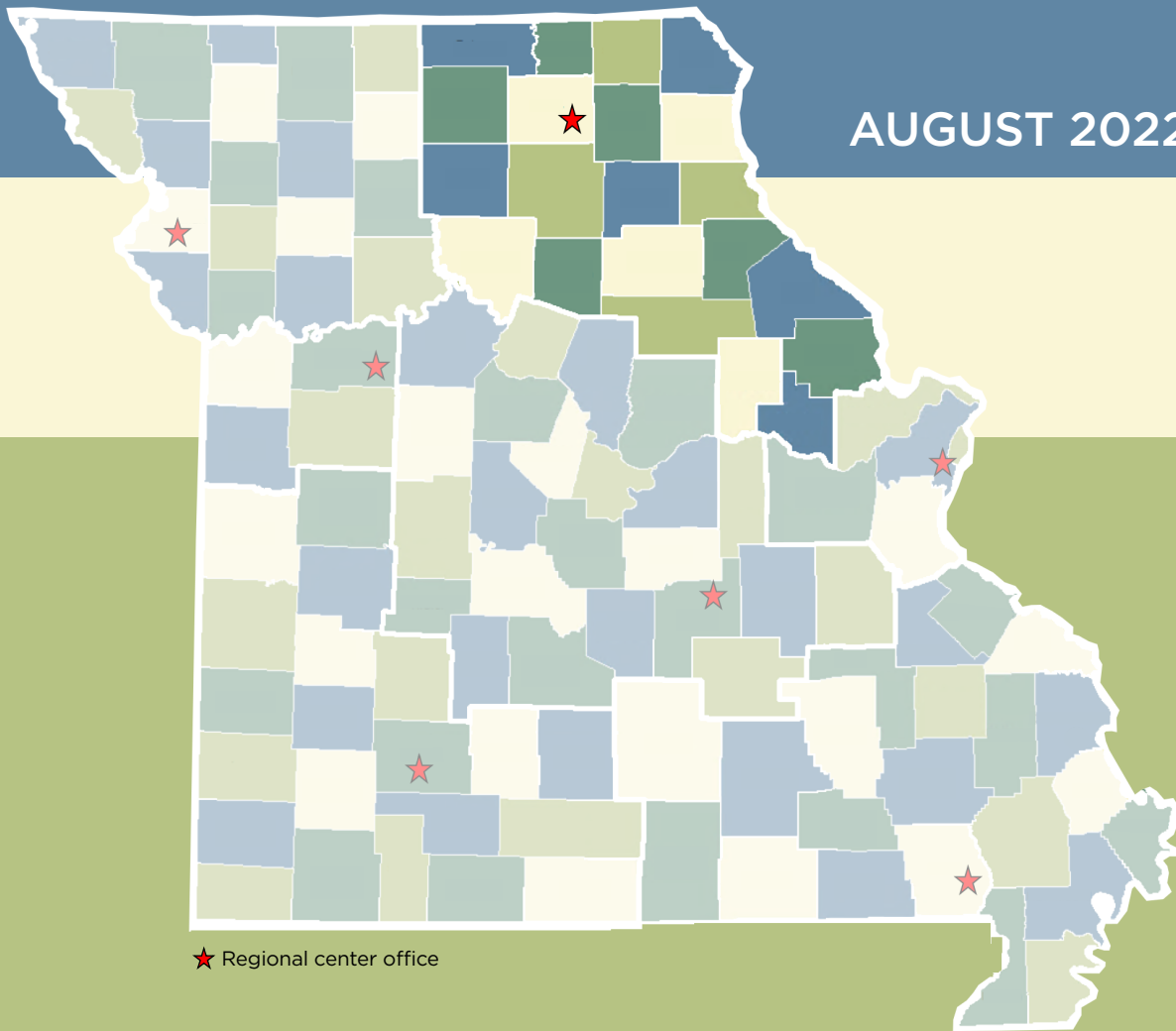


Northeast Missouri Area Health Education Center Needs Assessment & Gap Analysis

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



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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

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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 Northeast Missouri AHEC (NEMO AHEC) region. The analysis of population health in the region focuses on the social determinants of health and indicates that the NEMO AHEC region's health disparities are largely influenced by proximity to health care services. Demographic factors play an important role in the NEMO AHEC region, where the population is aging. Demand for health care is likely to increase with the higher concentration of population aged 65 and older² and expanded coverage from Missouri's recent Medicaid expansion.³

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 NEMO 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 NEMO AHEC region is experiencing greater shortages of health care workers than Missouri as a whole. 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.

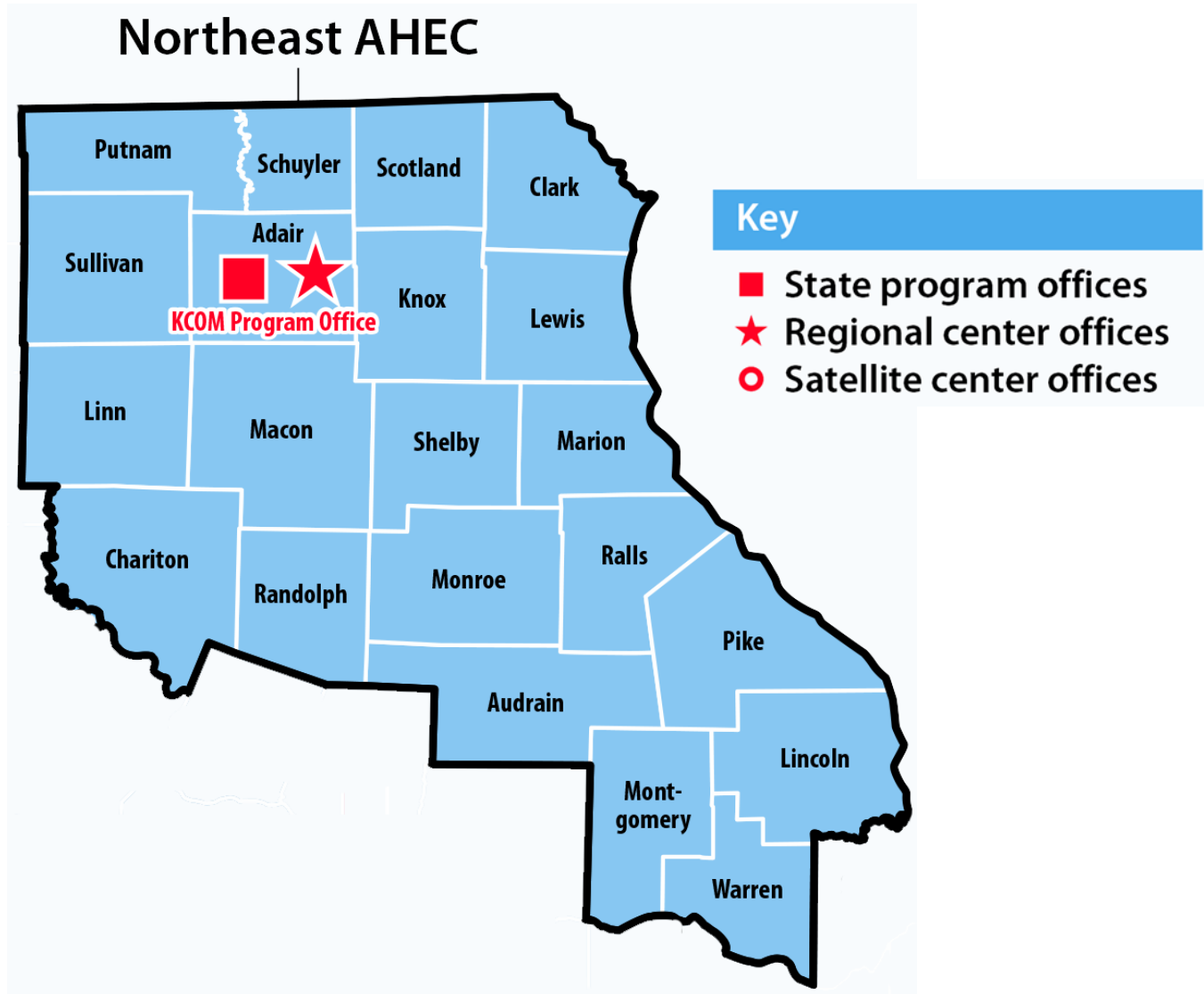
Any analysis of health care needs and workforce in 2022 would be remiss to ignore the impact of the ongoing COVID-19 pandemic. While data sources always lag real-time conditions in health care, the impacts of the lag are more apparent during a pandemic. Health care needs and workforce are changing quickly 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. <https://mohealthcareworkforce.org/publication/missouri-area-health-education-centers-needs-assessment-and-gap-analysis/>.

² 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>.

³ 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>.

Figure 1. Northeast Missouri Area Health Education Center (NEMO AHEC)



Population Health in the Region

The NEMO AHEC region covers 21 counties in the northeast corner of the state (Figure 1). The region has a population of 326,208 and covers a land area of 11,650 square miles. All of the region is considered rural by HRSA definition⁴ (Table 1), and its population is aging in a pattern similar to other rural parts of Missouri. The residents of the region face geographic, socioeconomic, and cultural obstacles that result in health disparities, largely related to its rural nature and aging population. The NEMO AHEC region's shortages and maldistributions of physicians and other health care providers are similar to rural areas throughout the state and nation. Mindful of this, the region may need to expand its health care workforce to fit the needs of the population for improved access and comprehensive, coordinated care.

⁴ 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

Table 1 shows the demographics and social determinants of health of the NEMO AHEC region and Table 2, for comparison, shows the same data for the entire state. Data are from the American Community Survey (ACS), 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 on 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.⁵ Margins of error are calculated based on the size of the sample and the population. They can exceed 100% when sample sizes are small. For example, the ACS estimate for Pacific Islanders in the NEMO AHEC region is 222, with a margin of error of 538.2%. Based on the margin of error calculation, the actual population of Pacific Islanders in the NEMO AHEC region is likely between zero and 1,417.

