Small Rural
Fremont County	N	Small Rural
Gem County	No Tribal Status	Urban

County	Tribal Area Status	Rural Status
Gooding County	N	Small Rural
Idaho County	Y	Very Rural
Jefferson County	N	Rural
Jerome County	N	Rural
Kootenai County	No Tribal Status	Urban
Latah County	Y	Rural
Lemhi County	N	Small Rural
Lewis County	Y	Very Rural
Lincoln County	N	Very Rural
Madison County	No Tribal Status	Urban
Minidoka County	N	Rural
Nez Perce County	No Tribal Status	Urban
Oneida County	N	Very Rural
Owyhee County	No Tribal Status	Urban
Payette County	N	Rural
Power County	Y	Small Rural
Shoshone County	N	Small Rural
Teton County	N	Very Rural
Twin Falls County	N	Rural
Valley County	N	Very Rural
Washington County	N	Small Rural

Source: U.S. Census data accessed via Claritas 2023; USDA Economic Research Service Rural-Urban Commuting Area Codes; Northwest Center for Public Health Practice; National Atlas of the United States of America – ID.

Utilization Analysis | Overview (continued)

The tables below summarize ND's rural and Tribal classifications by County. County-level rural and Tribal classifications were used to understand the utilization trends of rural and Tribal communities compared to their urban and Non-Tribal counterparts.

ND Classifications by County

County	Tribal Area Status	Rural Status
Adams County	N	Very Rural
Barnes County	N	Small Rural
Benson County	Y	Very Rural
Billings County	N	Very Rural
Bottineau County	N	Very Rural
Bowman County	N	Very Rural
Burke County	N	Very Rural
Burleigh County	No Tribal Status	Urban
Cass County	No Tribal Status	Urban
Cavalier County	N	Very Rural
Dickey County	N	Very Rural
Divide County	N	Very Rural
Dunn County	Y	Very Rural
Eddy County	Y	Very Rural
Emmons County	N	Very Rural
Foster County	N	Very Rural
Golden Valley County	N	Very Rural
Grand Forks County	No Tribal Status	Urban
Grant County	N	Very Rural

County	Tribal Area Status	Rural Status
Griggs County	N	Very Rural
Hettinger County	N	Very Rural
Kidder County	N	Very Rural
LaMoure County	N	Very Rural
Logan County	N	Very Rural
McHenry County	N	Rural
McIntosh County	N	Very Rural
McKenzie County	Y	Very Rural
McLean County	Y	Very Rural
Mercer County	Y	Very Rural
Morton County	No Tribal Status	Urban
Mountrail County	Y	Very Rural
Nelson County	Y	Very Rural
Oliver County	N	Very Rural
Pembina County	N	Very Rural
Pierce County	N	Small Rural
Ramsey County	Y	Small Rural
Ransom County	N	Very Rural
Renville County	N	Very Rural

County	Tribal Area Status	Rural Status
Richland County	N	Rural
Rolette County	Y	Very Rural
Sargent County	Y	Very Rural
Sheridan County	N	Very Rural
Sioux County	Y	Very Rural
Slope County	N	Very Rural
Stark County	N	Rural
Steele County	N	Very Rural
Stutsman County	N	Rural
Towner County	N	Very Rural
Trail County	N	Very Rural
Walsh County	N	Small Rural
Ward County	Y	Rural
Wells County	N	Very Rural
Williams County	Y	Rural

Source: U.S. Census data accessed via Claritas (2023); USDA Economic Research Service Rural-Urban Commuting Area Codes; North Dakota Indian Affairs Commission; Mandan, Hidatsa and Arikara (MHA) Nation.

Utilization Analysis | Key Takeaways

Key Questions

Takeaways

Facility and Professional Utilization Trends.

1. Where and what types of care do South Dakotans seek or use the most?

1. SD's **utilization rates vary across facilities and Regions** compared to ND and ID.
2. South Dakotans use the **full spectrum of healthcare facilities but primarily utilize clinics** for over 90% of care.

Utilization Variation across Regions.

1. Which Regions have the lowest or highest utilization rates? Why?
2. How do service utilization rates in SD compare with other states?
3. What do regional variations suggest about service needs in the State's areas/ Regions?
4. How does distance to healthcare facilities affect healthcare utilization trends?

1. **SD rural and Tribal Areas utilize healthcare facilities more** than rural and Tribal Areas in comparative states. **Black Hills had the lowest hospital utilization** (185.7 visits per 1,000 Medicare FFS beneficiaries) and the lowest nursing facility utilization (68.9 visits per 1,000 beneficiaries) compared to other Regions.
2. The **Glacial Lakes Region has the highest emergency department utilization rate** (387.5 visits per 1,000 Medicare FFS beneficiaries) and **nursing facility utilization rate**, 114.2 per 1,000 Medicare FFS beneficiaries, higher than all other Regions and the State average.
3. Rural and Tribal Areas showed **lower utilization rates of ASC and urgent care / retail care** compared to urban areas, which may illustrate a lack of access to these facilities.
4. **Tribal Area populations utilized telehealth at a lower rate** (122.2 per 1,000 beneficiaries) than Non-Tribal populations (174 per 1,000 beneficiaries); Rural communities utilized telehealth the most compared to other rural areas and SD. Further analysis is suggested to confirm why utilization rates are lower in Tribal areas.
5. **Urban areas have higher utilization of outpatient settings** (e.g., ASCs, urgent care centers), which may be related to providers being more readily available in urban centers.
6. **Small Rural, Very Rural, and Tribal Areas have the greatest needs and deficits** in access to outpatient health care services, as evidenced by variation in utilization rates compared to urban Regions and settings.

South Dakotans use the full spectrum of healthcare facilities; Rural areas use hospitals vs. clinics for outpatient services more than urban areas

- SD's utilization rates vary across facilities and Regions compared to ND and ID.
- Black Hills had the lowest hospital utilization (185.7 visits per 1,000 Medicare FFS beneficiaries) and the lowest nursing facility utilization (68.9 visits per 1,000 beneficiaries) compared to other Regions.
- The Glacial Lakes Region has the highest emergency department utilization rate (387.5 visits per 1,000 Medicare FFS beneficiaries) and nursing facility utilization rate (114.2 per 1,000 Medicare FFS beneficiaries), higher than all other Regions and the State average.
- Glacial Lakes, which is entirely classified as rural, utilizes HOPDs more than clinics, while Sioux Empire, which is primarily urban, shows the opposite utilization. Given the limited number of access points/clinics available in their communities, rural residents are limited to hospitals for outpatient care over clinics.

	Facility Utilization per 1,000 Medicare FFS Beneficiaries						
Facility Type	**Black Hills**	**Glacial Lakes**	**Sioux Empire**	**South Central Plains**	**SD**	**ID**	**ND**
Emergency Room	292.4	387.5	302.5	343.9	322.3	368.4	379.8
Hospital Outpatient Department (HOPD)	6,197.9	8,786.6	7,719.5	6,852.9	7,328.2	5,922.7	7,613.1
Clinics (including FQHCs and RHCs)	7,986.7	6,354.9	6,741.7	7,729.6	7,193.3	7,707.3	7,137.5
Hospitals	185.7	217.4	197.4	205.3	199.0	148.4	204.3
Nursing Facility	68.9	114.2	75.9	97.5	84.6	62.3	117.2
Specialized Hospital (Psychiatric)	0.4	0.8	0.3	1.9	0.7	2.5	1.7
Specialized Hospital (IRF)	1.5	2.0	7.2	2.0	3.7	3.6	6.8
Total	**6,746.8**	**9,508.6**	**8,302.8**	**7,503.6**	**7,938.5**	**6,507.9**	**8,322.9**

Source/Notes: MedPAR 2022 FFS Facility Claims; Facility metrics are for all Medicare FFS patients. Utilization excluded "Blank" unmapped SD County 650 filtered out (154 members) as it does not appear in the CMS SSA crosswalk. Rurality and Tribal Area classifications are at the county level. Total utilization by Region and area is rounded and may not exactly total by facility type. Members/Beneficiaries are not limited to facilities within the member's residence and geographic filters are only applied to the beneficiary's/member's residence. Utilization rates include Medicare FFS beneficiaries who are not members of an HMO in ID, ND, and SD.

Rural and Tribal Areas utilize healthcare facilities more than rural and Tribal Areas in comparative states

- **Very Rural and Small Rural areas have higher utilization rates of healthcare facilities overall than urban** areas in all three states. Rural SD's use of hospital-based services is generally lower than that of ND or ID.
- **Tribal Areas in SD have relatively lower overall utilization** (8,162.7 per 1,000 beneficiaries) than Non-Tribal Areas in SD but higher overall utilization than SD, ID, and ND.
  - Tribal areas have the highest hospital and emergency room utilization compared to Non-Tribal and the State; Tribal areas have the lowest access to clinics, so residents have to utilize other facilities for needed care.

Facility Utilization per 1,000 Medicare FFS Beneficiaries													
Facility Type	**Urban**	**Very Rural**	**Small Rural**	**Rural**	**SD**	**ID Urban**	**ID Very Rural**	**ID Small Rural**	**ID Rural**	**ND Urban**	**ND Very Rural**	**ND Small Rural**	**ND Rural**
Emergency Room	279.5	352.9	332.8	362.8	322.3	347.6	397.6	428.3	382.7	336.6	391.9	446.8	427.9
HOPD	6,745.5	8,361.6	7,858.8	7,246.3	7,328.2	5,456.2	6,682.0	6,413.2	6,574.4	8,089.4	8,014.0	6,821.1	6,380.4
Hospitals	195.7	211.6	211.4	189.5	199.0	149.0	137.7	157.7	147.0	208.9	208.0	203.7	190.3
Nursing Facility	71.3	96.1	82.8	97.6	84.6	64.2	52.0	69.1	58.7	114.0	109.6	172.8	115.1
Specialized Hospital (Psychiatric)	0.3	0.5	0.5	1.5	0.7	3.4	1.0	1.0	1.5	2.7	0.4	0.5	1.9
Specialized Hospital (IRF)	6.2	2.1	1.6	1.8	3.7	4.5	2.5	2.1	2.2	11.5	3.4	6.8	2.1
Total	**7,298.5**	**9,024.9**	**8,487.8**	**7,899.5**	**7,938.5**	**6,025.0**	**7,272.7**	**7,071.3**	**7,166.6**	**8,763.2**	**8,727.4**	**7,651.7**	**7,117.8**

Facility Utilization per 1,000 Medicare FFS Beneficiaries							
Facility Type	**Tribal**	**Non-Tribal**	**SD**	**ID Tribal**	**ID Non-Tribal**	**ND Tribal**	**ND Non-Tribal**
Emergency Room	357.1	351.7	322.3	415.5	388.9	418.4	407.3
HOPD	7,488.4	7,887.0	7,328.2	6,623.2	6,532.9	7,360.7	7,174.5
Hospitals	226.1	189.0	199.0	140.9	150.3	214.1	190.5
Nursing Facility	88.1	97.3	84.6	60.9	59.3	111.7	125.8
Specialized Hospital (Psychiatric)	0.9	1.0	0.7	1.4	1.2	0.6	1.3
Specialized Hospital (IRF)	2.1	1.8	3.7	2.4	2.2	2.8	3.8
Total	**8,162.7**	**8,527.9**	**7,938.5**	**7,244.4**	**7,134.8**	**8.108.2**	**7,903.1**

Source/Notes: MedPAR 2022 FFS Facility Claims; Facility metrics are for all Medicare FFS patients. Utilization excluded "Blank" unmapped SD County 650 filtered out (154 members) as it does not appear in the CMS SSA crosswalk. Rurality and Tribal Area classifications are at the county level. Total utilization by Region and area is rounded and may not exactly total by facility type. Members/Beneficiaries are not limited to facilities within the member's residence and geographic filters are only applied to the beneficiary's/member's residence. Utilization rates include Medicare FFS beneficiaries who are not members of an HMO in ID, ND, and SD.

South Dakotans primarily utilize clinics for over 90% of their outpatient care

- South Central Plains and Glacial Lakes, the **two regions classified as 100% rural, have the highest telehealth utilization in the State**, sometimes doubling the utilization of the other Regions. This likely reflects investments made to enhance rural health access via telehealth across the State.
- **South Central Plains has higher clinic utilization** (7,729.6 per 1,000 Medicare FFS beneficiaries), which is 536 visits per 1,000 beneficiaries higher than the State average.
- **Compared to ID, SD has a lower overall utilization rate** (7,718.6 per 1,000 beneficiaries) but has the highest clinic utilization rate (121.4 per 1,000 beneficiaries) compared to ID and ND.

	Professional Utilization per 1,000 Medicare FFS Beneficiaries						
Facility Type	**Black Hills**	**Glacial Lakes**	**Sioux Empire**	**South Central Plains**	**SD**	**ID**	**ND**
ASC	459.4	299.5	275.8	222.4	325.8	386.8	326.6
Clinics (including FQHCs and RHCs)	7,986.7	6,354.9	6,741.7	7,729.6	7,193.3	7,707.3	7,137.5
Urgent Care / Retail Clinic	117.3	48.1	85.2	28.5	121.4	103.5	32.4
Telehealth	77.7	197.1	90.4	175.5	78.2	157.3	140.3
Total	**8,641.0**	**6,899.7**	**7,193.1**	**8,155.9**	**7,718.6**	**8,354.9**	**7,636.9**

Source/Notes: MedPAR 2022 FFS Facility Claims; Facility metrics are for all Medicare FFS patients. Utilization excluded "Blank" unmapped SD County 650 filtered out (154 members) as it does not appear in the CMS SSA crosswalk. Rurality and Tribal Area classifications are at the county level. Total utilization by Region and area is rounded and may not exactly total by facility type. Members/Beneficiaries are not limited to facilities within the member's residence and geographic filters are only applied to the beneficiary's/member's residence. Utilization rates include Medicare FFS beneficiaries who are not members of an HMO in ID, ND, and SD.

Rural and Tribal Area populations utilize RHCs and telehealth at higher rates than urban communities

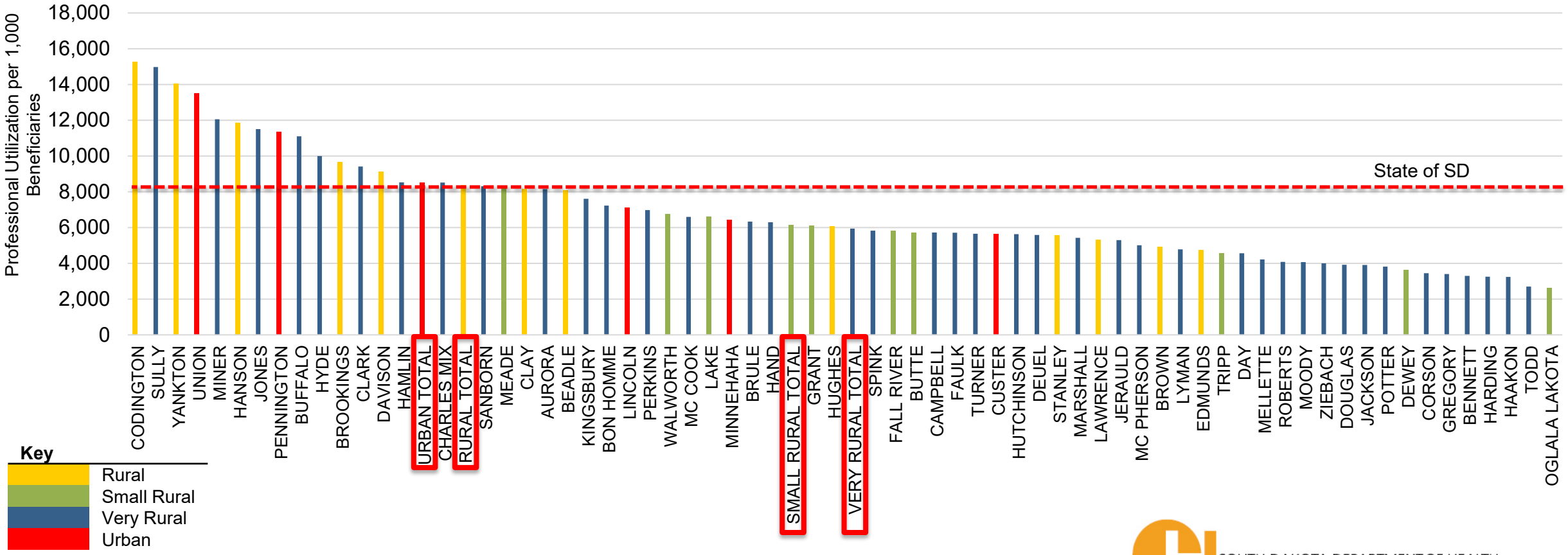
- **Urban areas have higher utilization of outpatient settings** (e.g., ASCs, urgent care centers), which may be related to providers being more readily available in urban centers.
- **Tribal Area populations utilized telehealth at a lower rate** (122.2 per 1,000 beneficiaries) than Non-Tribal populations (174 per 1,000 beneficiaries);
- While rural communities utilized telehealth the most, **telehealth utilization was lower in Very Rural and Small Rural areas** than in more densely populated Rural areas. This may indicate an opportunity for further telehealth expansion in less densely populated areas.
- Rural and Tribal areas have more **limited access to outpatient services**, leading to higher utilization of available care settings and forgoing some emergent care.

	Professional Utilization per 1,000 Medicare FFS Beneficiaries								
Facility Type	**Urban**	**Very Rural**	**Small Rural**	**Rural**	**Tribal**	**Non-Tribal**	**SD**	**ID**	**ND**
ASC	424.5	303.4	249.9	216.3	254.5	252.0	326.3	386.8	326.6
Clinics (including FQHCs / RHCs)	7,900.3	5,495.1	5,790.1	7,900.6	6,488.1	6,762.0	7,190.5	7,707.3	7,137.5
Urgent Care / Retail Clinic	128.6	18.8	40.0	57.6	57.2	32.5	78.1	103.5	32.4
Telehealth	73.8	126.2	77.3	211.3	122.2	174.0	121.2	157.3	140.3
Total	**8,527.2**	**5,943.3**	**6,157.4**	**8,385.9**	**6,922.1**	**7,220.5**	**7,716.0**	**8,354.9**	**7,636.9**

Source/Notes: MedPAR 2022 FFS Facility Claims; Facility metrics are for all Medicare FFS patients. Utilization excluded "Blank" unmapped SD County 650 filtered out (154 members) as it does not appear in the CMS SSA crosswalk. Rurality and Tribal Area classifications are at the county level. Total utilization by Region and area is rounded and may not exactly total by facility type. Members/Beneficiaries are not limited to facilities within the member's residence, and geographic filters are only applied to the beneficiary's/member's residence. Utilization rates include Medicare FFS beneficiaries who are not members of an HMO in ID, ND, and SD.

Urban areas have higher utilization of outpatient settings, which may be related to the availability of outpatient options rather than preference for care sites

Overall Professional Utilization per 1,000 Medicare FFS Beneficiaries: SD Counties by Rurality



Source/Notes: MedPAR 2022 FFS Facility Claims; Facility metrics are for all Medicare FFS patients. Utilization excluded "Blank" unmapped SD County 650 filtered out (154 members) as it does not appear in the CMS SSA crosswalk. Rurality and Tribal Area classifications are at the county level. Total utilization by Region and area is rounded and may not exactly total by facility type. Members/Beneficiaries are not limited to facilities within the member's residence, and geographic filters are only applied to the beneficiary's/member's residence. Utilization rates include FFS beneficiaries who are not members of an HMO in ID, ND, and SD.

SOUTH DAKOTA DEPARTMENT OF HEALTH

VI. Outmigration: Proximity of Providers and Services

Outmigration Analysis: Proximity of Providers and Services | Overview

Background	In this section, we evaluate the proximity (distance) of South Dakotans' homes to routine (primary care and behavioral health) and emergency (emergency department) services by Region. Due to data limitations, a traditional outmigration analysis could not be completed.
Importance	This analysis evaluates the potential for residents to leave their local area and travel further to seek care based on proximity to three key healthcare services. The analysis also evaluates rural and Tribal Area residents' likelihood to seek care outside their local community. It also helps identify opportunities to educate the community about local health services and pinpoint gaps that may require additional local investment. Due to data limitations noted below, this analysis does not demonstrate if patients outmigrated for care, only if they have an access location available within 15 minutes based on the categories of access included in the dataset provided. Guidehouse recommends that the State refresh this analysis and its datasets to account for varying travel patterns (e.g., 1 hour, 2 hours) and preferences of rural and Tribal residents.
Methodology	Guidehouse used the 2017 SD County Vulnerability Assessment (including 2017 population estimates) to evaluate potential outmigration patterns and determine where patients are likely to seek care relative to their residence. The State's epidemiology department provided the data, considered the most relevant data set, to give insight into potential outmigration for care across the State. We applied a specific methodology to identify rural areas and Tribal Area status for counties in SD. **Rural** • Guidehouse used the RUCA codes and categories outlined in the geographic definitions and categorized counties with a singular rural classification accordingly. • For counties with **multiple RUCA classifications across multiple zip codes**, Guidehouse determined rurality based on rural classification for the zip code with most of the county's population. **Tribal Areas** • Guidehouse used data from the SD Association of County Officials, United States Attorney's Office, District of SD, and the SD Department of Tribal Relations to determine Tribal Area classifications at the zip code level. • If any zip code within a specific county comprises one or more Federally-Classified Reservations, the entire respective county was determined as "Tribal". • All urban counties were removed from the Tribal Area-related analyses to focus findings on rural areas only.
Limitations	The SDDOH had limited data available to quantify and understand the outmigration of health services. The State provided the number of discharges by patient origin, but this data lacked the site of service. The SD Association of Healthcare Organizations did not approve accessing the data necessary for this analysis. As advised by the Department's Epidemiology Team, Guidehouse used the 2017 SD County Vulnerability Assessment and its access to U.S. Census population data to derive insights into outmigration trends. The 2017 SD County Vulnerability Assessment included drivetime analyses for key health services, including Primary Care, Behavioral Health, and Emergency Care across the State. Population data (2017) from the 2017 SD County Vulnerability Assessment was used in this analysis, which is a limitation as the total State population is not reflected in the findings.

Proximity of Providers and Services Analysis | Key Takeaways

Key Questions	Takeaways
Types of Services Utilized. 1. What services do SD residents travel out of their home communities to receive elsewhere?	*Guidehouse was unable to address outmigration rates due to limitations in the data provided by SDDOH.* 1. **Distance to care is a key factor in residents' considerations when seeking healthcare services**, especially inpatient, outpatient, and specialty services. 2. Results from the 2017 SD County Vulnerability Assessment indicate that **81.5% of South Dakotans live within 15 minutes of a Primary Care Provider**. Still, the percentage of the population with this level of local access is lower in Regions with higher degrees of rurality (Glacial Lakes and South Central Empire). 3. **Half of South Dakotans live within 15 minutes of a Behavioral Health Provider, and two-thirds live within 15 minutes of an Emergency Department**, which indicates more limited access to these provider types than primary care.
Drive-Time Trends. 1. How does drive-time to healthcare services vary by Region, rurality, and Tribal classification?	*Guidehouse was unable to address outmigration rates due to limitations in the data provided by SDDOH.* 1. **Less than 1% of residents living in Small Rural areas live within 15 minutes of a Behavioral Health Provider**, suggesting an unmet need in rural communities. 2. **Small Rural and Very Rural areas have the lowest percentage of residents who live within 15 minutes of an Emergency Department or Behavioral Health Provider**, likely due to the population distribution in these areas. 3. While residents in rural areas reported traveling further than 15 minutes for other needs, an increased distance to travel for routine services (Primary Care and Behavioral Health) may reduce the use of services, and an **increased distance to travel for Emergency Services may increase the risk of death**. 4. However, a 15-minute drive-time threshold is likely too close to measure access in rural areas, as residents in rural areas travel further for other routine activities. SDDOH should consider expanding the drive-time analysis to include 15-, 30-, 60-, and 120-minute or another sliding scale to show the distance to services.

