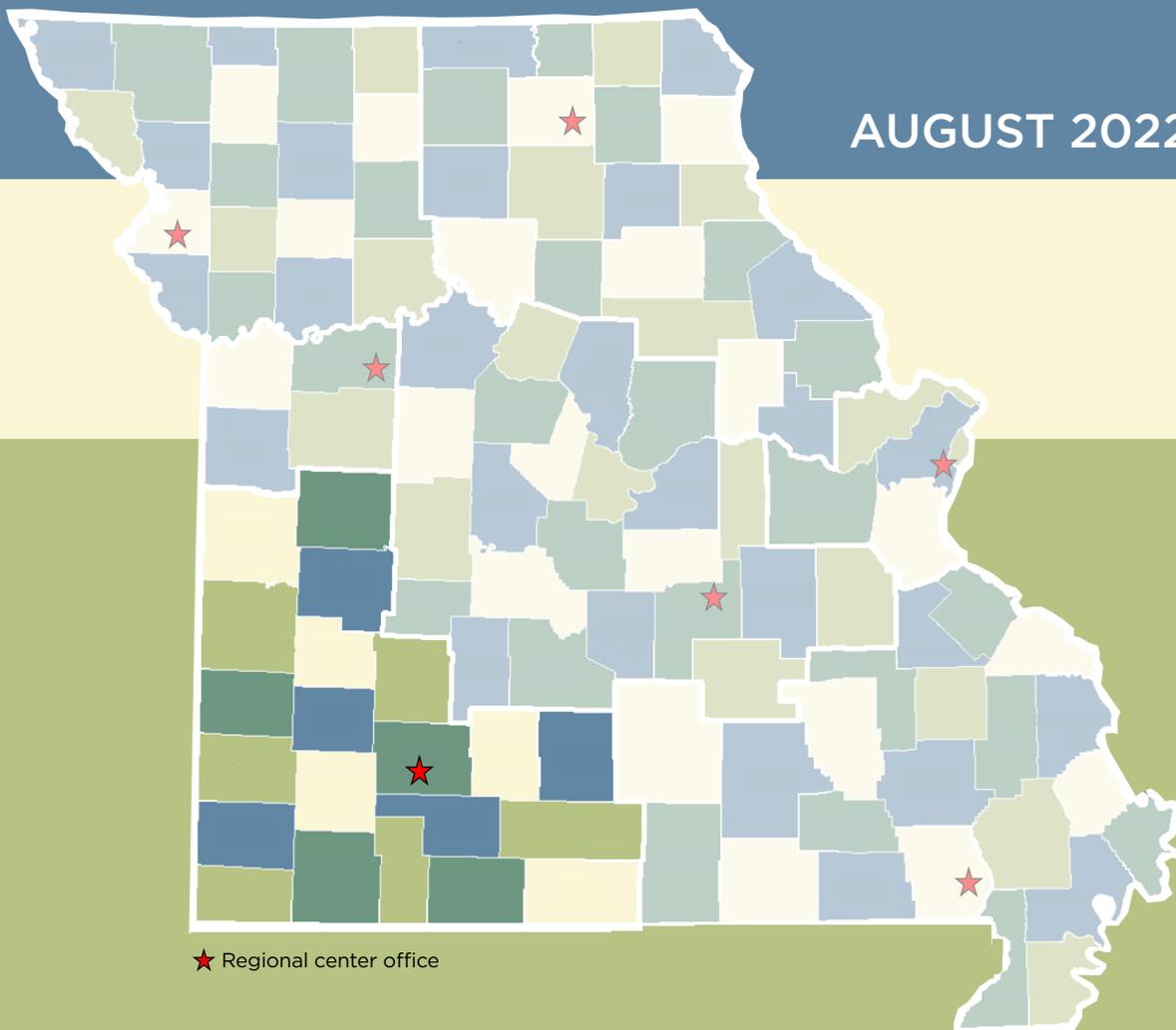


Southwest Missouri Area Health Education Center Needs Assessment & Gap Analysis

AUGUST 2022



By the University of Missouri Center for Health Policy and Missouri AHEC Program Office
at A.T. Still University-Kirksville College of Osteopathic Medicine



University of Missouri



Southwest Missouri Area Health Education Center Needs Assessment and Gap Analysis

By the University of Missouri Center for Health Policy^a, and
Missouri AHEC Program Office at A.T. Still University Kirksville College of Osteopathic Medicine^b

*Jill Lucht, MS^a; LaRita Emanuel, MBA^a; Morgan Self, MA^a; Parvina Yakubova, MS^a; Jeremy Milarsky, MPA^a; Glenn Rice, MA^a; Eric McDavid, BS^a; Tracy Greever-Rice, PhD^a;
Hong Chartrand, DrPH^b; Kerrin Smith, MS^b*

August 2022

Suggested Citation:

Center for Health Policy. (2022). *Southwest Missouri Area Health Education Center Needs Assessment and Gap Analysis*. Columbia, MO: Center for Health Policy.

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U77HP3042 entitled “MAHEC 2017-2022: A Statewide Network for Interprofessional Healthcare Workforce Development and Practice Transformation in Rural and Underserved Missouri” for \$2,072,000 with 50% financed using non-federal sources. The contents are those of the author(s) and do not necessarily represent the official views, nor an endorsement by HRSA, HHS, or the U.S. Government.

Table of Contents

Introduction.....	3
Figure 1. Southwest Missouri Area Health Education Center Region (SWMO AHEC).....	4
Population Health in the Region.....	4
Population Demographics, Including Regional Challenges/Barriers.....	5
Figure 2. Percent Population Age 65 and Older.....	6
Table 1. Summary of Demographics in the SWMO AHEC Region.....	8
Table 2. Summary of Demographics by State, Urban, and Rural Counties.....	9
Demand for Culturally Competent and Diverse Workforce.....	10
Medicaid Expansion.....	10
Table 3. Medicaid Expansion Estimates by AHEC Region.....	11
Medically Underserved Areas/Populations (MUA/Ps).....	11
Figure 3. Medically Underserved Areas/Populations (MUA/Ps).....	12
Figure 4. Federally Qualified Health Centers (FQHCs) per 100,000 Residents.....	13
Figure 5. Rural Health Clinics (RHCs) per 100,000 Residents.....	14

Health Care Workforce Landscape in the Region 14

- Primary Care 15
 - Primary Care Physicians..... 15
 - Table 4. Primary Care Physicians by SWMO AHEC Region and State..... 15
 - Figure 6. Geographic Distribution of Primary Care Physicians per 10,000 Residents (2022)..... 16
 - Figure 7. Primary Care Physicians per 10,000 Residents (2022)..... 17
 - Primary Care Health Professional Shortage Areas (HPSAs) 18
 - Figure 8. Primary Care HPSAs..... 19
- Dental Health..... 20
 - Dental Health Providers..... 20
 - Table 5. Dental Health Providers by SWMO AHEC Region and State..... 20
 - Figure 9. Geographic Distribution of Dentists per 10,000 Residents (2022) 21
 - Figure 10. Dentists per 10,000 Residents (2022) 22
 - Figure 11. Geographic Distribution of Dental Hygienists per 10,000 Residents (2022) 23
 - Figure 12. Dental Hygienists per 10,000 Residents (2022)..... 24
 - Dental Health Professional Shortage Areas (HPSAs) 25
 - Figure 13. Dental Health HPSAs..... 26
- Mental and Behavioral Health..... 27
 - Mental and Behavioral Health Workforce..... 27
 - Table 6. Mental and Behavioral Health Providers by SWMO AHEC Region and State..... 27
 - Figure 14. Geographical Distribution of Mental and Behavioral Health Providers per 10,000 Residents (2022) 28
 - Figure 15. Mental and Behavioral Health Providers per 10,000 Residents (2022)..... 29
 - Mental Health Professional Shortage Areas (HPSAs) 30
 - Figure 16. Mental Health HPSAs 31
- Nursing Workforce..... 32
 - Table 7. Nursing Workforce by SWMO AHEC Region and State 32
- Selected Allied Health Professions 33
 - Pharmacy Workforce..... 33
 - Physical Therapy Workforce..... 33
 - Community Health Worker Workforce..... 33
 - Table 8. Selected Allied Health Professions by SWMO AHEC Region and State..... 34
 - Public Health Workforce 35
- MHA Regional Workforce Report Summary 35
 - Table 9. SWMO AHEC Region compared to Missouri Hospital Association (MHA) Region 36

Health Care Infrastructure in the Region	37
Hospitals.....	37
Figure 17. Hospitals and Total Beds Per 10,000 Residents.....	38
Long-Term Care Facilities	39
Figure 18. Long-Term Care Facilities and Total Beds Per 10,000 Residents Age 65+	39
Broadband Access	40
Figure 19. Percentage of Households with a Broadband Internet Subscription.....	40

Introduction

During Fall 2020, the Missouri Area Health Education Centers (MAHEC) began meeting with the University of Missouri Center for Health Policy (CHP) to develop a statewide needs assessment and gap analysis. The needs assessment scanned Missouri's health care landscape, focusing on population health needs as well as health care workforce and infrastructure. The resulting report provided an analysis of Missouri's health care system, identifying gaps between health needs and health services available in the state, as well as MAHEC's efforts to address these gaps.¹

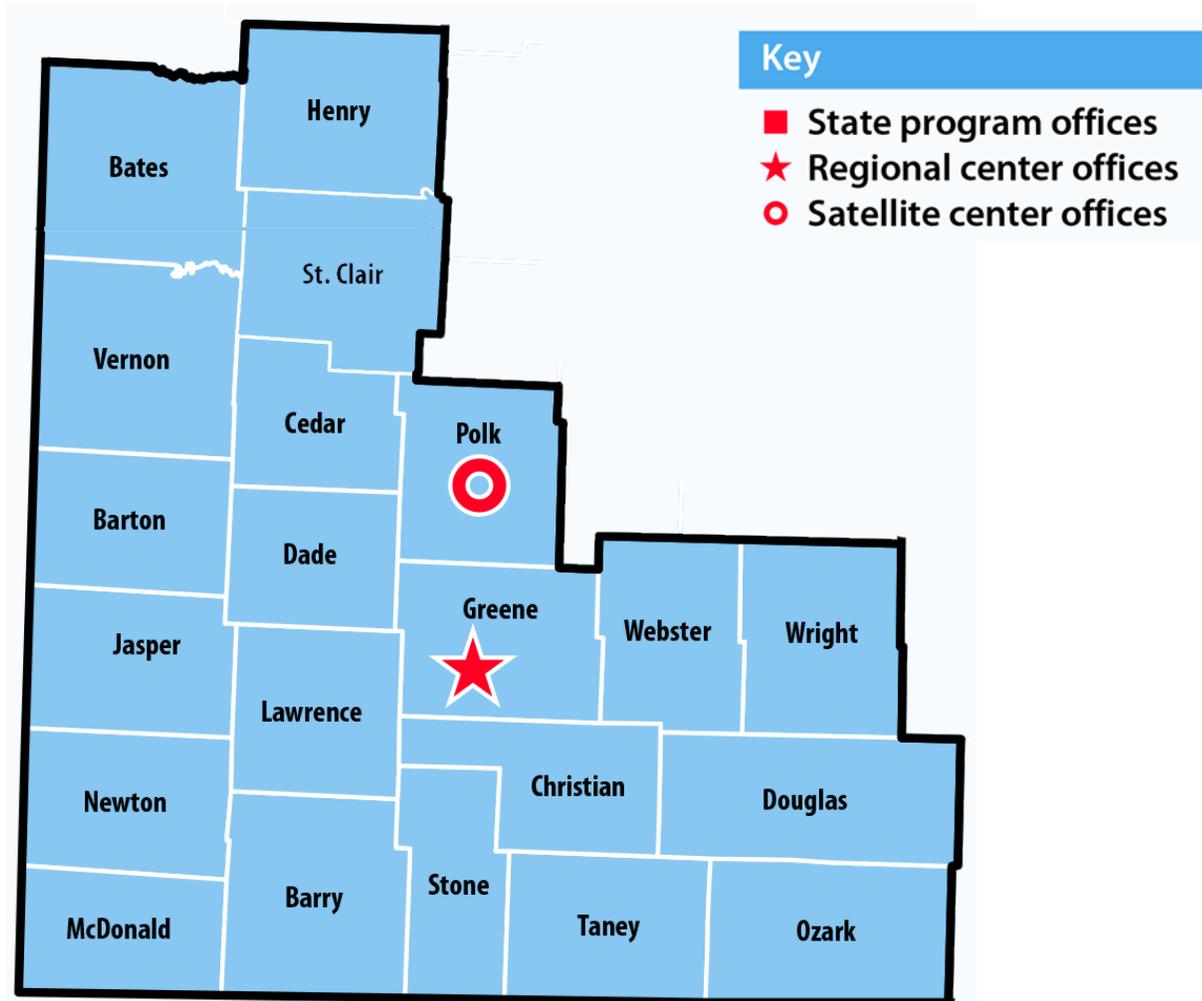
Upon completion of the statewide analysis, MAHEC continued working with CHP to produce a needs assessment and gap analysis for each region, including the Southwest Missouri AHEC (SWMO AHEC) region. The analysis of population health in the region focuses on the social determinants of health and indicates that the SWMO AHEC region's health disparities are similar to those found in the state as a whole. Demographic factors play an important role in the SWMO AHEC region, where the population is evenly split between urban and rural residents.

Analysis of the health care workforce is provided by the MU Center for Health Policy's Missouri Health Care Workforce Project (MHCWP). In-depth information on the SWMO AHEC region's health care workforce, health facilities, health status and community or social determinants of health are available and continually updated on the MHCWP website and indicator dashboards at <https://mohealthcareworkforce.org/>. This report focuses on primary care, dental health, and mental and behavioral health care availability as well as professions such as nursing, pharmacy, physical therapy, and community health workers. Generally, the SWMO AHEC region is experiencing greater shortages of health care workers than Missouri as a whole. Exceptions are among dental hygienists, dental assistants and physical therapist assistants. The report also provides an overview of health care infrastructure, including Federally Qualified Health Centers (FQHCs), Rural Health Clinics (RHCs), hospitals, and long-term care facilities, as well as telehealth and broadband access in the region.

Any analysis of health care needs and workforce in 2022 would be remiss to ignore the impact of the ongoing COVID-19 pandemic. While data sources always lag real-time conditions in health care, the impacts of the lag are more apparent during a pandemic. Health care needs and workforce are changing quickly in unexpected ways. This report uses the most recent data available, but many sources, including the 2015-2019 ACS 5-year population estimates, predate the start of the pandemic. One exception are data from MHCWP, which utilize Missouri Division of Professional Registration data from December 2021.

¹ Center for Health Policy. (2022). Missouri Area Health Education Centers Needs Assessment and Gap Analysis. Columbia, MO: Center for Health Policy. Retrieve from <https://mohealthcareworkforce.org/publication/missouri-area-health-education-centers-needs-assessment-and-gap-analysis/>.

Figure 1. Southwest Missouri Area Health Education Center Region (SWMO AHEC)



Population Health in the Region

The SWMO AHEC region covers 21 counties in the Southwest corner of the state (Figure 1). The region has a population of 949,292 and covers a land area of 13,582 square miles. According to HRSA’s definition,² 17 of the region’s 21 counties are completely rural and two are completely urban. Jasper and Newton counties contain both rural and urban Census tracts. The SWMO AHEC region’s population is almost evenly divided between rural (46.7%) and urban (53.3%).

² Health Resources and Services Administration. (n.d.) *Defining Rural Population*. Retrieved from <https://www.hrsa.gov/rural-health/about-us/definition/index.html>.