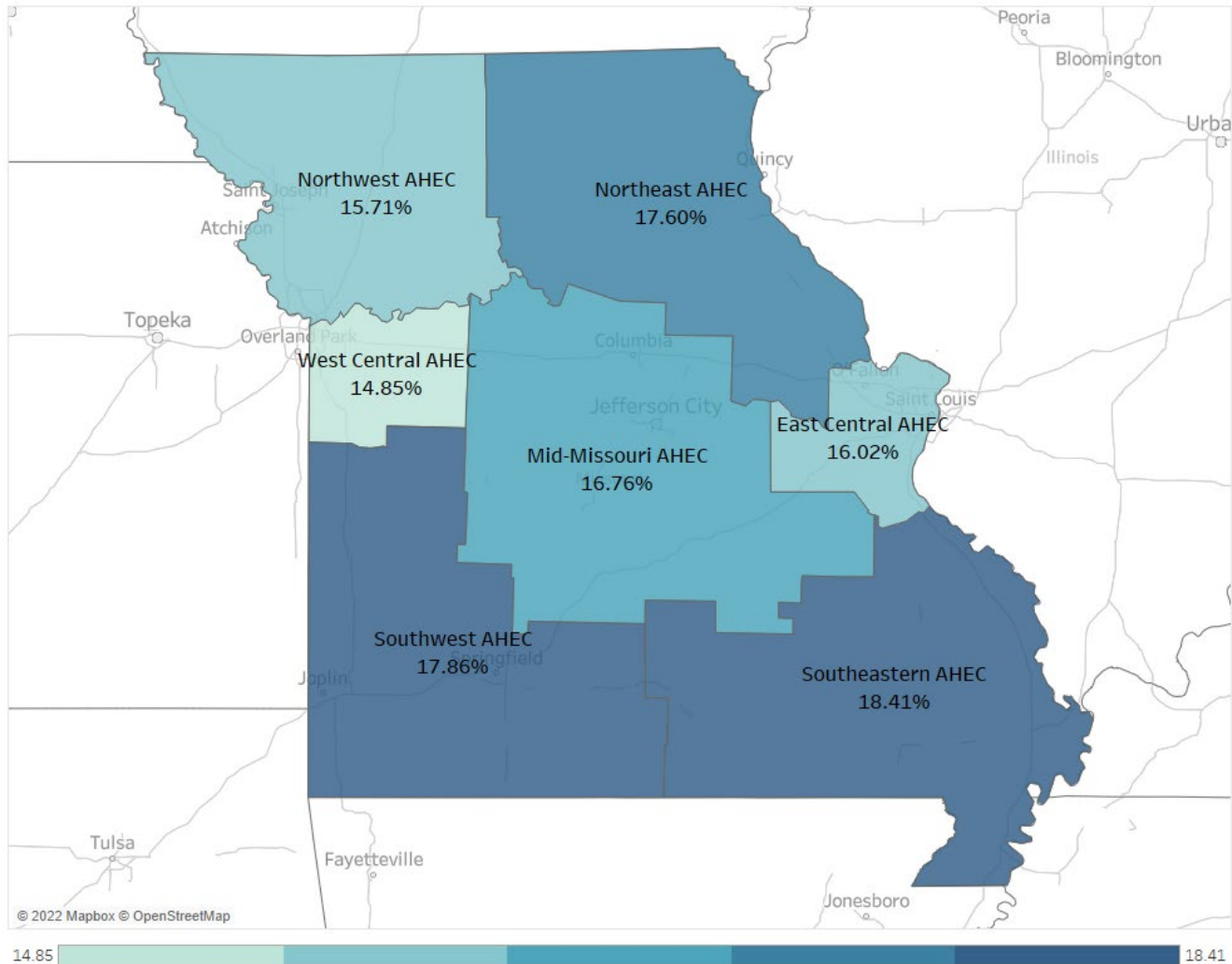
The entire NEMO AHEC region is rural according to HRSA's definition, and the region is less diverse than others: 93.1% of residents are white compared to 82.2% of the state's population. Most residents of the region have earned at least a high school diploma or its equivalent (88.0%), slightly lower than the state rate of 89.9%. Missouri's population of adults aged 65 and older has grown in the last decade (16.5% of the total population), and the percentage of older adults in the region is higher than the state at 17.6%. An aging population may affect the health sector in key ways: 1) retiring health professionals intensify workforce shortages⁶ and 2) aging may increase health care needs.⁷ See Figure 2 for a map of the population age 65 and older.

⁵ Qualtrics. (2022). Your guide to margin of error. Retrieved from <https://www.qualtrics.com/experience-management/research/margin-of-error/>.

⁶ 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.

⁷ 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>.

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/>.

Additional health care access barriers that exist in the region are tied to socioeconomic challenges including housing and food insecurity, as well as a lack of transportation and health insurance. While margins of error for the NEMO AHEC region are too large to reliably report on many of these social determinants of health at the regional level, the estimates for rural Missouri offer a useful comparison. In fact, with 21 of Missouri’s 102 rural counties located within its borders, the NEMO AHEC region comprises more than one in five (20.6%) rural Missouri counties.

More than one in four (26%) Missouri households are housing cost burdened, with rent or mortgage and utilities accounting for more than 30% of the household income. While housing costs are often lower in rural areas than urban, so are incomes, resulting in relatively similar rates of housing cost burden in urban (27%) and rural (24%) households. Missouri has the 17th highest

food insecurity rate in the nation.⁸ Food insecure families are at a higher risk for weight gain and chronic disease, e.g., diabetes, hypertension.⁹ 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.¹⁰ In rural areas, individuals may drive sixty or more miles to reach appropriate care¹¹ and more than six percent of rural Missouri households lack access to a vehicle according to Table 2 (below). Further, Table 2 also reports that 11% of Missourians lack health insurance, including 14% in rural counties and nine percent in urban counties, which impedes the ability of low-income individuals to access primary and preventive care.

⁸ 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>.

⁹ 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>.

¹⁰ 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>.

¹¹ 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.

Table 1. Summary of Demographics by NEMO AHEC Region¹²

Criterion	NEMO Region		MOE ¹³	Rural	% of NEMO	MOE	Urban	% of NEMO	MOE
Estimated 2015-2019 Population	326,208		4.5%	326,208	100.0%	0.7%	-	0%	0%
Land Area (mi ²)	11,650			11,650	100.0%		-	0%	
Population Density/mi ²	28			28			-		
Counties	21			21			-		
Racial/Ethnic	NEMO Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
White	303,686	93.1%	4.5%	303,686	93.1%	4.5%	-	0%	0%
Black/Afr. American	9,670	3.0%	84.7%	9,670	3.0%	84.7%	-	0%	0%
Native American	1,416	0.4%	107.0%	1,416	0.4%	107.0%	-	0%	0%
Asian	1,848	0.6%	195.2%	1,848	0.6%	195.2%	-	0%	0%
Pacific Islander	222	0.1%	538.2%	222	0.1%	538.2%	-	0%	0%
Other	1,897	0.6%	194.6%	1,897	0.6%	194.6%	-	0%	0%
Multi-Racial	7,469	2.3%	55.8%	7,469	2.3%	55.8%	-	0%	0%
Hispanic/Latino ¹⁴	7,975	2.4%	70.8%	7,975	2.4%	70.8%	-	0%	0%
Age Cohorts	NEMO Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
<18	75,684	23.2%	11.0%	75,684	23.2%	11.0%	-	0%	0%
65+	57,411	17.6%	8.2%	57,411	17.6%	8.2%	-	0%	0%
Social Determinants of Health	NEMO Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
Persons in poverty ¹⁵	47,207	15.2%	22.1%	47,207	15.2%	22.1%	-	0%	0%
<18 in poverty	15,107	4.9%	28.7%	15,107	4.9%	28.7%	-	0%	0%
HS Graduate +	192,619	88.0%	6.8%	192,619	88.0%	6.8%	-	0%	0%
Bachelor's Degree +	38,198	17.5%	19.1%	38,198	17.5%	19.1%	-	0%	0%
No Health Insurance (<65)	30,111	11.2%	22.0%	30,111	11.2%	22.0%	-	0%	0%
Disability (<65)	47,953	17.8%	17.5%	47,953	17.8%	17.5%	-	0%	0%
Housing Cost Burdened	26,611	22.9%	21.0%	26,611	22.9%	21.0%	-	0%	0%
Households w/o a vehicle	6,632	5.5%	42.0%	6,632	5.5%	42.0%	-	0%	0%

¹² Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

¹³ MOE: Relative margin of error.

¹⁴ Includes Hispanic or Latinx of any race.

¹⁵ 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 Counties¹⁶

Criterion	Missouri		MOE ¹⁷	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 ¹⁸	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 ¹⁹	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 ²⁰	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%

¹⁶ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

¹⁷ MOE: Relative margin of error.

¹⁸ 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.

¹⁹ Includes Hispanic or Latinx of any race.

²⁰ 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.²¹ However, culturally competent and trauma informed health care professionals are still needed to meet the needs of the underrepresented among the NEMO AHEC region's population, and inclusivity, diversity and equity (IDE) training continue to be important for health care providers.

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.²² 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%).²³

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.

²¹ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

²² 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>.

²³ 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><https://www.census.gov/library/stories/2021/11/census-bureau-survey-explores-sexual-orientation-and-gender-identity.html>.

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.²⁴ Missouri began processing applications on October 1, 2021.²⁵ Prior to expansion, just over one million Missourians (n=1,029,000) were enrolled in the MO HealthNet program. Washington University Center for Health Economics and Policy (CHEP) estimates 275,000 Missourians are eligible to enroll through Medicaid expansion, including 14,403 in the NEMO AHEC region, which is 4.4% of the area's population.²⁶ 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.

²⁴ 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>.

²⁵ Norris, L. (2021). *Missouri and the ACA's Medicaid Expansion*. Retrieved from <https://www.healthinsurance.org/medicaid/missouri/>.

²⁶ 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.

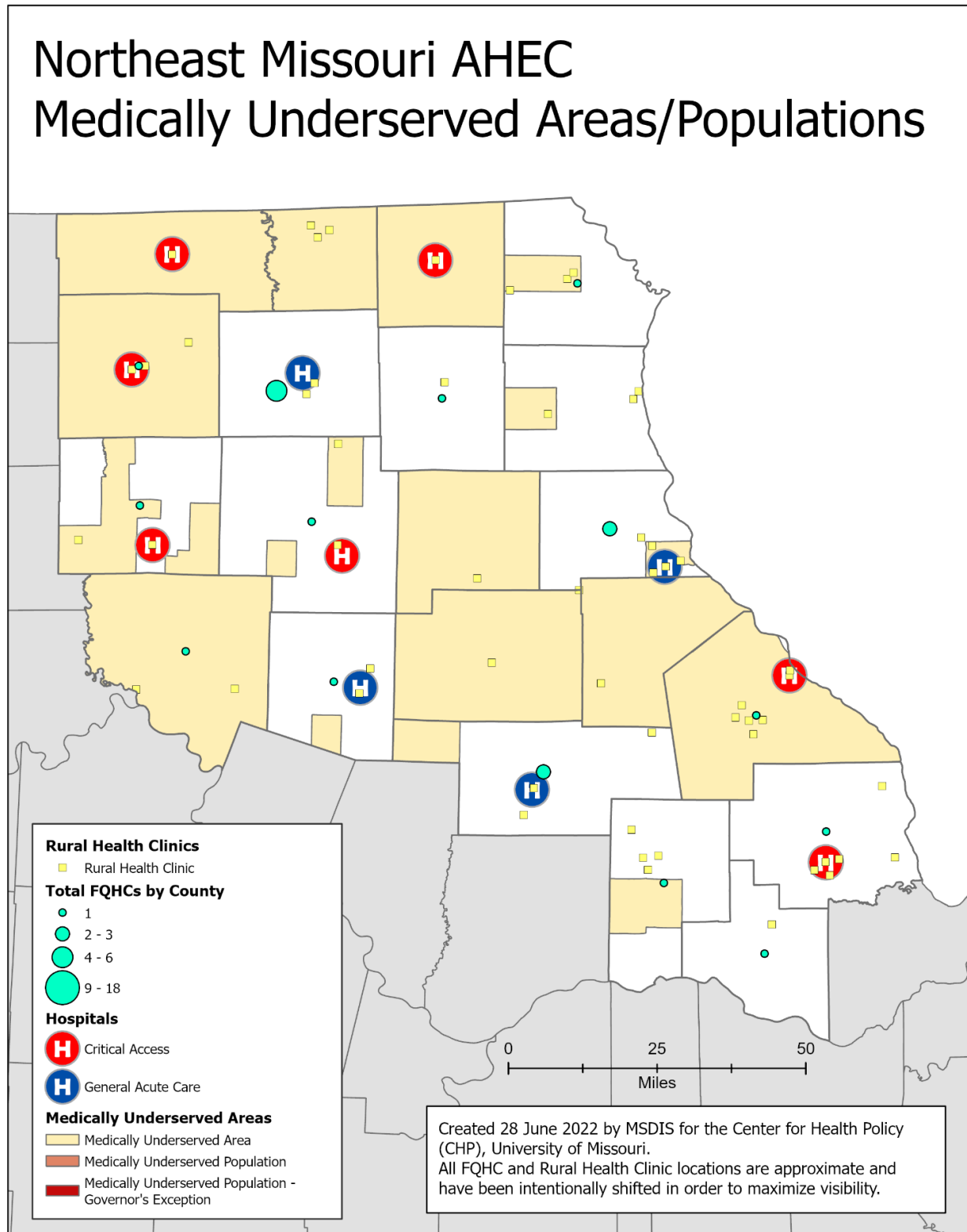
Medically Underserved Areas/Populations (MUA/Ps)

The NEMO AHEC region's specific 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.²⁷ Programs like the Health Center Program and CMS Rural Health Clinic Program utilize MUA/Ps to allocate federal resources to areas of greatest need.