Source/Notes: Nicholl J, West J, Goodacre S, Turner J. The relationship between distance to hospital and patient mortality in emergencies: an observational study. Emerg Med J. 2007 Sep;24(9):665-8. doi: 10.1136/emj.2007.047654. PMID: 17711952; PMCID: PMC2464671. Data to assess outmigration patterns was unavailable; therefore, data on drive-time analysis was assessed for insights into the potential for residents to outmigrate for care.

Proximity of Providers and Services | Classifications

The tables below summarize SD's rural and Tribal Area classifications by County. County-level rural and Tribal Area classifications were used to understand the outmigration trends of rural and Tribal communities compared to its urban and Non-Tribal counterparts.

County	Tribal Area Status	Rural Status
Aurora	N	Very Rural
Beadle	N	Rural
Bennett	Y	Very Rural
Bon Homme	N	Very Rural
Brookings	N	Rural
Brown	N	Rural
Brule	N	Very Rural
Buffalo	Y	Very Rural
Butte	N	Small Rural
Campbell	N	Very Rural
Charles Mix	Y	Very Rural
Clark	N	Very Rural
Clay	N	Rural
Codington	Y	Rural
Corson	Y	Very Rural
Custer	No Tribal Status	Urban
Davison	N	Rural
Day	Y	Very Rural
Deuel	N	Very Rural
Dewey	Y	Small Rural
Douglas	N	Very Rural
Edmunds	N	Rural

County	Tribal Area Status	Rural Status
Fall River	N	Small Rural
Faulk	N	Very Rural
Grant	Y	Small Rural
Gregory	Y	Very Rural
Haakon	Y	Very Rural
Hamlin	N	Very Rural
Hand	N	Very Rural
Hanson	N	Rural
Harding	N	Very Rural
Hughes	Y	Rural
Hutchinson	N	Very Rural
Hyde	Y	Very Rural
Jackson	Y	Very Rural
Jerauld	N	Very Rural
Jones	N	Very Rural
Kingsbury	N	Very Rural
Lake	N	Small Rural
Lawrence	N	Rural
Lincoln	No Tribal Status	Urban
Lyman	Y	Very Rural
Marshall	Y	Very Rural
McCook	N	Very Rural

County	Tribal Area Status	Rural Status
McPherson	N	Very Rural
Meade	Y	Small Rural
Mellette	Y	Very Rural
Miner	N	Very Rural
Minnehaha	No Tribal Status	Urban
Moody	Y	Very Rural
Oglala Lakota	Y	Small Rural
Pennington	No Tribal Status	Urban
Perkins	N	Very Rural
Potter	N	Very Rural
Roberts	Y	Very Rural
Sanborn	N	Very Rural
Spink	N	Very Rural
Stanley	Y	Rural
Sully	N	Very Rural
Todd	Y	Very Rural
Tripp	Y	Small Rural
Turner	N	Very Rural
Union	No Tribal Status	Urban
Walworth	N	Small Rural
Yankton	N	Rural
Ziebach	Y	Very Rural

Sources/Notes: U.S. Census data accessed via Claritas and used to determine rurality and Tribal classifications; 2017 SD County Vulnerability Assessment; SD Association of County Officials, United States Attorney's Office, District of SD, and the SD Department of Tribal Relations; USDA Economic Research Service Rural-Urban Commuting Area Codes. Tribal and Non-Tribal Areas (Tribal Area Status) are based on the evaluation of zip codes and counties that are in whole or in part comprised of one or more Federally-Classified Reservations. Urban counties and zip codes are excluded.

Most South Dakotans live within 15 minutes of a primary care provider but local drive time to care varies across Regions and provider types

- Results from the 2017 SD County Vulnerability Assessment indicate that **81.5% of South Dakotans live within 15 minutes of a Primary Care Provider**. Still, the percentage of the population with this level of local access is lower in Regions with higher degrees of rurality (Glacial Lakes and South Central Plains).
- **Half of South Dakotans live within 15 minutes of a Behavioral Health Provider,** and only **two-thirds live within 15 minutes of an Emergency Department**, which is a risk factor, given that the risk of mortality is higher the greater the time and distance traveled to an Emergency Department.[1] All stakeholder groups reported transportation as a key challenge in rural SD, especially for facilitating transfers for another level of care and limited patient transportation options.

Regions	Total Population	%	Total Population within 15 min of an Emergency Department	%	Total Population within 15 min of a Behavioral Health Provider	%	Total Population within 15 min of a Primary Care Provider	%
Black Hills	229,123	26.3%	138,210	60.3%	114,794	50.1%	184,803	80.7%
Glacial Lakes	149,525	17.2%	99,296	66.4%	60,325	40.3%	111,244	74.4%
Sioux Empire	359,165	41.3%	263,564	73.4%	203,533	56.7%	318,767	88.8%
South Central Plains	131,853	15.2%	74,976	56.9%	52,554	39.9%	94,303	71.5%
Total	**869,666**	**100.0%**	**576,046**	**66.2%**	**431,206**	**49.6%**	**709,116**	**81.5%**

Key

- < 25% of total population
- 26% - 50% of total population
- 51% - 75% of total population
- <76% of total population

SOUTH DAKOTA DEPARTMENT OF HEALTH

Sources/Notes: 1) 2017 SD County Vulnerability Assessment.; University of KY "Do Hospital Closures Affect Patient Time in an Ambulance," ruhrc-publication-2019-02-20-do-hospital-closures-affect-patient-time-in-an-ambulance.pdf.

Very Rural and Small Rural residents are more likely to travel for care, especially for emergency or specialty services

- In urban areas, most of the population lives within 15 minutes of Emergency Care (82.9%) and Primary Care (86.4%), suggesting that these Regions have easier access to health services relative to distance.
- Small Rural and Very Rural areas have the lowest percentage of residents living within 15 minutes of Emergency Care or a Behavioral Health Provider, likely due to the distribution of the population in these areas. While residents in these areas commonly travel further than 15 minutes for other needs, the increased distance to travel for routine services (Primary Care and Behavioral Health) may reduce, delay, or prevent the use of services.
- Non-Tribal Areas had lower rates of populations within 15 minutes of all specified providers compared to Tribal Areas. Given data limitations and the contradicting findings found through other analyses, further analysis is required to understand access and drive-time to care for Tribal Areas.

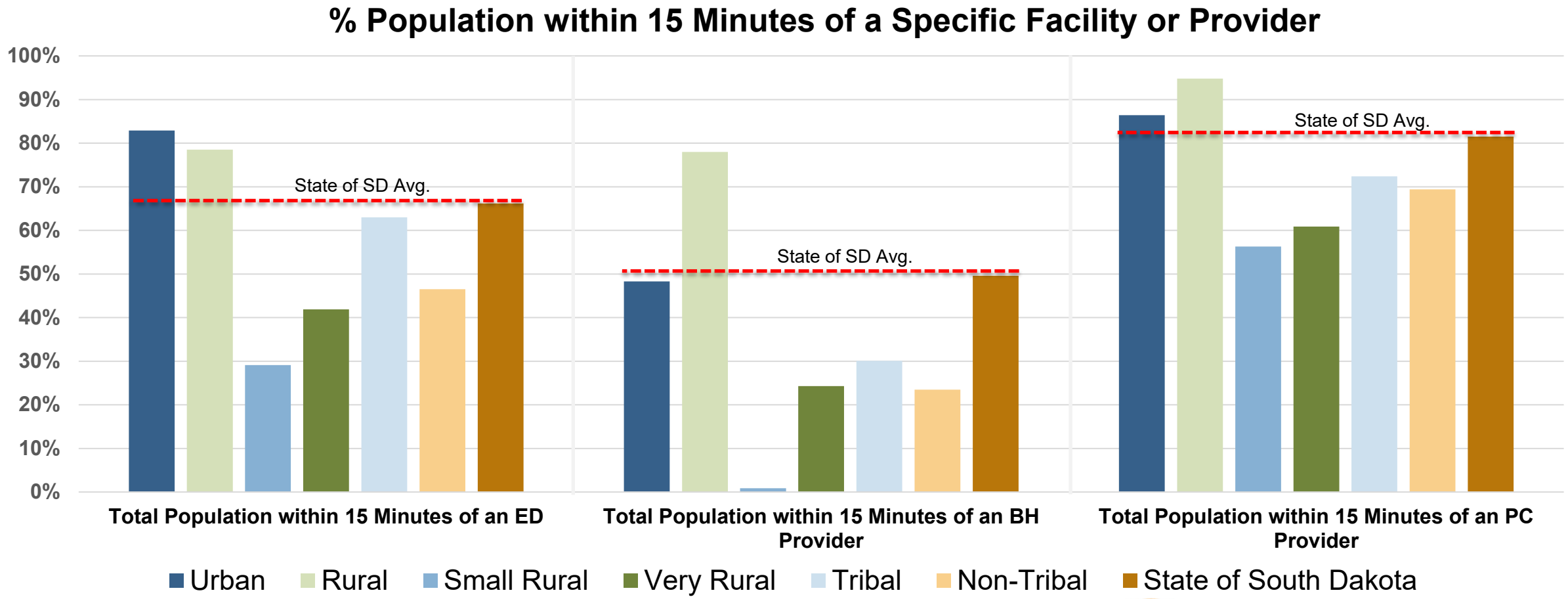
Classification	Total Population	%	Total Population within 15 min of an Emergency Department	%	Total Population within 15 min of a Behavioral Health Provider	%	Total Population within 15 min of a Primary Care Provider	%
Rural								
Urban	229,493	26.4%	190,186	82.9%	110,759	48.3%	198,227	86.4%
Rural	379,141	43.6%	297,598	78.5%	295,662	78.0%	359,542	94.8%
Small Rural	165,158	19.0%	48,044	29.1%	1,467	0.9%	92,925	56.3%
Very Rural	95,874	11.0%	40,218	41.9%	23,318	24.3%	58,422	60.9%
Total	**869,666**	**100.0%**	**576,046**	**66.2%**	**431,206**	**49.6%**	**709,116**	**81.5%**
Tribal (excludes urban areas)								
Tribal	305,166	62.2%	192,233	63.0%	91,893	30.1%	220,851	72.4%
Non-Tribal	185,359	37.8%	86,216	46.5%	43,650	23.5%	128,724	69.4%
Total	**490,525**	**100.0%**	**278,448**	**56.8%**	**135,544**	**27.6%**	**349,575**	**71.3%**

Key

- < 25% of total population
- 26% - 50% of total population
- 51% - 75% of total population
- <76% of total population

Sources/Notes: U.S. Census data accessed via Claritas 2023 and used to determine rural and Tribal classifications; 2017 SD County Vulnerability Assessment. Tribal and Non-Tribal Areas are based on evaluating zip codes and counties that are in whole or in part comprised of one or more Federally-Classified Reservations. Urban counties and zip codes are excluded. Nicholl J, West J, Goodacre S, Turner J. The relationship between distance to hospital and patient mortality in emergencies: an observational study. Emerg Med J. 2007 Sep;24(9):665-8. doi: 10.1136/emj.2007.047654. PMID: 17711952; PMCID: PMC2464671.

Fewer rural and Tribal Area residents live within 15 minutes of services than urban residents, indicating patients need to travel further from their homes to receive routine and emergency care



Sources/Notes: U.S. Census data accessed via Claritas 2023 are used to determine rural and Tribal classifications; 2017 SD County Vulnerability Assessment. Tribal and Non-Tribal Areas are based on evaluating zip codes and counties that are in whole or in part comprised of one or more federally Classified Reservations. Urban counties and zip codes are excluded.

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The State should further analyze where patients are going for care relative to where they live and what services patients are seeking

Findings from the Environmental Scan and Stakeholder Interviews informed us that:

- Patients sometimes **remain at a facility and cannot transfer to another level of care due to limited options or the capacity of EMS** to facilitate transfers.
  - Some health systems pay privately to transport patients due to a lack of community transportation infrastructure.
- **Some transportation (e.g., non-emergency medical transportation [NEMT]) options exist locally**. Still, there are limitations on available hours, scheduling parameters, distance, and frequency of travel to the health facility. There are limited transportation opportunities in southeast SD.

Other standards, like CMS' time standards for Medicare Advantage network adequacy, vary by specialty and Region and are an important metric for accurately understanding access gaps. Current analyses do not reflect these time variations. Guidehouse recommends conducting further analysis to understand the travel patterns and preferences of SD residents.

CMS Proposed Federal Marketplace Time Standards by Specialty, 2023 (minutes)

Specialty Area	Large Metro	Metro	Micro	Rural
Primary Care	10	15	32	40
Cardiology	20	30	50	75
Emergency Medicine	20	45	80	75
Endocrinology	30	60	100	110
General Surgery	20	30	50	75
Infectious Disease	30	60	100	110
Oncology (Med / Surg)	20	45	60	75
Oncology (Radiology)	30	60	100	110
Outpatient Clinical Behavioral Health	10	15	30	40
Rheumatology	30	60	100	110
Acute Inpatient Hospitals	20	45	80	75
Inpatient Behavioral Health Facilities Services	39	70	100	90
Urgent Care	20	45	80	75

Sources/Notes: CMS Network Adequacy Proposed Federal Marketplace Time Standards by Specialty, 2023.

VII. Provider Availability Gap Analysis

Provider Availability Gap Analysis | Overview

Background	In this section, we assess provider availability across areas with different rural classifications through various lenses (e.g., comparison of provider distribution between SD and other states, review of SD provider network adequacy, SD physician and APP needs assessment, and non-physician provider distribution). This section also analyzes the relative availability of non-physician providers, as these resources can provide certain levels of care in more rural areas.
Importance	Access to providers is evaluated using multiple methodologies, including physical availability and proximity of providers to where residents who utilize that care live. Evaluating access to care from both perspectives allows for identifying underserved areas and quantifying the number and types of providers necessary to meet the needs of residents of SD's communities.
Methodology	In this section, we: • Evaluated and compared healthcare provider types' distribution and relative availability in SD, ND, and ID. This section also compares healthcare provider type distribution between rural vs non-rural areas of SD, ND, and ID to inform understanding of ND and ID health rankings. Guidehouse reviewed the peer states with SD ORH leadership, and they selected the final two based on Guidehouse's recommendation. • Completed a high-level network adequacy assessment using Guidehouse's proprietary tool, based on CMS network adequacy criteria for health plans, to identify counties considered "inadequate" regarding having a sufficient network of providers available to serve the community's needs. • Applied SD Physician Roster data on SD physicians and supplemental market physician data (accessed via Definitive Healthcare), along with Guidehouse's proprietary Provider Needs Assessment (PNA) tool to assess surpluses and deficits in the availability of numerous provider specialties at a zip-code level in SD's communities. The PNA assessment goes beyond the CMS network adequacy assessment by considering the capacity of providers to support the needs of residents in various areas of the State. • Analyzed data on the availability of non-physician providers based on SD's Regions and rural classification areas.
Limitations	Non-physician data sources only had information on APRNs, RNs, and LPNs at the county level; therefore, we assessed county-level rural classifications and county-level definitions of Tribal Areas ratios of those providers relative to land area and population. In addition, the CMS network adequacy methodology does not fully account for community providers' capacity constraints in defining a county as having an "adequate" network. Counts of non-physician providers illustrate their relative availability across SD's Regions. Still, this data is limited by the lack of insight into how much of their time is spent providing full-time healthcare in the Regions.

Provider Availability Gap Analysis | Key Takeaways

Key Questions

Takeaways

Provider Availability

1. How does SD's workforce supply/ distribution compare with other benchmark states?
2. What provider service gaps exist in SD areas/ Regions?

1. When assessing providers in rural vs. non-rural areas, **SD has more providers located in rural areas than non-rural areas compared to ID and ND**.
2. Regarding network adequacy (as defined by CMS), the **Black Hills Region consistently scores inadequate across several key specialties**.
3. The most rural areas of the State**, "Small Rural" and "Very Rural", contain the greatest provider deficits across all provider types**.
4. across most provider specialties. **Tribal Areas also have large provider deficits.**

Pipeline of Providers / Recruitment

1. What is the pipeline for health care workforce supply? Its challenges?
2. What is the current state of access to healthcare providers in SD?

1. **Projected physician shortages** across the various provider types and **recruitment challenges** further **compound gaps in local care access**.
2. Compared to urban areas, **rural and Tribal Areas have wide disparities regarding access to non-physician providers**.

SD has more providers in rural areas overall but the least providers per 100,000 population compared to ND and ID

Stroudwater Associates State Healthcare Workforce Analysis

	SD	SD	ND	ND	ID	ID	SD	ND	ID	SD	ND	ID
Workforce Classification	**Rural**	**Non-Rural**	**Rural**	**Non-Rural**	**Rural**	**Non-Rural**	**Percentage of Rural Workforce Class in Each State**			**Rural Providers Per 100,000 Rural Population**		
Behavioral Health	245	578	490	926	724	2,909	30%	35%	20%	50.4	126.5	117.8
Oral Health	323	310	251	321	450	1,247	51%	44%	27%	66.5	64.8	73.2
Physician Assistant	309	423	178	324	351	1,428	42%	35%	20%	63.6	46.0	57.1
Nurse Practitioner	476	893	473	793	445	1,987	35%	37%	18%	98.0	122.1	72.4
Medical Specialties	84	366	85	384	145	764	19%	18%	16%	17.3	21.9	23.6
Surgical Specialties	276	779	183	771	265	1,250	26%	19%	17%	56.8	47.3	43.1
Internal Medicine	113	433	65	454	114	907	21%	13%	11%	23.3	16.8	18.5
Family Medicine	312	281	259	354	384	1,023	53%	42%	27%	64.2	66.9	62.5
General Practice	18	3	8	3	15	25	86%	73%	38%	3.7	2.1	2.4
OB/GYN	43	72	26	75	36	210	37%	26%	15%	8.9	6.7	5.9
Pediatrics	52	160	35	145	34	286	25%	19%	11%	10.7	9.0	5.5
Total	**2,251**	**4,298**	**2,053**	**4,550**	**2,963**	**12,036**	34%	31%	20%	463.4	530.1	481.9
Population 2023	**485,706**	**417,979**	**387,258**	**400,331**	**614,830**	**1,326,432**	54%	49%	32%	--	--	--

Highest ***Lowest***

Key Observations

- SD often has more of its workforce in rural areas than ND and ID, but this still does not generally align with the population distribution between rural and urban areas in SD.
- Overall, SD has the lowest rate of rural providers per 100,000 population in rural areas compared to ND and ID.

Source/Notes: "Rural Health Insights for Each State & Congressional District - Stroudwater Associates" (Data Source - National Plan and Provider Enumeration System (NPPES) downloadable file, "Rural classifications for locations, zip codes, and counties are based on HRSA methodology" per the analysis done by Stroudwater Associates). The healthcare workforce in this data set includes individual healthcare providers in the community, including doctors, nurses, physician assistants, dentists, and therapists.; U.S. Census data accessed via Claritas 2023 population data for each state is used to estimate the population in rural areas and calculate providers per 100,000 rural population. Colors of percentages and ratios were evaluated from left to right across the states.

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Compared to urban areas, there are large disparities in access to non-physician providers for rural and Tribal Areas

2023 SD Healthcare Workforce/ 10,000 Sq. Mi. (100 x 100 Sq. Mi)

Provider Types (Count)	Urban	Rural	Small Rural	Very Rural	Non-Tribal*	Tribal*
Emergency Providers[1]	1,713	375	145	162	259	94
APRNs[2]	2,261	303	72	40	110	65
Nurses[2]	23,487	4,123	1,292	599	1,493	844
Dentists	742	162	33	9	37.1	27.7
BH Professionals (BAPPs)	610	112	33	7	29.0	19.5
Community Health Workers	191	32	11	3	8.1	7.6
% of State Population	*45%*	*25%*	*10%*	*20%*	*37%*	*18%*
Population Density	*92.6*	*24.5*	*7.2*	*3.7*	*8.5*	*5.1*

2023 SD Healthcare Workforce/ 100,000 Population

Provider Types (Count)	Urban	Rural	Small Rural	Very Rural	Non-Tribal*	Tribal*
Emergency Providers[1]	185	153	200	437	305	185
APRNs[2]	237	125	96	116	128	120
Nurses[2]	2,457	1,706	1,732	1,728	1,734	1,566
Dentists	80	66	45	25	43.7	54.3
BH Professionals (BAPPs)	66	46	46	18	34.1	38.2
Community Health Workers	21	13	15	7	9.6	14.8

Excludes urban zip codes

Highest  ***Lowest***

Key Observations

- **Rural, Small Rural, and Very Rural areas have much lower provider ratios** per 10,000 square miles; their ratios are less than half the ratio for urban areas.
- **Tribal Areas have lower provider ratios** compared to Non-Tribal Areas.
- **The distribution of care per 100,000 population generally shows disparities in access to providers between rural and urban areas and between Tribal and Non-Tribal Areas**, with a few exceptions (e.g., Very Rural areas have more emergency providers (i.e., EMTs and EMRs) per population, and Tribal Areas have more dentists, BAPPs, and community health workers than Non-Tribal Areas.
- Aligned with these findings, stakeholders voiced that rural and Tribal Area populations face healthcare access challenges compared to other areas of the State.

Source/Notes: SD healthcare workforce lists and U.S. Census data are accessed via Claritas (population data). SD Strategic Data Analysis geographic definition (excluding zip codes shared with other states). 1) Emergency Providers = Emergency Medical Technician (EMT) and Emergency Medical Responders (EMR). 2) Reflects ratio based on county-based definition of rural classifications and Tribal Area classifications. APRNs (excluding certified nurse midwives [CNMs]) are already included in the provider needs analysis. Nurse provider types include RNs and Licensed LPNs. Pop. = Population.

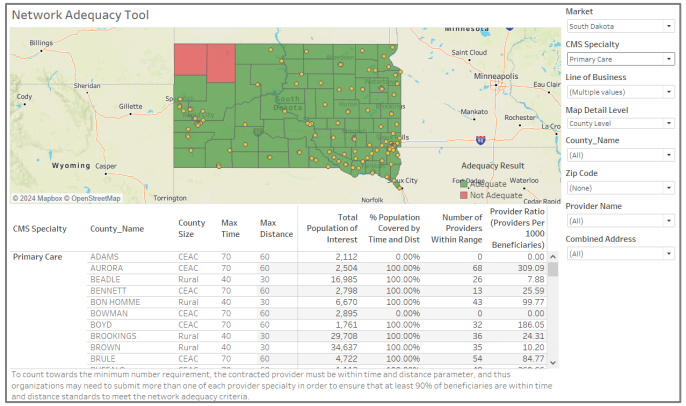
To understand provider availability, we assessed each Region using the following approaches

Network Adequacy

Network adequacy standards are federal and State regulations that ensure health plans meet criteria for adequate coverage of community healthcare needs, such as the number and type of providers available and distance and wait times.

Components of the Tool:

- Color-coded map to show which counties in the strategic area are adequate (green) or inadequate (red).
  - Yellow dots represent provider/facility locations.



- Table to summarize the population covered with the current providers in the scenario.
  - Must cover 90% of the population within a county to be adequate.
- Adequacy is aggregated at the county level (per Medicare Advantage requirements).
- Time and distance are measured from the center of every zip code in the defined strategic area to every provider in the market roster.
  - To be adequate, a provider must cover 90% of the population within a county.

Ambulatory Provider Need Demand Methodology

Guidehouse developed an actuarially driven utilization model with a leading healthcare actuarial firm.