Population Demographics, Including Regional Challenges/Barriers

The SWMO AHEC region's population and health care workforce needs are both rural and urban. Social determinants of health (SDOH) (conditions in which people are born, live, learn, work, play, worship, and age, that affect a wide range of health, functioning, and quality-of-life outcomes and risks³) play a fundamental role in rural and urban population health, but their patterns are distinct, rates varied, and solutions must be tailored. Rural residents experience disparities in socioeconomic status, standard health markers, and geographic challenges at greater rates than their urban counterparts, except for specific high-need urban populations. Conversely, urban areas have more diverse populations and a higher number of people needing health care services.

Tables 1 (SWMO AHEC region) and 2 (State of Missouri) show demographics and social determinants of health, and utilize 2015-2019 American Community Survey (ACS) population estimates to account for small populations within some categories. The ACS is a sample survey conducted by the United States Census Bureau. Note that the font in Tables 1 and 2 reflects relative margins of error through a system developed by the Missouri Census Data Center (<https://mcdc.missouri.edu/>): **bold values** have a margin of error <15%, regular font has a margin of error between 15-35%, and margins of error 35% or greater are shaded light grey. Analysis in this regional report is focused on estimates in bold font; their lower relative margins of error enable a higher degree of confidence in the accuracy of the estimate.⁴ For example, the ACS estimate for Black or African American in rural portions of the SWMO AHEC region is 3,687, with a margin of error of 222.0%. Based on the margin of error calculation, the actual population of Black or African American residents in rural parts of the SWMO AHEC region is likely between zero and 11,872.

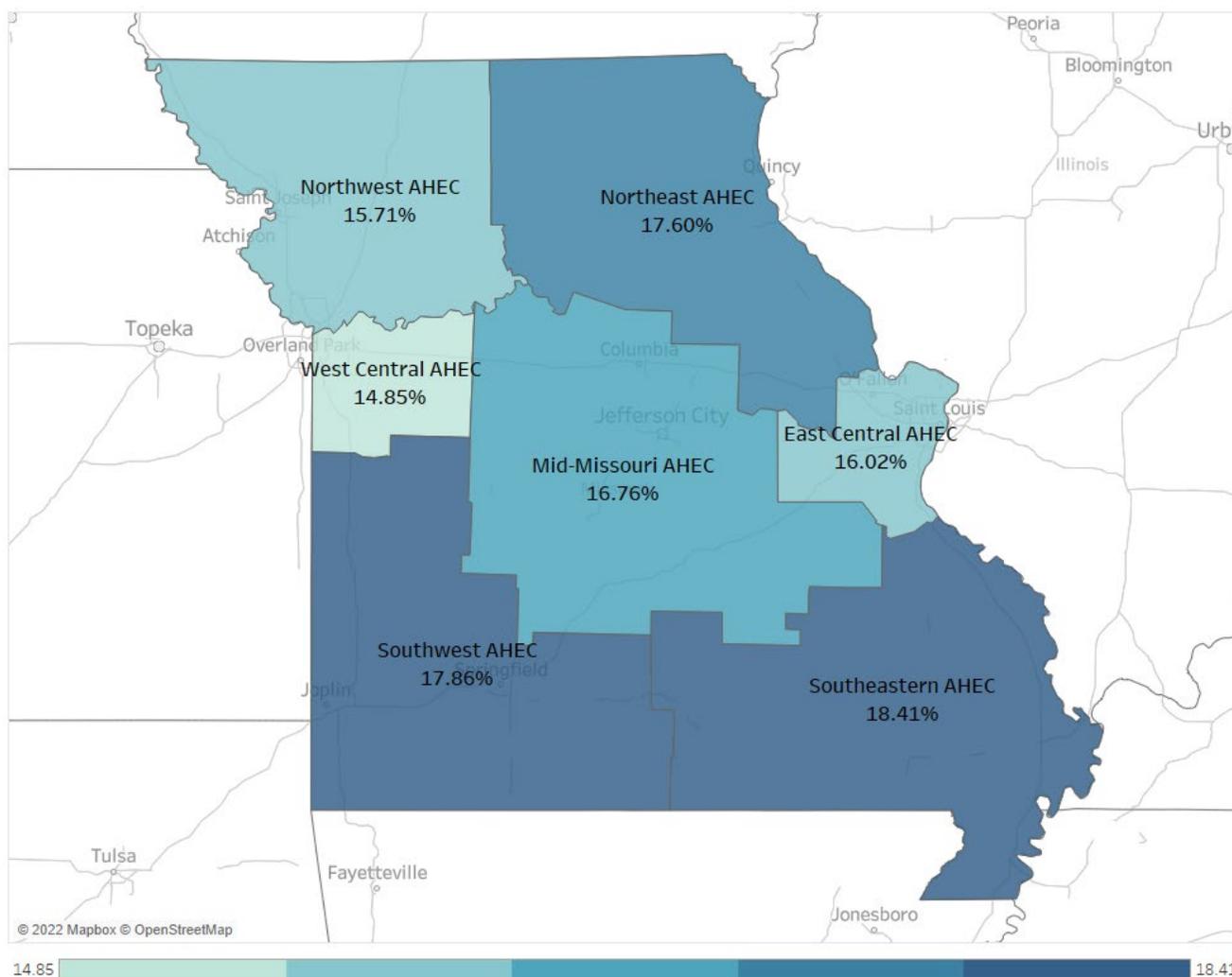
The SWMO AHEC region is less diverse than others: 92.3% of residents are white compared to 82.2% of the state's population. Both the SWMO AHEC region and the state of Missouri have small Hispanic/Latino populations with 4.5% and 4.2%, respectively. Most residents of the region have earned at least a high school diploma or its equivalent (88.3%), about the same as the state rate of 89.9%. Further, 22.7% of residents in the region have earned at least a bachelor's degree, lower than the state rate of 29.2%.

³ Social Determinants of Health. (n.d.) *Healthy People 2020*. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>.

⁴ Qualtrics. (2022). Your guide to margin of error. Retrieved from <https://www.qualtrics.com/experience-management/research/margin-of-error/>.

Missouri's population of adults aged 65 and older has grown to more than one million (16.5% of the total population). The percentage of older adults in the region is slightly higher than that of the state, with 17.9% aged 65 and older. An aging population may affect the health sector in key ways: 1) retiring health professionals intensify workforce shortages⁵ and 2) aging may increase health care needs.⁶ See Figure 2 for a map of the population age 65 and older. Additionally, the percentage of children under the age of 18 in the region is 22.9%, similar to the state rate of 22.6%.

Figure 2. Percent Population Age 65 and Older



Note: Dynamic, interactive maps of community indicators, including population age 65 and older, are available for all AHEC regions at <https://mohealthcareworkforce.org/indicator-dashboards/community/>.

⁵ Bolin, J.N., Bellamy, G.R., Ferdinand, A.O., Vuong, A.M., Kash, B.A., Schulze, A., Helduser, J.W. (2015, Summer). *Rural Healthy People 2020*. Retrieved from: New Decade, Same Challenges. *Journal of Rural Health*. 31(3):326-33. doi: 10.1111/jrh.12116.

⁶ Dall, T.M., Gallo, P.D., Chakrabarti, R., West, T., Semilla, A.P., Storm, M.V. (2013). An aging population and growing disease burden will require a large and specialized health care workforce by 2025. *Health affairs*, 32(11), 2013-2020. <https://doi.org/10.1377/hlthaff.2013.0714>.

Additional health care access barriers that exist in the region are tied to socioeconomic challenges including poverty, housing and food insecurity, as well as a lack of transportation and health insurance. In the SWMO AHEC region, 16.2% of the population, more than 100,000 persons, live in poverty, higher than the state rate of 13.7%. Moreover, more than one in five (21.8%) of residents in the age group under the age of 18 live in poverty in the region, compared to the state rate of 18.7%.

In the SWMO AHEC region, more than one in four households (26.2%) are housing cost burdened, with rent or mortgage and utilities accounting for more than 30% of the household income, similar to the state rate of 26.4%. While housing costs are often lower in rural areas than urban areas in Missouri and the region, so are incomes. The SWMO AHEC region has relatively similar rates of housing cost burden in its urban (27.6%) and rural (24.6%) households, similar to the state rates of 27.4% and 24.1%, respectively.

Table 1 (below) reports that a greater percentage of residents in the SWMO AHEC region lack health insurance (14.7%) than the state as whole (10.9%). This includes 17.5% in rural counties in the region and 12.3% in urban counties in the region, compared to 13.8% of Missourians in rural counties and 9.5% in urban counties statewide. Lack of health insurance can impede the ability of low-income individuals to access primary and preventive care. Further, 11.4% of residents in the SWMO AHEC region under age 65 live with a disability, higher than the state rate of 10.2%.

While margins of error for the SWMO AHEC region are too large to reliably report on food insecurity at the regional level, the estimates for Missouri offer a useful comparison. Missouri has the 17th highest food insecurity rate in the nation.⁷ Food insecure families are at a higher risk for weight gain and chronic disease, e.g., diabetes, hypertension.⁸ Food insecurity is also associated with psychological distress, anxiety, and depression among low-income women and children, and these physical and mental health effects are especially detrimental when there is the lack of access to proper medical care.⁹ Transportation is another key social determinant of health, and six percent of households in the region lack a vehicle (Table 1).

⁷ US Department of Agriculture Economic Research Service. (n.d.) *Key Statistics and Graphics*. Retrieved from <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx>.

⁸ Liu, Y., Njai, R., Greenlund, K., Chapman, D., Croft, J. Relationships Between Housing and Food Insecurity, Frequent Mental Distress, and Insufficient Sleep Among Adults in 12 US States, 2009. (nd.) *Preventing Chronic Disease*. 2014. Retrieved from <http://doi:10.5888/pcd11.130334>.

⁹ Calender, C., Barker, R. (editor). (December 2015). *Health Equity Series: Food Insecurity*. Missouri Foundation for Health. Retrieved from <http://mffh.org/wp-content/uploads/2016/04/Health-Equity-Series-Food-Insecurity.pdf>.

Table 1. Summary of Demographics in the SWMO AHEC Region¹⁰

Criterion	Region		MOE ¹¹	Rural	% of SW	MOE	Urban	% of SW	MOE
Estimated 2015-2019 Population	949,292		1.6%	443,536	46.7%	3.3%	505,756	53.3%	2.9%
Land Area (mi ²)	13,582			11,599	85.4%		1,983	14.6%	
Population Density/mi ²	70			38			255		
Counties ¹²	21			19			4		
Racial/Ethnic	Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
White	876,088	92.3%	1.6%	416,239	93.8%	3.3%	459,849	90.9%	3.0%
Black/Afr. American	16,265	1.7%	50.3%	3,687	0.8%	222.0%	12,578	2.5%	65.1%
Native American	8,803	0.9%	17.2%	4,455	1.0%	34.0%	4,348	0.9%	34.8%
Asian	10,848	1.1%	33.3%	2,648	0.6%	136.2%	8,200	1.6%	44.0%
Pacific Islander	1,702	0.2%	70.2%	1,113	0.3%	107.3%	589	0.1%	202.9%
Other	9,873	1.0%	37.4%	5,433	1.2%	67.9%	4,440	0.9%	83.1%
Multi-Racial	25,713	2.7%	16.2%	9,961	2.2%	41.8%	15,752	3.1%	26.4%
Hispanic/Latino ¹³	43,171	4.5%	13.1%	25,015	5.6%	22.6%	18,156	3.6%	31.1%
Age Cohorts	Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
<18	217,320	22.9%	3.8%	103,437	23.3%	8.0%	113,883	22.5%	7.3%
65+	169,531	17.9%	2.8%	88,831	20.0%	5.3%	80,700	16.0%	5.9%
Social Determinants of Health	Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
Persons in poverty ¹⁴	149,912	16.2%	7.0%	76,807	17.7%	13.6%	73,105	14.9%	14.3%
<18 in poverty	46,039	21.8%	9.4%	26,708	26.6%	16.2%	19,331	17.4%	22.4%
HS Graduate +	563,014	88.3%	2.3%	258,938	85.3%	5.1%	304,076	91.1%	4.3%
Bachelor's Degree +	144,919	22.7%	5.0%	49,446	16.3%	14.7%	95,473	28.6%	7.6%
No Health Insurance (<65)	114,400	14.7%	5.8%	61,965	17.5%	10.7%	52,435	12.3%	12.6%
Disability (<65)	88,881	11.4%	5.8%	44,503	12.5%	10.9%	44,378	10.4%	12.3%
Housing Cost Burdened	95,480	26.2%	5.9%	40,391	24.6%	13.9%	55,089	27.6%	10.2%
Households without a vehicle	22,614	6.0%	12.3%	10,085	5.8%	27.6%	12,529	6.0%	22.2%

¹⁰ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

¹¹ MOE: Relative margin of error.

¹² Two counties in the region contain both urban and rural census tracts, therefore the number of urban and rural counties in this row total more than 21.

¹³ Includes Hispanic or Latinx of any race.

¹⁴ Denominator includes persons for whom poverty status is determined, which is lower than total population.

Table 2. Summary of Demographics by State, Urban, and Rural Counties¹⁵

Criterion	Missouri		MOE ¹⁶	Rural	% of MO	MOE	Urban	% of MO	MOE
Estimated 2015-2019 Population	6,104,910		0.2%	2,055,390	33.7%	0.7%	4,049,520	66.3%	0.4%
Land Area (mi ²)	68,742			59,591	86.7%		9,150	13.3%	
Population Density/mi ²	89			34			443		
Counties ¹⁷	115			102			19		
Racial/Ethnic	Missouri	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
White	5,015,904	82.2%	0.3%	1,906,204	92.7%	0.7%	3,109,700	76.8%	0.4%
Black/Afr. American	701,334	11.5%	1.2%	60,716	3.0%	13.5%	640,618	15.8%	1.3%
Native American	27,084	0.4%	5.6%	13,020	0.6%	11.6%	14,064	0.3%	10.8%
Asian	120,654	2.0%	3.0%	13,664	0.7%	26.4%	106,990	2.6%	3.4%
Pacific Islander	8,231	0.1%	14.5%	2,507	0.1%	47.7%	5,724	0.1%	20.9%
Other	71,335	1.2%	5.2%	14,884	0.7%	24.8%	56,451	1.4%	6.5%
Multi-Racial	160,368	2.6%	2.6%	44,395	2.2%	9.4%	115,973	2.9%	3.6%
Hispanic/Latino ¹⁸	254,791	4.2%	2.2%	71,321	3.5%	7.9%	183,470	4.5%	3.1%
Age Cohorts	Missouri	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
<18	1,381,612	22.6%	0.6%	466,198	22.7%	1.8%	915,414	22.6%	0.9%
65+	1,006,725	16.5%	0.5%	382,257	18.6%	1.2%	624,468	15.4%	0.8%
Social Determinants of Health	Missouri	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
Persons in poverty ¹⁹	810,045	13.7%	1.3%	330,838	16.8%	3.2%	479,207	12.1%	2.2%
<18 in poverty	252,071	18.7%	1.7%	105,296	23.2%	4.1%	146,775	16.4%	3.0%
HS Graduate +	3,731,783	89.9%	0.4%	1,201,893	85.9%	1.1%	2,529,890	92.0%	0.5%
Bachelor's Degree +	1,212,562	29.2%	0.6%	243,674	17.4%	3.0%	968,888	35.2%	0.8%
No Health Insurance (<65)	555,130	10.9%	1.2%	230,380	13.8%	2.9%	324,750	9.5%	2.0%
Disability (<65)	518,371	10.2%	0.7%	210,870	12.6%	1.8%	307,501	9.0%	1.3%
Housing Cost Burdened	616,342	26.4%	0.9%	181,285	24.1%	3.1%	435,057	27.4%	1.3%
Households w/o a vehicle	165,906	6.9%	1.7%	47,735	6.1%	5.8%	118,171	7.3%	2.4%

¹⁵ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

¹⁶ MOE: Relative margin of error.

¹⁷ Six Missouri counties contain both urban and rural census tracts, therefore the number of urban and the number of rural counties in this row total more than 115.