Eight of the 21 counties in the region (Putnam, Schuyler, Scotland, Sullivan, Chariton, Shelby, Monroe, Ralls) and portions of an additional 8 counties (Clark, Lewis, Linn, Macon, Randolph, Audrain, Marion, Montgomery) have been designated as medically underserved areas (MUAs). See Figure 3 for more information on MUA/Ps in the NEMO AHEC.

²⁷ Health Resources and Services Administration. (2021). *What is a shortage designation?* Retrieved from <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation>.

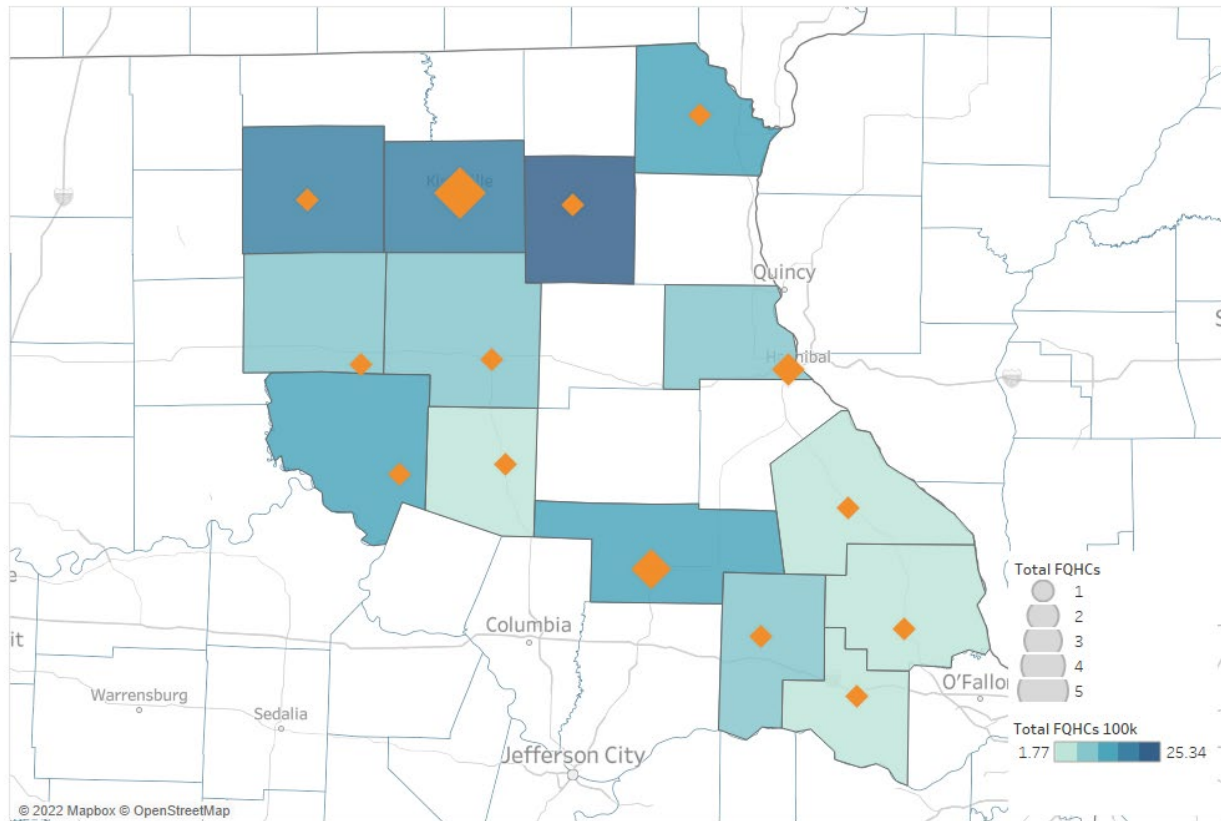
Figure 3. Medically Underserved Areas/Populations (MUA/Ps)



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 important safety net providers for primary care, dental, and mental and behavioral health. Although the number of FQHCs per 100,000 residents is higher than the other regions, they are spread out. Several counties (Lewis, Monroe, Putnam, Ralls, Schuyler, Scotland and Shelby) lack an FQHC altogether. As seen in Figure 4, driving distances to FQHCs are a factor throughout this rural region.

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

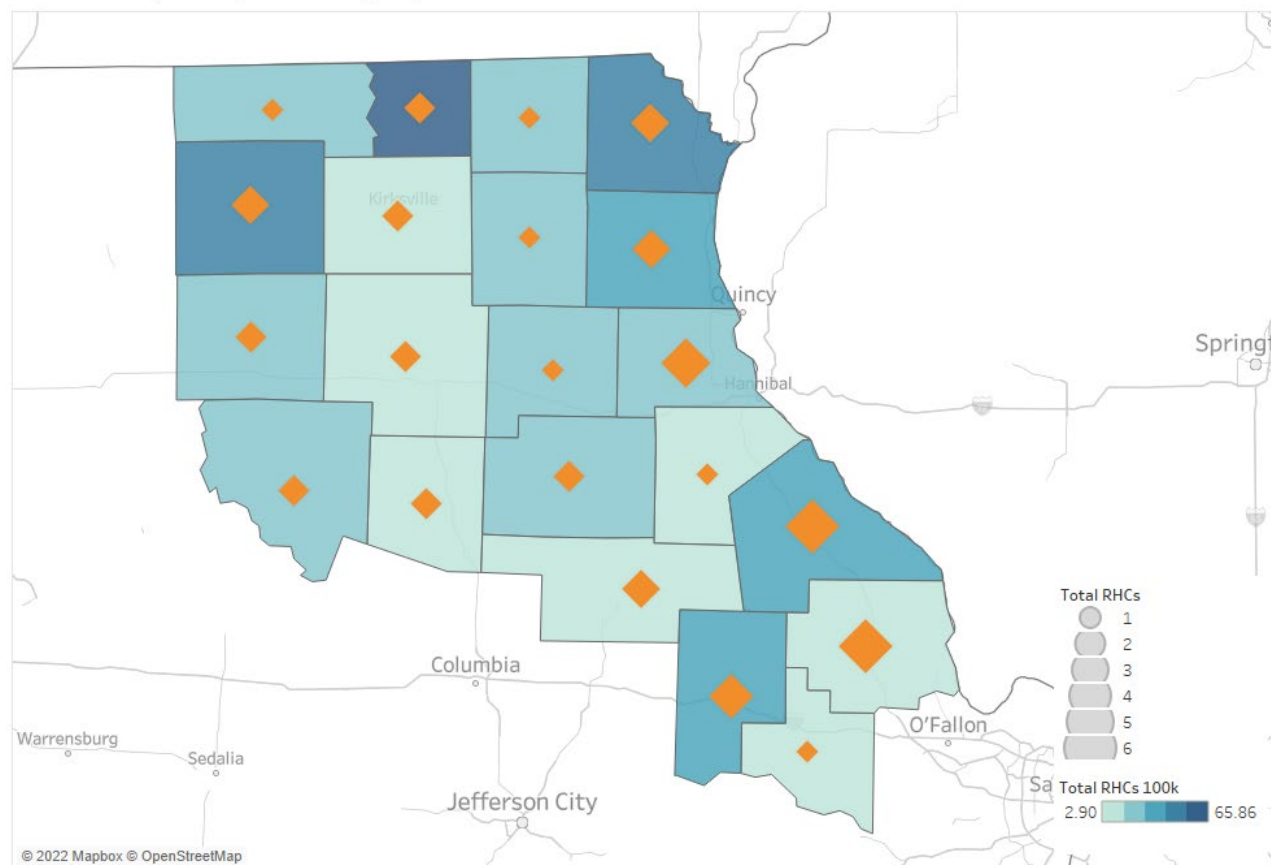


Source: American Community Survey (2015-2019 5 year estimates), MO Department of Health and Senior Services via Missouri Spatial Data Information Service (2022)

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

Figure 5 displays Rural Health Clinics and rates of clinics per 100,000 residents in the region. Like FQHCs, RHC rates appear higher than the rest of the state; however, the great distances between the clinics means that transportation is a barrier to equitable access in this region. Rural Health Clinics fill important gaps in primary care, dental care, and mental and behavioral health in rural areas.

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

Analysis of the NEMO 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 shortages of health care providers throughout the NEMO AHEC region for each of the professions reviewed. Throughout Missouri, shortages are more acute in rural areas with few exceptions, such as licensed practical nurses (LPNs). Due to the rurality of the NEMO AHEC region, it is not surprising that shortages exist for most provider types.

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.²⁸

Primary Care Physicians

The ratio of primary care physicians (PCP) to the region’s population is one PCP for every 1,279 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 NEMO AHEC Region and State

Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population Primary Care Physicians	Ratio Provider Type to Population
Primary Care Physicians	Region	255 (100%)	0 (0%)	0 (0%)	255	326,208	1 to 1,279
	State	1,224 (12%)	847 (9%)	7,753 (79%)	9,824	6,104,910	1 to 621

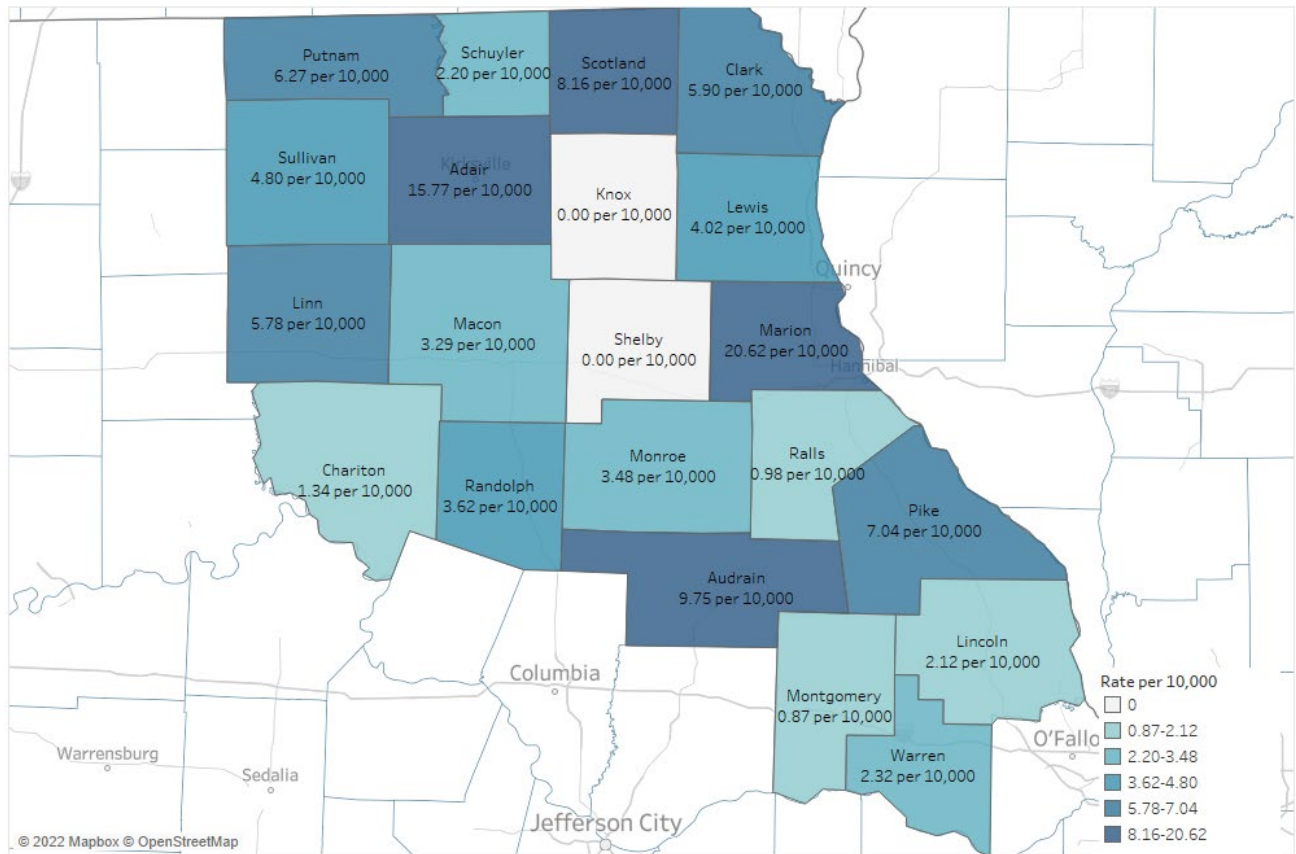
Note: Primary care physicians include the specialties of Family Medicine, General Practice, Internal Medicine, Obstetrics and Gynecology (OB/GYN) and Pediatrics.