- Physician demand based on market demographics, payer mix, and other factors
- Modifies for today's healthcare environment: pay for performance, telemedicine, retail health, and APPs
- Adjusts for economic conditions and healthcare reform

Features	Examples
Driven by **local demographics** and **payer mix**	• Age and gender • Payer mix • Managed care penetration
Annually updated with the latest **baseline metrics**	• Work capacity • Payer mix by zip • Population
Inclusion of **new and emerging subspecialties**	Newly added subspecialties for: • Neurology • Oncology • Others for discussion
Flexible settings to address **innovation in health care delivery**	• Urgent care • Telemedicine • Care team adjustments (APP)

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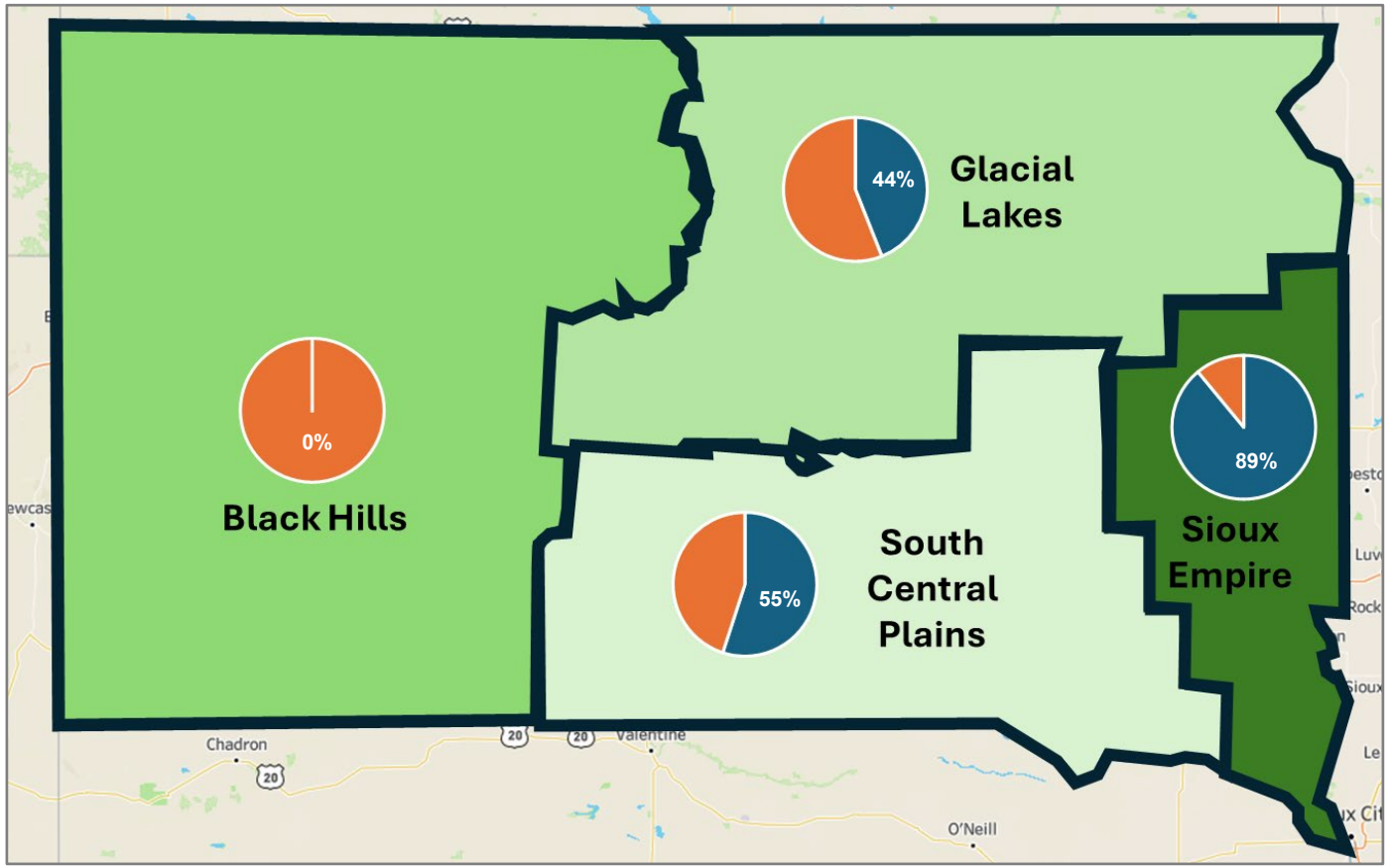
Summary of Access Gaps Across All Regions



Factors	Black Hills	Glacial Lakes	Sioux Empire	South Central Plains
Network Adequacy*	0%	44%	89%	55%
Provider Needs**	0.02	-0.02	0.10	-0.03
Workforce Concentration^	24.6	21.7	30.9	24.4

*Overall network adequacy score is measured based on the adequacy of counties by Region based on the top 9 specialties observed – higher % = favorable. **Provider needs calculation uses the grand total 5-year provider surplus/deficit divided by the Region's population x 100 (higher value = favorable); e.g., 0.10 means that there is approximately a surplus of 0.10 per 100 persons in the Region. ^ Workforce concentration is the healthcare workforce per 1,000 persons in the Regions, which includes emergency service providers (Technicians and Responders), nurses, advanced practice nurses (except certified nurse midwives), dentists, behavioral advanced practice professionals, and community health workers. 1) Select specialties include – primary care, cardiology, psychiatry, oncology (medical/ surgical), general surgery, endocrinology, gastroenterology, Obstetrics & Gynecology, and Orthopedic Surgery.

Key Observations

- Evaluation of three factors across the Regions – **network adequacy of select provider specialties, projected surplus or deficit of providers, and healthcare workforce per 1,000 persons** in each Region, highlights gaps and disparities in access across the Regions.
- **Sioux Empire** stands out as the **only Region with the highest values across all three factors,** while the other Regions score among the lowest for at least one factor.
- **Black Hills Region** is striking because it has a **provider network adequacy score of 0% for nine select specialties,** driven by inadequate network of these providers in the northern part of the Region.[1]

Blue portion indicates Network Adequacy percentage for select specialties[1] in the Region

Provider Deficit ***Provider Surplus***

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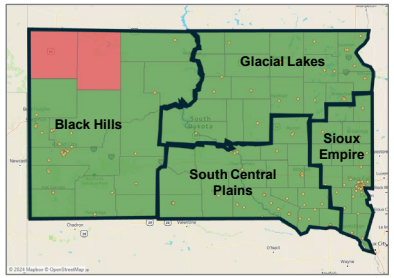
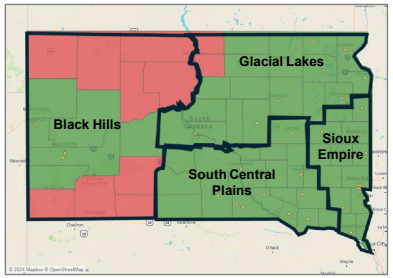
The network adequacy assessment, based on CMS standards, identifies that multiple counties are considered inadequate

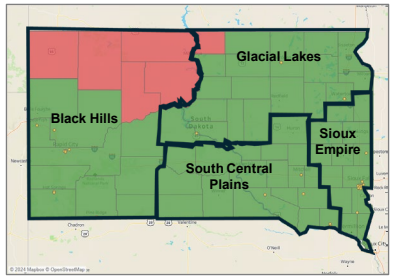
Primary Care



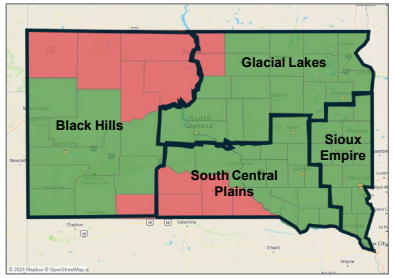
Cardiology



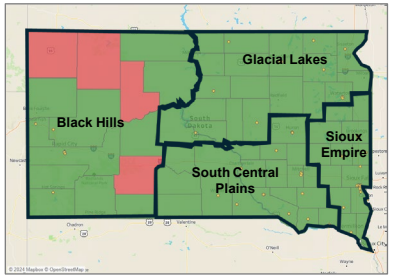
Psychiatry



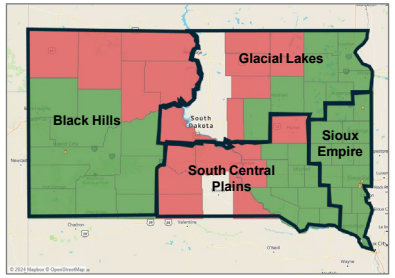
Oncology – Medical, Surgical



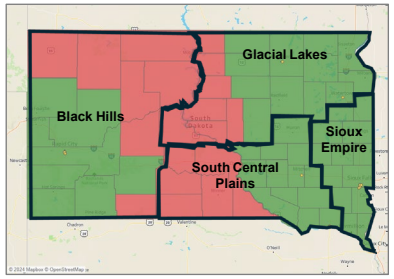
General Surgery



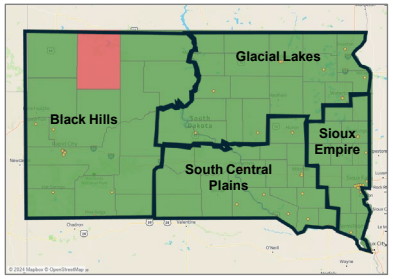
Endocrinology



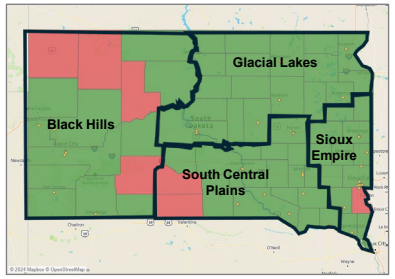
Gastroenterology



Gynecology OB/Gyn



Orthopedic Surgery



Adequate
Not Adequate

Key Observations

- While most counties appear to have an adequate network of providers, the **Black Hills Region often has some counties with an inadequate network**.
- The primary care network is **adequate in most counties in the State**, which is important since these providers are a key entry point to healthcare services.
- Gastroenterology and Endocrinology are the specialties with the greatest access gaps across most counties.

Source/Notes: Guidehouse Network Adequacy tool – applies U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial, and others) for key CMS Specialties. Blank areas on the maps indicate there are no providers close enough to assess network adequacy

Projected rural physician shortages and current recruitment challenges compound gaps in local access

2028 SD Ambulatory Provider FTE Needs Surplus/Deficits[1]

Provider Types (FTEs)	Urban	Rural	Small Rural	Very Rural	Non-Tribal*	Tribal*
Primary Care Specialists	130.7	12.6	-16.7	-61.7	-64.1	-1.7
Obstetrics & Gynecology	39.6	19.1	-5.4	-4.6	5.3	3.7
Psychiatrists	38.8	-10.3	-6.1	-17.0	-20.1	-13.4
Medical Specialists	206.3	-18.9	-32.6	-59.1	-80.2	-30.4
Surgical Specialists	199.6	16.9	-20.5	-40.1	-27.0	-16.6
Other Specialists	16.0	0.4	-6.0	-10.6	-11.8	-4.4
Total	*630.9*	*19.8*	*-87.4*	*-193.1*	*-197.9*	*-62.8*
% of State Population	*45%*	*25%*	*10%*	*20%*	*37%*	*18%*
Population Density	*92.6*	*24.5*	*7.2*	*3.7*	*8.5*	*5.1*

Excludes urban zip codes

Provider Types (FTEs)	Black Hills	Glacial Lakes	Sioux Empire	South Central Plains	SD
Primary Care Specialists	14.4	-7.6	73.1	-15.0	64.9
Obstetrics & Gynecology	1.2	11.7	31.5	4.2	48.6
Psychiatrists	-8.9	-7.8	30.6	-8.6	5.3
Medical Specialists	15.2	-18.9	121.9	-22.4	95.7
Surgical Specialists	30.2	-3.9	134.1	-4.4	155.9
Other Specialists	3.4	-3.0	4.6	-5.2	-0.2
Total	*55.5*	*-29.6*	*395.7*	*-51.4*	*370.3*
% of State Population	*26%*	*16%*	*43%*	*15%*	*100%*
2023 Pop. in Rural Areas	*109K*	*148K*	*109K*	*128K*	*497K*
2023 Pop. in Urban Areas	*124K*	*--*	*283K*	*4K*	*407K*

Key Observations

- Shortages in rural areas are driven by an **imbalance in the distribution of providers**, with excess providers located in urban areas.
- **Small Rural and Very Rural areas,** representing 30% of the State's population, are projected to **have the largest provider deficits. The deficits are seen across all provider types.**
- **Glacial Lakes and South Central Plains Regions,** comprising over 30% of the State's population in rural areas, **have notable gaps across almost all provider types.**
- Stakeholder feedback highlighted factors such as **housing affordability, isolation from peers, and limited childcare options negatively impact recruitment to rural areas.**

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Data Analysis geographic definition, excluding zip codes shared with other states. Both Tribal and Non-Tribal Areas exclude urban zip codes, and Tribal Areas are Tribal reservations zip codes and those with Tribal presence. 1) Provider need is based on the evaluation of a number of non-hospital-based providers practicing within the geography, estimating the portion of their time spent caring for patients, and comparing the resulting provider availability with what is needed to support the residents of those areas by 2028. Various types of specialists comprise the Medical, Surgical, and Other Specialists category. Obstetrics and Gynecology includes certified nurse midwives. FTE = Full-time equivalent. Pop. = Population.

The following identified physician deficits are greater in Rural areas and Tribal Areas

Top 10 Future Deficits for Rural SD

(Rural SD= Rural, Small Rural and Very Rural | Includes Tribal Areas)

Rank	Specialty Type	Specialty	Current Surplus / Deficit	Future Deficit	5-Year Change (n)
1	Primary Care	Pediatrics	(43.1)	(43.6)	-0.5
2	Other Specialties	Psychiatry	(32.0)	(33.5)	-1.5
3	Primary Care	Primary Care (FP / IM)	8.3	(22.3)	-30.6
4	Surgical Specialties	Ophthalmology	(15.7)	(18.3)	-2.6
5	Medical Specialties	Gastroenterology	(16.3)	(16.7)	-0.4
6	Medical Specialties	Neurology	(13.9)	(15.1)	-1.2
7	Medical Specialties	Cardiology	(10.4)	(15.1)	-4.7
8	Medical Specialties	Hematology / Oncology	(8.0)	(10.3)	-2.3
9	Other Specialties	Physical Medicine	(9.1)	(10.3)	-1.2
10	Medical Specialties	Neonatology	(10.1)	(10.0)	0.1

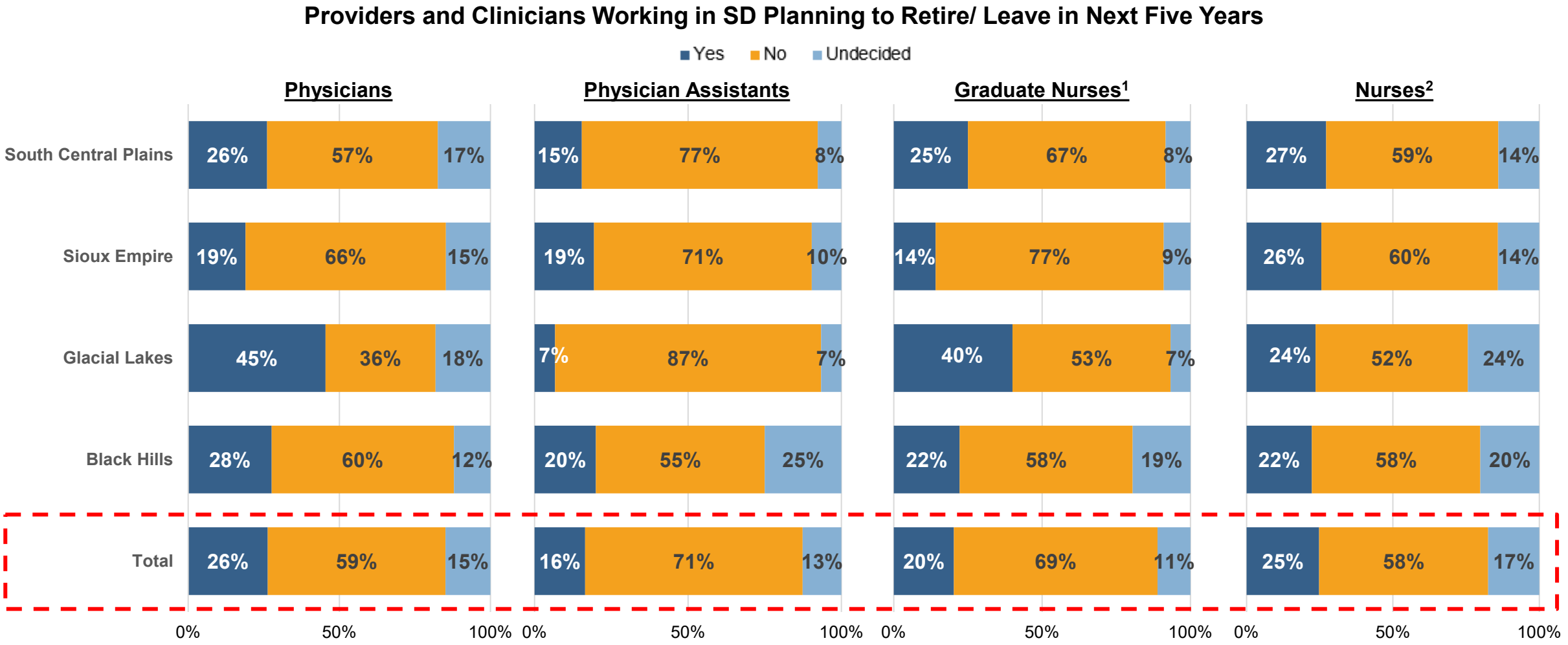
Top 10 Future Deficits for Tribal SD

(Tribal SD= Areas of SD considered to be Tribal Areas)

Rank	Specialty Type	Specialty	Current Surplus / Deficit	Future Deficit	5-Year Change (n)
1	Primary Care	Pediatrics	(15.1)	(14.9)	0.2
2	Other Specialties	Psychiatry	(13.1)	(13.4)	-0.3
3	Surgical Specialties	Ophthalmology	(6.0)	(6.9)	-0.9
4	Medical Specialties	Neurology	(4.2)	(5.1)	-0.9
5	Medical Specialties	Gastroenterology	(4.8)	(4.9)	-0.1
6	Medical Specialties	Hematology / Oncology	(2.6)	(3.5)	-0.9
7	Medical Specialties	Endocrinology	(3.0)	(3.1)	-0.1
8	Medical Specialties	Pulmonology	(2.8)	(2.9)	-0.1
9	Medical Specialties	Neonatology	(3.0)	(2.9)	-0.1
10	Other Specialties	Physical Medicine	(2.7)	(2.8)	-0.1

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Data Analysis geographic definition, excluding zip codes shared with other states. Both Tribal and Non-Tribal Areas exclude urban zip codes, and Tribal Areas are Tribal reservations zip codes and those with Tribal presence. 1) Provider need is based on evaluating a number of non-hospital-based providers practicing within the geography, estimating the portion of their time spent caring for patients, and comparing the resulting provider availability with what is needed to support the residents of those areas by 2028. Obstetrics and Gynecology includes certified nurse midwives. FTE = Full-time equivalent.

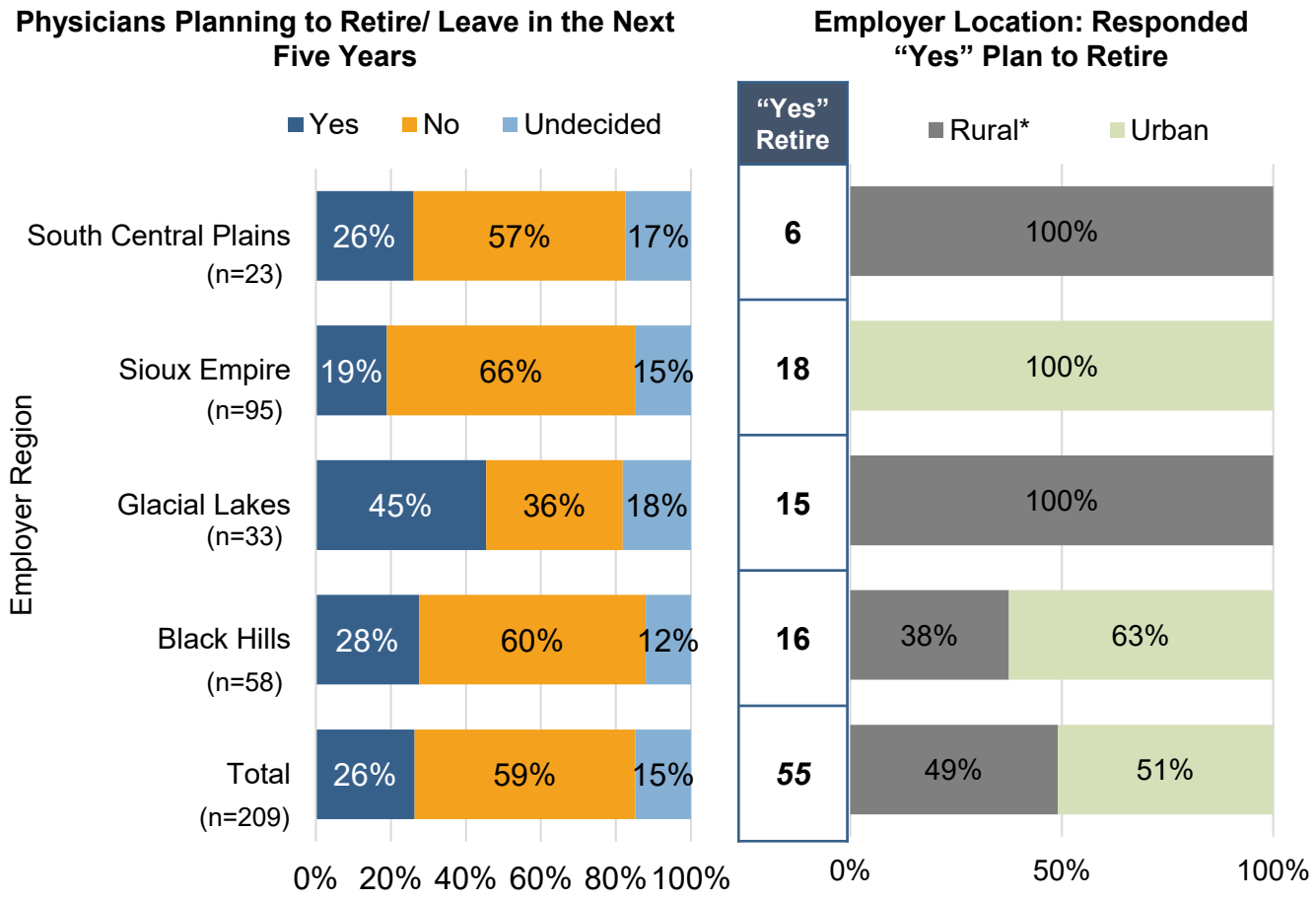
About one in five providers and clinicians working in SD plan to retire or leave the workforce in the next five years



Source/Notes: Survey responses from SD Rural Strategic Analysis - Board of Medical Osteopathic Examiners and Board of Nursing Survey (1,726 total responses). The analysis is based on responses from providers working in the Strategic Analysis Geography. Excluded responses with insufficient information about physician education and non-nursing degrees. 1) Graduate Nurses = Masters and Doctoral recipients, 2) Nurses = Bachelors, Associate, Diploma and Certificate recipients.