¹⁸ Includes Hispanic or Latinx of any race.

¹⁹ Denominator includes persons for whom poverty status is determined, which is lower than total population.

Demand for Culturally Competent and Diverse Workforce

More than 90% of residents in the region identify as white non-Hispanic or Latinx, making the region less diverse in race and ethnicity than national and state averages.²⁰ However, culturally competent and trauma informed health care professionals are still needed to meet the needs of the underrepresented among the SWMO AHEC region's population, and inclusivity, diversity and equity (IDE) training continue to be important for health care providers in the region.

The lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community faces stigma, systematic discrimination, and differential access to health insurance, which combined with a lack of culturally competent care results in poor health outcomes. The physical and mental health of LGBTQ+ individuals is compromised when economic and social influences lead to social isolation, psychological distress, anxiety, depression, low self-esteem, and the ailments tied to poor mental health status.²¹ Many LGBTQ+ individuals do not receive the care they require—an issue that is particularly difficult for transgender people, especially given that the majority of health insurers, including Medicaid, Medicare, and Veteran plans do not cover transgender-specific care. Data on the LGBTQ+ community are emerging. The Census Bureau began collecting information on sexual orientation and gender identity through their Household Pulse Survey in July 2021. While regional data are not available, the LGBT population in Missouri is estimated to be 6.9% (+/- 0.9%).²²

The region's underrepresented racial and ethnic populations and LGBTQ+ health disparities may be addressed by a workforce that reflects the population, a training focus in cultural proficiency for all health care providers, and the addition of minority-specific services as a part of practice transformation.

Medicaid Expansion

Starting July 1, 2021, all Missourians aged 19 to 64 earning up to 138% of the federal poverty level became eligible for Medicaid.²³ Missouri began processing applications on October 1, 2021.²⁴ Prior to expansion, just over one million Missourians (n=1,029,000) were enrolled in the MO HealthNet program; new Medicaid expansion enrollees in the

²⁰ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

²¹ United States Department of Health and Human Services. (n.d.) *Lesbian, Gay, Bisexual, and Transgender Health. Healthy People 2020*. Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/lesbian-gay-bisexual-and-transgender-health>.

²² Anderson, L., File, T., Marshall, J., McElrath, K., Scherer, Z. (2021). New Household Pulse Survey Data Reveals Differences between LGBT and Non-LGBT Respondents During COVID-19 Pandemic. Retrieved from <https://www.census.gov/library/stories/2021/11/census-bureau-survey-explores-sexual-orientation-and-gender-identity.html>.

²³ HHS Press Office. (2021). *Missouri Medicaid Expansion Brings Quality Essential Health Coverage to More than 275,000 Missourians*. Retrieved from <https://www.hhs.gov/about/news/2021/10/04/missouri-medicaid-expansion-brings-quality-essential-health-coverage.html>.

²⁴ Norris, L. (2021). *Missouri and the ACA's Medicaid Expansion*. Retrieved from <https://www.healthinsurance.org/medicaid/missouri/>.

region will likely be disproportionately non-Hispanic/Latinx white and rural.²⁵ Washington University Center for Health Economics and Policy (CHEP) estimates 275,000 Missourians are eligible to enroll through Medicaid expansion. The eligibility estimate for the SWMO AHEC region is the highest percentage in the state, with 5.3% or 51,343 residents. Estimates may shift due to pandemic impacts on employment and income.

Table 3. Medicaid Expansion Estimates by AHEC Region

AHEC Region	Percent of Region's Population to Enroll (%)	Regional Enrollee Estimate (#)	Regional Population Estimate (#)
East Central	2.9%	58,829	2,025,851
Mid-Missouri	4.8%	37,340	783,453
Northeast	4.4%	14,403	328,749
Northwest	3.3%	20,276	618,639
Southeastern	5.1%	26,989	525,060
Southwest	5.3%	51,343	960,115
West Central	4.3%	38,818	895,561
Total	4.0%	247,498	6,137,428

Note: Estimates provided by the Center for Health Economics and Policy at Washington University in St. Louis based on an analysis of the 2019 American Community Survey and 2018 Small Area Health Insurance Estimates files, with slightly different population estimates than the 2015-2019 ACS 5-year estimates used elsewhere in this report. Funding support provided by Missouri Foundation for Health.

Medically Underserved Areas/Populations (MUA/Ps)

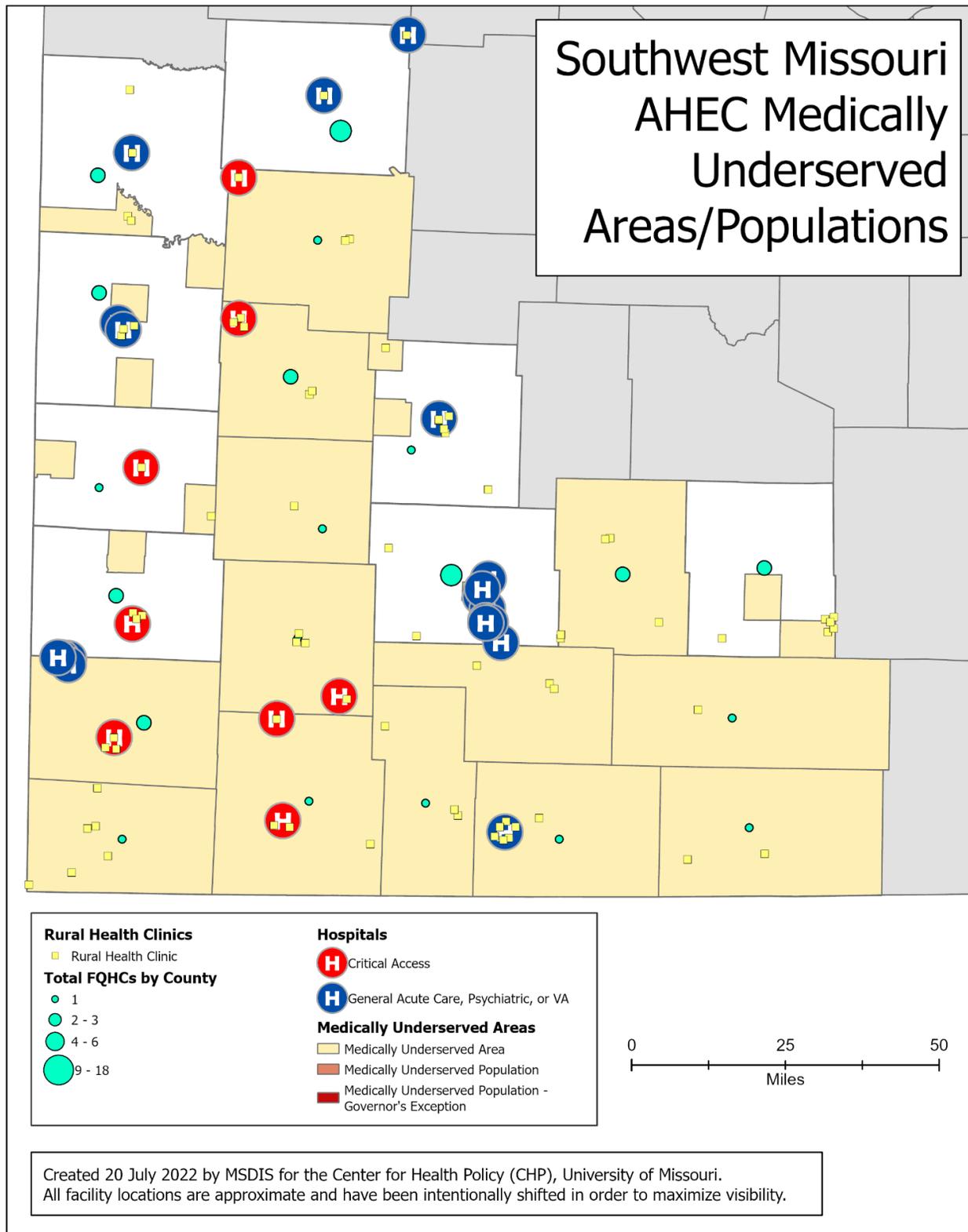
The SWMO AHEC region's population health needs are addressed through a number of federal health care and health care workforce initiatives. Medically Underserved Areas/Populations (MUA/Ps) are areas or populations which HRSA designates as having a shortage of primary care providers, high incidence of infant mortality, high poverty or a concentration of older adult residents.²⁶ Programs like the Health Center Program and CMS Rural Health Clinic Program utilize MUA/Ps to allocate federal resources to areas of greatest need.

Just two counties in the region, Greene and Henry, do not have a designated MUA. Barton, Bates, Jasper, Polk, Vernon and Wright counties have MUAs designated for portions of their area. All other counties in the region are fully designated as MUAs. See Figure 3 for more information on MUA/Ps in the SWMO AHEC region.

²⁵ Missouri Foundation for Health. (2021). *Medicaid expansion enrollment and eligibility update: Characteristics of expansion enrollees*. Retrieved from https://cpb-us-w2.wpmucdn.com/sites.wustl.edu/dist/1/2391/files/2020/04/FactSheet_NewEnrolleeDemographics_final.pdf.

²⁶ Health Resources and Services Administration. (2021). *What is a shortage designation?* Retrieved from <https://bhwh.hrsa.gov/workforce-shortage-areas/shortage-designation>.

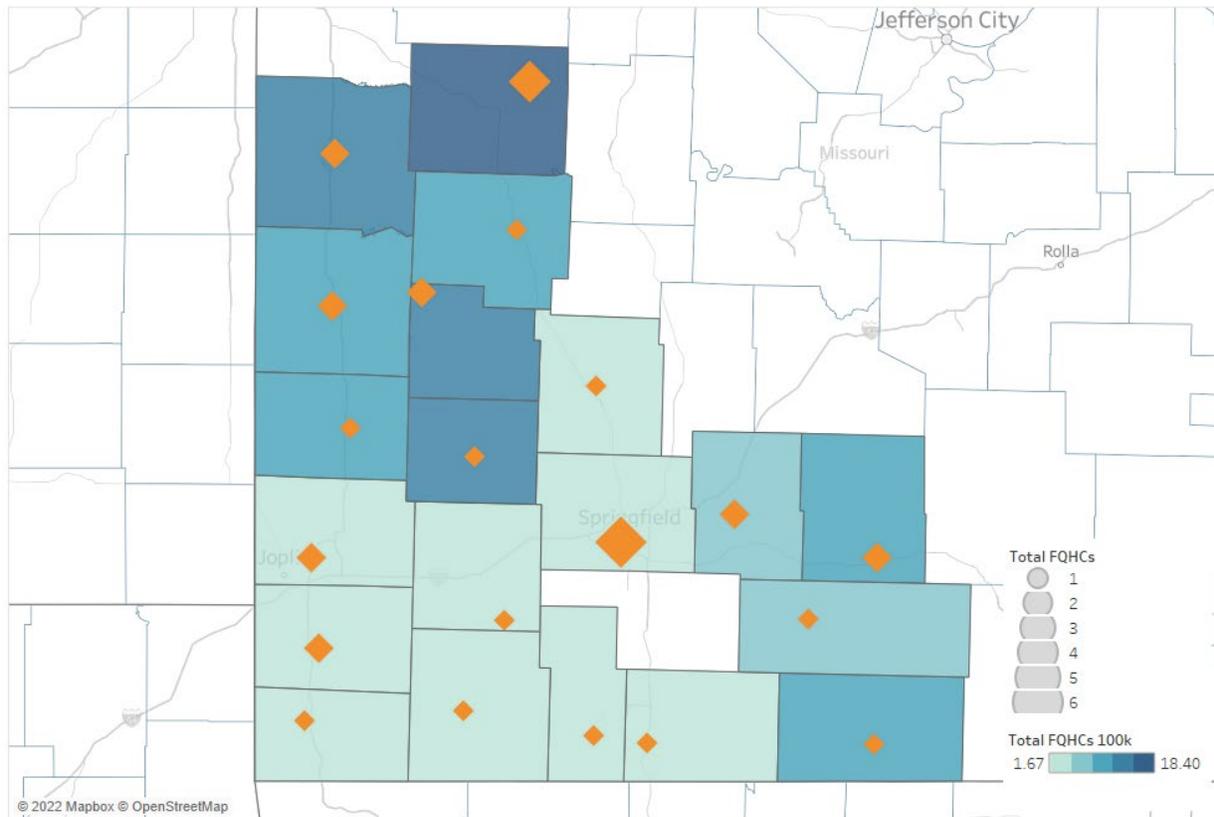
Figure 3. Medically Underserved Areas/Populations (MUA/Ps)



Note: Dynamic, interactive maps of MUA/Ps and medical facilities in all AHEC regions are available under Indicator Dashboards at <https://mohealthcareworkforce.org/>.

Federally Qualified Health Centers (FQHCs) are fairly well distributed throughout the region, as seen in Figure 4. FQHCs are important safety net providers for primary care, dental, and mental and behavioral health. All counties in the region have at least one FQHC location, other than Christian County.

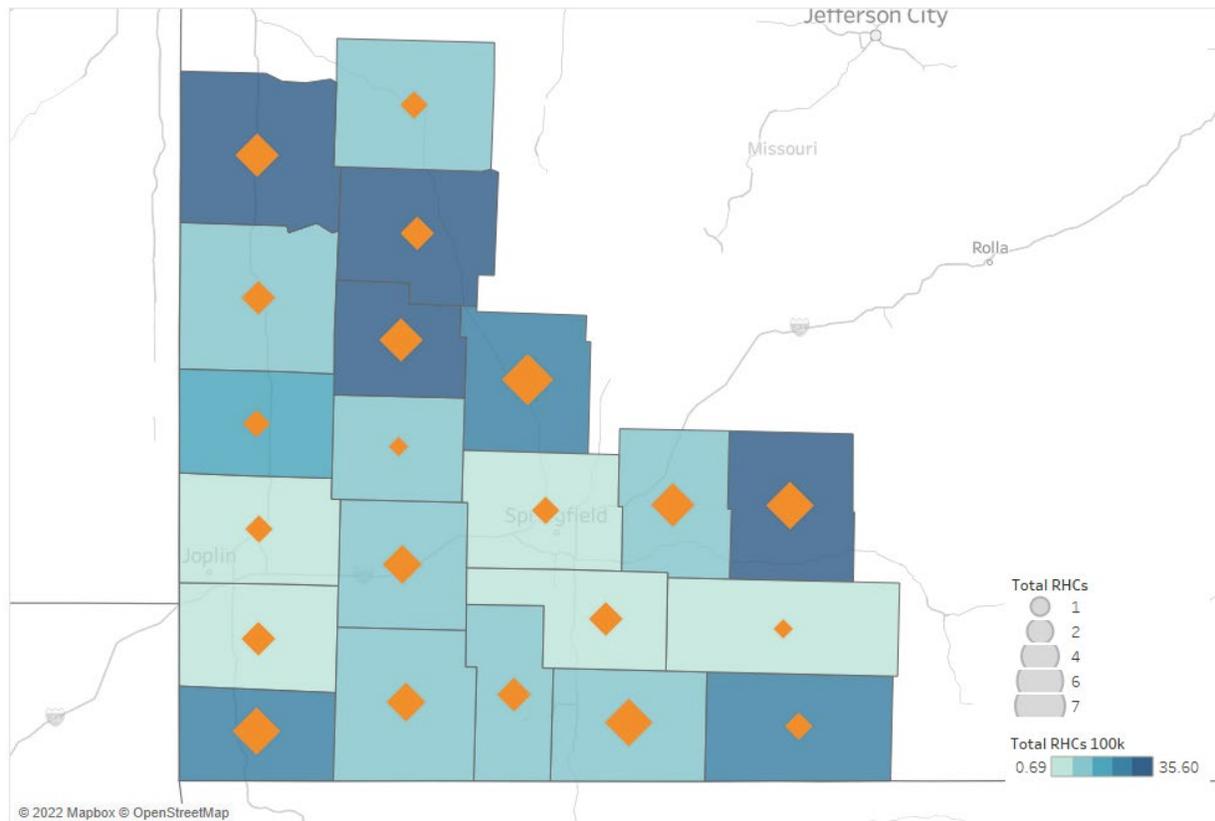
Figure 4. Federally Qualified Health Centers (FQHCs) per 100,000 Residents



Note: Dynamic, interactive maps of medical facilities in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/medical-facilities/>.