Data on primary care physicians in the region are from the Missouri Division of Professional Registration public release file.²⁹ According to these data, two counties (Knox and Shelby) in the NEMO AHEC region do not have any PCPs (Figure 6). Two counties (Ralls and Montgomery) have less than one PCP for every 10,000 residents.

²⁸ 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>.

²⁹ 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)



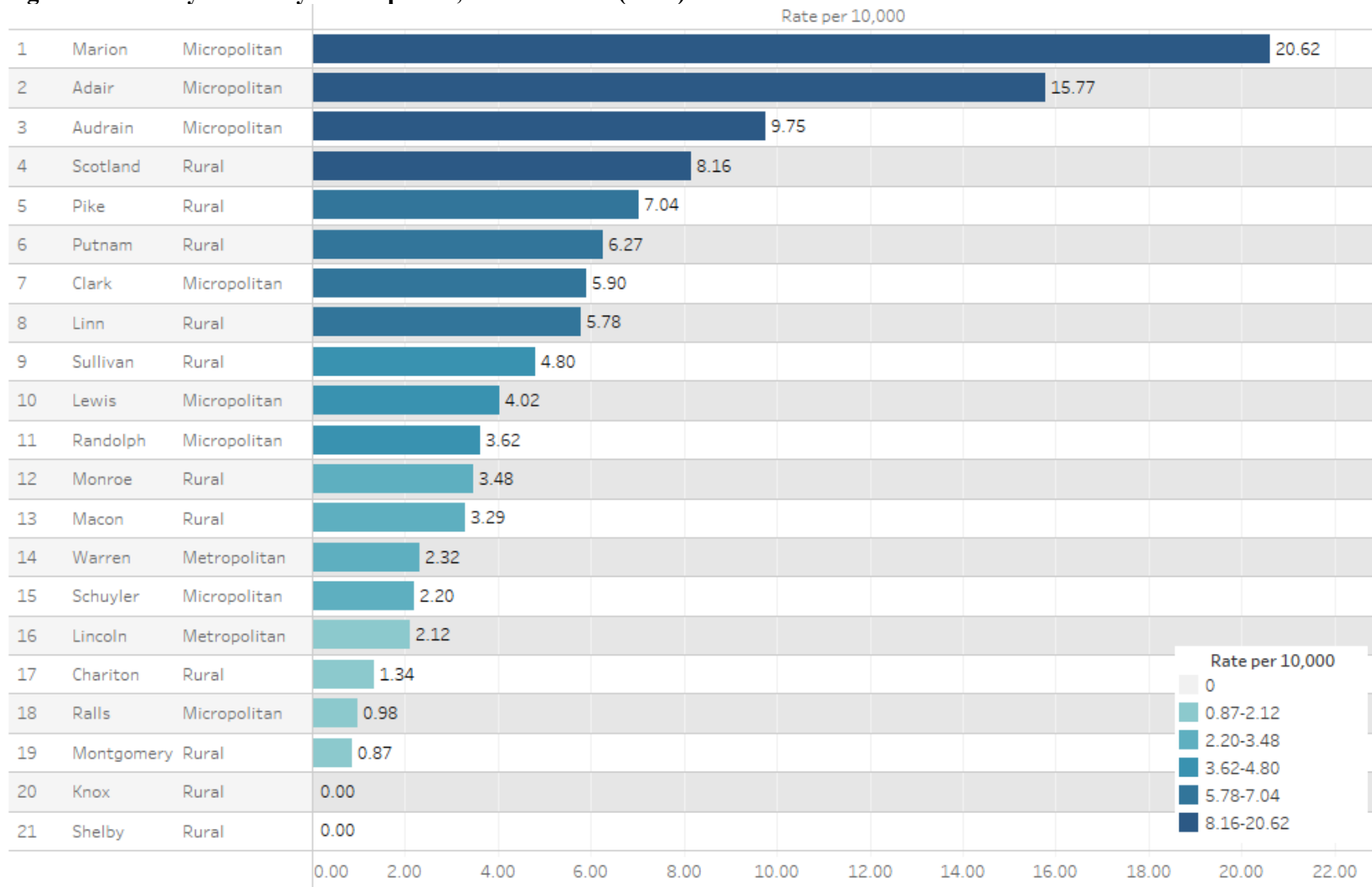
Source: Missouri Division of Professional Registration (2022)

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/>.

Counties with the highest rates of primary care physicians per 10,000 residents (Marion, Adair, Audrain) tend to be more densely populated or adjacent to regional trade centers with more public infrastructure than counties in the region with lower rates (Figure 7). Lincoln and Warren counties, which are part of the St. Louis core-based statistical area (CBSA) and categorized as metropolitan, are exceptions to this tendency with just 2.12 and 2.32 physicians per 10,000 residents, respectively.

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)

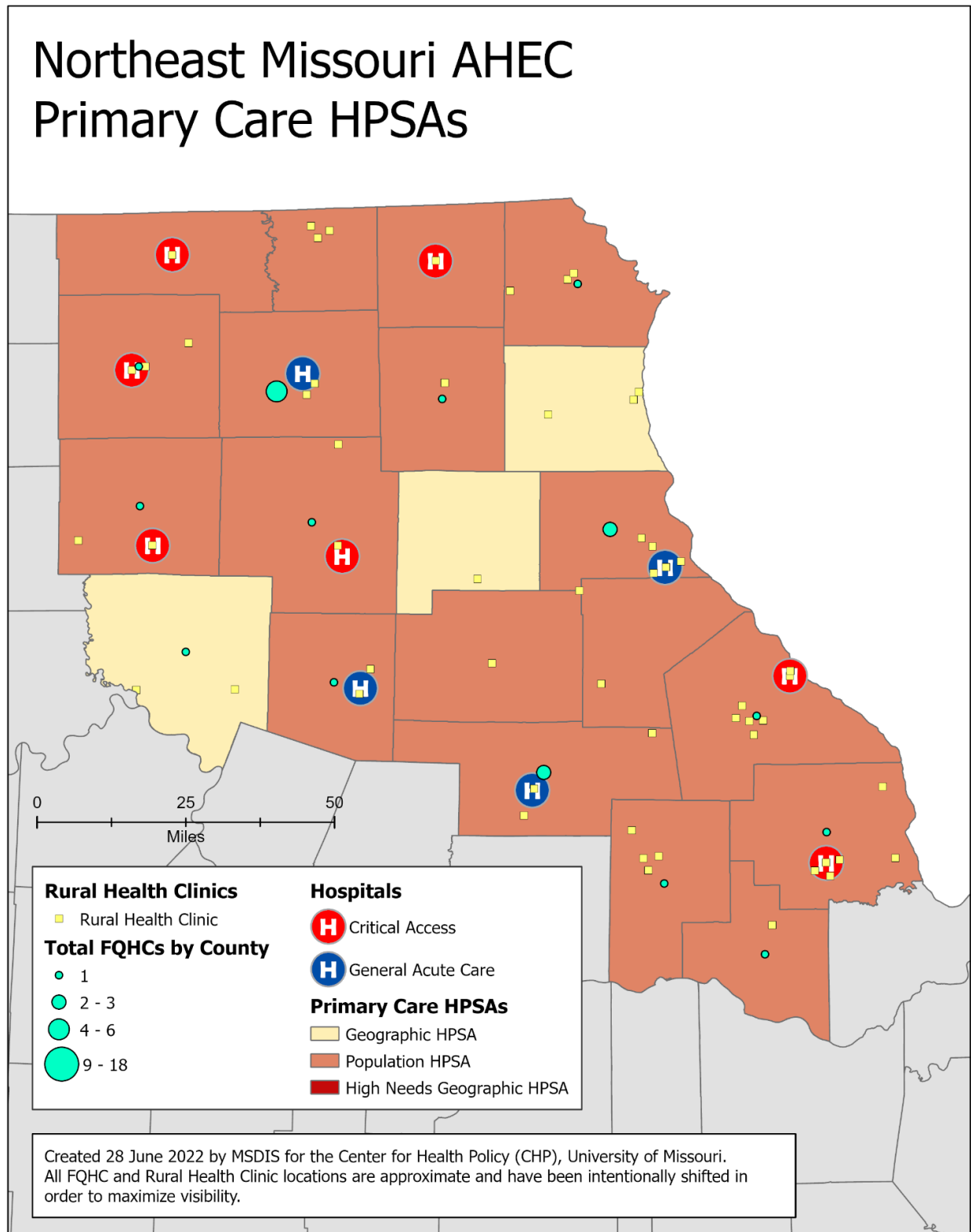
A **Primary Care Health Professional Shortage Area (HPSA)** is an area, population, or facility designated by HRSA as having an insufficient number of primary care providers. HPSAs are utilized by federal programs such as National Health Service Corps, Nurse Corps, Indian Health Service (IHS) Loan Repayment Program, and Rural Health Clinic Program to allocate resources to designated areas of shortage.³⁰ All of the region is included in a primary care HPSA; Chariton and Shelby counties are designated as geographic and the remaining 19 counties in the region are population HPSAs (Figure 8).

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.

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.

³⁰ Health Resources and Services Administration. (2021). *What is a shortage designation?* Retrieved from <https://bhwh.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.³¹ 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 NEMO AHEC region. The region is experiencing greater shortages of dentists and dental hygienists than the state average. The ratio of dental assistants in the region (1:980) is nearly identical to the state ratio (1:981).