SOUTH DAKOTA DEPARTMENT OF HEALTH

Gaps in physician succession planning may worsen provider availability gaps over the next five years



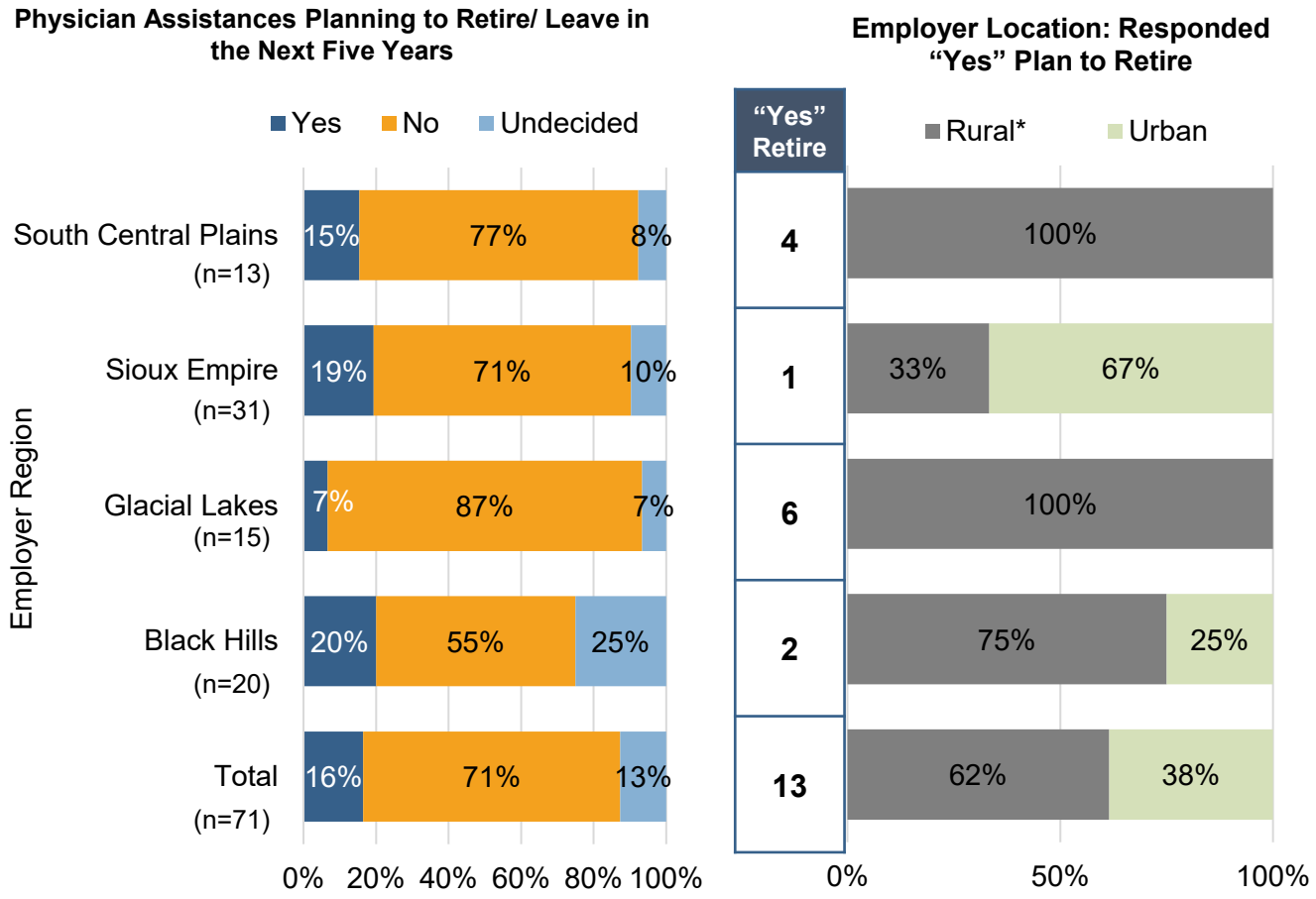
Based on analysis of survey responses from MDs/DOs who work for employers in SD

Key Observations

- Survey responses from employed physicians indicate that 26% of providers across the four Regions plan to retire within the next five years.
  - 67% do not have a legacy plan, and 92% do not intend to develop one.
  - 49% of those planning to retire in five years work for rural employers.
- This is a pressing issue for Glacial Lakes, where 45% of survey respondents plan to retire in the next five years.
  - The Region, which is 100% rural, is projected to have a deficit of about 30 physicians and APPs by 2028. Stakeholder feedback also highlighted challenges in recruiting providers to rural areas.

Source/Notes: Survey responses from SD Rural Strategic Analysis - Board of Medical Osteopathic Examiners Survey (430 responses). The analysis is based on responses from providers in the Strategic Analysis Geography. Two responses were excluded from the analysis due to insufficient information about their education. *Rural = Rural + Small Rural + Very Rural areas. Physicians = Medical Doctors and Doctors of Osteopathy.

Physician assistants planning to retire in the next five years contributes to projected medical provider shortages



Based on analysis of survey responses from physician assistants who work for employers in SD

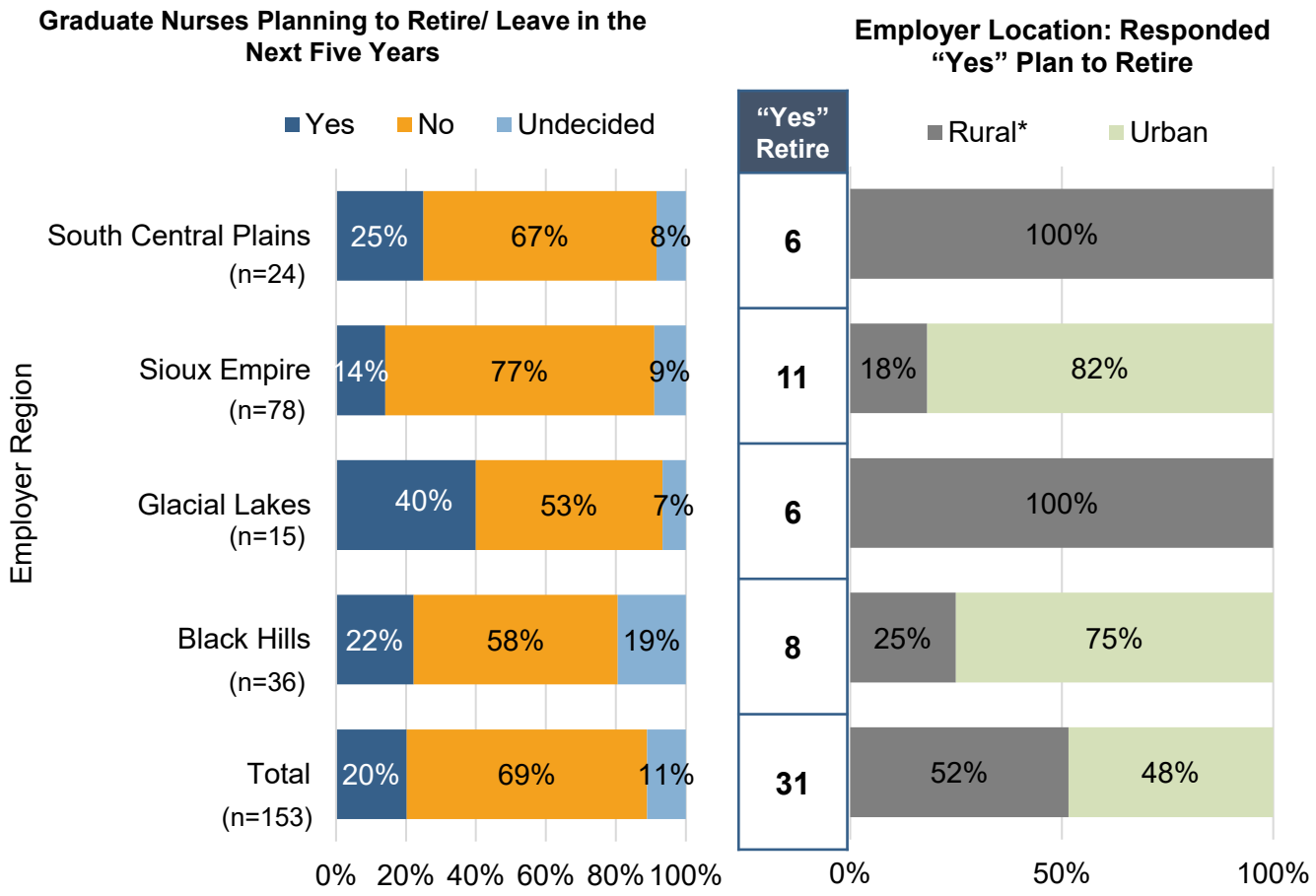
Key Observations

- 16% of employed physician assistant survey respondents plan to retire within the next five years.
  - 77% do not have a legacy plan, and 80% do not intend to develop one.
  - 62% of those who plan to retire in five years work for rural employers.
- Compared to physician respondents, more physician assistants (62%) plan to retire in the next five years.
- Compared to physicians, physician assistants in the Glacial Lakes Region have a lower percentage of respondents who plan to retire in the next five years (7%), somewhat mitigating the impact of the 45% of physicians in the Region who plan to retire in the next five years.

Source/Notes: Survey responses from SD Rural Strategic Analysis - Board of Medical Osteopathic Examiners Survey (430 responses). The analysis is based on responses from providers in the Strategic Analysis Geography. Two responses were excluded from the analysis due to insufficient information about their education. *Rural = Rural + Small Rural + Very Rural areas.

SOUTH DAKOTA DEPARTMENT OF HEALTH

Graduate nurses leaving or retiring in the next five years in Rural Regions highlights future planning needs



Based on analysis of survey responses from nurses with masters or doctoral degrees who for employers in SD

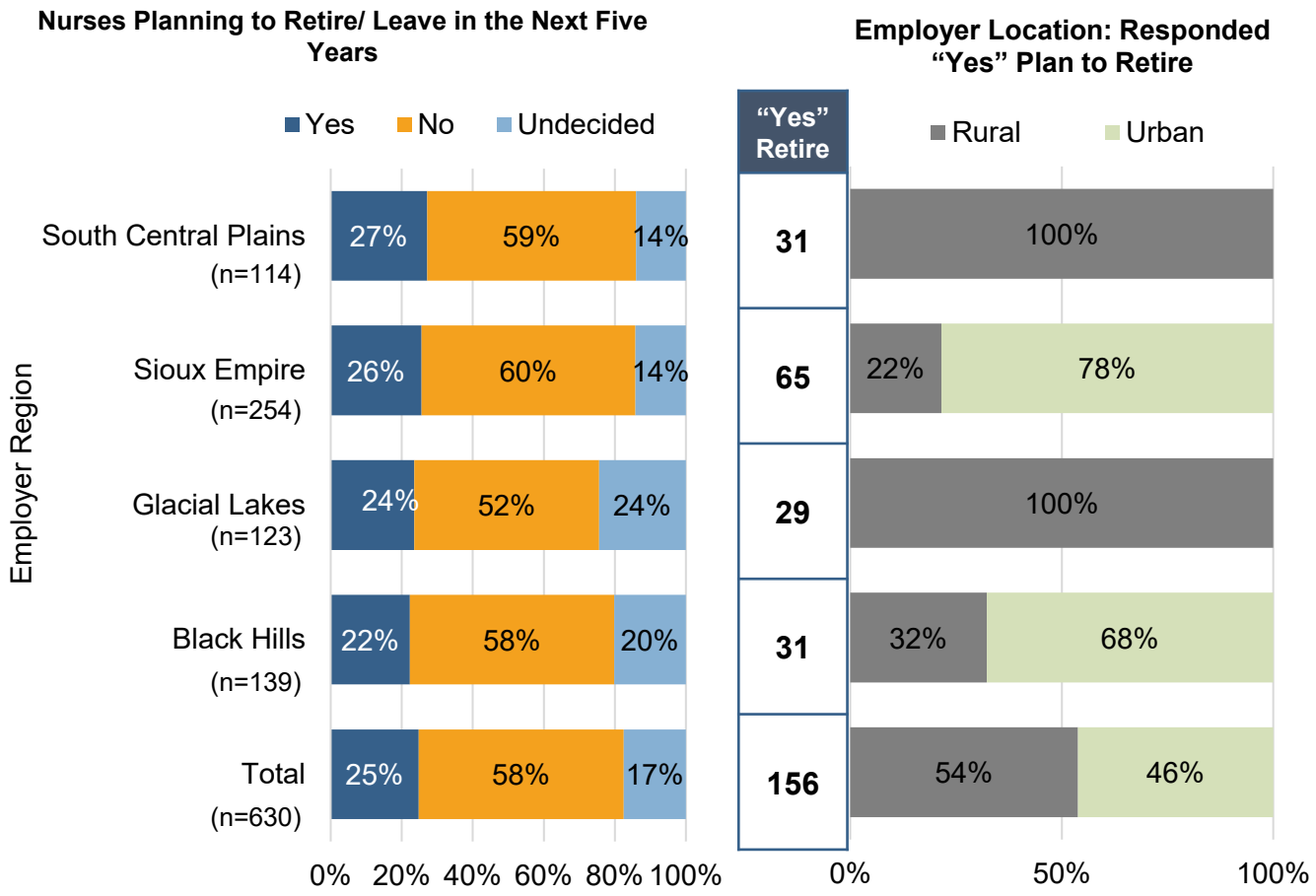
Key Observations

- More graduate nurses (20%) than physician assistant respondents (16%) indicated that they plan to retire in the next five years, and about half of these graduate nurses work in rural areas.
- The Glacial Lakes Region has the highest proportion of respondents (40%) who plan to retire in five years, almost 60% higher than the Region with the second highest percentage (South Central Plains).
  - Together, they comprise 61% of respondents who plan to retire in the next five years, greater than the share of the State's population (31%) that both Regions represent.
- In contrast, Sioux Empire, with a mostly urban population, has the lowest proportion of respondents who plan to retire in the next five years.

Source/Notes: Survey responses from SD Rural Strategic Analysis —Board of Nursing Survey (1,296 responses). The analysis does not show responses from people with employers within the Strategic Analysis Geography and excludes non-nursing respondents. 1) Graduate Nurses = Masters and Doctoral recipients. *Rural = Rural + Small Rural + Very Rural areas.

SOUTH DAKOTA DEPARTMENT OF HEALTH

Succession planning is critical for SD, especially its rural Regions, as 25% of nurses plan to retire in five years



Based on analysis of survey responses from nurses* who work for employers in SD

Key Observations

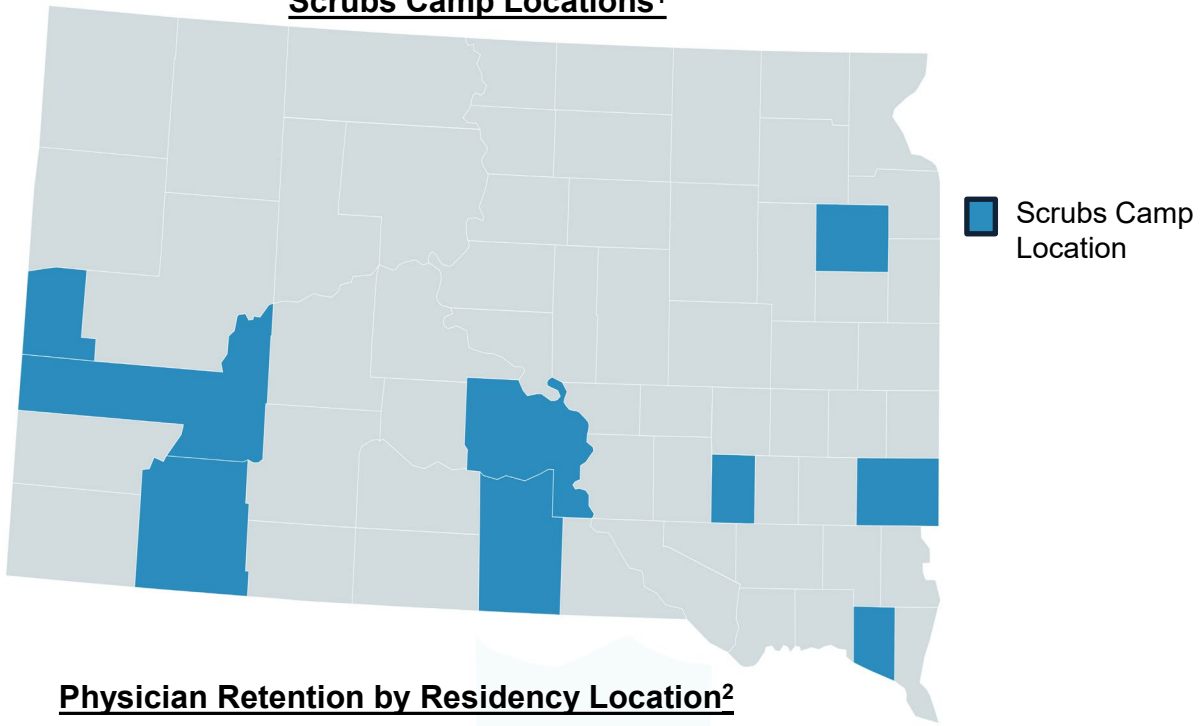
- One in four employed nurse respondents indicated they plan to retire in the next five years, and 54% work for employers in rural areas.
- The ratio of nurses planning to retire in the next five years is relatively similar across the four Regions (22%-27%).
- Glacial Lakes and South Central Plains Regions, with 100% rural populations, collectively comprise 62% of the nurse respondents planning to retire in five years.
  - This is an issue for these Regions as they comprise 31% of the State's population.
  - These Regions are projected to have large medical provider shortages and having an outsized portion of their nursing supply who plan to leave in the next five years worsens the outlook for these areas.

Source/Notes: Survey responses from SD Rural Strategic Analysis —Board of Nursing Survey (1,296 responses). The analysis does not show responses from people with employers within the Strategic Analysis Geography and excludes non-nursing respondents. 1) Nurses = Bachelors, Associate, Diploma, and Certificate recipients. *Rural = Rural + Small Rural + Very Rural areas.

SOUTH DAKOTA DEPARTMENT OF HEALTH

Career exploration and educational programs are lauded as success stories to strengthen the workforce pipeline

Scrubs Camp Locations[1]



Physician Retention by Residency Location[2]

	Practice Location	
	In State	Out of State
South Dakota*	57.7%	42.3%
National Average	57.1%	42.9%

**57.7% of physicians who completed their residency in SD are also practicing in State.*

Key Observations

- Given ongoing workforce challenges, expanding existing ORH programs (e.g., Recruitment Assistance Program, Rural Healthcare Facility Recruitment Assistance Program) has helped address workforce shortages, and building additional programming would be beneficial.
- Stakeholders report **gaps in the Camp Med and Scrubs Camp coverage area/host sites**, especially in **northwestern SD**. The State has difficulty reaching students in Tribal Areas to share information about healthcare careers.
- SD is similar to the national average in retaining physicians by residency practice location. SD offers rural rotations and fellowship opportunities, but rural facility capacity and student housing are barriers.

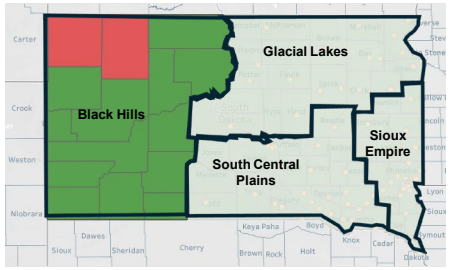
Source/Notes 1) Locations pulled from https://doh.sd.gov/programs/scrubs-camp/camp-locations/ 2) AAMC. Table C6. Physician Retention in State of Residency Training, by State. Residents Who Completed Training, 2013-22. Table C6. Physician Retention in State of Residency Training, by State | AAMC 3) Core stakeholder groups include: Board of Medical & Osteopathic Examiners and Board of Nursing, Healthcare Associations, Academies, & Councils, Health Systems, Hospitals, Medical Centers, Regional Health Centers, Legislators, Medical Schools, Public Universities, Technical Colleges, Providers and FQHCs, State Agencies

Regional Drill-Downs

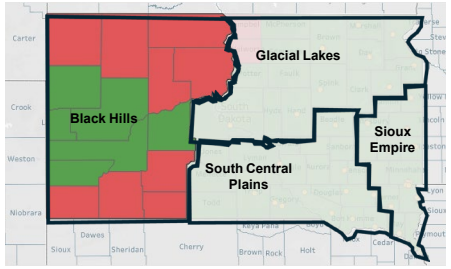
SOUTH DAKOTA DEPARTMENT OF HEALTH

Black Hills contains the most counties considered to be inadequate across multiple key specialties

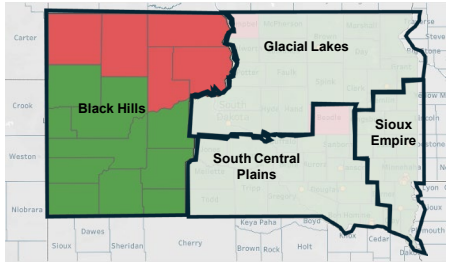
Primary Care



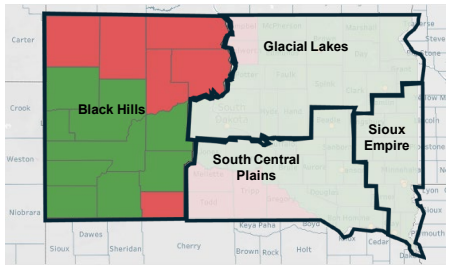
Cardiology



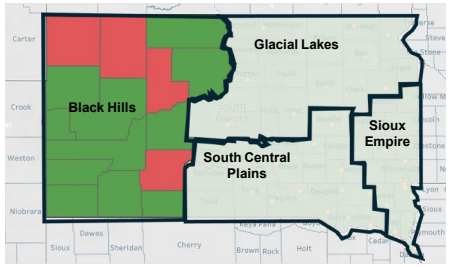
Psychiatry



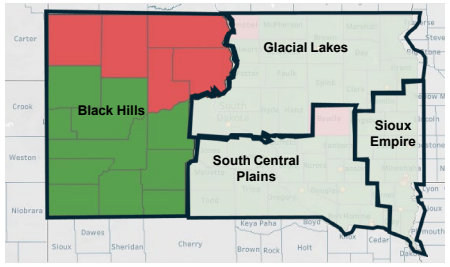
Oncology – Medical, Surgical



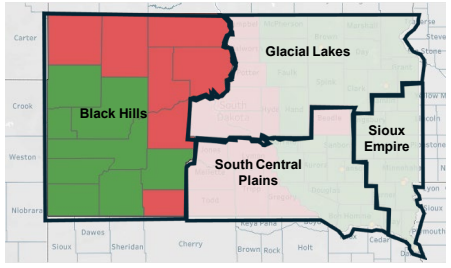
General Surgery



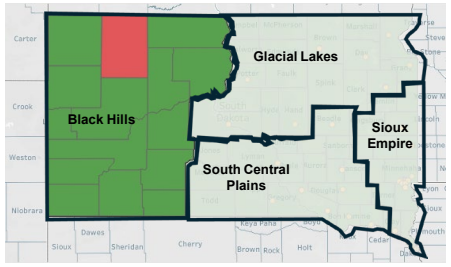
Endocrinology



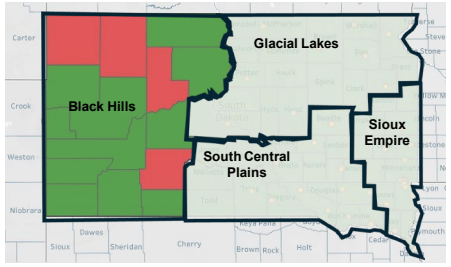
Gastroenterology



Gynecology OB/Gyn



Orthopedic Surgery



Adequate
Not Adequate

Key Observations: Black Hills

- Across all Regions, **Black Hills has the most persistent gaps in network adequacy**.
- Counties in **the Northern part of the Black Hills Region often do not have an adequate network of primary care and key specialist providers**.

Source/Notes: Guidehouse Network Adequacy tool – applies U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial, and others) for key CMS Specialties. Blank areas on the maps indicate no providers close enough to assess network adequacy.