Figure 5 displays Rural Health Clinics (RHCs) and rates of clinics per 100,000 residents in the region. Rural Health Clinics fill important gaps in primary care, dental care, and mental and behavioral health in rural areas, and each county in the SWMO AHEC region has at least one RHC.

Figure 5. Rural Health Clinics (RHCs) per 100,000 Residents



Source: American Community Survey (2015-2019 5 year estimates), MO Department of Health and Senior Services via Missouri Spatial Data Information Service (2022)

Note: Dynamic, interactive maps of medical facilities in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/medical-facilities/>. Rural Health Clinic locations are reported by the Missouri Department of Health and Senior Services through Missouri Spatial Data Information Service (<https://data-msdis.opendata.arcgis.com/>). The “RHC Finder” on the Missouri Association of Rural Health Clinics website may include additional RHCs (<https://www.marhc.org/rhcfinder>) not shown in Figure 5.

Health Care Workforce Landscape in the Region

The analysis of the SWMO AHEC region focuses on primary care, dental health, and mental and behavioral health, as well as additional professions such as nursing, pharmacy, physical therapy, community health workers and the public health workforce. For the purposes of this regional analysis, primary care includes these specialties: family medicine, general practice, internal medicine, obstetrics and gynecology (OB/GYN) and pediatrics. Dental health includes dentists, dental hygienists and dental assistants. Mental and behavioral health includes licensed professional counselors, psychologists, licensed social workers, marital and family therapists, psychiatrists, child psychiatrists, behavior analysts and assistant behavior analysts.

In general, the analysis finds lower rates of health care providers throughout the Southwest AHEC region than Missouri as a whole. Exceptions are dental hygienists, dental assistants and physical therapist assistants, with higher rates in the region than the state. Throughout the SWMO AHEC region and Missouri, shortages are more acute in rural areas, with few exceptions.

Primary Care

A high-quality primary care workforce providing sufficient regional coverage is key to healthy individuals, families and communities. Primary care providers are on the front lines as the first source of non-emergency care. Through education to manage daily health, treatment for sickness, and linkages to specialized care, primary care providers help people live healthier lives and incur fewer medical costs over time.²⁷

Primary Care Physicians

The ratio of primary care physicians (PCP) to the region’s population is one PCP for every 852 persons (Table 4). Despite the presence of a medical school within the region, this ratio is far below the state’s ratio of one PCP per 621 residents.

Table 4. Primary Care Physicians by SWMO AHEC Region and State

Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population of AHEC Region	Ratio Provider Type to AHEC Region Population
Primary Care Physicians	Region	258 (23%)	256 (23%)	600 (54%)	1,114	949,292	1 to 852
	State	1,224 (12%)	847 (9%)	7,753 (79%)	9,824	6,104,910	1 to 621

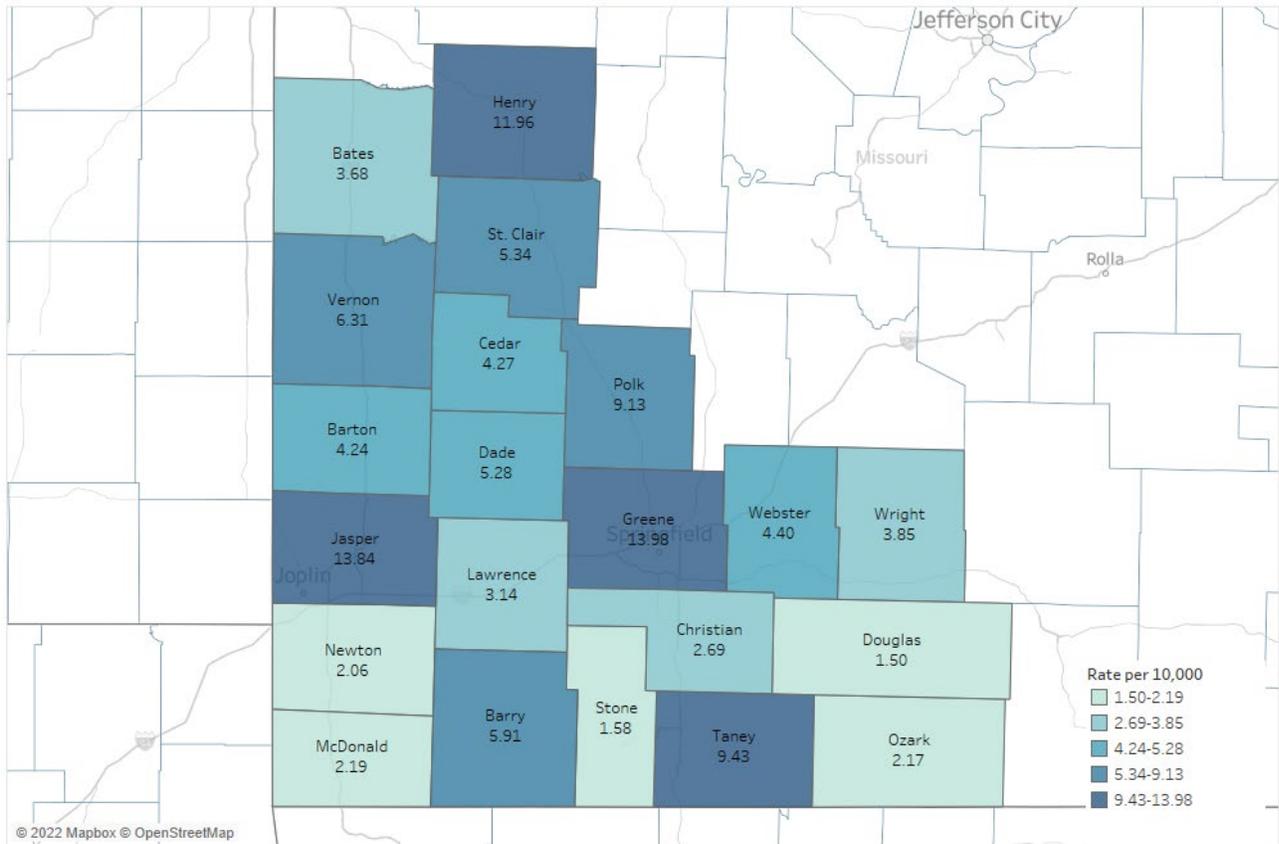
Note: Primary care physicians include the specialties of Family Medicine, General Practice, Internal Medicine, Obstetrics and Gynecology (OB/GYN) and Pediatrics.

Data on primary care physicians in the region are from the Missouri Division of Professional Registration public release file.²⁸ According to these data, all counties in this region have at least one PCP per 10,000 residents (Figure 6), with the lowest ratio being 1.50 PCPs per 10,000 residents (Douglas). Additionally, three counties have over 10 PCPs per 10,000 residents: Henry County (11.96), Jasper County (13.84) and Greene County (13.98).

²⁷ Cleveland Clinic. (2021). *The importance of having a primary care doctor*. Retrieved from <https://my.clevelandclinic.org/health/articles/16507-the-importance-of-having-a-primary-care-doctor>.

²⁸ The Missouri Division of Professional Registration allows licensees to opt out of inclusion in their public release files. As such, some practicing primary care physicians are not included in this dataset.

Figure 6. Geographic Distribution of Primary Care Physicians per 10,000 Residents (2022)



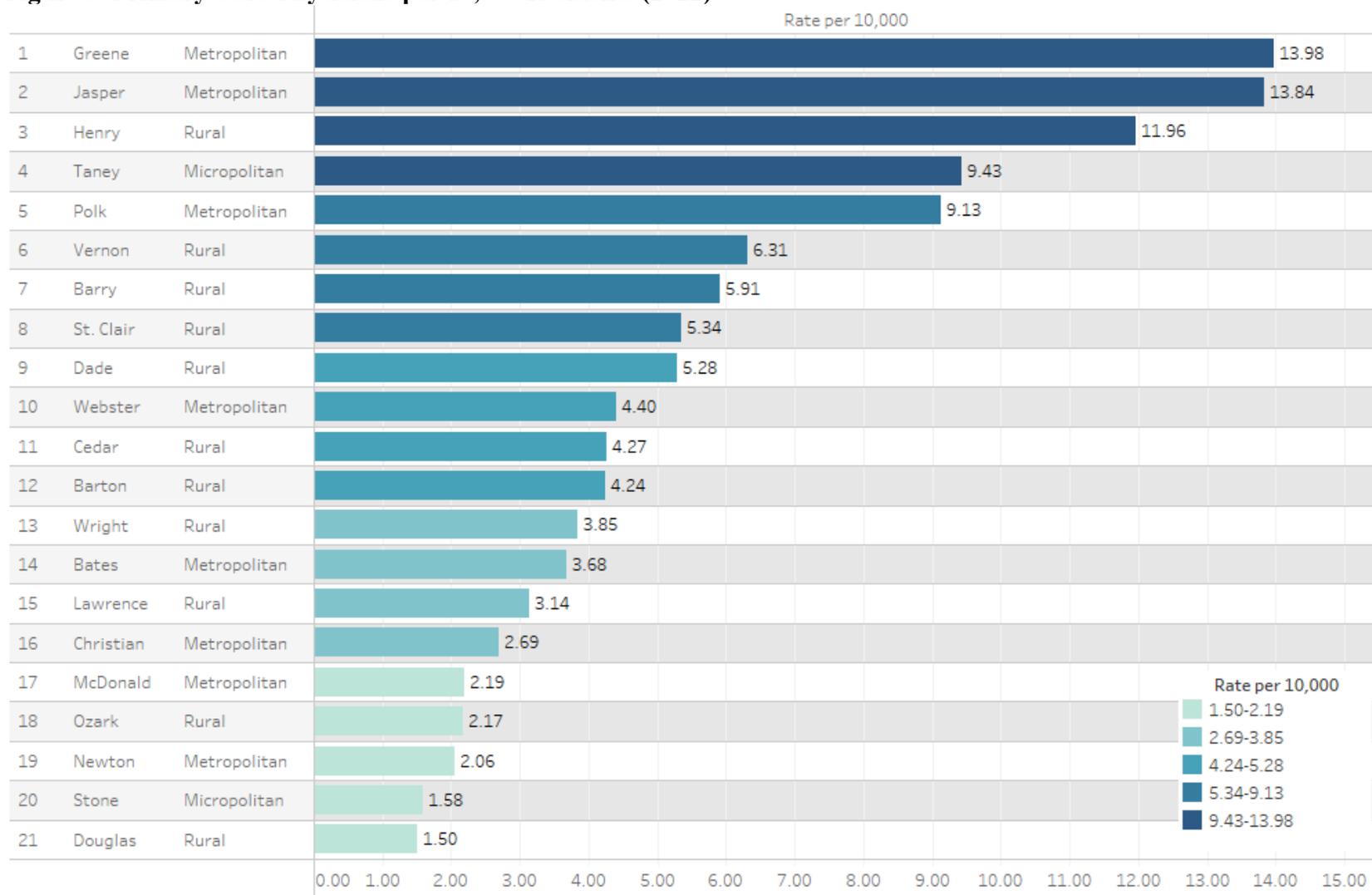
Source: Missouri Division of Professional Registration (2022)

Primary Care includes Family Medicine/General Practice, Internal Medicine, Obstetrics and Gynecology and Pediatrics.

Note: Dynamic, interactive maps of primary care physicians and other providers in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/workforce/>.

The counties with the highest rates of physicians per 10,000 residents (Greene, Jasper and Taney) are designated as metropolitan or micropolitan counties with the exception of Henry County (rural). These counties are home to some of the more densely populated cities in the SWMO AHEC region and/or are adjacent to regional trade centers with more public infrastructure than the counties within the region with lower rates of PCPs per 10,000 residents (Figure 7).

Figure 7. Primary Care Physicians per 10,000 Residents (2022)



Source: Missouri Division of Professional Registration (2022)

Primary Care includes Family Medicine/General Practice, Internal Medicine, Obstetrics and Gynecology and Pediatrics.

Primary Care Health Professional Shortage Areas (HPSAs)

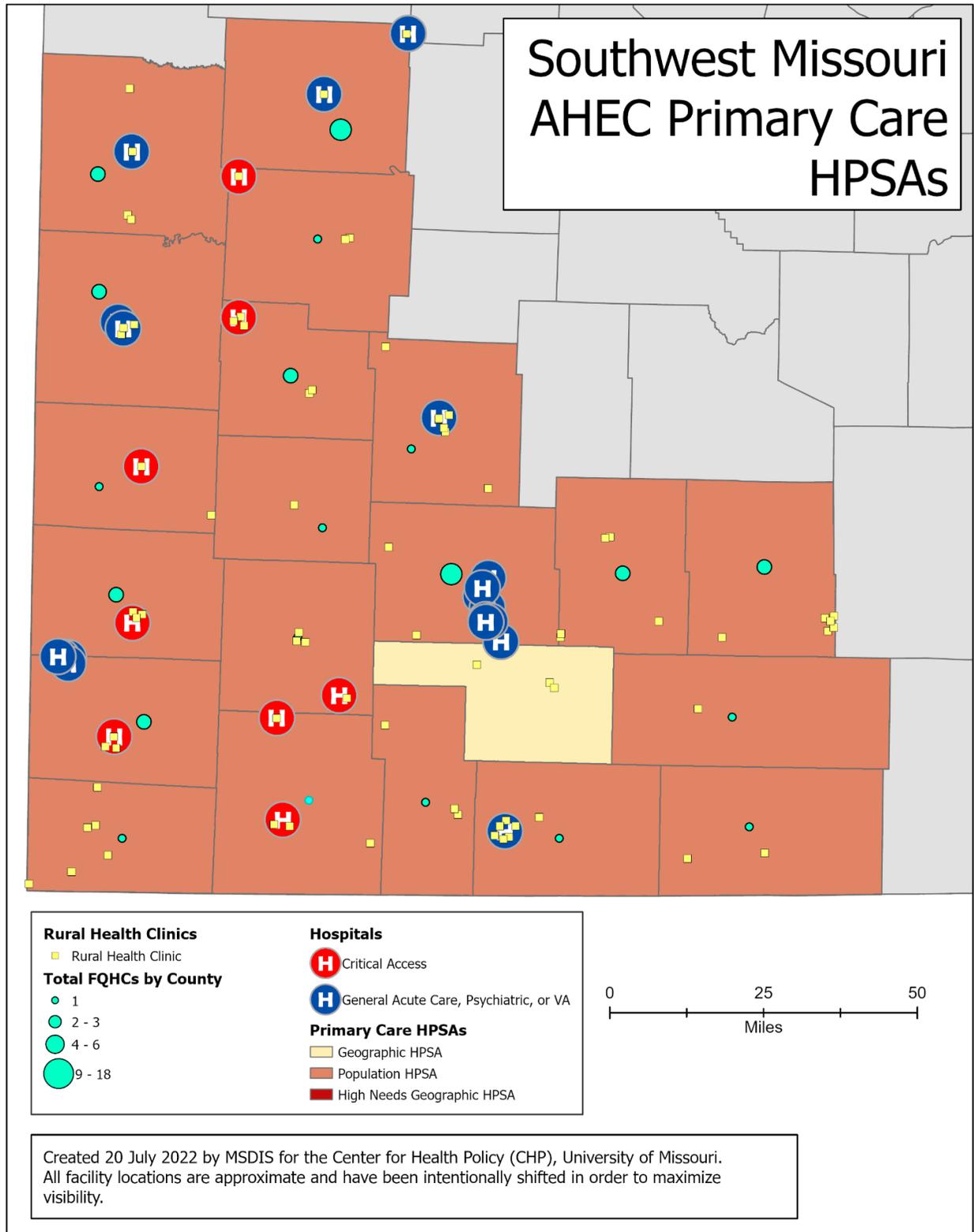
A **Primary Care Health Professional Shortage Area (HPSA)** is an area, population, or facility designated by HRSA as having an insufficient number of primary care providers. HPSAs are utilized by federal programs such as National Health Service Corps, Nurse Corps, Indian Health Service (IHS) Loan Repayment Program, and Rural Health Clinic Program to allocate resources to designated areas of shortage.²⁹ The entire SWMO AHEC region is designated as a population HPSA (Figure 8).