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

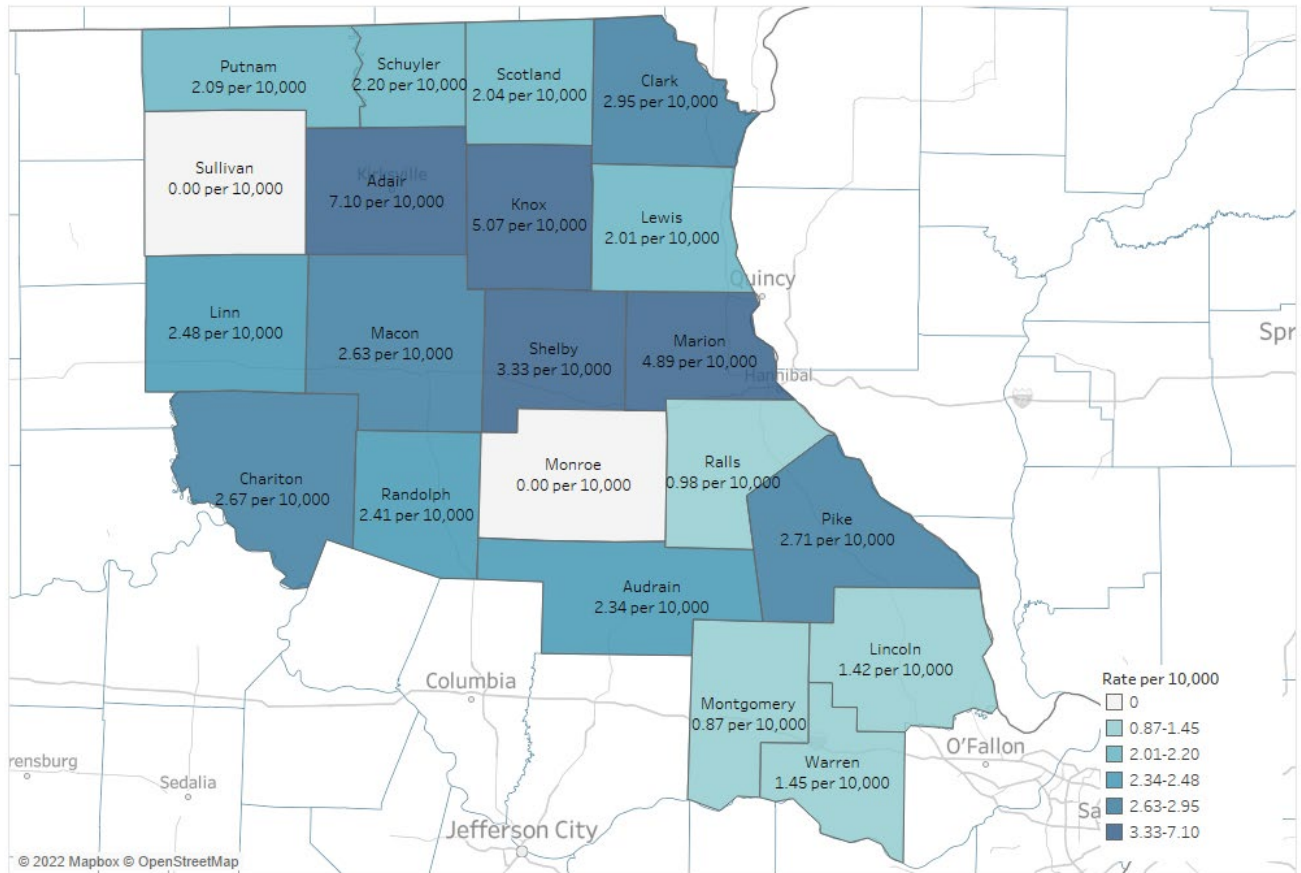
Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Dentists	Region	84 (100%)	0 (0%)	0 (0%)	84	326,208	1 to 3,883
	State	537 (17%)	222 (7%)	2,452 (76%)	3,211	6,104,910	1 to 1,902
Dental Hygienists	Region	164 (100%)	0 (0%)	0 (0%)	164	326,208	1 to 1,989
	State	893 (25%)	311 (9%)	2,424 (67%)	3,628	6,104,910	1 to 1,683
Dental Assistants	Region	333 (100%)	0 (0%)	0 (0%)	333	326,208	1 to 980
	State	2,198 (35%)	507 (8%)	3,512 (56%)	6,217	6,104,910	1 to 981

The geographic distribution of all dental health provider types (Figure 9) is skewed toward Adair County where a dental school is located. There are no dentists noted in the public release data file located in Sullivan or Monroe counties. This scarcity of providers not only causes issues for patient access to dental care, but also may lead to overburdened providers. The dental hygienist and dental assistant workforce may lessen the impact of the dentist shortage in the area. A single dentist working with a team of hygienists and assistants could serve more patients than a dentist alone.³²

³¹ 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>.

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

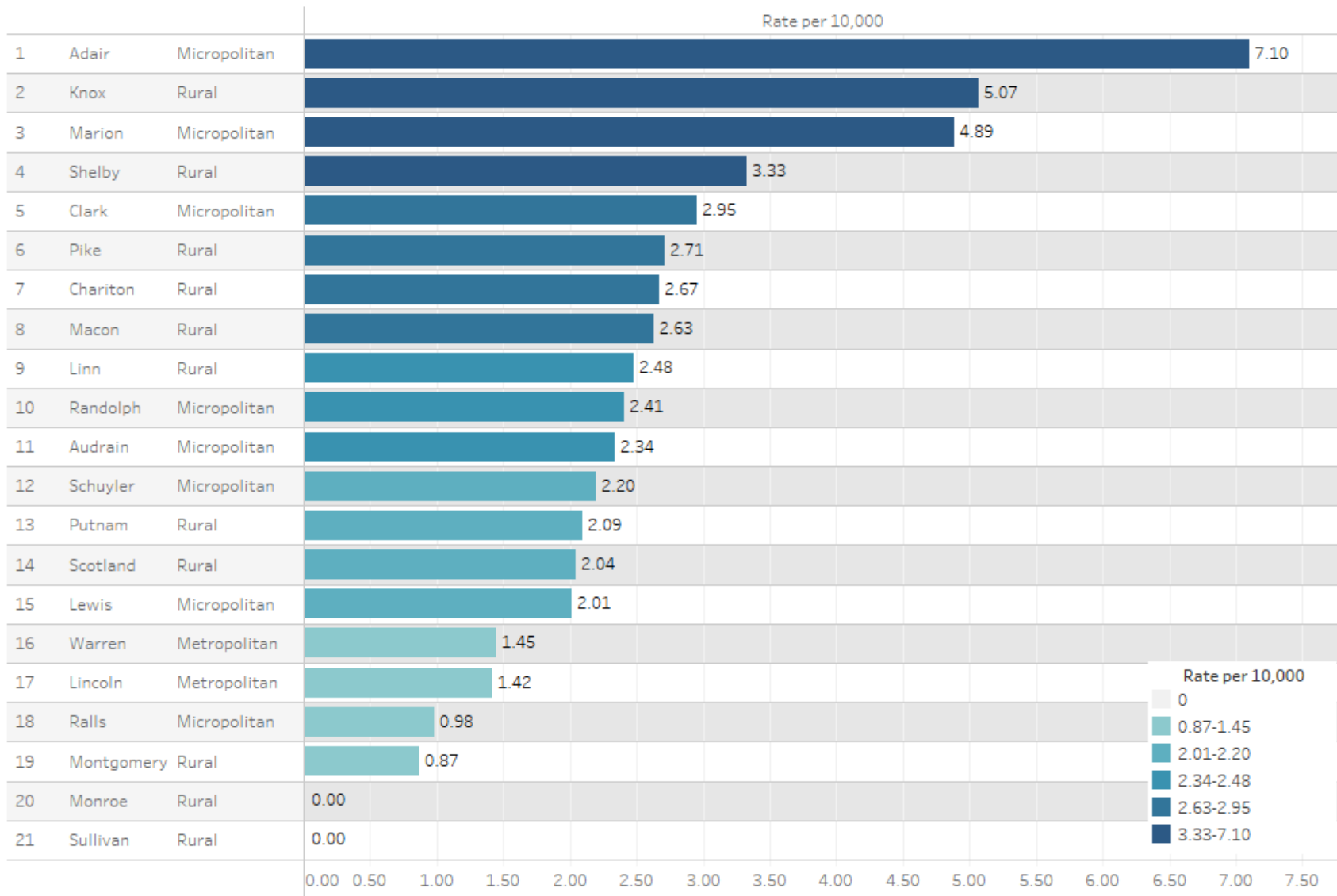


Source: Missouri Division of Professional Registration (2022)

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 the same distribution of dentists concentrated around the dental school in Adair County, with 7.10 dentists per 10,000 residents, compared to four counties with fewer than one dentist per 10,000 residents: Ralls (0.98), Montgomery (0.87), and Monroe and Sullivan with no dentists according to the Missouri Division of Professional Registration public release file.

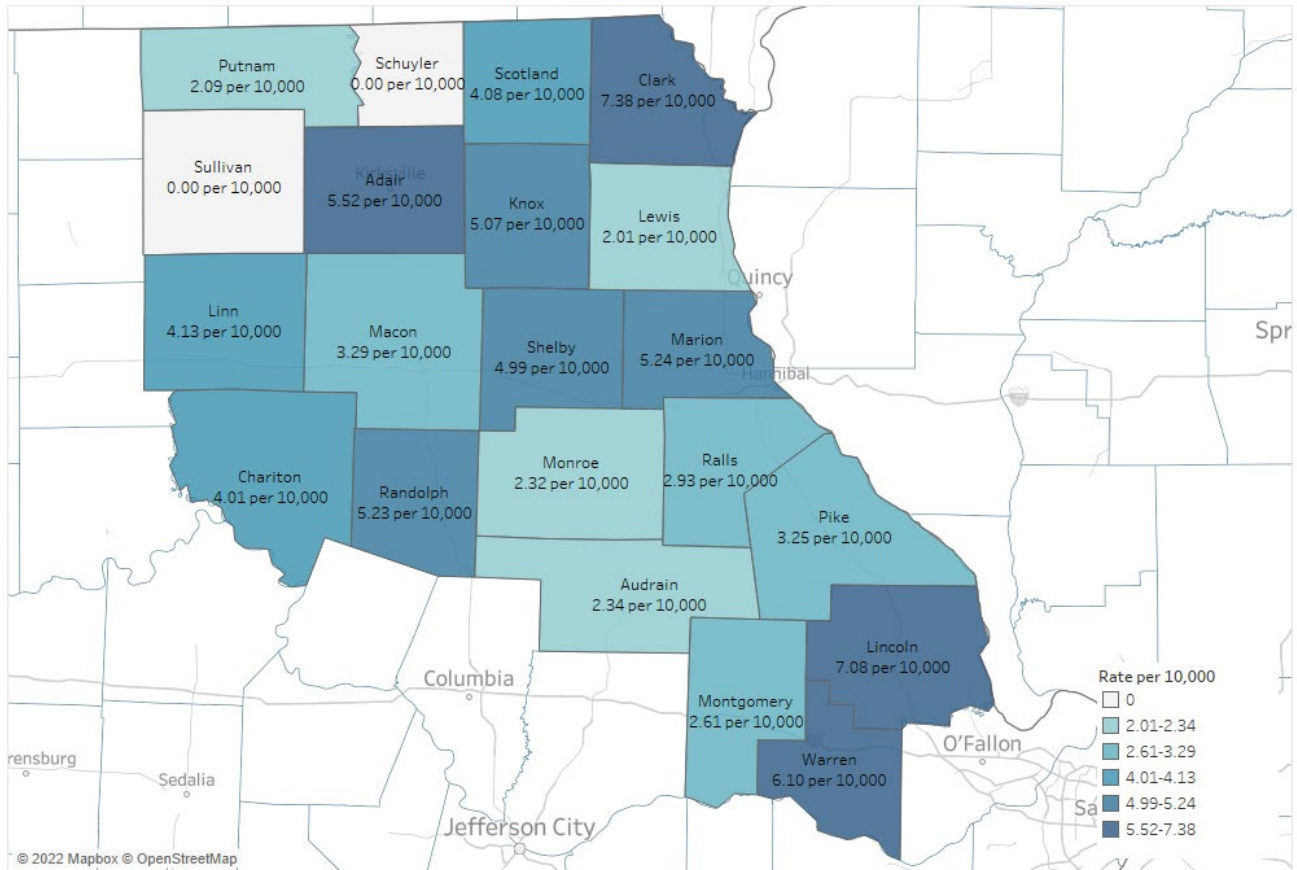
Figure 10. Dentists per 10,000 Residents (2022)



Source: Missouri Division of Professional Registration (2022)

It is important to note that according to the public release file from the Missouri Division of Professional Registration, Sullivan County has neither dentists nor dental hygienists, and Schuyler County has no dental hygienists (Figure 11). Clark and Lincoln Counties have the highest rate of dental hygienists per 10,000 residents, with 7.38 and 7.08 dental hygienists per 10,000 residents, respectively.