The greatest provider specialty gaps fall within Pediatrics and Psychiatry and in the most Rural areas of Black Hills

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	34.9	29.1	(5.7)	35.0	28.4	(6.6)
	Primary Care (FP/IM)	131.9	172.5	40.6	140.6	161.5	21.0
Primary Care Total		**166.7**	**201.6**	**34.9**	**175.6**	**190.0**	**14.4**
Medical Specialties	Allergy & Immunology	2.8	2.7	(0.1)	2.8	2.6	(0.2)
	Cardiology	16.9	19.5	2.6	17.7	17.5	(0.1)
	Dermatology	8.0	16.1	8.1	8.3	14.2	5.9
	Endocrinology	4.8	3.8	(1.0)	5.0	3.8	(1.2)
	Gastroenterology	8.3	11.7	3.5	8.7	11.7	3.0
	Hematology/Oncology	7.7	5.9	(1.9)	8.3	5.2	(3.1)
	Infectious Disease	4.1	5.4	1.3	4.4	4.7	0.3
	Neonatology	4.4	3.8	(0.6)	4.3	3.8	(0.5)
	Nephrology	5.0	6.2	1.2	5.4	5.9	0.5
	Neurology	8.5	17.0	8.5	8.9	16.0	7.0
	Pulmonary Medicine	6.9	14.6	7.7	7.4	12.8	5.4
	Radiation Therapy	3.5	2.8	(0.7)	3.8	2.8	(1.0)
	Rheumatology	4.1	3.7	(0.4)	4.4	3.7	(0.7)
Medical Specialties Total		**85.1**	**113.3**	**28.2**	**89.5**	**104.7**	**15.2**
Surgical Specialties	Cardiothoracic Surgery	3.0	2.3	(0.7)	3.2	2.3	(0.9)
	ENT	6.0	6.0	(0.0)	6.2	5.8	(0.4)
	General Surgery	14.2	26.6	12.4	14.9	23.9	8.9
	Neurosurgery	3.4	12.0	8.6	3.6	9.9	6.3
	Obstetrics & Gynecology	18.9	21.4	2.5	19.2	20.4	1.2
	Ophthalmology	12.0	14.0	2.0	12.7	13.4	0.7
	Orthopedic Surgery	15.2	33.0	17.8	15.7	31.0	15.2
	Plastic Surgery	4.0	3.7	(0.3)	4.2	3.3	(0.8)
	Urology	6.3	11.4	5.1	6.8	11.0	4.2
	Vascular Surgery	2.8	0.0	(2.8)	3.0	0.0	(3.0)
Surgical Specialties Total		**85.9**	**130.4**	**44.5**	**89.5**	**120.9**	**31.4**
Other Specialties	Physical Medicine/Rehab	6.0	8.8	2.9	6.3	8.8	2.5
	Podiatry	10.2	15.6	5.4	10.9	14.6	3.8
	Psychiatry	24.2	17.4	(6.8)	25.2	16.3	(8.9)
	Radiology - Interventional	2.6	0.0	(2.6)	2.8	0.0	(2.8)
Other Specialties Total		**43.0**	**41.9**	**(1.1)**	**45.2**	**39.7**	**(5.5)**
Grand Total		**380.7**	**487.2**	**106.5**	**399.8**	**455.3**	**55.5**

Black Hill Provider Surplus / Deficits by Rural Classification

SD[1] Provider Types (FTEs)	BH - Urban	BH - Rural	BH - Small Rural	BH - Very Rural
Primary Care Specialist	26.7	10.5	**-11.8**	**-11.1**
Obstetrics & Gynecology	5.8	1.0	**-3.9**	**-1.7**
Psychiatrists	**-2.0**	**-1.0**	**-2.7**	**-3.2**
Medical Specialists	51.5	**-4.9**	**-21.5**	**-9.9**
Surgical Specialists	50.9	2.2	**-14.7**	**-8.2**
Other Specialists	6.0	2.3	**-3.6**	**-1.2**

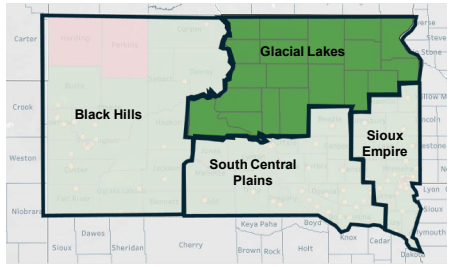
Key Observations: Black Hills

- Overall, the Black Hills Region has enough providers to support the Region's population, but there are sizable deficits across a number of specialties, currently and in the future.
- The top specialties with deficits are psychiatry, pediatrics, vascular surgery, hematology/oncology, and interventional radiology.

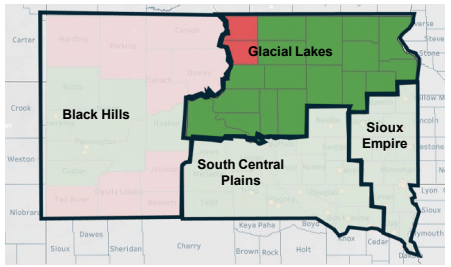
SOUTH DAKOTA DEPARTMENT OF HEALTH

While many counties are considered adequate, there are still some specialties that represent challenges in Glacial Lakes

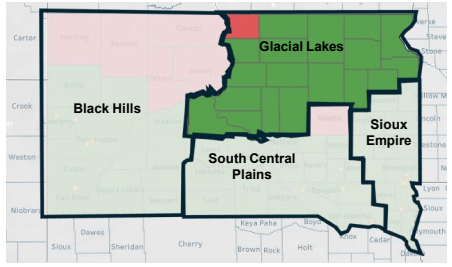
Primary Care



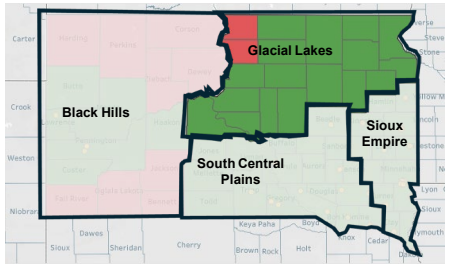
Cardiology



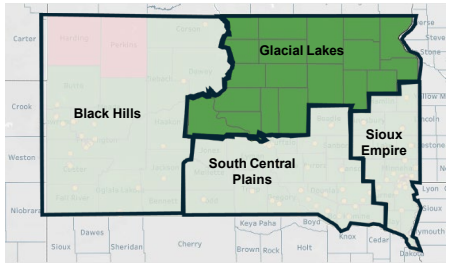
Psychiatry



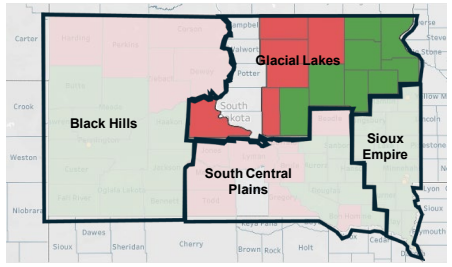
Oncology – Medical, Surgical



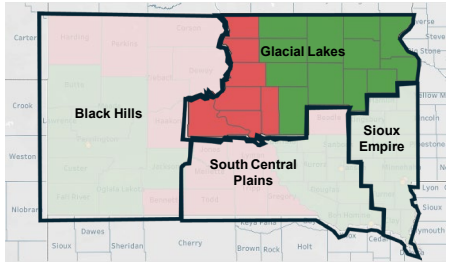
General Surgery



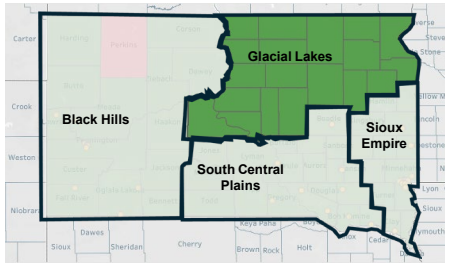
Endocrinology



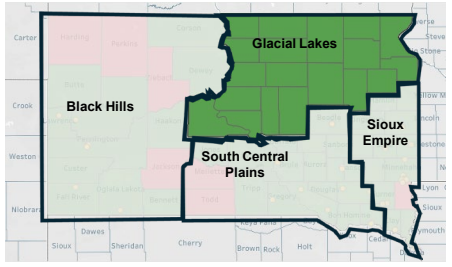
Gastroenterology



Gynecology OB/Gyn



Orthopedic Surgery



Adequate
Not Adequate

Key Observations: Glacial Lakes

- Overall, most counties are considered adequate, but some key specialties highlight counties with access challenges.
- Primary care appears adequately covered, but access gaps exist across specialties.
- Endocrinology and gastroenterology present the greatest adequacy challenges.

Source/Notes: Guidehouse Network Adequacy tool – applies U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial, and others) for key CMS Specialties. Blank areas on the maps indicate there are no providers close enough to assess network adequacy.

Overall, Glacial Lakes represents a projected future deficit of 30 FTEs in the next 5 years

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	24.0	9.7	(14.3)	24.0	9.6	(14.4)
	Primary Care (FP/IM)	85.7	102.2	16.4	88.7	95.5	6.8
Primary Care Total		**109.8**	**111.8**	**2.1**	**112.7**	**105.1**	**(7.6)**
Medical Specialties	Allergy & Immunology	1.9	0.0	(1.9)	1.9	0.0	(1.9)
	Cardiology	11.3	14.3	2.9	11.5	12.5	1.0
	Dermatology	5.3	5.9	0.6	5.4	5.9	0.6
	Endocrinology	3.1	0.0	(3.1)	3.2	0.0	(3.2)
	Gastroenterology	5.5	0.6	(4.9)	5.6	0.6	(5.0)
	Hematology/Oncology	5.0	4.6	(0.4)	5.2	3.4	(1.8)
	Infectious Disease	2.7	0.9	(1.8)	2.8	0.7	(2.1)
	Neonatology	3.4	0.5	(2.9)	3.3	0.5	(2.8)
	Nephrology	3.2	3.8	0.6	3.4	3.8	0.4
	Neurology	5.6	3.0	(2.6)	5.7	2.3	(3.4)
	Pulmonary Medicine	4.6	2.9	(1.7)	4.7	2.9	(1.8)
	Radiation Therapy	2.3	7.0	4.7	2.4	6.0	3.6
	Rheumatology	2.7	0.5	(2.2)	2.8	0.5	(2.3)
Medical Specialties Total		**56.6**	**43.9**	**(12.6)**	**57.8**	**38.9**	**(18.9)**
Surgical Specialties	Cardiothoracic Surgery	1.9	0.0	(1.9)	2.0	0.0	(2.0)
	ENT	3.9	3.5	(0.5)	3.9	3.5	(0.5)
	General Surgery	9.3	15.7	6.4	9.5	14.7	5.2
	Neurosurgery	2.2	0.0	(2.2)	2.2	0.0	(2.2)
	Obstetrics & Gynecology	10.6	25.7	15.1	10.6	22.3	11.7
	Ophthalmology	7.7	3.0	(4.7)	7.9	1.8	(6.1)
	Orthopedic Surgery	9.7	14.1	4.4	9.8	12.9	3.2
	Plastic Surgery	2.6	0.6	(2.0)	2.7	0.3	(2.3)
	Urology	4.1	8.6	4.5	4.3	6.8	2.5
	Vascular Surgery	1.8	0.2	(1.5)	1.9	0.2	(1.6)
Surgical Specialties Total		**53.9**	**71.5**	**17.5**	**54.7**	**62.5**	**7.8**
Other Specialties	Physical Medicine/Rehab	3.9	1.5	(2.4)	3.9	1.4	(2.6)
	Podiatry	6.7	6.4	(0.4)	6.9	6.4	(0.6)
	Psychiatry	15.1	7.6	(7.5)	15.3	7.5	(7.8)
	Radiology - Interventional	1.7	1.9	0.2	1.8	1.9	0.1
Other Specialties Total		**27.3**	**17.3**	**(10.0)**	**28.0**	**17.1**	**(10.8)**
Grand Total		**247.6**	**244.6**	**(3.0)**	**253.2**	**223.6**	**(29.6)**

Glacial Lakes Provider Surplus / Deficits by Rural Classification

SD[1] Provider Types (FTEs)	GL - Rural	GL - Small Rural	GL - Very Rural
Primary Care Specialist	4.7	2.1	**-14.4**
Obstetrics & Gynecology	11.6	0.2	**-0.1**
Psychiatrists	**-1.9**	**-1.0**	**-4.9**
Medical Specialists	2.5	**-3.4**	**-18.0**
Surgical Specialists	9.0	**-2.3**	**-10.6**
Other Specialists	1.3	**-0.6**	**-3.7**

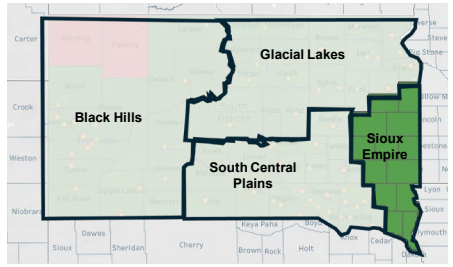
Key Observations: Glacial Lakes

- The Glacial Lakes Region does not have enough providers to support its residents' healthcare needs at present, and the deficit is expected to worsen in the future, increasing from -3 FTEs to -30 FTEs by year five.
- The top five specialties with the largest deficits are pediatrics, psychiatry, ophthalmology, neurology, and gastroenterology.

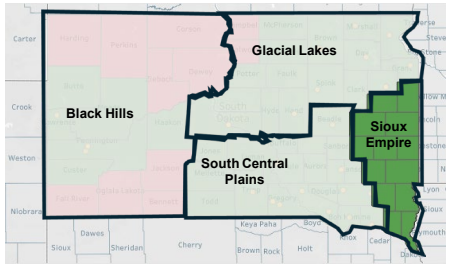
SOUTH DAKOTA DEPARTMENT OF HEALTH

Sioux Empire has the most adequate supply of key specialists

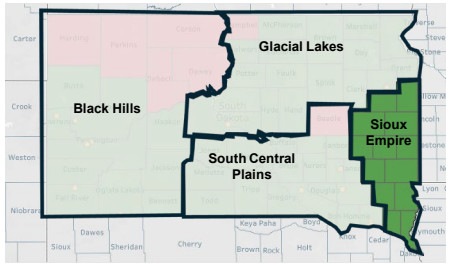
Primary Care



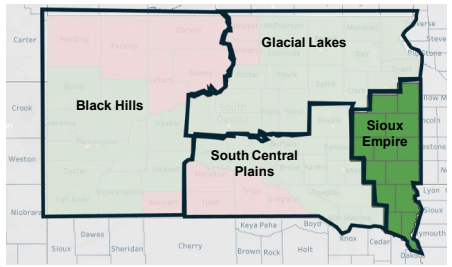
Cardiology



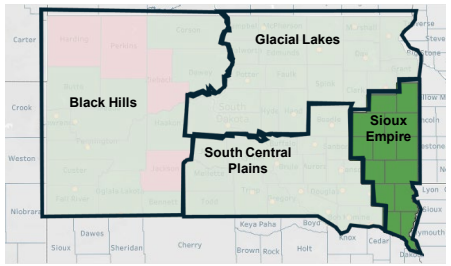
Psychiatry



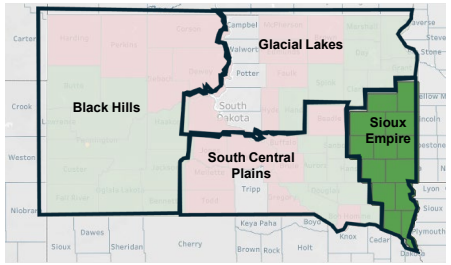
Oncology – Medical, Surgical



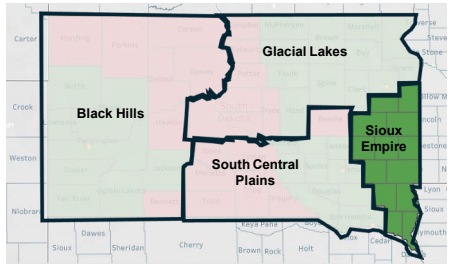
General Surgery



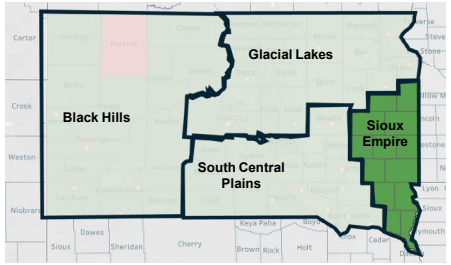
Endocrinology



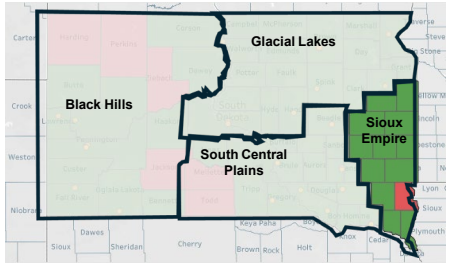
Gastroenterology



Gynecology OB/Gyn



Orthopedic Surgery



Adequate
Not Adequate

Key Observations: Sioux Empire

- Across all Regions, Sioux Empire has the most adequate supply across counties.
- Within orthopedic surgery, there is one county considered inadequate.

Source/Notes: Guidehouse Network Adequacy tool – applies U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial and others) for key CMS Specialties. Blank areas on the maps indicate there are no providers close enough to assess network adequacy.

Overall, Sioux Empire is adequately supplied with providers, but there are deficits in rural Sioux Empire

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	69.9	82.8	12.8	72.4	80.1	7.7
	Primary Care (FP/IM)	206.6	302.5	95.9	222.3	287.7	65.4
Primary Care Total		**276.6**	**385.3**	**108.7**	**294.7**	**367.8**	**73.1**
Medical Specialties	Allergy & Immunology	5.2	2.9	(2.4)	5.4	1.9	(3.5)
	Cardiology	28.1	36.9	8.8	29.7	33.1	3.4
	Dermatology	14.0	30.1	16.1	14.8	30.2	15.4
	Endocrinology	7.8	25.6	17.8	8.3	24.7	16.4
	Gastroenterology	13.6	28.4	14.7	14.5	25.8	11.3
	Hematology/Oncology	12.1	22.4	10.3	13.0	22.1	9.1
	Infectious Disease	6.3	17.2	10.9	6.9	17.2	10.3
	Neonatology	9.5	13.4	3.9	9.8	13.4	3.6
	Nephrology	7.3	20.2	12.9	8.0	18.1	10.1
	Neurology	13.8	32.8	19.0	14.7	32.4	17.7
	Pulmonary Medicine	10.8	32.4	21.6	11.6	32.2	20.6
	Radiation Therapy	5.3	7.2	2.0	5.7	7.2	1.4
	Rheumatology	6.5	13.1	6.5	7.0	13.0	6.0
Medical Specialties Total		**140.5**	**282.7**	**142.2**	**149.4**	**271.3**	**121.9**
Surgical Specialties	Cardiothoracic Surgery	4.5	10.0	5.5	4.9	9.2	4.3
	ENT	10.5	18.7	8.2	11.0	18.4	7.5
	General Surgery	23.0	66.3	43.3	24.4	64.8	40.3
	Neurosurgery	5.5	23.6	18.1	5.8	22.6	16.7
	Obstetrics & Gynecology	30.0	64.9	34.9	30.8	62.3	31.5
	Ophthalmology	18.8	25.8	7.0	20.1	24.6	4.4
	Orthopedic Surgery	25.1	77.2	52.1	26.3	72.7	46.4
	Plastic Surgery	6.8	8.3	1.6	7.1	7.7	0.5
	Urology	10.0	18.5	8.5	10.8	18.4	7.7
	Vascular Surgery	4.1	10.9	6.8	4.4	10.7	6.2
Surgical Specialties Total		**138.4**	**324.3**	**185.9**	**145.8**	**311.3**	**165.6**
Other Specialties	Physical Medicine/Rehab	9.6	15.2	5.6	10.2	14.9	4.6
	Podiatry	16.8	18.4	1.6	17.9	17.5	(0.4)
	Psychiatry	39.3	75.1	35.8	41.3	71.9	30.6
	Radiology - Interventional	3.9	4.8	0.9	4.2	4.5	0.3
Other Specialties Total		**69.5**	**113.5**	**44.0**	**73.6**	**108.8**	**35.2**
Grand Total		**624.9**	**1,105.7**	**480.8**	**663.5**	**1,059.2**	**395.7**

Sioux Empire Provider Surplus / Deficits by Rural Classification

SD[1] Provider Types (FTEs)	SE - Urban	SE - Rural	SE - Small Rural	SE - Very Rural
Primary Care Specialist	104.0	**-2.7**	**-4.4**	**-23.9**
Obstetrics & Gynecology	33.8	0.8	**-1.0**	**-2.1**
Psychiatrists	40.7	**-5.0**	**-1.6**	**-3.5**
Medical Specialists	154.8	**-11.3**	**-6.0**	**-15.7**
Surgical Specialists	148.7	0.5	**-2.7**	**-12.4**
Other Specialists	10.0	**-1.2**	**-1.4**	**-2.9**

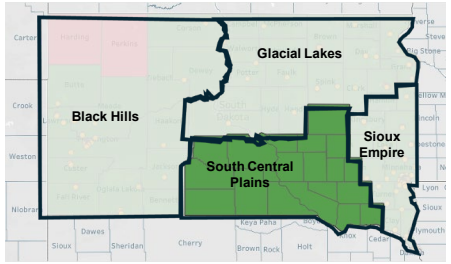
Key Observations: Sioux Empire

- Sioux Empire's **provider FTEs can support the estimated current and future demand for healthcare services** but are not distributed across the Region to close all local access gaps.
- Very Rural and Small Rural Areas are disproportionately impacted and need 78 more providers to adequately care for their community.

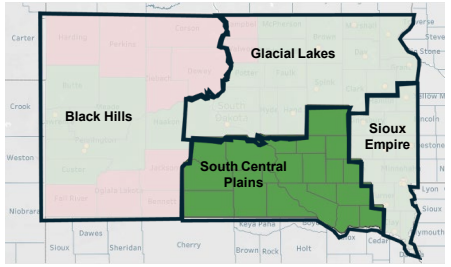
SOUTH DAKOTA DEPARTMENT OF HEALTH

Network adequacy varies for South Central Plains

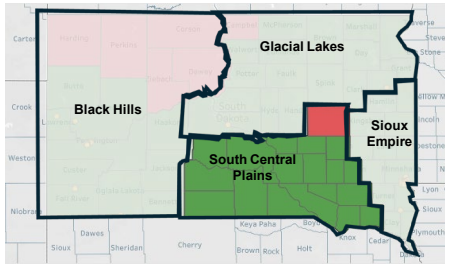
Primary Care



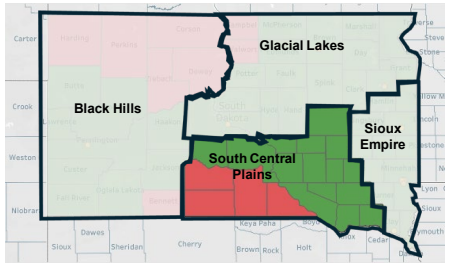
Cardiology



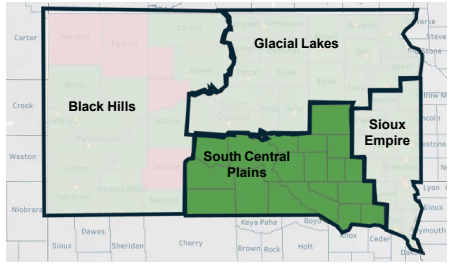
Psychiatry



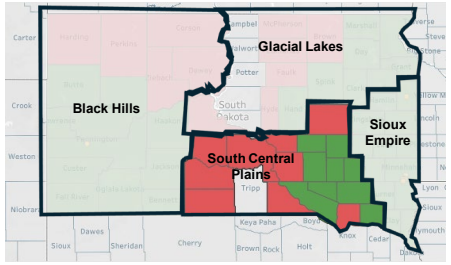
Oncology – Medical, Surgical



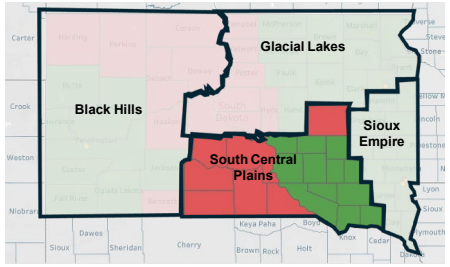
General Surgery



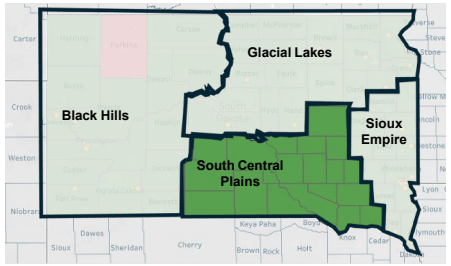
Endocrinology



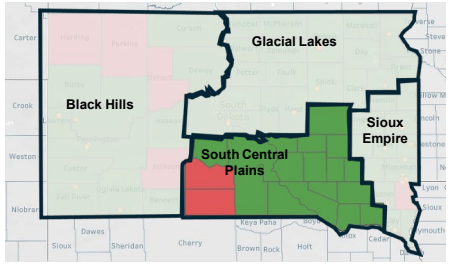
Gastroenterology



Gynecology OB/Gyn



Orthopedic Surgery



Adequate
Not Adequate

Key Observations: South Central Plains

- South Central Plains has an adequate network for certain specialties (e.g., cardiology, general surgery) but an inadequate network for others (e.g., endocrinology and gastroenterology).
- Counties in the Region's western portion tend to be least adequate across the various specialties.