A **Population HPSA** represents a specific group of people within a defined geographic area like a county or a state who are experiencing a shortage of health care providers. Specific groups may include low-income persons, migrant workers, Medicaid eligible persons, and others.

A **Geographic HPSA** represents an entire population of people from a specific geography such as a county or a state who are experiencing a shortage of health care providers. A geographic HPSA can be marked as a **High Needs Geographic HPSA** if more than 20% of the population is at or below 100% federal poverty level, there are more than 100 births per year per 1,000 women ages 15-44, more than 20 infant deaths per 1,000 live births, or two or more criteria are met for insufficient capacity in the designated area.

²⁹ Health Resources and Services Administration. (2021). *What is a shortage designation?* Retrieved from <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation>.

Figure 8. Primary Care HPSAs



Note: Dynamic, interactive maps of HPSAs and medical facilities in all AHEC regions are available under Indicator Dashboards at <https://mohealthcareworkforce.org/>.

Dental Health

Dental health is foundational to overall health and well-being. Dental health is linked to the overall health of the body, including susceptibility to oral cancer, lung disease, pregnancy and birth complications, pneumonia, stroke, heart attack and diabetes.³⁰ Access to quality dental education, prevention, treatment of disease, replacement and repair is crucial for all.

Dental Health Providers

Dental health providers include dentists, dental hygienists and dental assistants. The 2021 data on these providers are from Missouri Division of Professional Registration public release licensure data, and do not include providers who opt out of the public release file. Table 5 shows the number and ratios of dental care providers in the SWMO AHEC region. Compared to state averages, the region is experiencing a greater shortage of dentists (1:2,282 versus 1:1,902) than the state but has a larger supply of dental hygienists (1:1,396 versus 1:1,683) and dental assistants (1:498 versus 1:981).

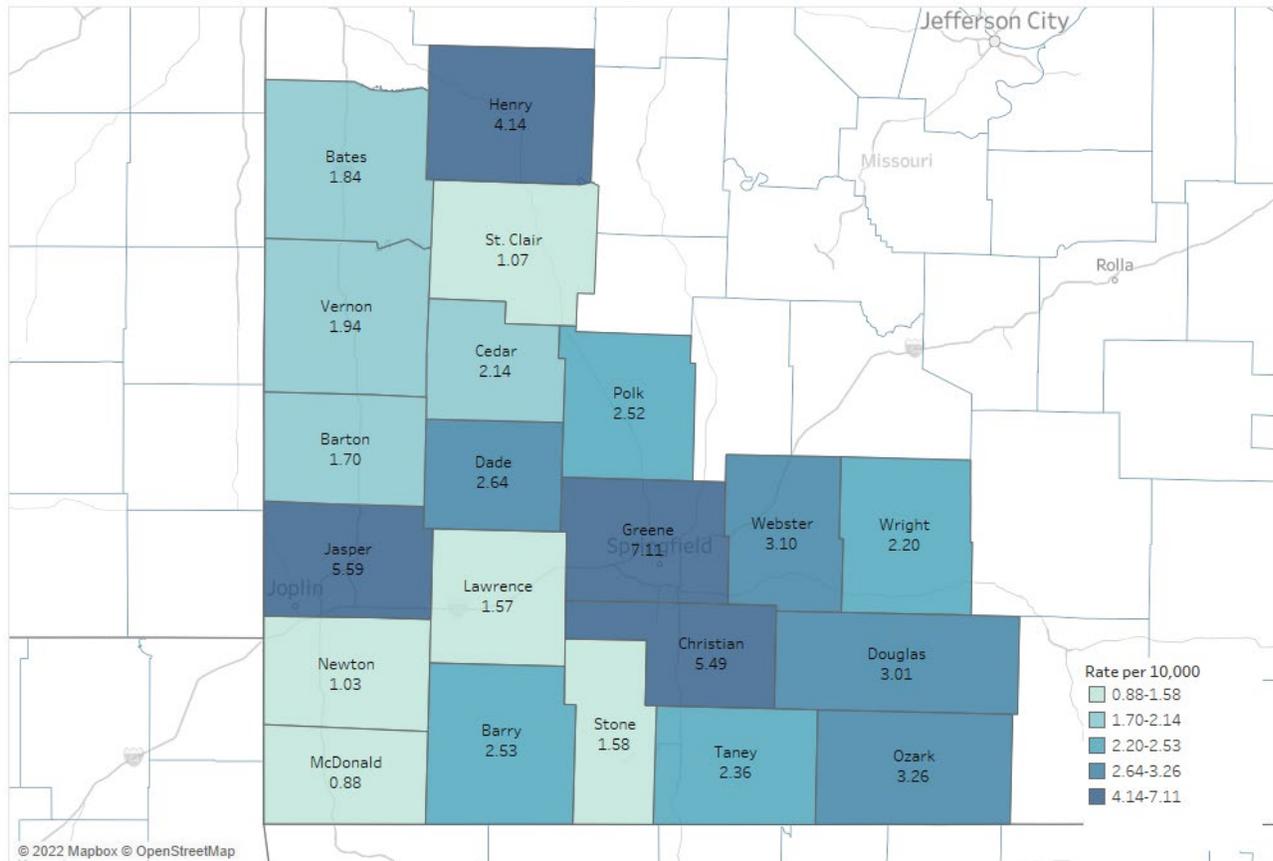
Table 5. Dental Health Providers by SWMO AHEC Region and State

Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population of AHEC Region	Ratio Provider Type to AHEC Region Population
Dentists	Region	89 (21%)	74 (18%)	253 (61%)	416	949,292	1 to 2,282
	State	537 (17%)	222 (7%)	2,452 (76%)	3,211	6,104,910	1 to 1,902
Dental Hygienists	Region	187 (28%)	160 (24%)	333 (49%)	680	949,292	1 to 1,396
	State	893 (25%)	311 (9%)	2,424 (67%)	3,628	6,104,910	1 to 1,683
Dental Assistants	Region	652 (34%)	173 (9%)	1,080 (57%)	1,905	949,292	1 to 498
	State	2,198 (35%)	507 (8%)	3,512 (56%)	6,217	6,104,910	1 to 981

³⁰ Mayo Clinic. (2021). *Oral health: A window to your overall health*. Retrieved from <https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475>.

The geographic distribution of all dental health provider types (Figure 9) aligns with the geographic distribution of PCPs, meaning that most dental health providers work in the more densely populated counties (Henry, Jasper and Greene); no county except McDonald County (0.88 dentists per 10,000 residents) is left without at least one dental health provider per 10,000 residents. The highest rate for dentists is 7.11 per 10,000 residents (Greene) and the highest rate for dental hygienists is 11.79 per 10,000 residents (Christian).

Figure 9. Geographic Distribution of Dentists per 10,000 Residents (2022)



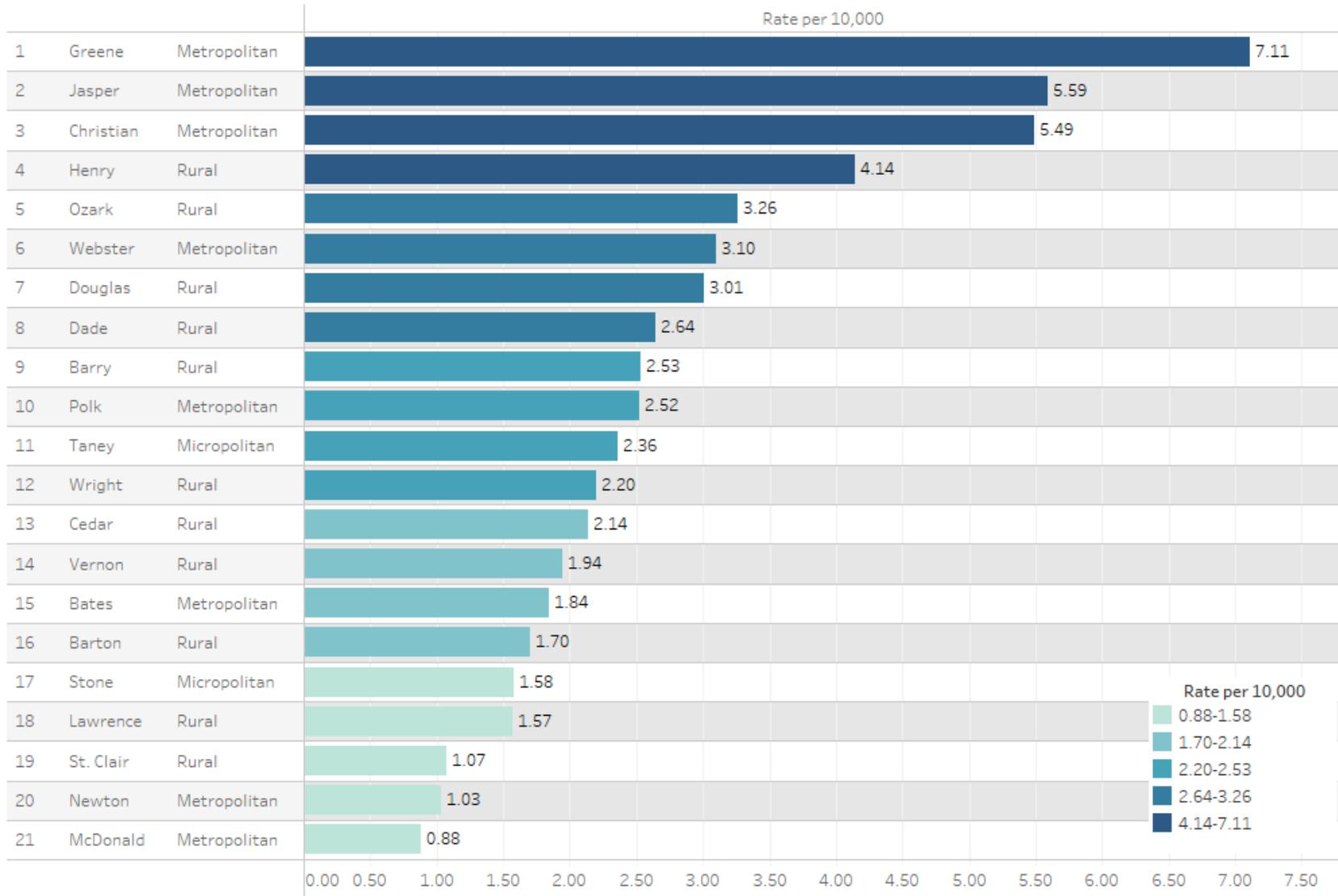
Source: Missouri Division of Professional Registration (2022)

Note: Dynamic, interactive maps of dentists and other providers in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/workforce/>.

Figure 10 shows a varied distribution of dentists among metropolitan, micropolitan and rural counties. The dental hygienist and dental assistant workforce may lessen the impact of the dentist shortage in the counties with fewer dentists since a single dentist working with a team of hygienists and assistants could serve more patients than a single dentist working alone.³¹

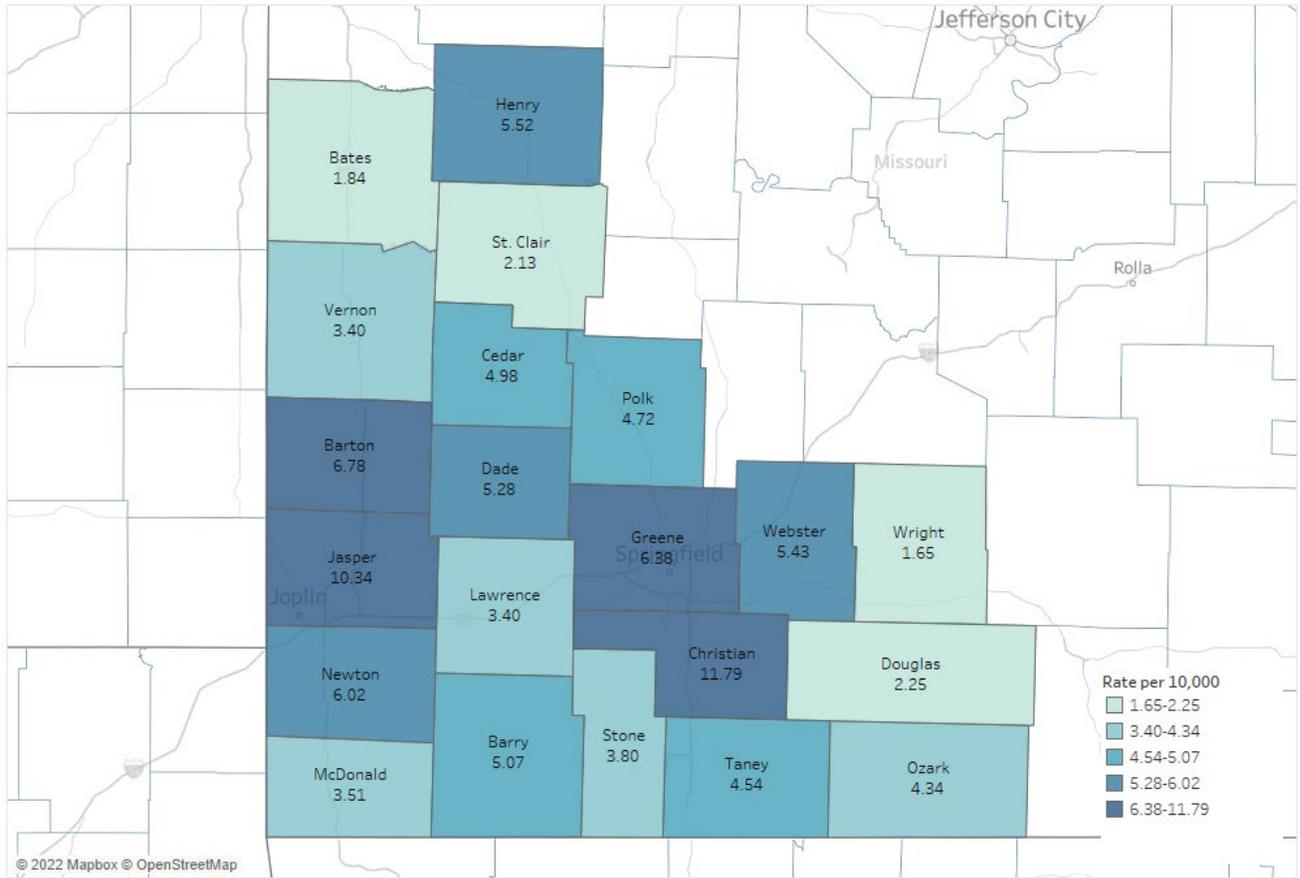
³¹ Bersell, C.H. (2017). Access to Oral Health Care: A National Crisis and Call for Reform. *Journal of Dental Hygiene*, 91(1), 6-14.