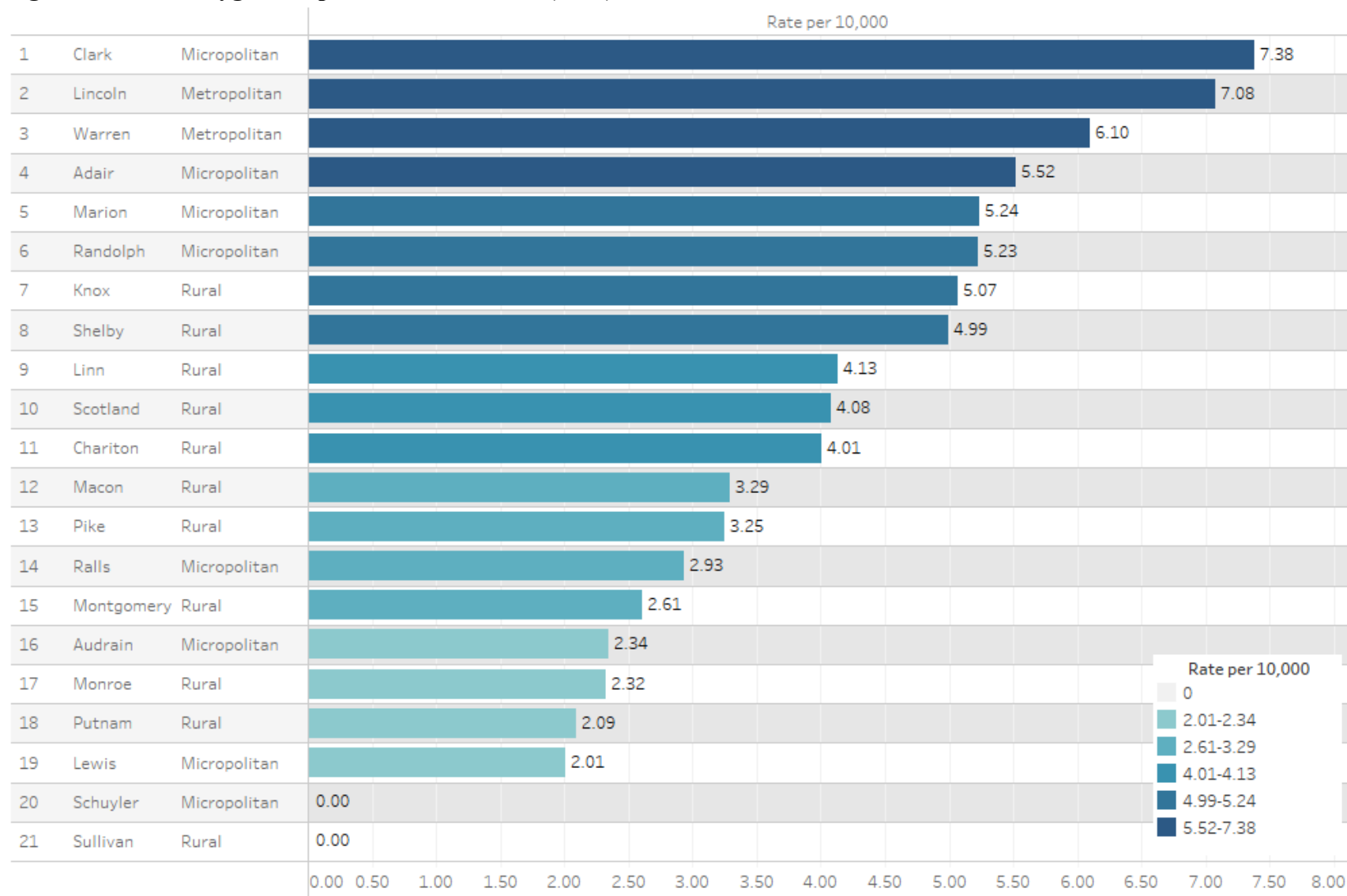
Figure 11. Geographic Distribution of Dental Hygienists per 10,000 Residents (2022)



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)



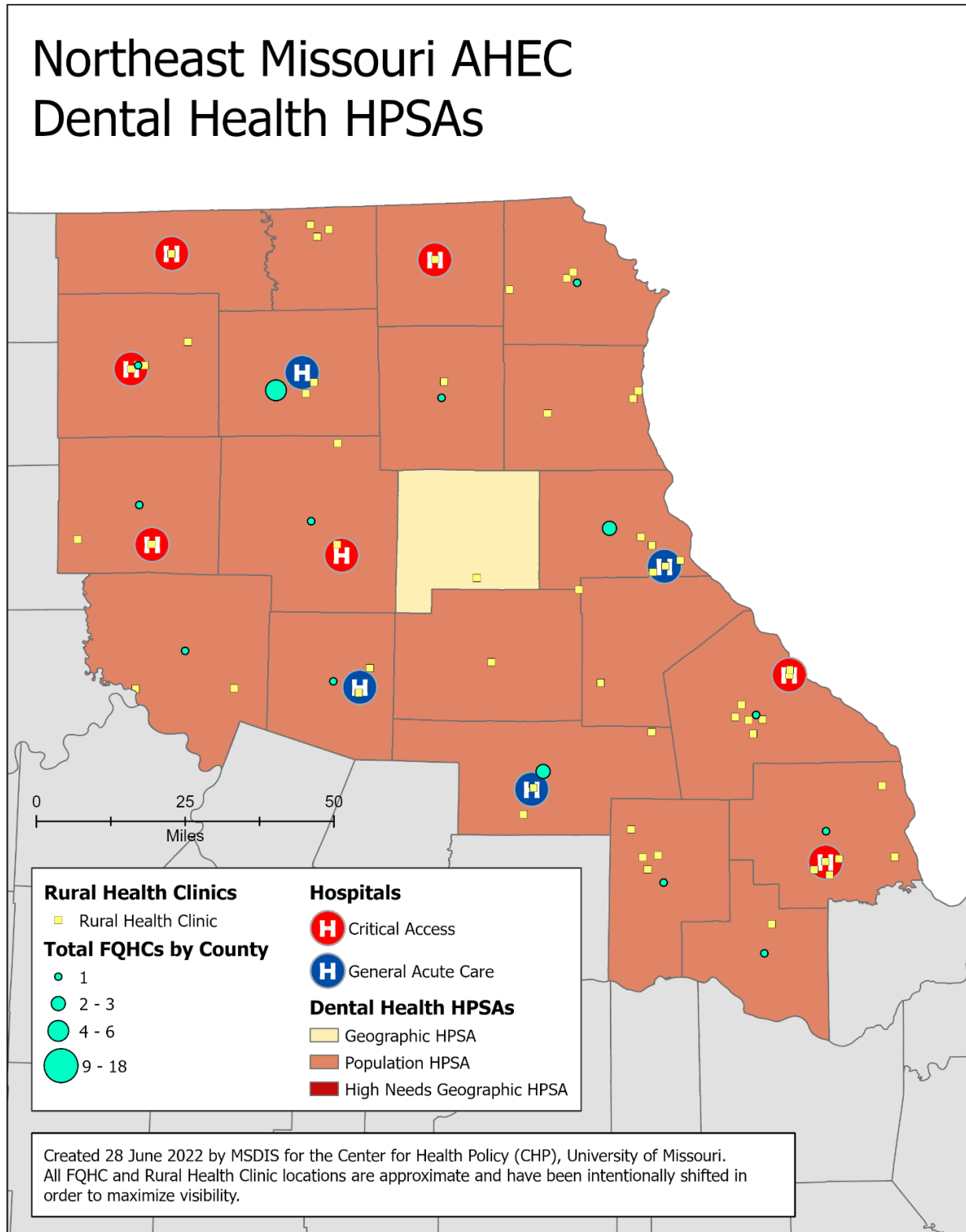
Source: Missouri Division of Professional Registration (2022)

Dental Health Professional Shortage Areas (HPSAs)

The NEMO AHEC region is almost entirely designated as a Population HPSA (Figure 13) for dental health, which means that special populations in the region lack access to dental health care. All Population HPSAs in the region are designated as low-income populations. By contrast, Shelby County is deemed a Geographic HPSA for dental health, meaning that all residents of Shelby County face a shortage of dental health care.³³

³³ 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.³⁴

Mental and Behavioral Health Workforce

This section includes a summary of counts of the NEMO 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.

NEMO AHEC has very few mental and behavioral health providers (one for every 935 NEMO AHEC residents) compared to the state ratio (one provider for every 394 Missourians). The ratio of providers to population is noteworthy because of 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.³⁵ 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 NEMO AHEC Region and State

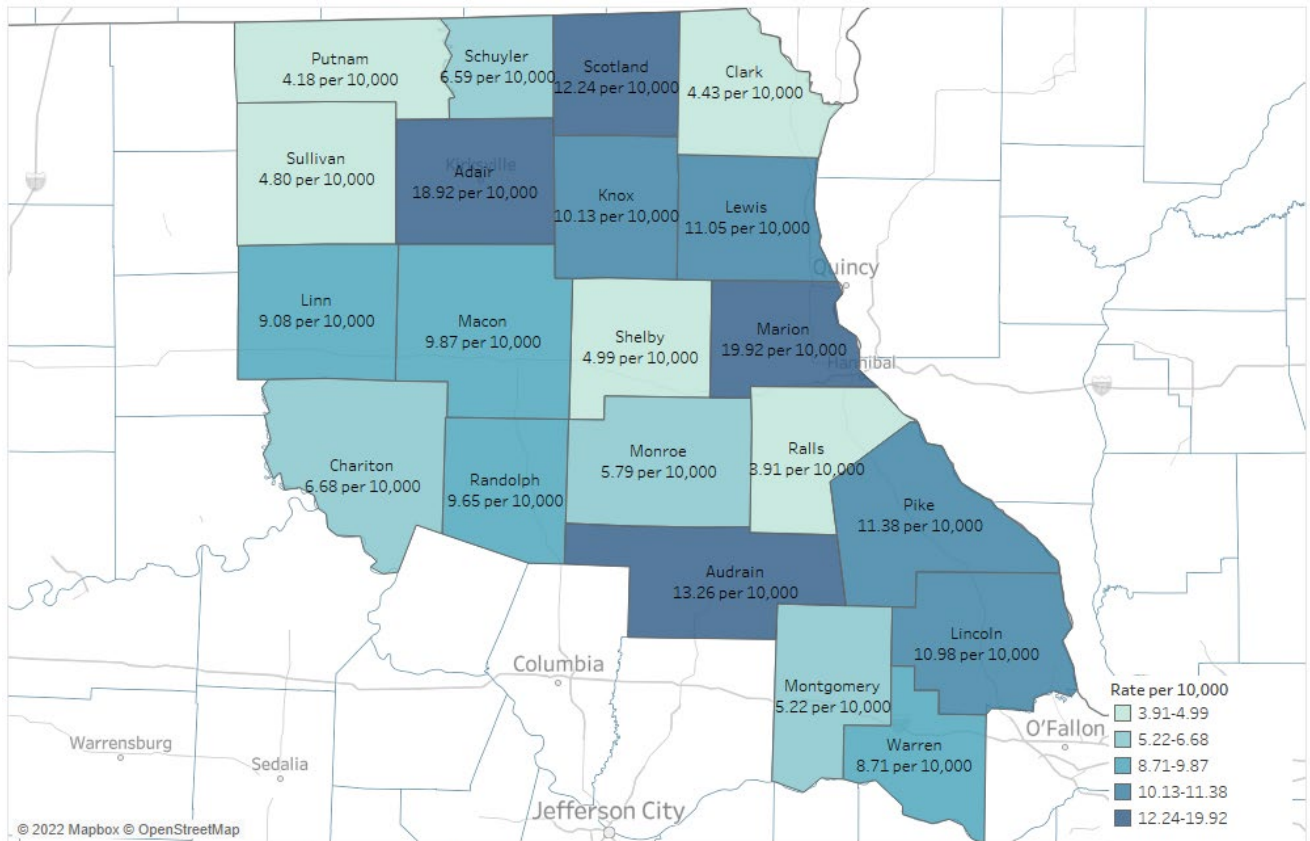
Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Mental and Behavioral Health	Region	314 (100%)	0 (0%)	0 (0%)	349	326,208	1 to 935
	State	2,283 (16%)	1,184 (8%)	10,709 (76%)	15,478	6,104,910	1 to 394

³⁴ Medline Plus. (2015). *Mental Health*. Retrieved from <https://medlineplus.gov/mentalhealth.html>.