Source/Notes: Guidehouse Network Adequacy tool – applies U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial, and others) for key CMS Specialties. Blank areas on the maps indicate no providers close enough to assess network adequacy.

It is projected that South Central Plains will have the greatest overall provider shortages in five years compared to others

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	22.4	13.8	(8.6)	22.5	13.6	(8.9)
	Primary Care (FP/IM)	73.0	77.8	4.8	75.4	69.3	(6.1)
Primary Care Total		**95.4**	**91.5**	**(3.9)**	**97.9**	**82.9**	**(15.0)**
Medical Specialties	Allergy & Immunology	1.5	0.3	(1.3)	1.5	0.0	(1.5)
	Cardiology	9.3	7.9	(1.4)	9.4	6.8	(2.6)
	Dermatology	4.4	2.5	(1.9)	4.4	2.5	(2.0)
	Endocrinology	2.6	0.0	(2.6)	2.7	0.0	(2.7)
	Gastroenterology	4.6	0.5	(4.1)	4.6	0.5	(4.2)
	Hematology/Oncology	4.2	2.3	(2.0)	4.4	1.9	(2.4)
	Infectious Disease	2.3	0.9	(1.3)	2.4	0.9	(1.4)
	Neonatology	2.7	0.0	(2.7)	2.7	0.0	(2.7)
	Nephrology	2.7	4.5	1.8	2.9	4.5	1.6
	Neurology	4.7	0.9	(3.8)	4.8	0.9	(3.9)
	Pulmonary Medicine	3.8	4.2	0.4	3.9	4.2	0.2
	Radiation Therapy	1.9	3.3	1.4	2.0	2.4	0.4
	Rheumatology	2.3	1.0	(1.3)	2.3	1.0	(1.4)
Medical Specialties Total		**47.1**	**28.1**	**(18.9)**	**48.0**	**25.6**	**(22.4)**
Surgical Specialties	Cardiothoracic Surgery	1.6	0.0	(1.6)	1.7	0.0	(1.7)
	ENT	3.3	4.3	0.9	3.3	4.2	0.9
	General Surgery	7.8	11.8	4.0	8.0	10.8	2.9
	Neurosurgery	1.9	0.0	(1.9)	1.9	0.0	(1.9)
	Obstetrics & Gynecology	9.9	15.5	5.6	9.9	14.1	4.2
	Ophthalmology	6.6	4.7	(1.9)	6.8	4.5	(2.2)
	Orthopedic Surgery	8.3	10.3	1.9	8.4	9.3	0.9
	Plastic Surgery	2.2	0.0	(2.2)	2.2	0.0	(2.2)
	Urology	3.5	4.3	0.8	3.6	2.6	(1.0)
	Vascular Surgery	1.5	1.6	0.1	1.6	1.6	0.0
Surgical Specialties Total		**46.8**	**52.5**	**5.7**	**47.4**	**47.2**	**(0.2)**
Other Specialties	Physical Medicine/Rehab	3.2	1.8	(1.5)	3.3	1.0	(2.3)
	Podiatry	5.6	5.2	(0.4)	5.8	4.4	(1.3)
	Psychiatry	13.3	5.1	(8.2)	13.5	4.9	(8.6)
	Radiology - Interventional	1.4	0.0	(1.4)	1.5	0.0	(1.5)
Other Specialties Total		**23.6**	**12.1**	**(11.5)**	**24.1**	**10.3**	**(13.8)**
Grand Total		**212.9**	**184.3**	**(28.6)**	**217.4**	**166.1**	**(51.4)**

South Central Plains Provider Surplus / Deficits by Rural Classification

SD[1] Provider Types (FTEs)	SCP - Rural	SCP - Small Rural	SCP - Very Rural
Primary Care Specialist	0.1	**-2.7**	**-12.3**
Obstetrics & Gynecology	5.6	**-0.7**	**-0.6**
Psychiatrists	**-2.5**	**-0.8**	**-5.4**
Medical Specialists	**-5.3**	**-1.7**	**-15.5**
Surgical Specialists	5.2	**-0.7**	**-8.9**
Other Specialists	**-2.0**	**-0.3**	**-2.8**

Key Observations: South Central Plains

- The South Central Plains Region does not currently have enough providers to support residents' healthcare needs, and the deficit is projected to double in five years.
- The top five specialties with notable deficits are pediatrics, psychiatry, primary care, gastroenterology, and neurology.

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VIII. Digital Access & Virtual Care

Digital Access | Overview

Background	This section assesses SD's digital landscape, including digital health efforts and initiatives, relevant digital and telehealth policies that impact SD, and underlying broadband infrastructure and coverage across the State. The section combines findings and insights from various data sources, stakeholder interviews, and external research from reputable sources.
Importance	Assessing the digital landscape highlights the impact and role of digital health in the healthcare continuum in SD. Digital health and telehealth capabilities can positively impact healthcare access, reduce healthcare spending, and reduce patient travel and wait times.[1]
Methodology	In this section, we: • Highlight recent digital progress and investment in SD. • Summarize key policies that impact digital health in SD. • Articulate factors that complicate digital health efforts, especially in rural areas. • Observe data trends for broadband access and telehealth utilization and describe the implications of each. • Review current digital health efforts underway in the State and provide observations based on these efforts.
Limitations	Guidehouse did not have access to comprehensive data on digital health and virtual care demand and utilization in SD. In addition, despite the myriad of digital health programs and efforts underway across the State, data and published information about where these programs operate and serve varies in specificity and the amount of information disclosed.

Source: [1]National Library of Medicine, "Telehealth Benefits and Barriers," https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7577680/.

Digital Access | Key Takeaways

Key Questions

Digital Landscape

1. What is the current environment and infrastructure for digital health in SD?
2. What is the current policy environment to enable digital healthcare access in SD?
3. What data illustrates the current state of digital healthcare access in SD?
4. Who are the key players who can leverage and deliver digital and virtual healthcare within SD?
5. Where do opportunities exist to focus digital health efforts in SD?

Key Takeaways

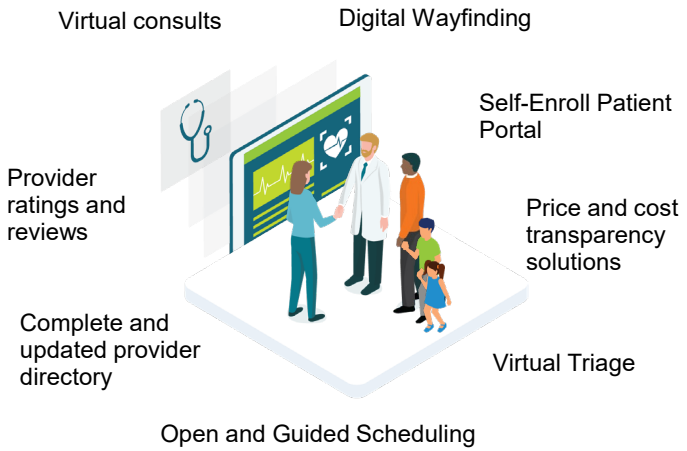
1. SD and health systems have recently **implemented various initiatives and programs to advance digital care in the State**; opportunities exist to continue improving access to digital and virtual care, including expanding access to rural and Tribal Areas.
2. **Black Hills and South Central Plains Regions may be areas for continued focus for digital health efforts** to help mitigate healthcare access gaps in these Regions, as seen in the Access Gap Analysis.
3. Broadband access remains an issue in SD, as approximately **1 in 6 South Dakotans lack adequate broadband** (2022)**.**
4. Although broadband challenges exist, telehealth utilization suggests that **virtual care has traction in rural-classified areas**.
    1. **The State's rural-classified areas have higher telehealth utilization rates than urban areas**, which suggests that virtual care has traction and potential to help mitigate access gaps in Rural, Small Rural, and Very Rural areas.
5. Access to computers is another issue that impacts access to healthcare services and virtual care. In 2022, **7.4% of households in SD do not have a computer**, which is slightly higher than the national average (6.0%), ND (6.8%), and ID (4.8%).
6. **Rural South Dakotans had the lowest percentage of households without access to a smartphone** compared to the State average, Urban South Dakotans, and peer states.
7. In SD, **Medicaid and Medicare FFS cover telehealth visits, remote patient monitoring (RPM), and audio-only visits;** CMS covers about 30% of the enrolled population in SD.

Digital or virtual access to healthcare services includes multiple modalities

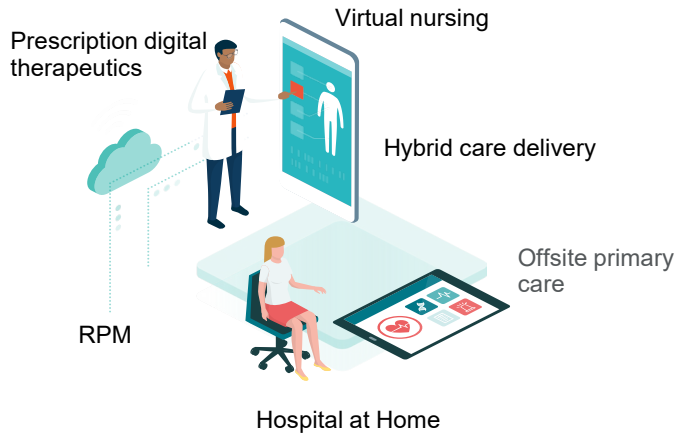
Virtual Health is the ability for patients to **meet with their provider through a phone call or video visit**.[1]
Digital Health refers to technology capabilities that **enable access to care and care delivery**. Digital health enables convenience, improved patient and provider experience, and operational efficiencies to ensure that care is delivered safely and with the highest quality.[1]

Digital Health should be a **holistic** strategy, not point solutions, with **one** unified vision to enable the most effective and efficient care delivery. Certain types of care are suitable for virtual and digital care, including:

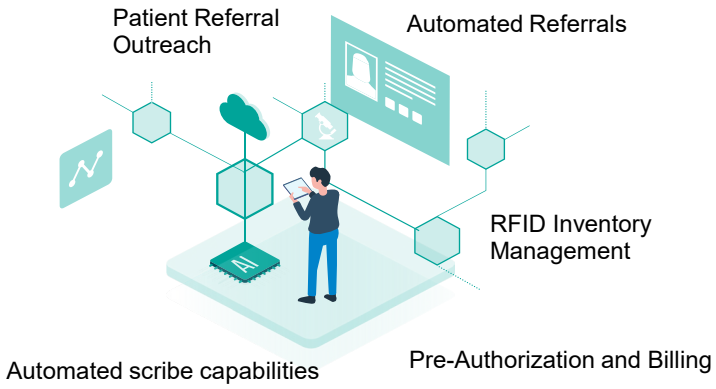
ACCESS & ENGAGEMENT



DIGITAL CARE MODELS



OPERATIONAL & CLINICAL EFFICIENCES



SOUTH DAKOTA DEPARTMENT OF HEALTH

Source: [1]Guidehouse definitions.

While most digital and virtual care investments occurred as a result of the pandemic, SD made investments pre-pandemic

The State of SD has made notable investments to advance virtual and digital care.

Connect SD Broadband, 2019

As part of this public-private partnership, $5 million was allocated to **expand high-speed internet service in SD**. Since the program began in 2019, nearly 32,000 South Dakotans have received access to high-speed internet.

Virtual Crisis Care, 2020

Avel eCare and the SD Unified Judicial System launched Crisis Care. Through this program, **law enforcement has on-demand access through tablets to behavioral health experts** who can talk with law enforcement and help make recommendations for care for the person and situation.

Expansion of Telemedicine, 2021

Governor Kristi Noem signed a law allowing **providers to see patients via telehealth without first being seen in person**. This is significant, especially in rural communities, where people may have to drive far distances to see providers in person.

Telemedicine in Motion for EMS, 2023

Avel eCare launched a program with the SDDOH for Emergency Medical Services (EMS) agencies. EMS agencies who participate **receive an iPad to connect ambulances to emergency medicine doctors and nurses.**

Quit Tobacco Virtual Care Program, 2024

Quit Tobacco expanded its virtual care for those wanting to quit using tobacco products, including offering **quit coaches who can be reached via phone or video chat and text coaching** (2QuitSD).

Sources: BroadbandUSA, SD, National Telecommunications and Information Association. Government Technology Publications, SD Awards Final Round of Broadband Funding," Avel eCare: Crisis Care Services; SD Department of Health EMS Telemedicine; QuitTobaccoSD; CCHP: SD; DSS Social Services Telemedicine; https://sdlegislature.gov/Statutes/34-52-3.

SOUTH DAKOTA DEPARTMENT OF HEALTH

Despite policy progress, various factors can limit the effectiveness of digital health in SD

SD Policy and Regulatory Progress

- Medicaid reimbursement for telehealth visits, remote patient monitoring (RPM), and audio-only visits in SD.[1,2]
- FQHCs and RHCs can bill for behavioral telehealth (permanently covered).
- Providers can serve patients via telehealth without being seen in person first (2021 State law).[3]

Various factors can complicate digital health efforts:

Provider Isolation: Due to the variety of providers and specialty types involved in care delivery, communication between providers can be fragmented and a barrier to healthcare access in rural areas.[4]

As expressed in stakeholder interviews, a provider may need to contact specialists as they care for a patient. Still, there is **no set structure for virtual coordination with providers in separate health systems.** This is only exacerbated in rural settings, where facilities and providers are more isolated. Providers at smaller clinics and health centers delivering care in rural areas of the State may be less connected than providers in and around Sioux Falls and Rapid City, which can complicate virtual patient handoffs across different care environments.

Challenges to Foster Patient Trust in Providers: Patient trust in digitally enabled care is lower than in-person care, especially for rural residents who may be more likely to trust a long-time provider than the broader healthcare "system," as expressed in stakeholder interviews.

Provider Licensing Barriers: In many cases, minimal pathways for multistate telehealth licensure exist, which forces providers to maintain multiple licenses to provide care across state lines.[5]

Source/Notes: 1) Center for Connected Health Policy, "SD," https://www.cchpca.org/south-dakota/?category=federally-qualified-health-center-fqhc&topic=eligible-originating-site. 2) SD Billing and Policy Manual, "FQHC and RHC Services," https://dss.sd.gov/docs/medicaid/providers/billingmanuals/Professional/FQHC_and_RHC.pdf. 3) SD Legislature, "Codified Law 34-52-3," https://sdlegislature.gov/Statutes/34-52-3. 4) National Library of Medicine, "A qualitative study of rural healthcare providers' views of social, cultural, and programmatic barriers to healthcare access," "https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8976509/#:~:text=Inadequate%20access%20to%20healthcare%20is,health%20systems%27%20ability%20to%20function. 5) National, Library of Medicine, "Telehealth Benefits and Barriers," https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7577680/.

Enablement of digital access is multi-factorial

These key factors enable adoption but also can create barriers to digital health and virtual care.

1. Provider-Specific Offerings.

Digital health and telehealth depend on 1) providers, whether they participate in telehealth, and where, and 2) the level of care needed and whether digital health is an appropriate platform.

2. Access to Broadband.

Telehealth and other virtual care services need high-quality broadband to operate. Individuals without broadband will likely be unable to use telehealth services and participate in virtual visits.

3. Insurance and Payment Options

Patients often have the option to pay for virtual care and digital health services through insurance or out-of-pocket expenses.

4. Availability of Devices and Digital Literacy.

To effectively connect to a provider virtually, individuals will need access to a device, whether personal or provided by the healthcare facility, and digital literacy.

Across provider-specific offerings, SD has access to advanced digital and virtual care compared to similar states

Key Observations: Despite the current impact of digital care programs across the State, **the opportunity exists to expand digital health programs focused on specialty care,** based on sentiments expressed during stakeholder interviews and review of current digital efforts**.** Many of the State's current digital health programs target rural areas, although data on the areas these programs serve varies.

Avel eCare*

Avel eCare operates various telemedicine initiatives within the behavioral health, crisis care, emergency, and emergency medical, hospitalist, critical care, pharmacy, school health, specialty, and senior care categories. The section below highlights two of these programs.

School Health Program [1]

Telehealth services for schools
Focus: School staff are connected virtually with nurses to have nursing coverage in K-12 schools and ensure immediate response to student needs
Reach: Various school districts across SD, including in Sioux Falls and Sisseton

Crisis Care Program [2]

Telehealth behavioral health services for law enforcement
Focus: Mental and behavioral health professionals are connected to law enforcement to advise care for the person in the situation
Reach: 40+ SD counties, rural focus

State & Educational*

Telemedicine in Motion [3]
Telemedicine support in ambulances for EMS professionals (DOH and Avel eCare partnership)
Focus: EMS support from emergency medicine experts
Reach: EMS agencies across SD

SD Quitline [4]
Virtual care for individuals who want to quit using tobacco products includes quit coaches reached via phone, video chat, or text coaching (2QuitSD). Individuals can participate for up to 12 weeks of phone or video chats or up to 8 weeks of text coaching
Focus: Virtual health coaching (focused on quitting tobacco)
Reach: Unspecified

Avera & Sanford*

Avera Virtual Nursing and Monitoring Programs[5]
Virtual nursing and monitoring to support bedside nurses
Focus: Nursing
Reach: Statewide with a rural focus

Avera Project NEXT[6]
Telehealth support and digital care skill training for nurses
Focus: Nursing
Reach: Statewide with a rural focus

Sanford Virtual Care Center (VCC) [7]
Sioux Falls building that will offer space for clinicians to virtually connect with patients at remote satellite clinics and receive digital care training
(A part of Sanford's Virtual Care Initiative to reach rural and underserved areas, anticipated to open in 2024)
Focus: Unspecified
Reach: Rural focus

Source/Notes: 1) Avel eCare, "Avel School Health," https://www.avelecare.com/services/school-health/. 2) Avel eCare, "Avel Crisis Care," https://www.avelecare.com/services/crisis-care/, https://lobbying.wi.gov/Data/PositionFileUploads/11212023_012519_WI_Crisis%20Care_11_1.pdf. 3) SD Association of Healthcare Organizations, "Newest SD EMS Initiative: Telemedicine in Motion," https://sdaho.org/2023/03/10/newest-south-dakota-ems-initiative-telemedicine-in-motion/. 4) Quit Tobacco SD, "Which SD Quitline Service is Right for You?," https://quittobaccosd.com/blog/which-sd-quitline-service-is-right-for-you. 5) Avera Health, "Avera Expands Telemedicine Efforts to Virtual Nursing," https://www.avera.org/balance/family-medicine/avera-expands-telemedicine-efforts-to-virtual-nursing/. 6) Avera Health, "Avera Receives Grant Funding to Support Nursing Workforce," https://www.avera.org/news-media/news/2022/hrsa-nursing-grants/#:~:text=Avera%20has%20received%20over%20%242.5,including%20telehealth%20and%20virtual%20nursing. 7) Sanford Health, "Sanford Virtual Care," https://www.sanfordhealth.org/initiatives/virtual-care.

*The programs described are a representative sample of digital care programs in the State and are not exhaustive.

SD has invested in expanding broadband, but access gaps in rural areas persist

Recent investments expand digital access across the State…

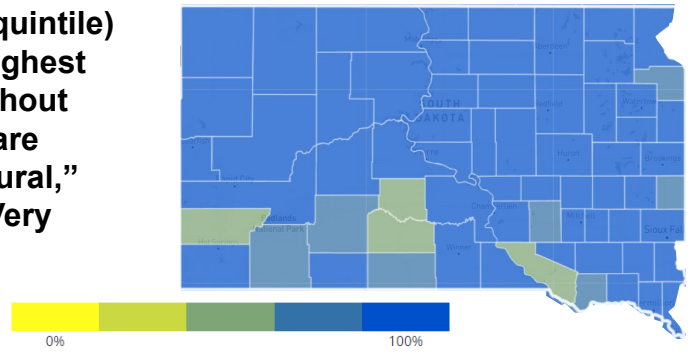
- **Digital Care for SD's Elderly Population**
  - Up to $7 million in grant funding will support long-term care facilities to implement or expand telehealth services (via SD healthcare grants in 2024).[1]
- **Connect SD Broadband Program**
  - $5 million allocated to expand high-speed internet access (2019) with additional funding of $11.6 and $100 million (2021 and 2022). [2]
  - $32.4 million awarded to broadband expansion projects, bringing connection to an estimated 2,000 businesses, farms, and households. [3]

Yet broadband access remains an issue and impacts telehealth use...

- Areas with greater broadband availability tend to have higher telehealth utilization.[4]
- Approximately 1 in 6 South Dakotans lack adequate broadband (2022). [5]
- ~70% of the top 13 counties in the State with the least broadband access are rural-classified

Nine of the top 13 (quintile) counties with the highest rates of families without broadband access are located in either "Rural," "Small Rural," or "Very Rural" counties.[6,7]

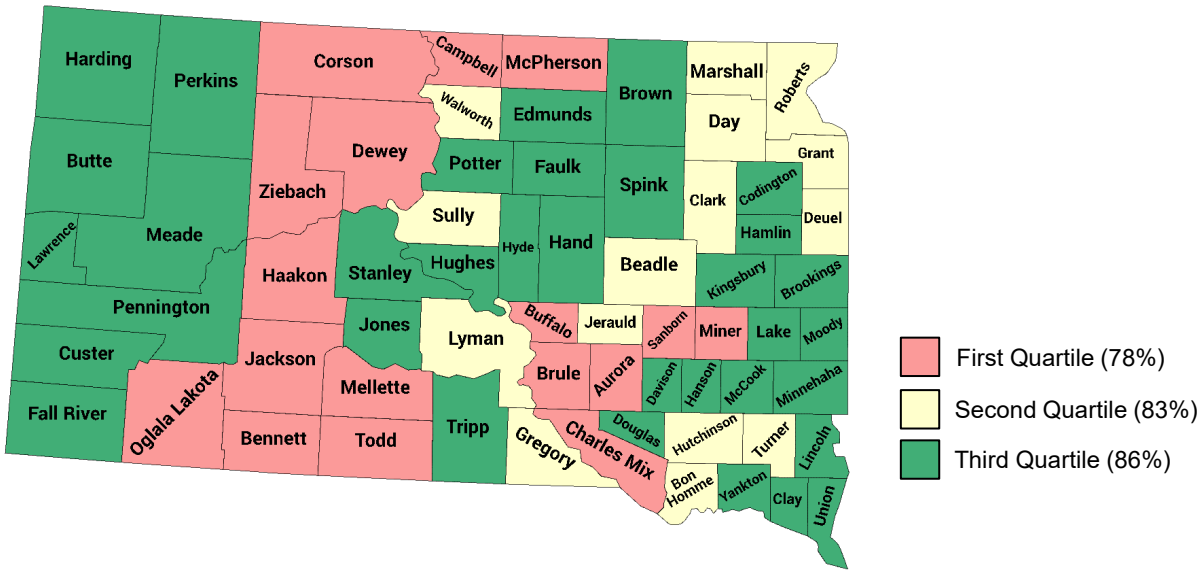
Percent of Population with Access to Fixed Broadband Service at 25/3 mbps or Higher (2019)



Source/Notes: 1) SD News Watch, "SD offering millions in tech grants to nursing homes," https://www.sdnewswatch.org/south-dakota-grants-nursing-home-avelecare/#:~:text=Senate%20Bill%20209%20will%20offer,the%20state%20Department%20of%20Health. 2) BroadbandUSA, "SD, National Telecommunications and Information Association," https://broadbandusa.ntia.doc.gov/node/209. 3) Government Technology Publications, "South Dakota Awards Final Round of Broadband Funding," https://www.govtech.com/network/south-dakota-awards-final-round-of-broadband-funding. 4) Center for Rural Affairs, "South Dakota Broadband Resource Guide," sd-broadband-resource-guide-2022-5-web.pdf. 5) Alliance of Connected Care, "Broadband Access," https://connectwithcare.org/broadband-access/#:~:text=A%202023%20study%20published%20by,with%20the%20least%20broadband%20availability. 6) Federal Communications Commission, "Connect 2 Health," https://www.fcc.gov/reports-research/maps/connect2health/map.html#ll=31.54109,96.459961&z=4&t=broadband&hmt=health&bbm= fixed_access&dmf=none&hhm=none&zlt=county. 7) U.S. Census data accessed via Claritas 2023-2028 Population estimates and projections. Rural comprises all zip codes in the SD strategic analysis geographic definition that are primarily assigned to SD and have a Rural, Small Rural, and Very Rural classification, while urban is any zip code classified as Urban.