Figure 10. Dentists per 10,000 Residents (2022)



Source: Missouri Division of Professional Registration (2022)

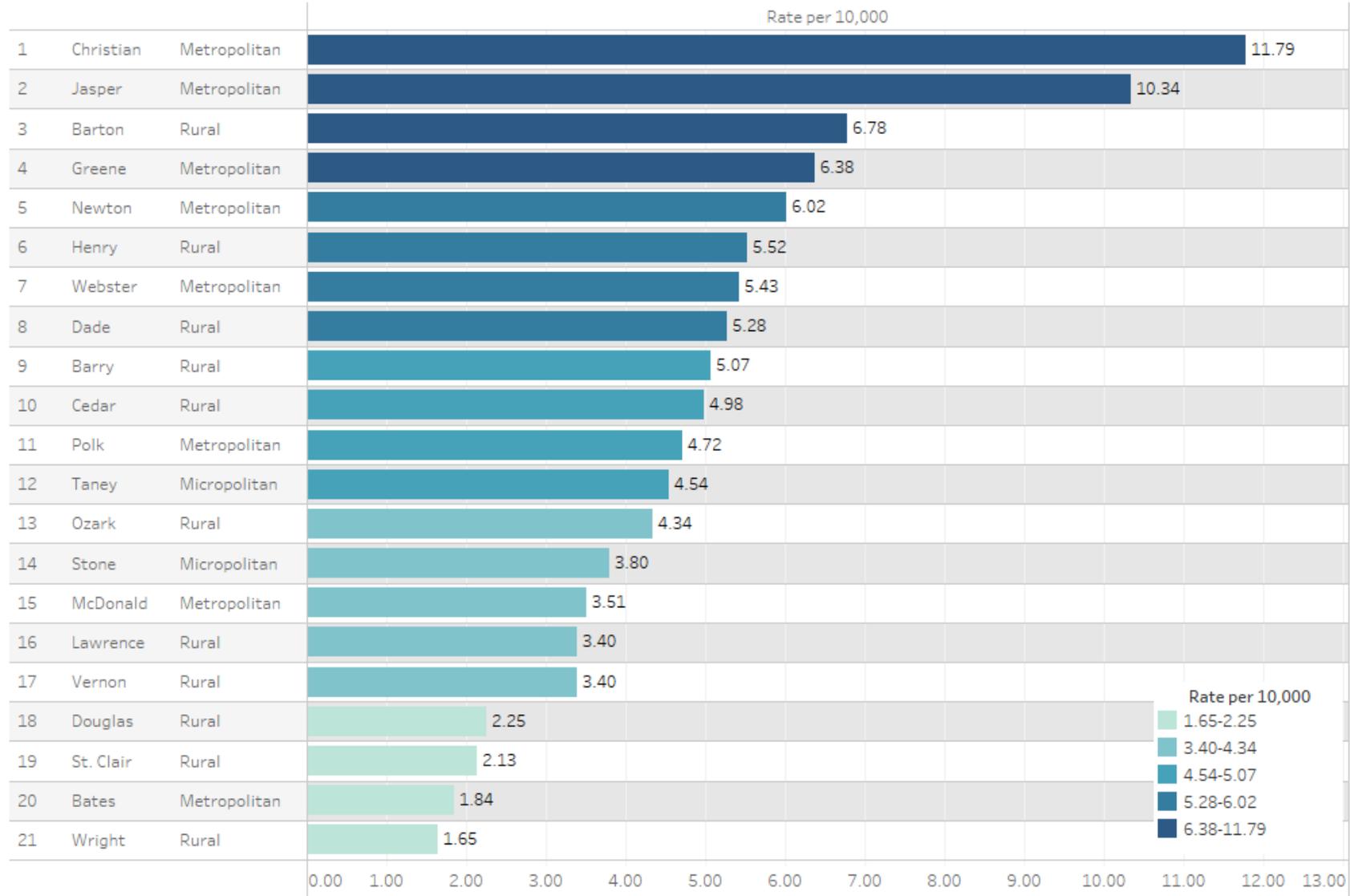
Figure 11. Geographic Distribution of Dental Hygienists per 10,000 Residents (2022)



Source: Missouri Division of Professional Registration (2022)

Note: Dynamic, interactive maps of dental hygienists and other providers in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/workforce/>.

Figure 12. Dental Hygienists per 10,000 Residents (2022)



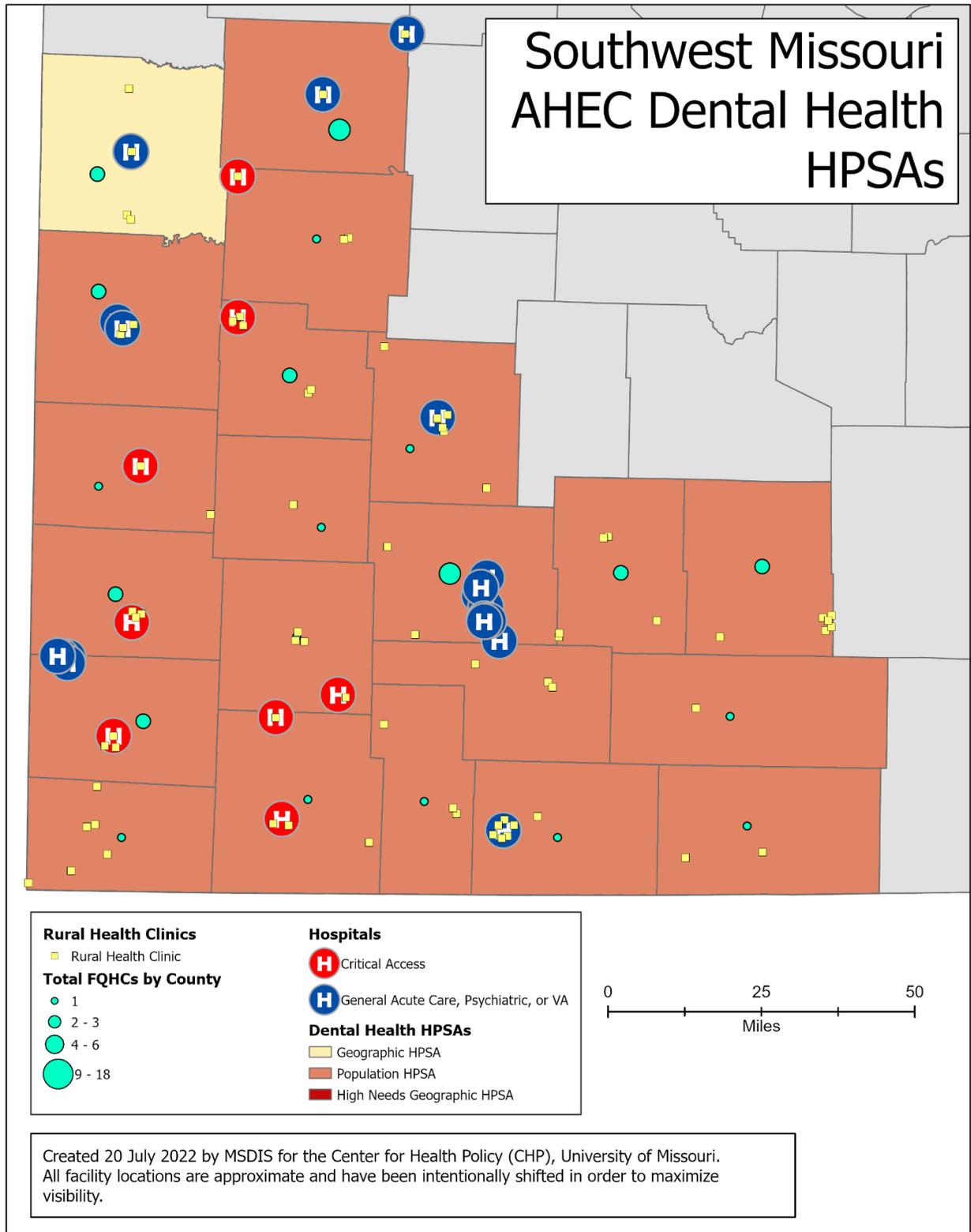
Source: Missouri Division of Professional Registration (2022)

Dental Health Professional Shortage Areas (HPSAs)

The region is almost entirely a Population HPSA (Figure 13), which means that special populations in the region lack access to dental health care. By contrast, Bates County is deemed a Geographic HPSA for dental health, meaning that all residents of this county face a shortage of dental health care.³²

³² Office of Rural Health and Primary Care. (2021). *Health in rural Missouri: Biennial report 2020-2021*. Retrieved from <https://health.mo.gov/living/families/ruralhealth/pdf/biennial2020.pdf>.

Figure 13. Dental Health HPSAs



Note: Dynamic, interactive maps of HPSAs and medical facilities in all AHEC regions are available under Indicator Dashboards at <https://mohealthcareworkforce.org/>.

Mental and Behavioral Health

Mental and behavioral health care helps people identify how behaviors influence their health including how to adopt positive behaviors to replace unhealthy ones. Mental illness and substance use disorders are key factors in disability, mortality, and health care costs. The prevalence of opioid addiction and related deaths is a crisis that continues. Mental and behavioral health professionals focus on wellness and prevention, helping patients manage mental and behavioral issues that allow them to lead happier, healthier, and more productive lives.³³

Mental and Behavioral Health Workforce

This section includes a summary of counts of the SWMO AHEC region’s mental and behavioral health providers for 2021 provided by the Missouri Division of Professional Registration. Mental and behavioral health providers include licensed professional counselors, psychologists, licensed social workers, marital and family therapists, psychiatrists, child psychiatrists, behavior analysts and assistant behavior analysts. Table 6 is a summary of the 2021 data and shows both the region and state data for comparison. Population data were retrieved from the 2015-2019 ACS 5-year estimates.

The SWMO AHEC region has fewer mental and behavioral health providers (one provider for every 494 residents in the region) than the state ratio (one provider for every 394 Missourians). The ratio of providers to the population is noteworthy, due to the increased need for mental health services due to trauma and PTSD from pandemic-related issues as well as the ongoing opioid crisis. Increased rates of insurance coverage due to Medicaid expansion and ACA may increase demand at a time of acute shortages in the region.³⁴ Telehealth services, which are popular sources of mental and behavioral health care, may provide an alternative for residents with adequate broadband service.

Table 6. Mental and Behavioral Health Providers by SWMO AHEC Region and State

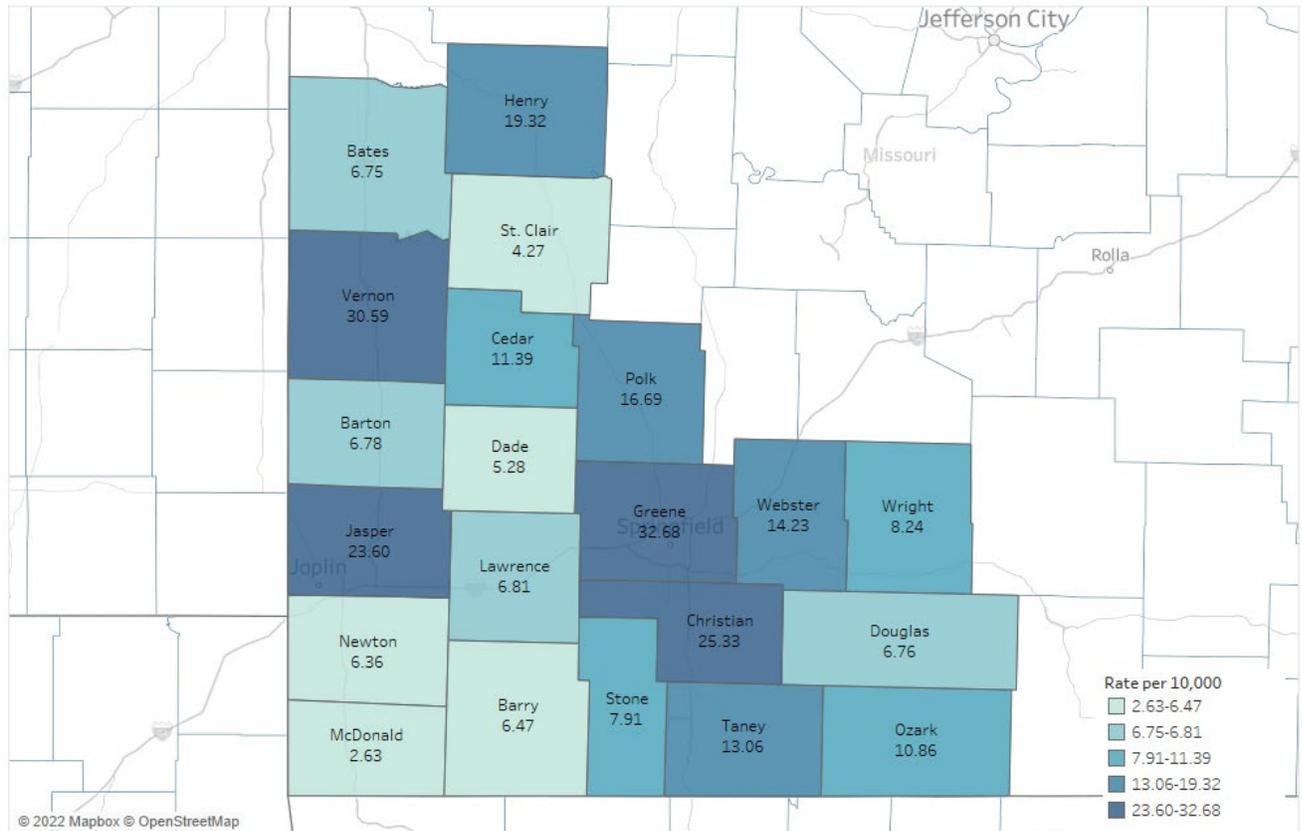
Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population of AHEC Region	Ratio Provider Type to AHEC Region Population
Mental and Behavioral Health	Region	408 (23%)	289 (16%)	1,086 (61%)	1,920	949,292	1 to 494
	State	2,283 (16%)	1,184 (8%)	10,709 (76%)	15,478	6,104,910	1 to 394

³³ Medline Plus. (2015). *Mental Health*. Retrieved from <https://medlineplus.gov/mentalhealth.html>.

³⁴ Grimm, C.A. "Hospitals Reported That the COVID-19 Pandemic Has Significantly Strained Health Care Delivery." (2021). Retrieved from <https://oig.hhs.gov/oei/reports/OEI-09-21-00140.pdf>.

The shortages and maldistributions of mental and behavioral health providers can be seen in Figure 14, with McDonald County in the far southwest corner of the region having the lowest rate of 2.63 mental and behavioral health care providers per 10,000 residents. Greene County has the highest rate at 32.68 per 10,000 residents.