³⁵ Grimm, Christi 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. Figure 15 shows a wide variation in mental and behavioral health providers in the region. Rates of mental and behavioral health providers range from a low of 3.91 providers per 10,000 residents in Ralls County to 19.92 per 10,000 residents in Marion County, indicating that most of the providers in Hannibal are on the Marion County side of the border. As may be expected due to the educational opportunities available, Adair County has a high rate of providers, with 18.92 per 10,000 residents.

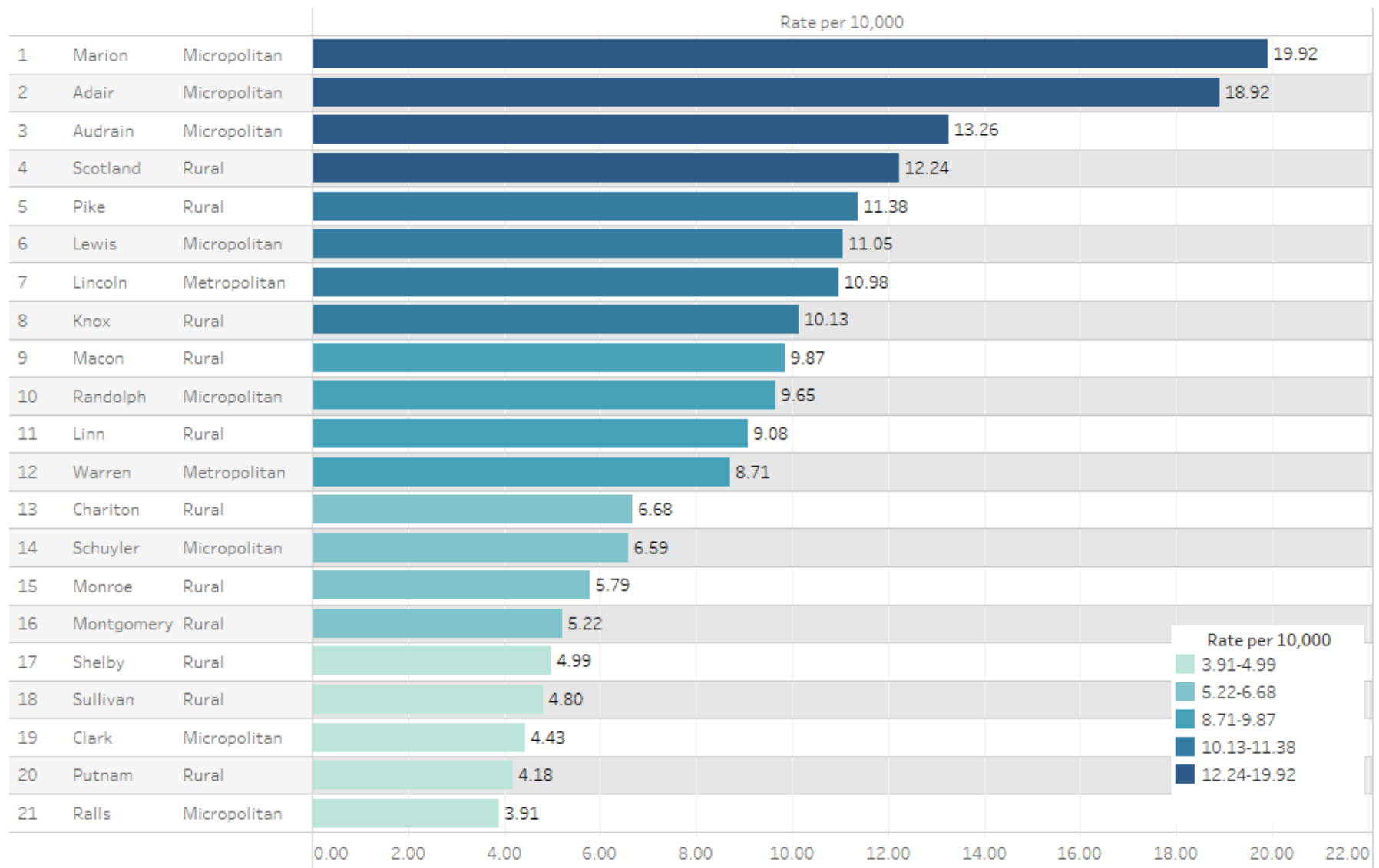
Figure 14. Geographical Distribution of Mental and Behavioral Health Providers per 10,000 Residents (2022)



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/>.

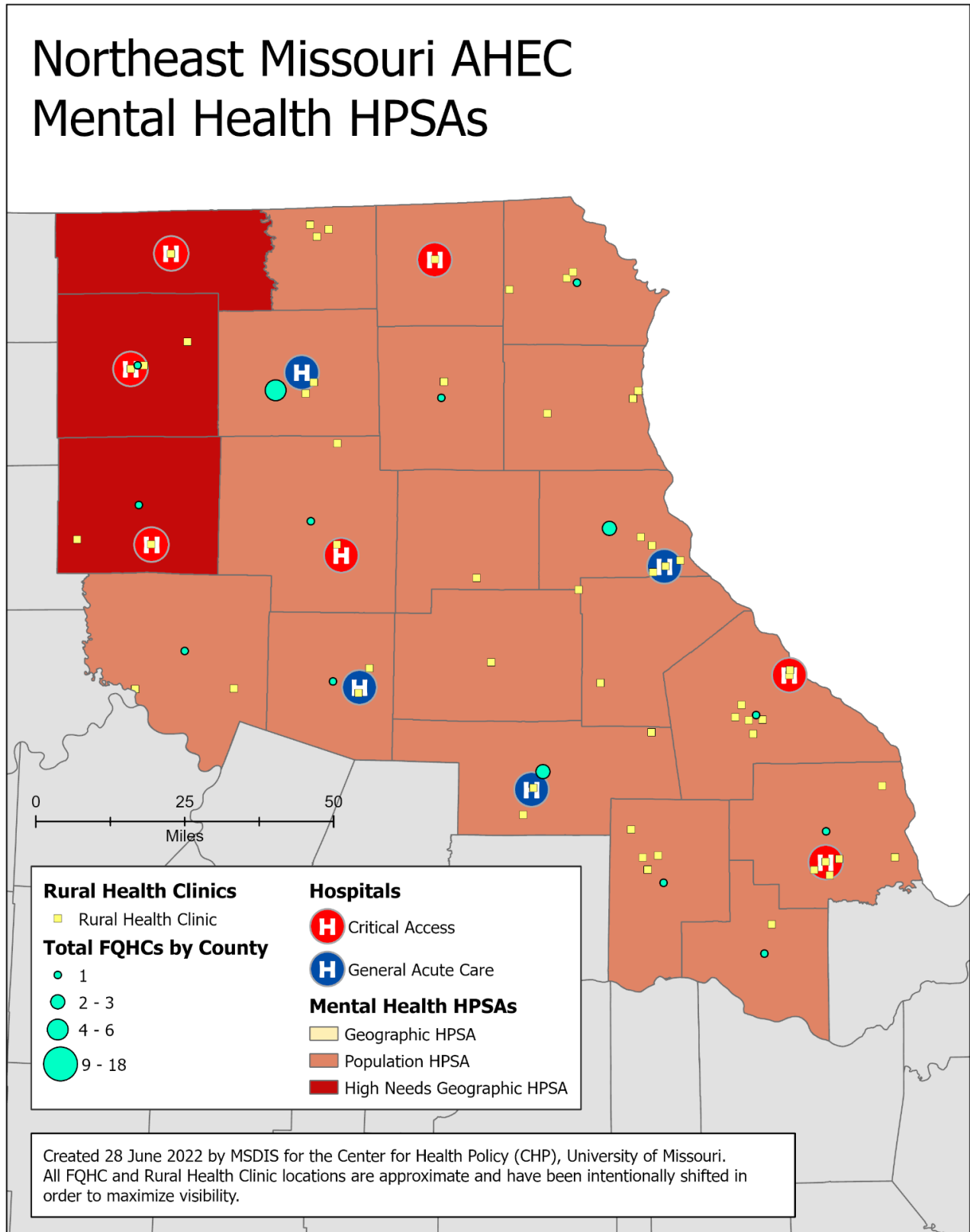
Figure 15. Mental and Behavioral Health Providers per 10,000 Residents (2022)



Mental Health Professional Shortage Areas (HPSAs)

All of the NEMO AHEC region is covered by a mental health HPSA. Most counties are designated as a population HPSA, while Putnam, Sullivan and Linn counties are designated as a **high needs geographic HPSA**. See Figure 16 for the mental health HPSAs in the region.

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 distribution of APRNs and RNs in the Northeast Missouri AHEC region follows the pattern of other rural regions in the state, where there are fewer RNs and APRNs per population, while there are more LPNs per population than the state ratios. Alarming, for both APRNs and RNs, the region’s ratio is more than twice as high as the state ratio, including one APRN per 1,561 residents in the NEMO AHEC region compared to one APRN per 672 residents in the state, and one RN per 187 regional residents compared to one RN per 88 Missourians.

Table 7. Nursing Workforce by NEMO AHEC Region and State

Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Advanced Practice Registered Nurses (APRNs)	Region	209 (100%)	0 (0%)	0 (0%)	209	326,208	1 to 1,561
	State	1,506 (17%)	697 (8%)	6,881 (76%)	9,084	6,104,910	1 to 672
Registered Nurses (RNs)	Region	1,741 (100%)	0 (0%)	0 (0%)	1,741	326,208	1 to 187
	State	11,594 (17%)	5,693 (8%)	52,325 (75%)	69,612	6,104,910	1 to 88
Licensed Practical Nurses (LPNs)	Region	1,118 (100%)	0 (0%)	0 (0%)	1,118	326,208	1 to 292
	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 NEMO 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 which may have increased need for many services.³⁶

Pharmacy Workforce

Pharmacist and pharmacy technician counts and ratios indicate a skewed geographic distribution of the pharmacist workforce away from rural areas. As Northeast Missourians age, they may require more access to pharmacy care. The NEMO AHEC region may be impacted by a pharmacist shortage, with only 208 pharmacists licensed to provide services to an area population of 326,208. Services such as Express Scripts may increase access to prescription medications for NEMO AHEC residents, though filling prescriptions is just one of the services provided by pharmacists.

Physical Therapy Workforce

Residents of the Northeast AHEC region have less access to physical therapists (PTs) and physical therapist assistants (PTAs) than Missourians overall. The shortage of PTs is particularly acute in the 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, it is likely that their need for physical therapy services will increase. Additionally, there is also widespread need for non-addictive alternatives to treat pain, with one study finding 78 percent of Americans surveyed preferred drug-free pain management to opioids.³⁷ 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 volunteers.³⁸ Table 8 presents the most current counts of credentialed CHWs in Missouri. 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.

³⁶ 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>.

³⁷ Mintken, Paul E., Moore, Jeff R., Flynn, Timothy W. (April 30, 2018) *Physical Therapists' Role in Solving the Opioid Epidemic*. Retrieved from <https://www.jospt.org/doi/10.2519/jospt.2018.0606>.

³⁸ 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>.