Although broadband challenges exist, telehealth utilization suggests that virtual care has traction in rural areas

% of People with Broadband Access by County (2022)[1]



Medicare Fee for Service (FFS) Telehealth claims per 1,000 Members, 2022[2]

Medicare FFS Utilization	Urban	Rural	Small Rural	Very Rural	Non-Tribal	Tribal
Telehealth	73.8	211.3	77.3	126.2	174.0	122.2

Medicare FFS Utilization	SD	ND	ID
Telehealth	121.2	140.3	157.3

Highest *Lowest*

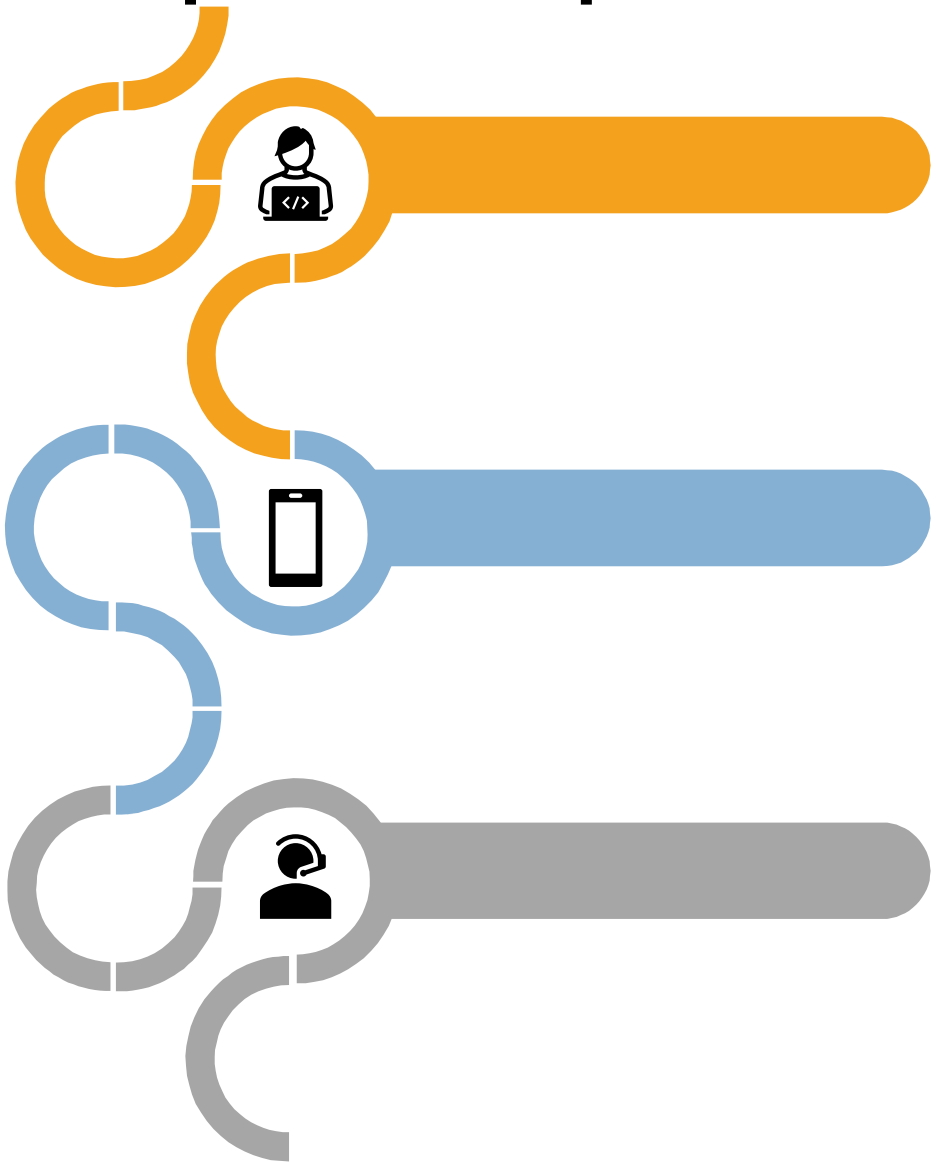
The color-coding scale shows the highest, second-highest, middle, and lowest utilization values in each row with a range of green, yellow, orange, and red highlights as applicable, respectively.

Key Observations

- South Dakota counties have varying broadband access levels, **ranging from 56% to 96%. 35% of counties have less than average broadband access. 41% of counties in the first quartile belong to the Black Hills Region, and 41% belong to the South Central Plains Region.** In addition to other hurdles (e.g., broadband cost) that should be further studied, this may explain why the Black Hills Region has the lowest telehealth utilization of all Regions. Combined with the access gaps in the Black Hills Region and the projected provider shortages in the South Central Plains Region, it underscores broadband access's importance in enabling and promoting telehealth.
- **The State's Rural areas have higher telehealth utilization rates than Urban areas**, which suggests that virtual care has traction; however, utilization is lower in Small Rural and Very Rural areas, suggesting there are opportunities to address telehealth challenges to mitigate gaps. More analysis is needed to determine the root cause.
- **There is still an opportunity to increase the use of telehealth, especially in Small Rural areas, which have the lowest utilization** of rural-classified areas.
    - Medicare FFS data also shows that SD has lower telehealth utilization rates than ND and ID.
- **Stakeholders indicated that leveraging telehealth can be complicated**; provider communication, patient handoffs, and specialty care can be challenging to execute in virtual care environments.
- **Stakeholders also report challenges finding specialists willing to participate in telehealth** due to reimbursement and additional skills and steps required to implement telehealth modalities.

Source/Notes: 1) U.S. Census Bureau 2022 American Community Survey. 2) MedPAR 2022 FFS Professional Claims, which represents 5% FFS sample of professional claims. Telehealth Utilization rates reflect ratios for counties with zip codes that only have one Rural/Urban classification for zip codes aligned with them. Data for counties with multiple classifications, e.g., Todd County, which has Rural, Small Rural, and Very Rural zip codes aligned to it, were excluded from this view of utilization.

Device access is a challenge for South Dakotans, even if hospitals and providers offer telehealth



In 2022, **92.6% of households in SD lived in a household with a computer**, slightly lower than the national average of 94%.[1]

14.3% of South Dakotans aged 65 years or older live in households without a computer, which is higher than other age groups and nationally (11.8%).[1]

Rural South Dakotans had the lowest percentage of households without access to a smartphone compared to the State average, Urban South Dakotans, and peer states.

Percent of Households that Have a Smartphone[2]	
Idaho	89.2%
United States	88.2%
South Dakota – Urban	87.6%
North Dakota	86.7%
South Dakota (State Avg.)	85.3%
South Dakota – Rural	81.9%

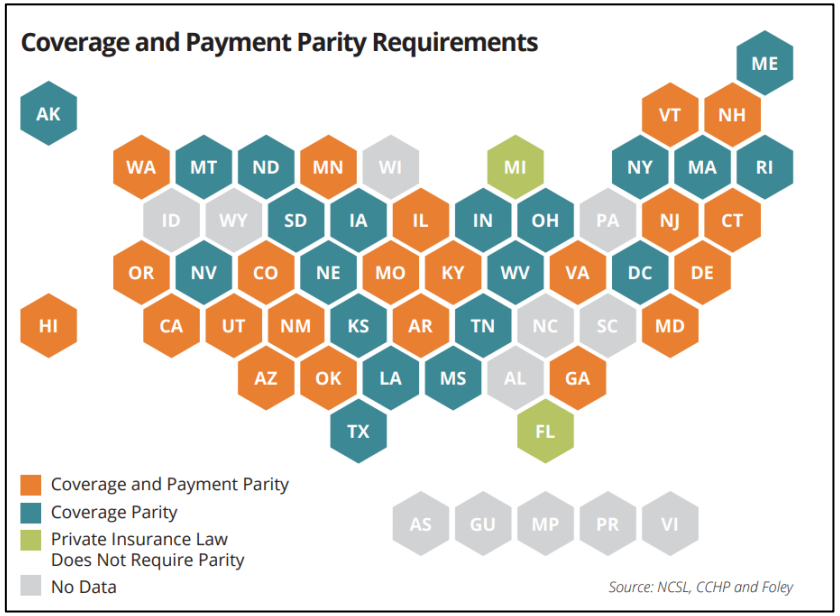
Some SD hospitals and providers offer telehealth services to patients in ambulance services, emergency departments, provider offices, and more. Types of telehealth options may include:

1. **Provider-to-Patient Consults:** Connecting patients with providers to expand access to care in underserved communities or healthcare deserts.
2. **Provider-to-Provider Consults:** Connecting providers to improve referrals, receive expert guidance and advice, and promote collaboration and efficiency.

Source/Notes: 1) 2022 U.S. Census Bureau, American Community Survey, Types of Internet Subscriptions by Selected Characteristics 2) 2022 U.S. Census Bureau, American Community Survey, Types of Computers and Internet Subscriptions.

Most South Dakotan insurers cover digital care, and the State has passed policies to protect telehealth options

% Enrollment by Line of Business[6]		
LOB	South Dakota	National
Uninsured	9.4%	8.5%
Commercial	60.6%	51.1%
Medicare FFS	16.2%	11.2%
Medicare Advantage	6.8%	9.7%
Medicaid	17.8%	30.9%



Key Observations

1. Most South Dakotans (60.6%) rely on commercial insurance; around 30% rely on Medicare or Medicaid.[6]
2. In SD, Medicaid and Medicare FFS cover telehealth visits, remote patient monitoring (RPM), and audio-only visits.[1,2]
   - Any provider can bill for telehealth visits or RPM to Medicare through the end of 2024 due to pandemic-era flexibilities.
   - FQHCs and RHCs can bill for medical telehealth visits (covered until the end of 2024) and behavioral telehealth (permanently covered).
3. In 2021, Governor Kristi Noem signed a law allowing providers to see patients via telehealth without being seen in person first.[3]
4. In SD, health insurers are prohibited from excluding a service from coverage solely because it was provided through telehealth.[1]
5. 41 states (including SD) and DC mandate telemedicine coverage parity, requiring private insurance to cover telemedicine similarly to in-person care.[4,5]

Source/Notes: 1) CCHPCA SD (https://www.cchpca.org/south-dakota/?category=federally-qualified-health-center-fqhc&topic=eligible-originating-site); 2) DSS SD (https://dss.sd.gov/docs/medicaid/providers/billingmanuals/Professional/FQHC_and_RHC.pdf); 3) https://sdlegislature.gov/Statutes/34-52-3; 4) https://documents.ncsl.org/wwwncsl/Health/Telehealth-Private-Insurance-Laws_36242.pdf 5) http://www.wvlegislature.gov/wvcode/code.cfm?chap=33&art=57#01 6) 2023 Health Leaders, enrollment, 7) KFF Total Medicaid MCOs.

Appendix

Ambulatory Provider Need Demand Methodology

Guidehouse developed an actuarially driven utilization model with a leading healthcare actuarial firm

- Physician demand based on market demographics, payer mix and other factors
- Modifies for today's healthcare environment: pay for performance, telemedicine, retail health, and APPs
- Adjusts for economic conditions and healthcare reform

Physician Use Rates and Adjustment Factors	Demographic Data by Age, Gender, and Payer	Physician Capacity
Milliman / Kaiser / Truven	**Claritas / US U.S. Census**	**MGMA**
• Actuarially calculated national base use rates are adjusted for: - Age and Gender Specific Utilization - Geographic Variation - Payer-specific Utilization - Penetration of Managed Care - Medicaid / Exchange Assumptions - Economic Impact	• Demographic data selectors available by: - Age Cohorts - Gender Cohorts - Zip Code - 5-year Zip Code Demographic Projection - Demographic Forecasts	• MGMA median data is used as physician capacity measurement to finalize calculation of overall physician demand: - Office Visits - Surgeries - Primary and Specialty

Urban Areas Provider Needs Analysis Detail

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	70.7	97.9	27.2	73.5	94.8	21.3
	Primary Care (FP/IM)	223.2	372.7	149.5	241.8	351.2	109.4
Primary Care Total		**293.9**	**470.6**	**176.6**	**315.3**	**446.0**	**130.7**
Medical Specialties	Allergy & Immunology	5.4	5.5	0.1	5.6	4.5	(1.1)
	Cardiology	30.1	53.4	23.3	32.0	48.8	16.8
	Dermatology	14.8	44.3	29.4	15.7	42.4	26.7
	Endocrinology	8.4	29.0	20.6	9.0	28.1	19.1
	Gastroenterology	14.6	40.1	25.5	15.6	37.5	21.9
	Hematology/Oncology	13.2	27.3	14.1	14.3	26.3	12.0
	Infectious Disease	6.9	22.7	15.7	7.6	22.0	14.4
	Neonatology	9.3	17.2	7.9	9.6	17.2	7.6
	Nephrology	8.1	24.8	16.7	8.9	22.4	13.5
	Neurology	14.8	49.8	35.0	15.9	48.3	32.5
	Pulmonary Medicine	11.8	45.6	33.8	12.7	43.5	30.8
	Radiation Therapy	5.8	10.0	4.2	6.4	9.9	3.6
	Rheumatology	7.1	16.5	9.4	7.7	16.4	8.7
Medical Specialties Total		**150.5**	**386.2**	**235.7**	**161.0**	**367.3**	**206.3**
Surgical Specialties	Cardiothoracic Surgery	5.0	12.3	7.3	5.4	11.5	6.0
	ENT	11.1	23.2	12.2	11.6	22.8	11.2
	General Surgery	24.8	81.6	56.8	26.4	79.3	52.9
	Neurosurgery	5.9	35.7	29.7	6.3	32.4	26.1
	Obstetrics & Gynecology	31.5	75.1	43.6	32.4	71.9	39.6
	Ophthalmology	20.4	38.5	18.1	21.9	37.0	15.1
	Orthopedic Surgery	26.7	95.7	68.9	28.2	90.4	62.2
	Plastic Surgery	7.2	12.0	4.8	7.6	11.0	3.4
	Urology	10.9	29.8	19.0	11.8	29.4	17.6
	Vascular Surgery	4.5	10.3	5.8	5.0	10.1	5.1
Surgical Specialties Total		**148.0**	**414.3**	**266.3**	**156.7**	**395.8**	**239.1**
Other Specialties	Physical Medicine/Rehab	10.4	24.1	13.7	11.1	23.7	12.6
	Podiatry	18.1	24.9	6.8	19.5	23.1	3.6
	Psychiatry	41.6	87.1	45.5	44.0	82.8	38.8
	Radiology - Interventional	4.3	4.8	0.5	4.7	4.5	(0.2)
Other Specialties Total		**74.4**	**140.9**	**66.5**	**79.3**	**134.1**	**54.8**
Grand Total		**666.8**	**1,412.0**	**745.1**	**712.3**	**1,343.2**	**630.9**

Urban areas of SD have an excess supply of providers, currently and in the future, except Allergy & Immunology, which aligns with feedback about providers preference for living in urban areas

Urban areas usually have more resources, higher population density, and amount of people, which helps to keep providers busy and facilitate enhancement of provider competency

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Analysis geographic definition (excluding zip codes shared with other states). 1) Provider need is based on evaluating the number of non-hospital-based providers practicing within the geography and estimating the portion of their time spent on clinical care. Year 1 = 2023, Year 5 = 2028.

Rural Areas Provider Needs Analysis Detail

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	34.8	28.9	(5.8)	35.0	28.5	(6.5)
	Primary Care (FP/IM)	119.8	155.7	35.9	125.3	144.4	19.1
Primary Care Total		**154.5**	**184.6**	**30.1**	**160.3**	**172.9**	**12.6**
Medical Specialties	Allergy & Immunology	2.8	0.3	(2.5)	2.8	0.0	(2.8)
	Cardiology	15.9	18.8	2.9	16.3	15.8	(0.4)
	Dermatology	7.7	10.4	2.7	7.8	10.4	2.6
	Endocrinology	4.4	0.0	(4.4)	4.5	0.0	(4.5)
	Gastroenterology	7.7	1.0	(6.7)	8.0	1.0	(6.9)
	Hematology/Oncology	7.0	7.9	0.9	7.3	6.3	(1.0)
	Infectious Disease	3.7	1.9	(1.8)	3.9	1.6	(2.3)
	Neonatology	4.9	0.5	(4.5)	4.9	0.5	(4.4)
	Nephrology	4.4	7.3	2.9	4.6	7.3	2.7
	Neurology	7.9	3.7	(4.2)	8.1	2.9	(5.2)
	Pulmonary Medicine	6.3	7.1	0.8	6.6	7.1	0.5
	Radiation Therapy	3.1	10.3	7.2	3.3	8.4	5.1
	Rheumatology	3.7	1.8	(2.0)	3.9	1.8	(2.1)
Medical Specialties Total		**79.5**	**70.8**	**(8.6)**	**82.1**	**63.2**	**(18.9)**
Surgical Specialties	Cardiothoracic Surgery	2.7	0.0	(2.7)	2.8	0.0	(2.8)
	ENT	5.7	8.9	3.2	5.8	8.9	3.1
	General Surgery	13.2	26.5	13.3	13.6	25.1	11.6
	Neurosurgery	3.2	0.0	(3.2)	3.2	0.0	(3.2)
	Obstetrics & Gynecology	16.8	40.6	23.8	16.9	36.0	19.1
	Ophthalmology	10.8	8.8	(2.0)	11.3	7.2	(4.0)
	Orthopedic Surgery	14.0	31.7	17.7	14.3	29.4	15.1
	Plastic Surgery	3.8	0.6	(3.2)	3.8	0.3	(3.5)
	Urology	5.7	11.7	6.0	6.0	8.2	2.3
	Vascular Surgery	2.4	1.1	(1.3)	2.6	1.1	(1.4)
Surgical Specialties Total		**78.3**	**129.9**	**51.7**	**80.3**	**116.3**	**36.0**
Other Specialties	Physical Medicine/Rehab	5.5	3.2	(2.3)	5.7	2.4	(3.3)
	Podiatry	9.4	14.9	5.5	9.8	14.1	4.3
	Psychiatry	22.4	13.0	(9.4)	23.0	12.7	(10.3)
	Radiology - Interventional	2.3	1.9	(0.4)	2.4	1.9	(0.5)
Other Specialties Total		**39.6**	**33.0**	**(6.6)**	**40.9**	**31.0**	**(9.9)**
Grand Total		**351.8**	**418.3**	**66.5**	**363.7**	**383.5**	**19.8**

In Rural areas, the supply of providers seems sufficient to meet current and future demand.

However, specialty-level assessment tells a different story, with sizable deficits across most specialties.

Psychiatry, pediatrics, gastroenterology, endocrinology, and neonatology are the top five specialties with large deficits observed currently and in the future.

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Analysis geographic definition (excluding zip codes shared with other states). 1) Provider need is based on evaluating the number of non-hospital-based providers practicing within the geography and estimating the portion of their time spent on clinical care. Year 1 = 2023, Year 5 = 2028.

Small Rural Areas Provider Needs Analysis Detail

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	14.8	6.2	(8.7)	14.7	6.0	(8.7)
	Primary Care (FP/IM)	51.1	49.0	(2.0)	53.8	45.7	(8.0)
Primary Care Total		**65.9**	**55.2**	**(10.7)**	**68.4**	**51.7**	**(16.7)**
Medical Specialties	Allergy & Immunology	1.1	0.0	(1.1)	1.1	0.0	(1.1)
	Cardiology	6.5	1.2	(5.3)	6.7	0.9	(5.7)
	Dermatology	3.1	0.0	(3.1)	3.2	0.0	(3.2)
	Endocrinology	1.8	0.0	(1.8)	1.9	0.0	(1.9)
	Gastroenterology	3.2	0.0	(3.2)	3.3	0.0	(3.3)
	Hematology/Oncology	2.9	0.0	(2.9)	3.1	0.0	(3.1)
	Infectious Disease	1.6	0.0	(1.6)	1.7	0.0	(1.7)
	Neonatology	1.8	0.0	(1.8)	1.8	0.0	(1.8)
	Nephrology	1.9	0.5	(1.4)	2.0	0.5	(1.5)
	Neurology	3.3	0.0	(3.3)	3.4	0.0	(3.4)
	Pulmonary Medicine	2.7	0.0	(2.7)	2.8	0.0	(2.8)
	Radiation Therapy	1.3	0.0	(1.3)	1.4	0.0	(1.4)
	Rheumatology	1.6	0.0	(1.6)	1.7	0.0	(1.7)
Medical Specialties Total		**32.7**	**1.7**	**(31.0)**	**34.0**	**1.5**	**(32.6)**
Surgical Specialties	Cardiothoracic Surgery	1.1	0.0	(1.1)	1.2	0.0	(1.2)
	ENT	2.3	0.3	(2.0)	2.4	0.3	(2.1)
	General Surgery	5.5	5.2	(0.3)	5.7	3.4	(2.3)
	Neurosurgery	1.3	0.0	(1.3)	1.4	0.0	(1.4)
	Obstetrics & Gynecology	7.6	2.3	(5.3)	7.7	2.2	(5.4)
	Ophthalmology	4.6	0.0	(4.6)	4.8	0.0	(4.8)
	Orthopedic Surgery	5.9	2.2	(3.7)	6.1	2.0	(4.0)
	Plastic Surgery	1.6	0.0	(1.6)	1.6	0.0	(1.6)
	Urology	2.4	0.5	(1.9)	2.5	0.4	(2.1)
	Vascular Surgery	1.1	0.2	(0.9)	1.1	0.2	(1.0)
Surgical Specialties Total		**33.4**	**10.6**	**(22.9)**	**34.5**	**8.6**	**(25.9)**
Other Specialties	Physical Medicine/Rehab	2.3	0.0	(2.3)	2.4	0.0	(2.4)
	Podiatry	3.9	1.5	(2.4)	4.1	1.5	(2.6)
	Psychiatry	9.4	3.6	(5.8)	9.7	3.6	(6.1)
	Radiology - Interventional	1.0	0.0	(1.0)	1.1	0.0	(1.1)
Other Specialties Total		**16.6**	**5.2**	**(11.5)**	**17.3**	**5.2**	**(12.1)**
Grand Total		**148.6**	**72.7**	**(76.0)**	**154.2**	**66.8**	**(87.4)**

Small Rural areas have severe provider deficits across every specialty, currently and in the future.

In many instances, no specialty providers are present in Small Rural areas. This is notable because 10% of the State's population resides in these areas.

The largest provider deficits are in psychiatry, pediatrics, primary care, cardiology, obstetrics & gynecology, and ophthalmology.

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Analysis geographic definition (excluding zip codes shared with other states). 1) Provider need is based on the evaluation of number of non-hospital-based providers practicing within the geography, estimating the portion of their time spent on clinical care. Year 1 = 2023, Year 5 = 2028.