Figure 14. Geographical Distribution of Mental and Behavioral Health Providers per 10,000 Residents (2022)

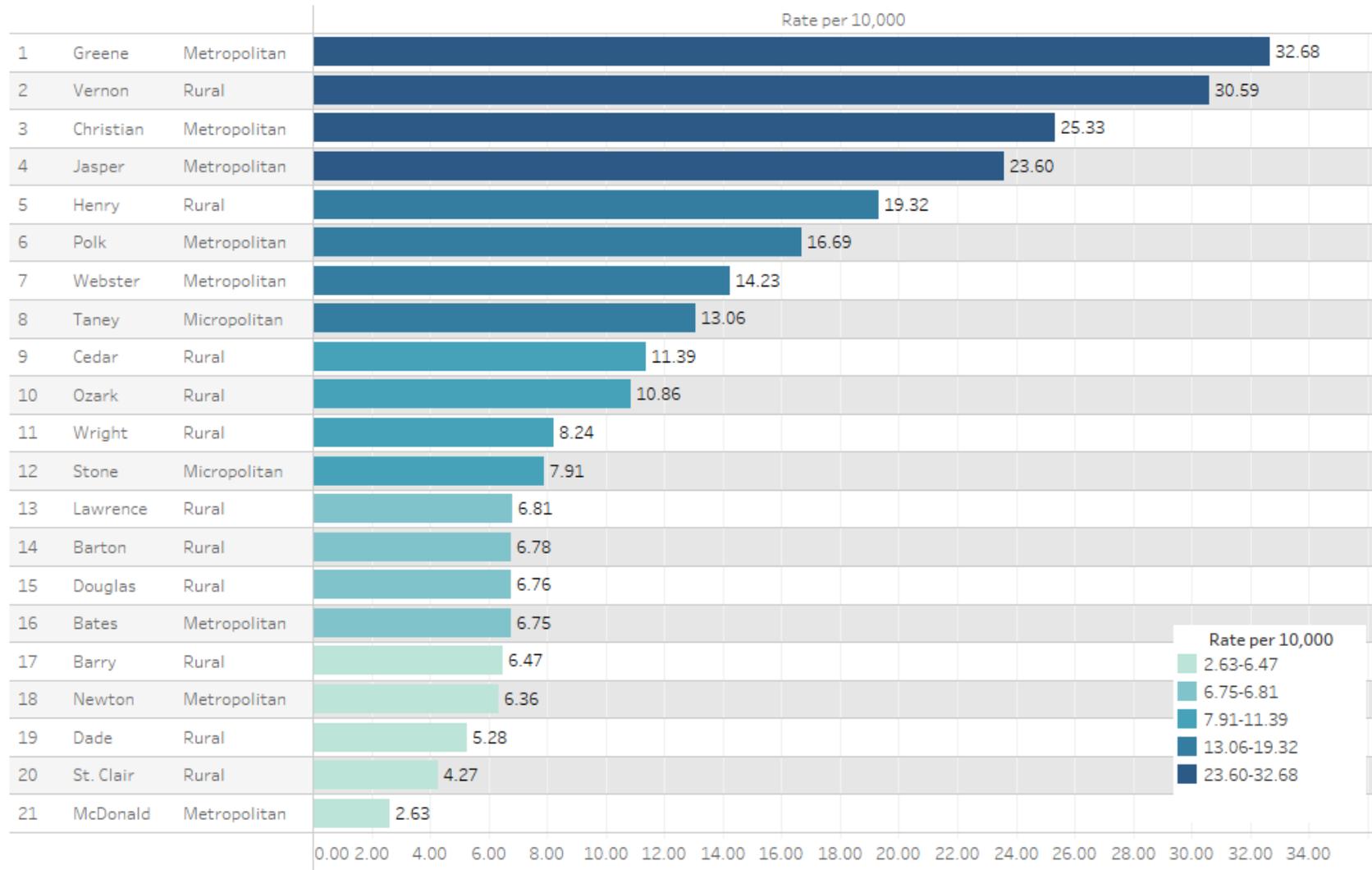


Source: Missouri Division of Professional Registration (2022)
 Mental & Behavioral Health includes Assistant Behavior Analyst, Behavior Analyst, Child Psychiatry, License Professional Counselor, Licensed Social Worker, Marriage & Family Therapist, Psychiatry and Psychologist.

Note: Dynamic, interactive maps of mental and behavioral health providers and other providers in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/workforce/>.

Figure 15 shows that, among the counties in the SWMO AHEC region with the most mental and behavioral health providers, six of the 10 most provider-dense counties are designated as micropolitan or as metropolitan; only four of the bottom 11 least provider-dense counties have one of those designations. There is a relatively steep drop-off of provider rates between the counties with the most providers and those with the least (Figure 15). This can be seen in that Greene County (32.68) has almost 12.5 times more mental and behavioral health providers than McDonald County (2.63).

Figure 15. Mental and Behavioral Health Providers per 10,000 Residents (2022)

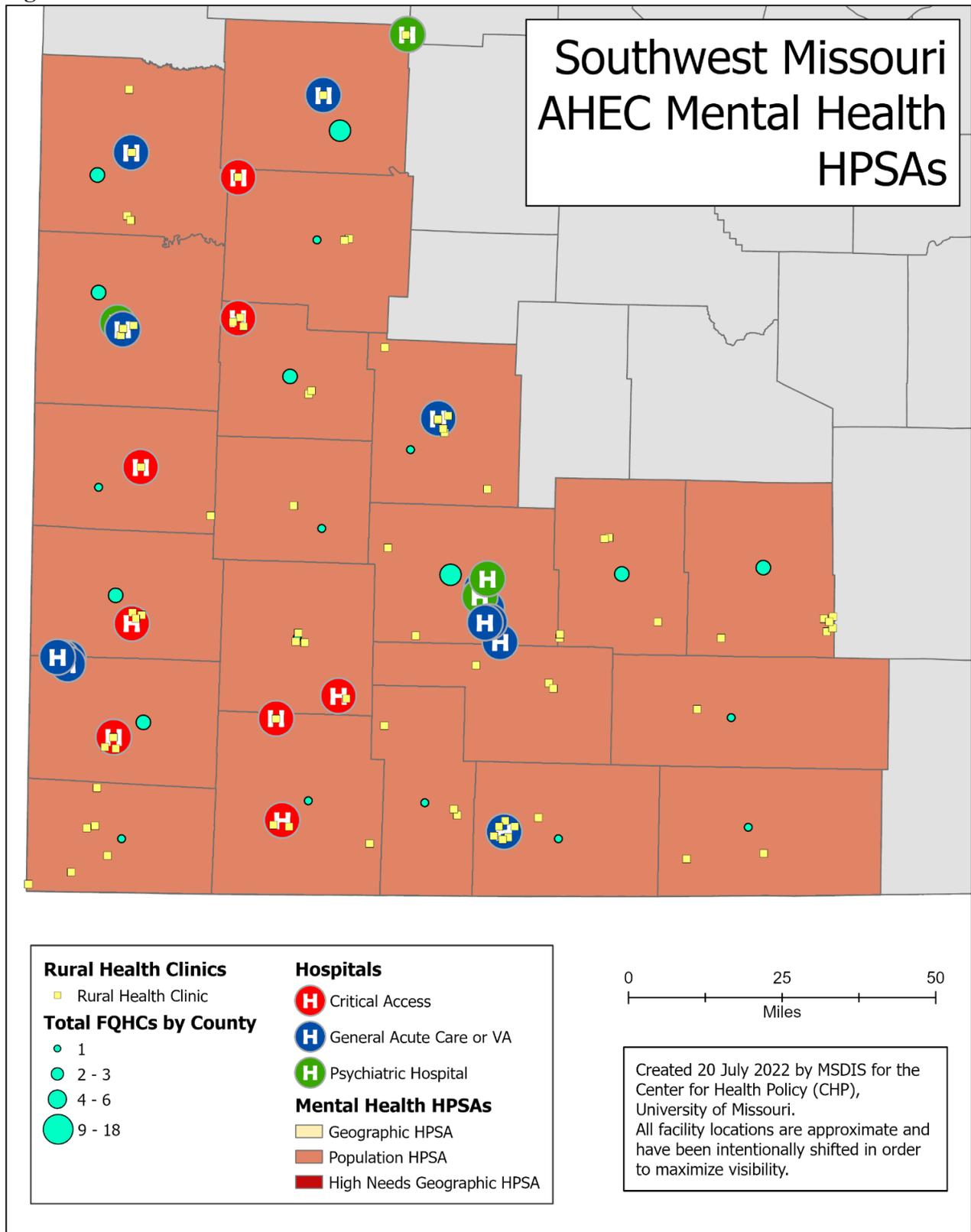


Source: Missouri Division of Professional Registration (2022)
 Mental & Behavioral Health includes Assistant Behavior Analyst, Behavior Analyst, Child Psychiatry, Licensed Professional Counselor, Licensed Social Worker, Marriage & Family Therapist, Psychiatry and Psychologist.

Mental Health Professional Shortage Areas (HPSAs)

The entirety of the SWMO AHEC region is included in a mental health HPSA, and each county is designated as a Population HPSA (Figure 16). This means that special populations in the region, such as low-income populations, lack access to mental and behavioral health care.

Figure 16. Mental Health HPSAs



Note: Dynamic, interactive maps of HPSAs and medical facilities in all AHEC regions are available under Indicator Dashboards at <https://mohealthcareworkforce.org/>.

Nursing Workforce

The Missouri State Board of Nursing offers two license types: Licensed Practical Nurse (LPN) and Registered Nurse (RN). While Missouri's Advance Practice Nurses (APRNs) are licensed as RNs, their title reflects completion of a terminal degree, national credentialing, and recognition by the Missouri State Board of Nursing of their advanced practice status. When considering Missouri's nursing workforce, it is important to note the differences in the scope of practice among LPNs, RNs and APRNs. With their ability to prescribe and supervise LPNs and RNs, APRNs are more comparable to physicians and physician assistants in the workforce. Table 7 presents 2021 nurse counts from Missouri Division of Professional Registration licensure data, as well as population counts from 2015-2019 ACS 5-year estimates.

The SWMO AHEC region has fewer nurses of all types than Missouri as a whole. The region has one RN for every 98 residents and one APRNs for every 781 residents compared to state ratios of one RN for every 88 Missourians and one APRN for every 672 Missourians). LPNs follow a similar pattern, with one LPN for every 432 regional residents compared to one LPN for every 401 Missourians.

Table 7. Nursing Workforce by SWMO AHEC Region and State

Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population of AHEC Region	Ratio Provider Type to AHEC Region Population
Advanced Practice Registered Nurses (APRNs)	Region	281 (23%)	253 (21%)	681 (56%)	1,215	949,292	1 to 781
	State	1,506 (17%)	697 (8%)	6,881 (76%)	9,084	6,104,910	1 to 672
Registered Nurses (RNs)	Region	2,078 (21%)	1,953 (20%)	5,691 (59%)	9,722	949,292	1 to 98
	State	11,594 (17%)	5,693 (8%)	52,325 (75%)	69,612	6,104,910	1 to 88
Licensed Practical Nurses (LPNs)	Region	765 (35%)	416 (19%)	1,015 (46%)	2,196	949,292	1 to 432
	State	5,813 (38%)	1,376 (9%)	8,017 (53%)	15,206	6,104,910	1 to 401

Selected Allied Health Professions

Table 8 includes 2021 data from Missouri Division of Professional Registration and population numbers from 2015-2019 5-year ACS estimates. Provider shortages in the SWMO AHEC region are like other rural regions of the state. Shortages for pharmacists, pharmacy technicians, physical therapists, and physical therapy assistants may be particularly concerning for the region due to an aging population with increased need for many services.³⁵

Pharmacy Workforce

Pharmacist and pharmacy technician counts and ratios are lower in the SWMO AHEC region than the state as a whole, with only one pharmacist per 1,002 residents in the region compared to the state average of one pharmacist to 859 Missourians and one pharmacy technician per 313 residents in the region compared to the state average of one pharmacy technician per 290 Missourians. As people age, they may require more access to pharmacy care. Services such as Express Scripts may increase access to prescription medications for SWMO AHEC residents, though filling prescriptions is just one of the services provided by pharmacists.

Physical Therapy Workforce

Residents of the SWMO AHEC region have less access to physical therapists (PTs; 1 for every 2,315 residents) than Missourians overall (1 for every 1,707 Missourians), but more access to physical therapy assistants (PTAs; 1 for every 4,919 residents) than Missourians overall (1 for every 5,071 Missourians). With this region having almost 1,000 fewer PTs per population than the state average, the PT shortage is particularly acute in the SWMO AHEC region. Two issues that may impact the need for PTs and PTAs are the opioid epidemic and the aging population. As the Missouri population ages, their need for physical therapy services may increase. Additionally, there is also widespread need for non-addictive alternatives to treat pain, with one study finding that 78 percent of Americans surveyed preferring drug-free pain management to opioids.³⁶ Physical therapy is one such option that can provide education on pain and pain management as well as effective treatment.

Community Health Worker Workforce

Community Health Workers (CHWs) are a relatively new workforce in the US and Missouri. CHWs provide frontline public health services in their own communities and serve as liaisons between health care and social service providers and the communities they serve. CHWs serve in both formal and informal capacities and can be employees or

³⁵ Dall, T.M., Gallo, P.D., Chakrabarti, R., West, T., Semilla, A.P., & Storm, M.V. (2013). An aging population and growing disease burden will require a large and specialized health care workforce by 2025. *Health affairs*, 32(11), 2013-2020. <https://doi.org/10.1377/hlthaff.2013.0714>.

³⁶ Mintken, P.E., Moore, J.R., Flynn, T.W. (April 30, 2018) *Physical Therapists' Role in Solving the Opioid Epidemic*. Retrieved from <https://www.jospt.org/doi/10.2519/jospt.2018.0606>.

volunteers.³⁷ Table 8 presents the most current counts of credentialed CHWs in Missouri. Compared to the state average (one CHW for every 29,351 Missourians), there are fewer CHWs per population in this region relative to the rest of the state (one CHW for every 31,643 SWMO residents). Demand for CHWs is anticipated to grow due to expanding health care coverage through Medicaid expansion as well as the growth in Missourians over the age of 65.

Table 8. Selected Allied Health Professions by SWMO AHEC Region and State

Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population of AHEC Region	Ratio Provider Type to AHEC Region Population
Pharmacists	Region	252 (27%)	162 (17%)	533 (56%)	947	949,292	1 to 1,002
	State	1,350 (19%)	520 (7%)	5,238 (74%)	7,108	6,104,910	1 to 859
Pharmacy Technicians	Region	1,193 (39%)	553 (18%)	1,286 (42%)	3,032	949,292	1 to 313
	State	6,204 (29%)	1,317 (6%)	13,539 (64%)	21,060	6,104,910	1 to 290
Physical Therapists	Region	105 (26%)	76 (19%)	229 (56%)	410	949,292	1 to 2,315
	State	579 (16%)	296 (8%)	2,701 (76%)	3,576	6,104,910	1 to 1,707
Physical Therapy Assistants	Region	64 (33%)	56 (29%)	73 (38%)	193	949,292	1 to 4,919
	State	395 (33%)	105 (9%)	704 (58%)	1,204	6,104,910	1 to 5,071
Community Health Workers	Region	6 (20%)	8 (27%)	16 (53%)	30	949,292	1 to 31,643
	State	20 (10%)	53 (25%)	135 (65%)	208	6,104,910	1 to 29,351

³⁷ National Institute for Healthcare Management Foundation. (April 7, 2021) *Community Health Workers: Their Important Role in Public Health*. Retrieved from <https://nihcm.org/publications/community-health-workers-infographic>.

Public Health Workforce

Based in a variety of organizations that are part of a diverse and complex system, the public health workforce promotes and protects the health of communities.³⁸ Missouri has a decades-long history of efforts to transform the public health system, including efforts to normalize public health services across the state. For example, grassroots efforts by the #HealthierMO Initiative (HealthierMO, <https://www.healthiermo.org/>), include an analysis of Missouri's public health system capacity titled *A Summary of Missouri's Public Health System Capacity to Deliver the Missouri Foundational Public Health Services Model*: https://www.healthiermo.org/files/ugd/9bd019_f678e32c6fa24128958b9280f5f03450.pdf. While the Local Public Health Agency regions analyzed in the report do not fully align with Missouri AHEC regions, the analysis nonetheless provides a useful resource to better understand the region's public health workforce.

MHA Regional Workforce Report Summary

The Missouri Hospital Association (MHA) produces an annual workforce report (<https://web.mhanet.com/media-library/2022-workforce-report/>), as well as regional profiles. MHA's Southwest Region Profile overlaps with about a third of the SWMO AHEC region:

(https://www.mhanet.com/mhaimages/workforce/2022/SW_Region_2022_WF.pdf).

The SWMO AHEC region extends to include six counties in MHA's Ozark region (https://www.mhanet.com/mhaimages/workforce/2022/Ozark_Region_2022_WF.pdf; Christian, Greene, Polk, Stone, Taney and Webster counties); five counties in MHA's West Central region

(https://www.mhanet.com/mhaimages/workforce/2022/WC_Region_2022_WF.pdf;

Barton, Bates, Henry, Saint Clair and Vernon counties); and three counties in MHA's South Central region

(https://www.mhanet.com/mhaimages/workforce/2022/SC_Region_2022_WF.pdf;

Douglas, Ozark and Wright).