Very Rural areas experience have severe provider deficits

Specialty Summary	Provider Specialty	Year 1 Demand (FTEs)	Year 1 Supply (FTEs)	Year 1 Surplus/ Deficit	Year 5 Demand (FTEs)	Year 5 Supply (FTEs)	Year 5 Surplus/ Deficit
Primary Care	Pediatrics	31.0	2.4	(28.6)	30.8	2.4	(28.3)
	Primary Care (FP/IM)	103.2	77.5	(25.6)	106.1	72.7	(33.3)
Primary Care Total		**134.2**	**80.0**	**(54.2)**	**136.8**	**75.1**	**(61.7)**
Medical Specialties	Allergy & Immunology	2.1	0.0	(2.1)	2.1	0.0	(2.1)
	Cardiology	13.2	5.1	(8.1)	13.3	4.4	(8.9)
	Dermatology	6.2	0.0	(6.2)	6.2	0.0	(6.2)
	Endocrinology	3.7	0.5	(3.2)	3.7	0.5	(3.3)
	Gastroenterology	6.4	0.0	(6.4)	6.5	0.0	(6.5)
	Hematology/Oncology	6.0	0.0	(6.0)	6.2	0.0	(6.2)
	Infectious Disease	3.2	0.0	(3.2)	3.3	0.0	(3.3)
	Neonatology	3.9	0.0	(3.9)	3.8	0.0	(3.8)
	Nephrology	3.9	2.0	(1.8)	4.0	2.0	(2.0)
	Neurology	6.6	0.2	(6.4)	6.7	0.2	(6.5)
	Pulmonary Medicine	5.4	1.4	(4.0)	5.6	1.4	(4.1)
	Radiation Therapy	2.7	0.0	(2.7)	2.8	0.0	(2.8)
	Rheumatology	3.2	0.0	(3.2)	3.3	0.0	(3.3)
Medical Specialties Total		**66.6**	**9.2**	**(57.3)**	**67.6**	**8.5**	**(59.1)**
Surgical Specialties	Cardiothoracic Surgery	2.3	0.0	(2.3)	2.4	0.0	(2.4)
	ENT	4.7	0.0	(4.7)	4.6	0.0	(4.6)
	General Surgery	11.0	7.2	(3.7)	11.1	6.3	(4.8)
	Neurosurgery	2.7	0.0	(2.7)	2.7	0.0	(2.7)
	Obstetrics & Gynecology	13.6	9.6	(4.0)	13.6	9.0	(4.6)
	Ophthalmology	9.3	0.2	(9.1)	9.5	0.0	(9.5)
	Orthopedic Surgery	11.6	5.0	(6.6)	11.7	4.1	(7.6)
	Plastic Surgery	3.1	0.0	(3.1)	3.1	0.0	(3.1)
	Urology	4.9	0.7	(4.2)	5.0	0.7	(4.3)
	Vascular Surgery	2.2	1.1	(1.0)	2.3	1.1	(1.1)
Surgical Specialties Total		**65.3**	**23.9**	**(41.4)**	**66.0**	**21.3**	**(44.7)**
Other Specialties	Physical Medicine/Rehab	4.5	0.0	(4.6)	4.6	0.0	(4.6)
	Podiatry	7.9	4.2	(3.7)	8.1	4.2	(3.9)
	Psychiatry	18.3	1.6	(16.8)	18.6	1.5	(17.0)
	Radiology - Interventional	2.0	0.0	(2.0)	2.1	0.0	(2.1)
Other Specialties Total		**32.8**	**5.8**	**(27.0)**	**33.4**	**5.7**	**(27.7)**
Grand Total		**298.8**	**118.8**	**(180.0)**	**303.8**	**110.7**	**(193.1)**

Across every specialty, Very Rural areas show no or minimal presence of providers to support residents' needs currently and in the future.

This is an acute problem because this severe lack of access to providers impacts one in five people in SD, who are spread across two-thirds of the State's geography.

The largest provider deficits are in psychiatry, primary care, pediatrics, cardiology, ophthalmology, orthopedic surgery, neurology, and gastroenterology.

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Analysis geographic definition (excluding zip codes shared with other states). 1) Provider need is based on evaluating the number of non-hospital-based providers practicing within the geography and estimating the portion of their time spent on clinical care. Year 1 = 2023, Year 5 = 2028.

Provider need by Sub-Region shows that Small and Very Rural areas have the greatest deficits across all provider types

2023 Ambulatory Provider Supply

SD[1] Provider Types (FTEs)	BH - Urban	BH - Rural	BH - Small Rural	BH - Very Rural	GL - Rural	GL - Small Rural	GL - Very Rural	SE - Urban	SE - Rural	SE - Small Rural	SE - Very Rural	SCP - Rural	SCP - Small Rural	SCP - Very Rural
Primary Care Specialist	133.3	25.0	32.7	10.7	76.9	10.6	24.4	337.3	29.6	8.5	9.9	53.1	3.4	35.0
Obstetrics & Gynecology	16.1	2.4	1.5	1.4	21.7	0.8	3.2	59.0	5.2	0.0	0.8	11.3	0.0	4.2
Psychiatrists	12.9	0.9	3.6	0.0	7.6	0.0	0.0	74.2	0.0	0.0	0.9	4.5	0.0	0.6
Medical Specialists	111.0	2.3	0.0	0.0	42.0	0.6	1.4	275.2	5.0	0.7	1.7	21.6	0.4	6.1
Surgical Specialists	97.1	7.8	4.2	0.0	40.4	0.7	4.7	242.1	13.1	2.3	1.8	28.1	1.1	7.8
Other Specialists	18.4	3.9	1.1	1.0	9.0	0.2	0.5	35.3	2.2	0.0	0.9	4.9	0.2	1.8

2028 Ambulatory Provider Supply

SD[1] Provider Types (FTEs)	BH - Urban	BH - Rural	BH - Small Rural	BH - Very Rural	GL - Rural	GL - Small Rural	GL - Very Rural	SE - Urban	SE - Rural	SE - Small Rural	SE - Very Rural	SCP - Rural	SCP - Small Rural	SCP - Very Rural
Primary Care Specialist	123.9	23.9	31.8	10.4	72.1	9.7	23.2	322.1	28.1	7.7	9.9	48.8	2.4	31.6
Obstetrics & Gynecology	15.2	2.4	1.4	1.4	18.5	0.8	3.0	56.7	4.8	0.0	0.8	10.3	0.0	3.8
Psychiatrists	11.8	0.9	3.6	0.0	7.5	0.0	0.0	71.0	0.0	0.0	0.9	4.3	0.0	0.6
Medical Specialists	102.4	2.3	0.0	0.0	37.1	0.6	1.2	264.9	4.3	0.4	1.6	19.4	0.4	5.7
Surgical Specialists	90.3	7.8	2.4	0.0	35.6	0.7	4.0	233.6	12.7	2.1	0.7	24.3	1.1	7.7
Other Specialists	17.4	3.9	1.1	1.0	8.8	0.2	0.5	33.9	2.1	0.0	0.9	3.4	0.2	1.8

2023 Ambulatory Provider Surplus/ Deficits

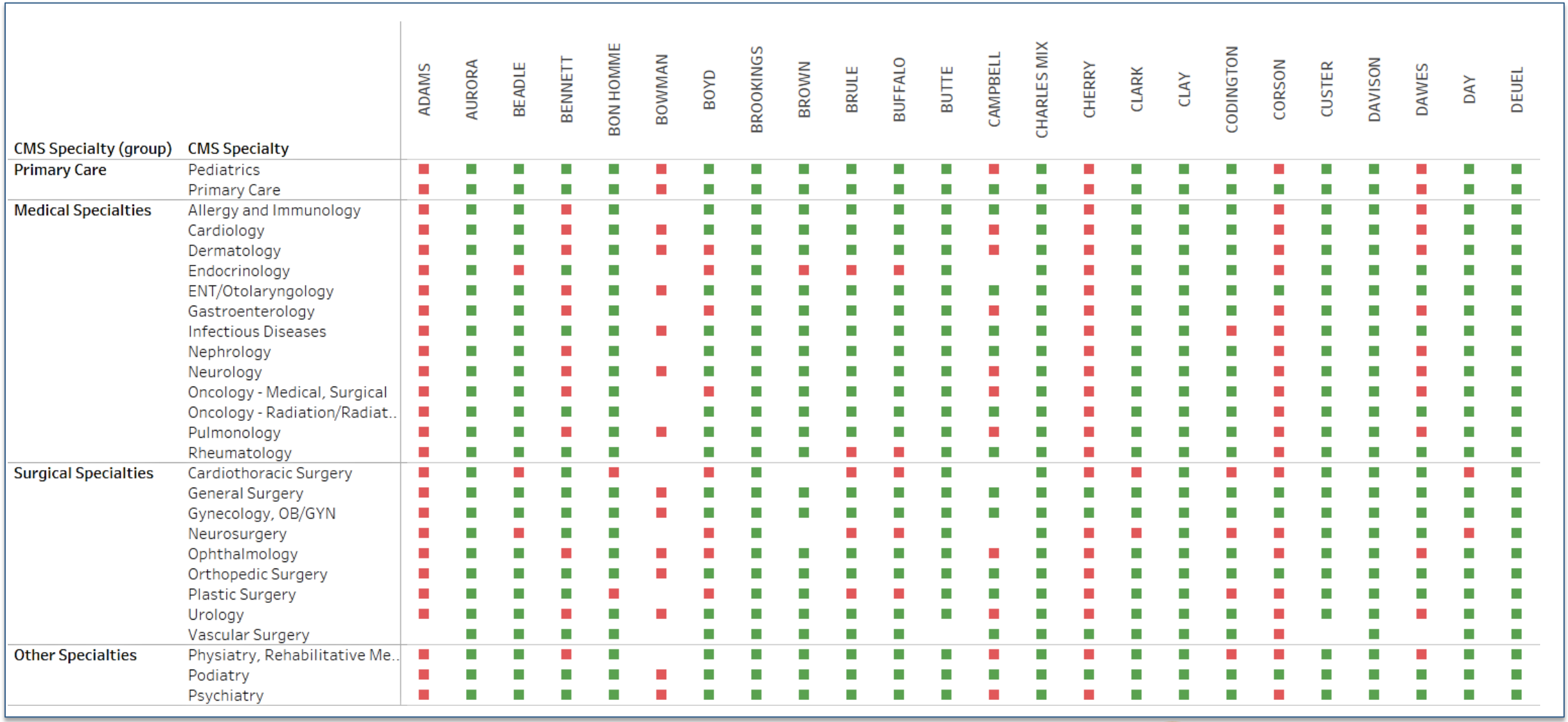
SD[1] Provider Types (FTEs)	BH - Urban	BH - Rural	BH - Small Rural	BH - Very Rural	GL - Rural	GL - Small Rural	GL - Very Rural	SE - Urban	SE - Rural	SE - Small Rural	SE - Very Rural	SCP - Rural	SCP - Small Rural	SCP - Very Rural
Primary Care Specialist	26.7	10.5	-11.8	-11.1	4.7	2.1	-14.4	104.0	-2.7	-4.4	-23.9	0.1	-2.7	-12.3
Obstetrics & Gynecology	5.8	1.0	-3.9	-1.7	11.6	0.2	-0.1	33.8	0.8	-1.0	-2.1	5.6	-0.7	-0.6
Psychiatrists	-2.0	-1.0	-2.7	-3.2	-1.9	-1.0	-4.9	40.7	-5.0	-1.6	-3.5	-2.5	-0.8	-5.4
Medical Specialists	51.5	-4.9	-21.5	-9.9	2.5	-3.4	-18.0	154.8	-11.3	-6.0	-15.7	-5.3	-1.7	-15.5
Surgical Specialists	50.9	2.2	-14.7	-8.2	9.0	-2.3	-10.6	148.7	0.5	-2.7	-12.4	5.2	-0.7	-8.9
Other Specialists	6.0	2.3	-3.6	-1.2	1.3	-0.6	-3.7	10.0	-1.2	-1.4	-2.9	-2.0	-0.3	-2.8

Key Observations

- **Very Rural areas** in each Region of the State **have large provider deficits across all provider types**, highlighting a large gap in access for residents in those areas.
- **Sioux Empire's Very Rural area has the highest deficit** across the four Regions of the State.

Source/Notes: SD Physician Roster, Definitive Healthcare (supplemental physician data), U.S. Census data accessed via Claritas (population data). SD Strategic Data Analysis geographic definition (excluding zip codes shared with other states). 1) Provider need is based on evaluating the number of non-hospital-based providers practicing within the geography, estimating the portion of their time spent caring for patients, and comparing the resulting provider availability with what is needed to support the residents of those areas by 2028. Various types of specialists make up the Medical, Surgical, and Other Specialists category. Obstetrics and Gynecology includes certified nurse midwives. FTE = Full-time equivalent. Pop. = Population.

Network Adequacy by County



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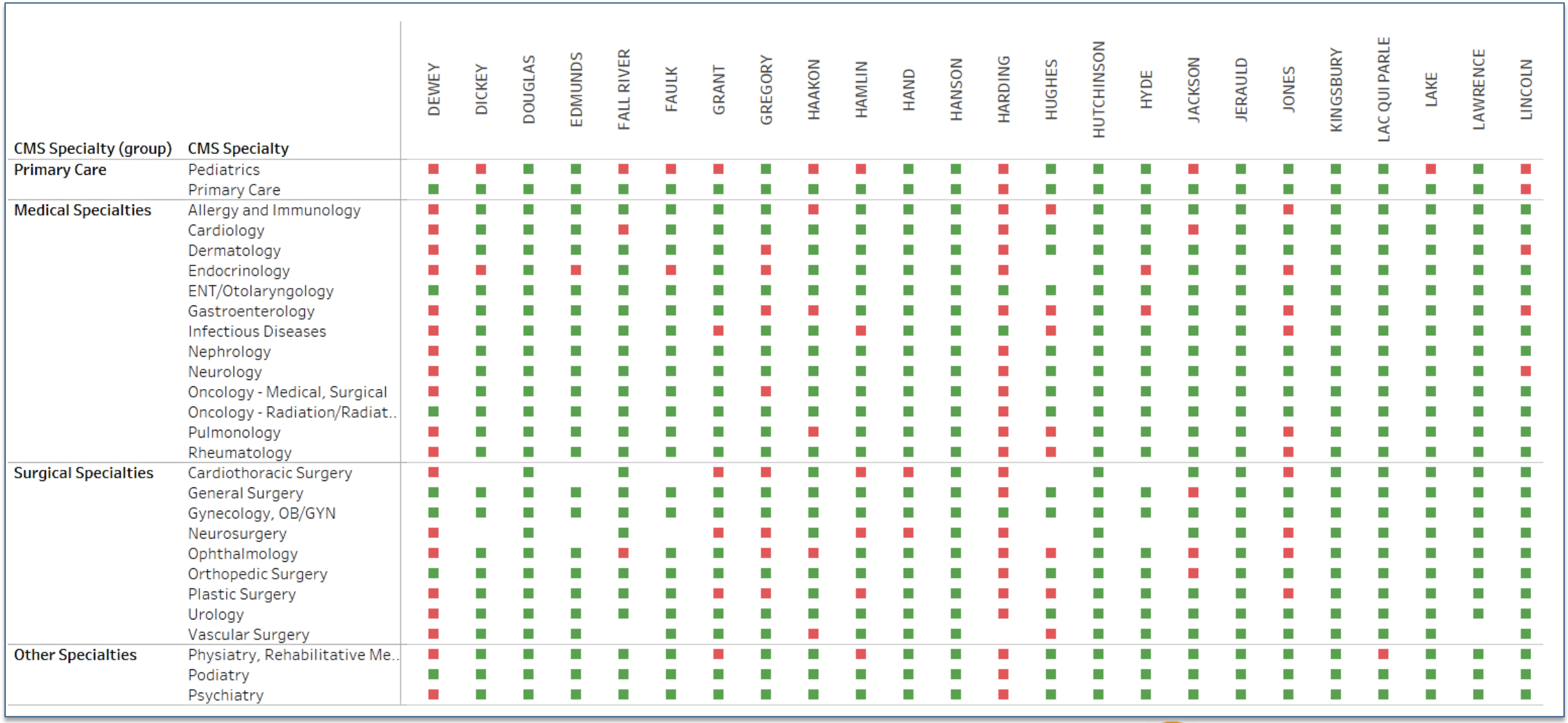
Source/Notes: Guidehouse Network Adequacy tool – uses U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial, and others) for key CMS Specialties.

Network Adequacy by County (continued)



CMS Specialty (group)	CMS Specialty	DEWEY	DICKEY	DOUGLAS	EDMUNDS	FALL RIVER	FAULK	GRANT	GREGORY	HAAKON	HAMLIN	HAND	HANSON	HARDING	HUGHES	HUTCHINSON	HYDE	JACKSON	JERAULD	JONES	KINGSBURY	LAC QUI PARLE	LAKE	LAWRENCE	LINCOLN
Primary Care	Pediatrics	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Primary Care	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Medical Specialties	Allergy and Immunology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Cardiology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Dermatology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Endocrinology	■	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■
	ENT/Otolaryngology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Gastroenterology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Infectious Diseases	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Nephrology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Neurology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Oncology - Medical, Surgical	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Oncology - Radiation/Radiat..	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Pulmonology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Rheumatology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Surgical Specialties	Cardiothoracic Surgery	■		■		■		■	■	■	■	■	■	■		■		■	■	■	■	■	■	■	■
	General Surgery	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Gynecology, OB/GYN	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Neurosurgery	■		■		■		■	■	■	■	■	■	■		■		■	■	■	■	■	■	■	■
	Ophthalmology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Orthopedic Surgery	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Plastic Surgery	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Urology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Vascular Surgery	■	■	■	■		■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■		■
Other Specialties	Physiatry, Rehabilitative Me..	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Podiatry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Psychiatry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

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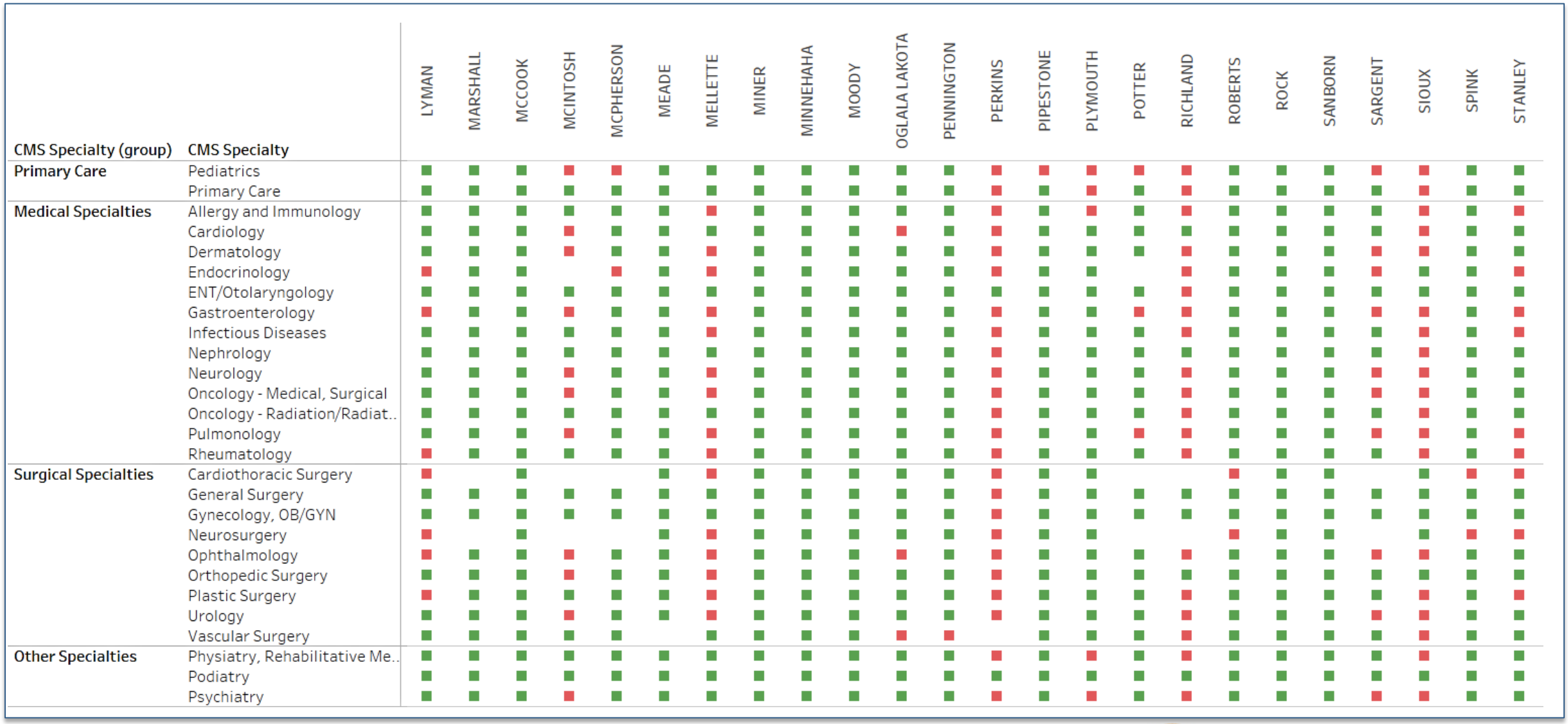
Source/Notes: Guidehouse Network Adequacy tool – uses U.S. Census data accessed via Claritas population data and Truven Medicaid Enrollment data. Images reflect network adequacy maps by county for all payer categories (Medicare Advantage, Medicaid, Commercial, and others) for key CMS Specialties.

Network Adequacy by County (continued)



CMS Specialty (group)	CMS Specialty	LYMAN	MARSHALL	MCCOOK	MCINTOSH	MCPHERSON	MEADE	MELLETTE	MINER	MINNEHAHA	MOODY	OGLALA LAKOTA	PENNINGTON	PERKINS	PIPESTONE	PLYMOUTH	POTTER	RICHLAND	ROBERTS	ROCK	SANBORN	SARGENT	SIOUX	SPINK	STANLEY
Primary Care	Pediatrics	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Primary Care	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Medical Specialties	Allergy and Immunology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Cardiology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Dermatology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Endocrinology	■	■	■		■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■
	ENT/Otolaryngology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Gastroenterology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Infectious Diseases	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Nephrology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Neurology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Oncology - Medical, Surgical	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Oncology - Radiation/Radiat..	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Pulmonology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Rheumatology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Surgical Specialties	Cardiothoracic Surgery	■		■			■	■	■	■	■	■	■	■	■	■			■	■	■		■	■	■
	General Surgery	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Gynecology, OB/GYN	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Neurosurgery	■		■			■	■	■	■	■	■	■	■	■	■			■	■	■		■	■	■
	Ophthalmology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Orthopedic Surgery	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Plastic Surgery	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Urology	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Vascular Surgery	■	■	■	■	■		■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■
Other Specialties	Physiatry, Rehabilitative Me..	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Podiatry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Psychiatry	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

SOUTH DAKOTA DEPARTMENT OF HEALTH

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Network Adequacy by County (continued)

CMS Specialty (group)	CMS Specialty	SULLY	TODD	TRAVERSE	TRIPP	TURNER	UNION	WALWORTH	WESTON	YANKTON	YELLOW MEDICINE	ZIEBACH
Primary Care	Pediatrics	■	■	■	■	■	■	■	■	■	■	■
	Primary Care	■	■	■	■	■	■	■	■	■	■	■
Medical Specialties	Allergy and Immunology	■	■	■	■	■	■	■	■	■	■	■
	Cardiology	■	■	■	■	■	■	■	■	■	■	■
	Dermatology	■	■	■	■	■	■	■	■	■	■	■
	Endocrinology		■	■		■	■		■	■	■	■
	ENT/Otolaryngology	■	■	■	■	■	■	■	■	■	■	■
	Gastroenterology	■	■	■	■	■	■	■	■	■	■	■
	Infectious Diseases	■	■	■	■	■	■	■	■	■	■	■
	Nephrology	■	■	■	■	■	■	■	■	■	■	■
	Neurology	■	■	■	■	■	■	■	■	■	■	■
	Oncology - Medical, Surgical	■	■	■	■	■	■	■	■	■	■	■
	Oncology - Radiation/Radiat..	■	■	■	■	■	■	■	■	■	■	■
	Pulmonology	■	■	■	■	■	■	■	■	■	■	■
	Rheumatology	■	■	■	■	■	■	■	■	■	■	■
Surgical Specialties	Cardiothoracic Surgery		■			■	■		■	■	■	■
	General Surgery	■	■	■	■	■	■	■	■	■	■	■
	Gynecology, OB/GYN	■	■	■	■	■	■	■	■	■	■	■
	Neurosurgery		■			■	■		■	■	■	■
	Ophthalmology	■	■	■	■	■	■	■	■	■	■	■
	Orthopedic Surgery	■	■	■	■	■	■	■	■	■	■	■
	Plastic Surgery	■	■	■		■	■	■	■	■	■	■
	Urology	■	■	■	■	■	■	■	■	■	■	■
	Vascular Surgery	■	■	■	■	■	■	■		■	■	■
Other Specialties	Physiatry, Rehabilitative Me..	■	■	■	■	■	■	■	■	■	■	■
	Podiatry	■	■	■	■	■	■	■	■	■	■	■
	Psychiatry	■	■	■	■	■	■	■	■	■	■	■

SOUTH DAKOTA DEPARTMENT OF HEALTH

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