MHA's reports focus on the vacancy and turnover rates of health care professions working in hospitals. The highest vacancy rates in hospitals are licensed practical nurses, radiology technicians, and respiratory therapists in the Southwest MHA region; housekeepers, respiratory therapists, and medical laboratory technicians in the West Central MHA region; and licensed practical nurses, nurse assistants, and staff registered nurses in the Ozark MHA region. The four MHA regions included in the SWMO AHEC region all have lower RN vacancy rates (Southwest = 14.8%; Ozark = 18.2%; West Central = 13.2%; South Central = 18.7%) than the state average of 19.8%.

³⁸ American Public Health Association. (2022, February 17). *What Is Public Health*. Retrieved from APHA.org: <https://www.apha.org/What-is-Public-Health>.

The hospital professions with the highest turnover rates in the South Central region are staff registered nurse, registered dietician and housekeeper. The highest turnover in the three remaining MHA regions in the Southwest AHEC are among food service workers/dietary aids, housekeepers, and nurse assistants. Unlike the RN vacancy rates, the RN turnover rates in South Central (40.9%), Southwest (26.6%) and West Central (26.4%) are higher than the state average of 22.1%. However, the RN turnover rate in the Ozark region is lower than the state average at 19.5%.

This is important regional data because the solutions are different between vacancies (e.g., increase focus on recruiting new entrants to the field) and turnover (e.g., increase focus on retaining existing employees).

Table 9. SWMO AHEC Region compared to Missouri Hospital Association (MHA) Region

Southwest AHEC Region Counties	MHA Region
Barry County	Southwest
Barton County	Southwest
Bates County	West Central
Cedar County	West Central
Christian County	Ozark
Dade County	Southwest
Douglas County	South Central
Greene County	Ozark
Henry County	West Central
Jasper County	Southwest
Lawrence County	Southwest
McDonald County	Southwest
Newton County	Southwest
Ozark County	South Central
Polk County	Ozark
Saint Clair County	West Central
Stone County	Ozark
Taney County	Ozark
Vernon County	West Central
Webster County	Ozark
Wright County	South Central

Health Care Infrastructure in the Region

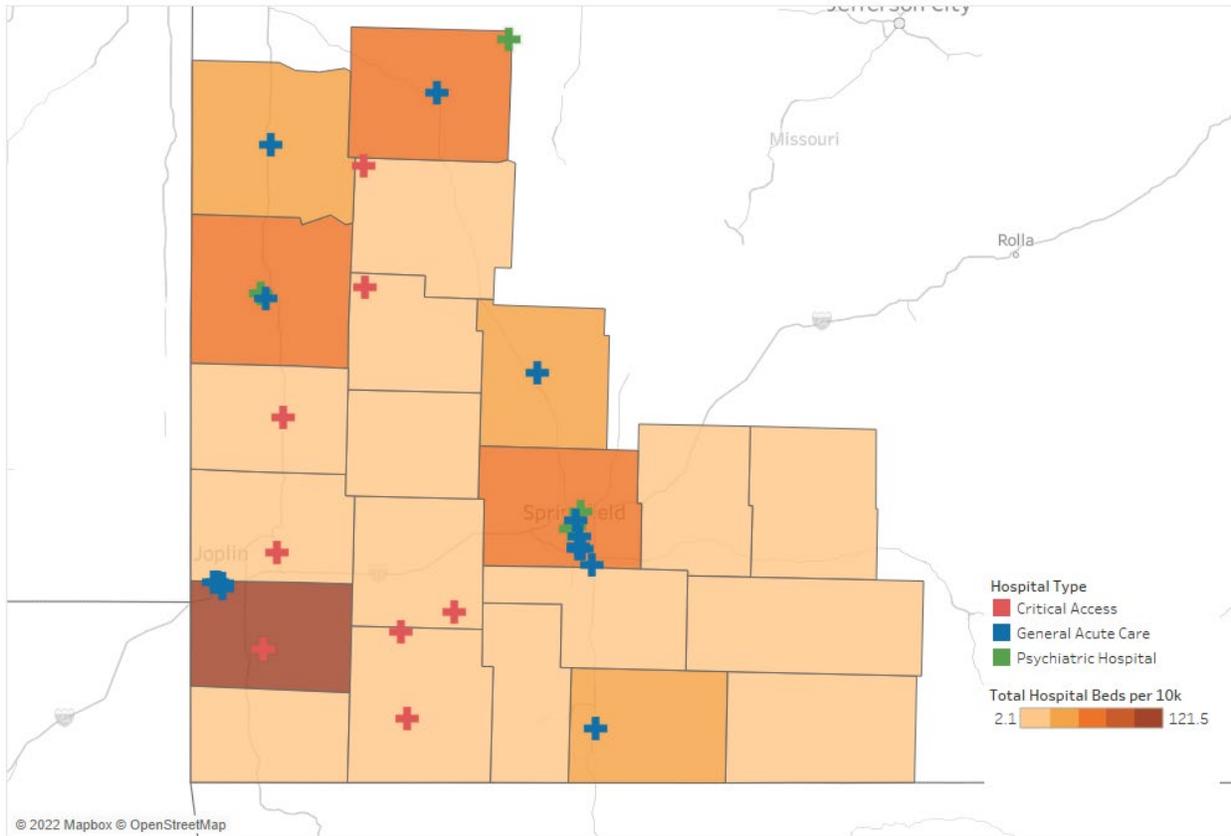
Primary care, dental health care, and mental and behavioral health care, and the workforce needed to deliver services, are all important aspects of Missouri's health care landscape. Infrastructure is another important piece. FQHCs and Rural Health Clinics were mentioned earlier in this document, but it is also important to consider hospitals, long-term care facilities and even broadband access when examining Missouri's health care infrastructure.

Hospitals

Figure 17 displays the geographic location and distribution of hospitals across the SWMO region, along with rates of total beds per 10,000 residents. Trauma Level I hospitals serve as comprehensive tertiary care facilities offering the most specialized services for every aspect of injury care. Two Level I hospitals are located in Springfield. Level II hospitals can provide initial treatment for all injuries though some patients may need to be transferred to a Level I facility. Level II care is available in Joplin. Level III Trauma Centers can assess, resuscitate, and stabilize patients before transfer to Level I and II hospitals. The SWMO AHEC region includes one Level III hospital in Bolivar.

Gaps in availability of hospital care are visible throughout the SWMO AHEC region, as rural residents face long drive times and increased cost to access care, and emergency responders may need to cross two or more county lines to connect patients with life-saving services. Eight counties in the region (Christian, Dade, Douglas, McDonald, Ozark, Stone, Webster and Wright) lack a critical access or general acute care hospital.

Figure 17. Hospitals and Total Beds Per 10,000 Residents

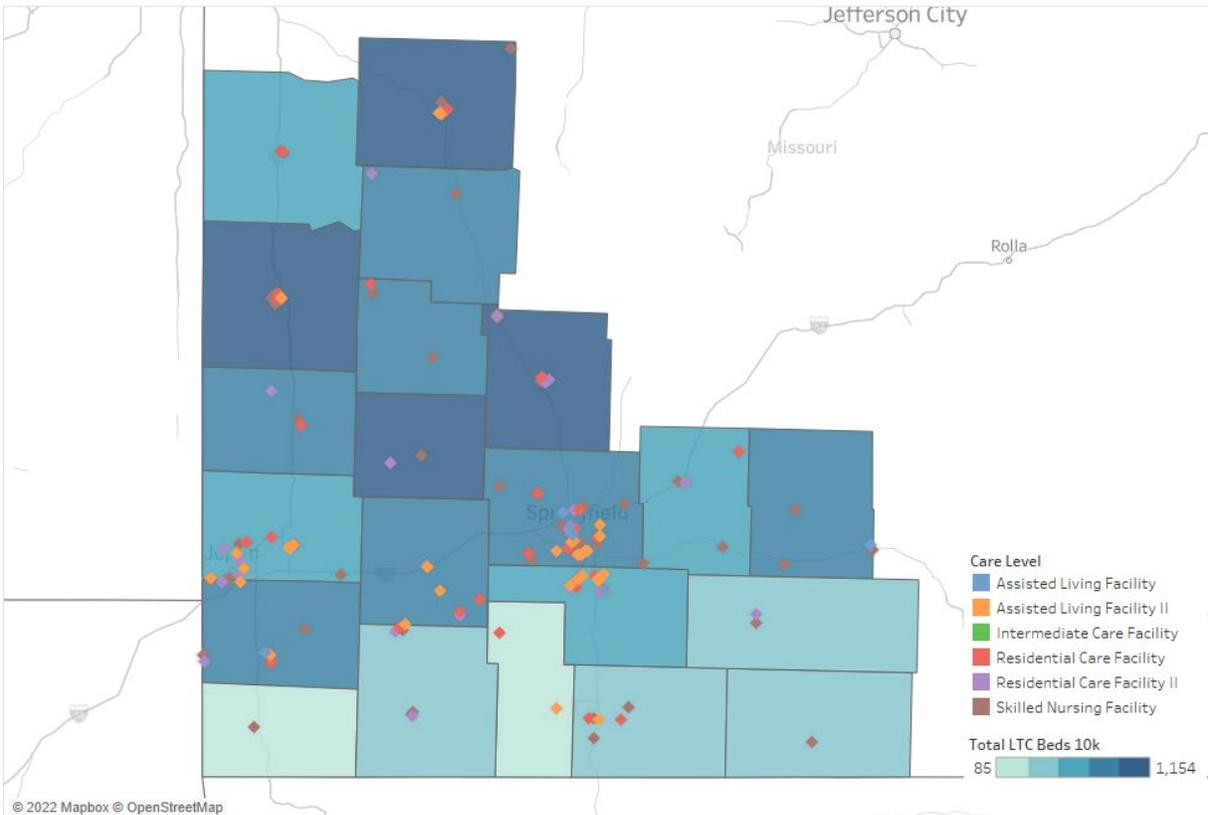


Note: Dynamic, interactive maps of medical facilities in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/medical-facilities/>.

Long-Term Care Facilities

Figure 18 provides a visualization of long-term care facilities in the region, based on the rate of long-term care beds per 10,000 population age 65 or older in 2022. The SWMO AHEC region has the lowest rate among AHEC regions in the state of long-term care beds available, including just 682.3 beds per 10,000 population age 65 or older.

Figure 18. Long-Term Care Facilities and Total Beds Per 10,000 Residents Age 65+



Source: American Community Survey (2015-2019 5 year estimates), MO Department of Health and Senior Services via Missouri Spatial Data Information Service (2022)

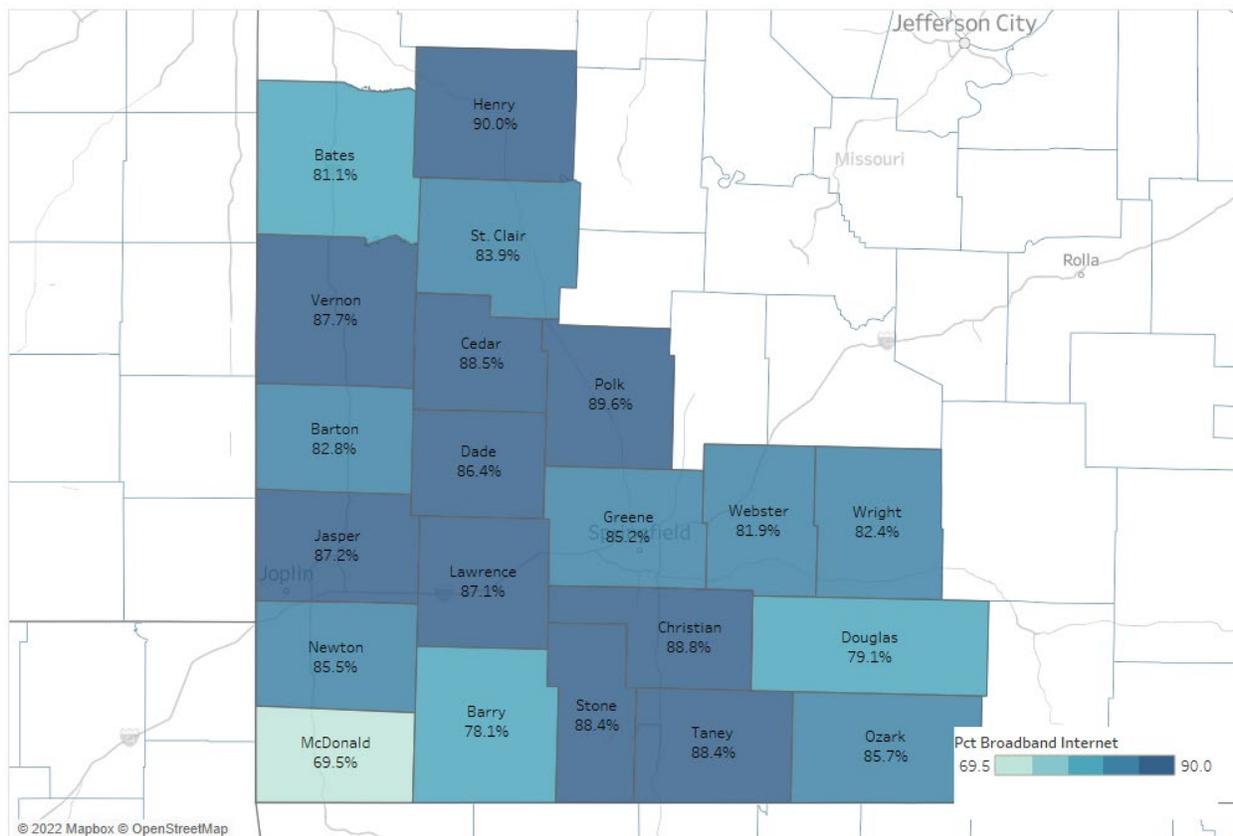
Note: Dynamic, interactive maps of medical facilities in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/medical-facilities/>. Age 65 and older was used as the age category of interest due to Medicare eligibility. Care levels include:

- ALF: Assisted Living Facility
- ALF II: Assisted Living Facility with additional requirements for evacuation assistance
- ICF: Intermediate Care Facility
- RCF: Residential Care Facility
- RCF II: Residential Care Facility requiring a licensed Nursing Home Administrator
- SNF: Skilled Nursing Facility

Broadband Access

Telehealth coverage and utilization was greatly expanded during the COVID-19 pandemic. Many of these policy changes may become permanent to increase health care access.³⁹ Thus, broadband access is an important piece of health care infrastructure. Figure 19 displays the percentage of households with a broadband internet subscription at the county level within the SWMO AHEC region. Unfortunately, many of the counties with low percentages of broadband at home also have a small number of health care providers and facilities, including McDonald County with just 69.5% of households with access. One potential solution is extending the audio-only telehealth options introduced during the pandemic, allowing those without broadband internet to access some care with their phone line.⁴⁰

Figure 19. Percentage of Households with a Broadband Internet Subscription



Source: American Community Survey (2015-2019 5-year estimates)

³⁹ Koma, W., Cubanski, J., and Neuman, T. (n.d.) *Medicare and Telehealth: Coverage and Use During the COVID-19 Pandemic and Options for the Future*. Retrieved from <https://www.kff.org/medicare/issue-brief/medicare-and-telehealth-coverage-and-use-during-the-covid-19-pandemic-and-options-for-the-future>.

⁴⁰ Ibid 39.

Southwest Missouri Area Health Education Center
Needs Assessment and Gap Analysis

By the University of Missouri Center for Health Policy and Missouri AHEC Program Office
at A.T. Still University-Kirksville College of Osteopathic Medicine

AUGUST 2022