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

Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Pharmacists	Region	208 (100%)	0 (0%)	0 (0%)	208	326,208	1 to 1,568
	State	1,350 (19%)	520 (7%)	5,238 (74%)	7,108	6,104,910	1 to 859
Pharmacy Technicians	Region	1,019 (100%)	0 (0%)	0 (0%)	1,019	326,208	1 to 320
	State	6204 (29%)	1,317 (6%)	13,539 (64%)	21,060	6,104,910	1 to 290
Physical Therapists	Region	97 (100%)	0 (0%)	0 (0%)	97	326,208	1 to 3,363
	State	579 (16%)	296 (8%)	2,701 (76%)	3,576	6,104,910	1 to 1,707
Physical Therapy Assistants	Region	58 (100%)	0 (0%)	0 (0%)	58	326,208	1 to 5,624
	State	395 (33%)	105 (9%)	704 (58%)	1,204	6,104,910	1 to 5,071
Community Health Workers	Region	0 (0%)	12 (100%)	0 (0%)	12	326,208	1 to 27,184
	State	20 (10%)	53 (25%)	135 (65%)	208	6,104,910	1 to 29,351

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.³⁹ 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.

³⁹ American Public Health Association. (2022, February 17). *What Is Public Health*. Retrieved from APHA.org: <https://www.apha.org/What-is-Public-Health>.

MHA Regional Workforce Report Summary⁴⁰

The Missouri Hospital Association (MHA) produces an annual statewide workforce report (<https://web.mhanet.com/media-library/2022-workforce-report/>) as well as regional profiles (https://www.mhanet.com/mhaimages/workforce/2022/NE_Region_2022_WF.pdf). MHA's Northeast Region Profile overlaps with most of the NEMO AHEC region, although NEMO AHEC includes three counties from MHA's Northwest region (Linn, Putnam and Sullivan) as well as Chariton County from MHA's West Central region and Audrain County from MHA's Central region. MHA's profile of their northeast region focuses on vacancy and turnover rates of health care professions working in hospitals. In the Northeast MHA region, the highest vacancy rates in hospitals are occupational therapists, physical therapists and sonographer/ultrasound technologists. The region's RN vacancy rate of 16.4% is lower than the state rate of 19.8%. The hospital professions with the highest turnover rates are nuclear medicine technologist, nurse assistant, food service worker/dietary aid, and advanced practice registered nurse. Like the vacancy rates, the RN turnover rate in the region (19.5%) is lower than the state RN turnover rate (22.1%).

A regionalized analysis can help local and state policymakers determine the most productive strategies to stabilizing and growing the health care workforce. For example, if a region faces a high vacancy rate, investing in recruiting new entrants into the field might be a long-term approach whereas employee turnover challenges might be addressed through retention strategies such as increasing salary and/or enhancing benefits.

⁴⁰ Missouri Hospital Association. (2022). *2022 MHA Workforce Report: Northeast Region Profile*. Retrieved from https://www.mhanet.com/mhaimages/workforce/2022/NE_Region_2022_WF.pdf.

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

Northeast AHEC Region Counties	MHA Region
Adair County	Northeast
Audrain County	Central
Chariton County	West Central
Clark County	Northeast
Knox County	Northeast
Lewis County	Northeast
Lincoln County	Northeast
Linn County	Northwest
Macon County	Northeast
Marion County	Northeast
Monroe County	Northeast
Montgomery County	Northeast
Pike County	Northeast
Putnam County	Northwest
Ralls County	Northeast
Randolph County	Northeast
Schuyler County	Northeast
Scotland County	Northeast
Shelby County	Northeast
Sullivan County	Northwest
Warren County	Northeast

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 the 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 health care infrastructure.

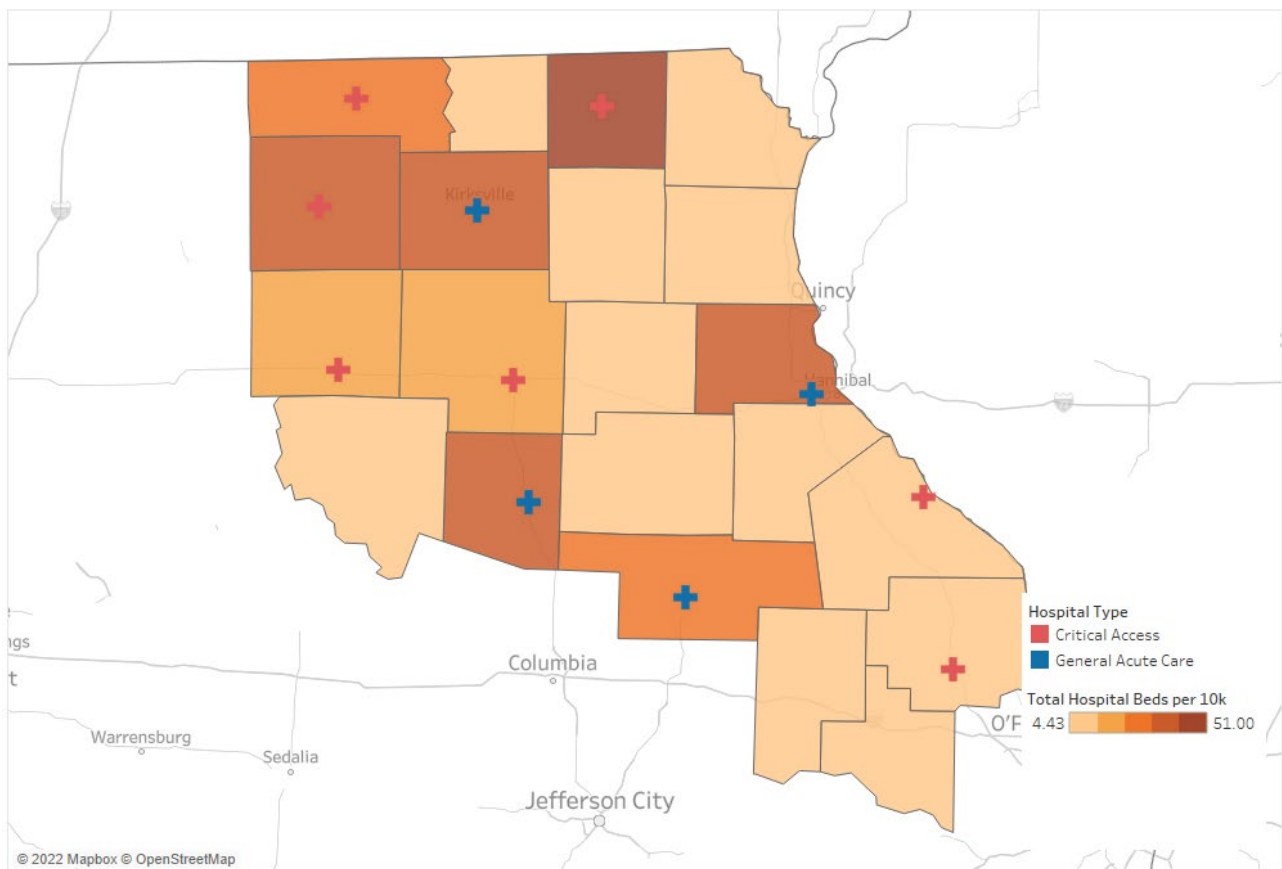
Hospitals

Figure 17 displays the geographic location and distribution of hospitals across the NEMO region, along with rates of total beds per 10,000 residents. There are no Level I or II hospitals in the region. Trauma Level I hospitals serve as comprehensive tertiary care facilities offering the most specialized services for every aspect of injury care, and St. Louis and Columbia provide the

nearest Level I hospitals for the region. 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 St. Louis and Columbia, as well as Quincy, Illinois. Level III Trauma Centers can assess, resuscitate, and stabilize patients before transfer to Level I and II hospitals. Gaps in availability of hospital care are visible throughout the NEMO 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.

Of the AHEC regions, the NEMO AHEC region has the lowest rate of hospital beds available for every 10,000 people. The region has a total of 11 hospitals with an average of 16 beds per 10,000 residents or a total of 526 hospital beds for the region’s population of 326,208.

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



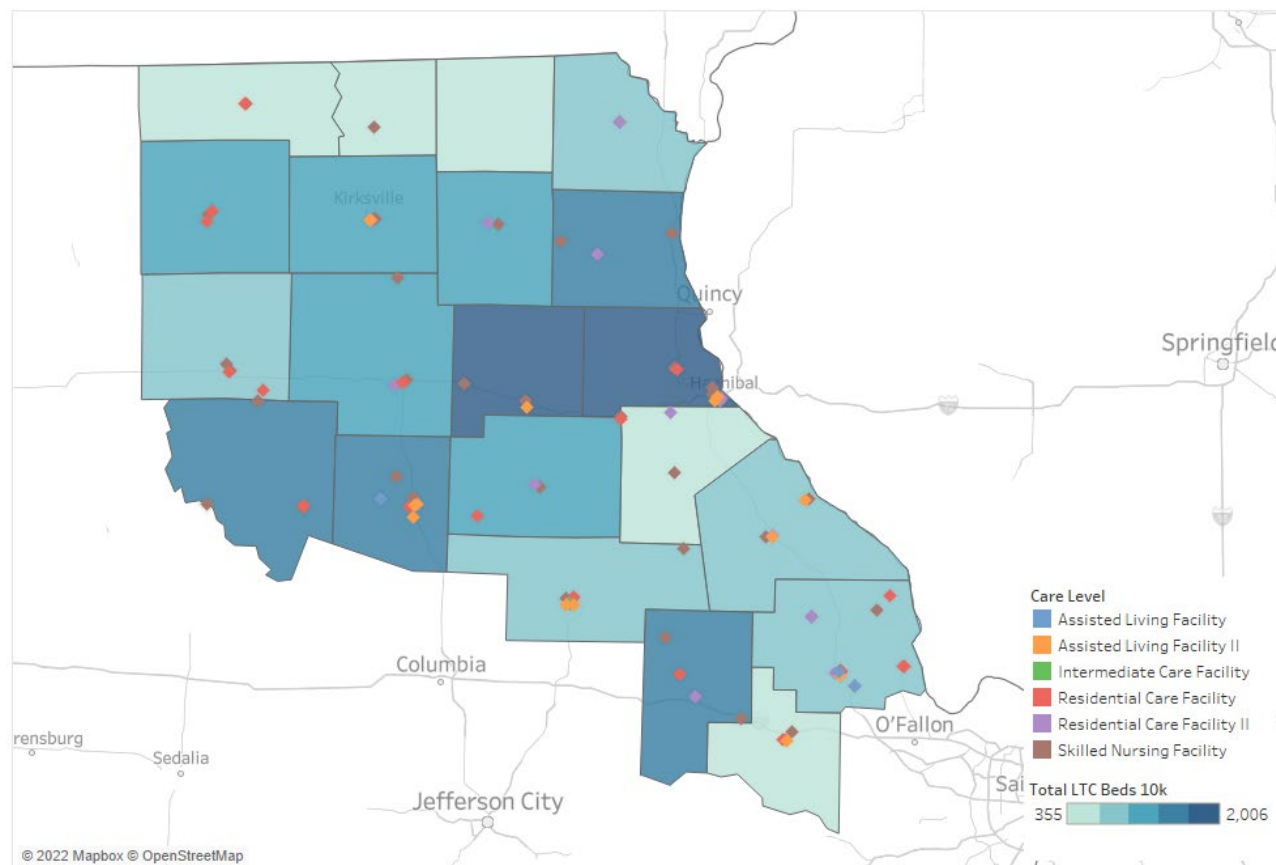
Source: American Community Survey (2015-2019 5 year estimates), MO Department of Health and Senior Services via Missouri Spatial Data Information Service (2022)

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

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 NEMO AHEC region has more long-term care beds available than the state average, with 1,012.1 beds per 10,000 population age 65 or older in August 2022. In other words, there are enough long-term-care facility beds to care for approximately one out of every 10 persons in the region over the age of 65.

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)

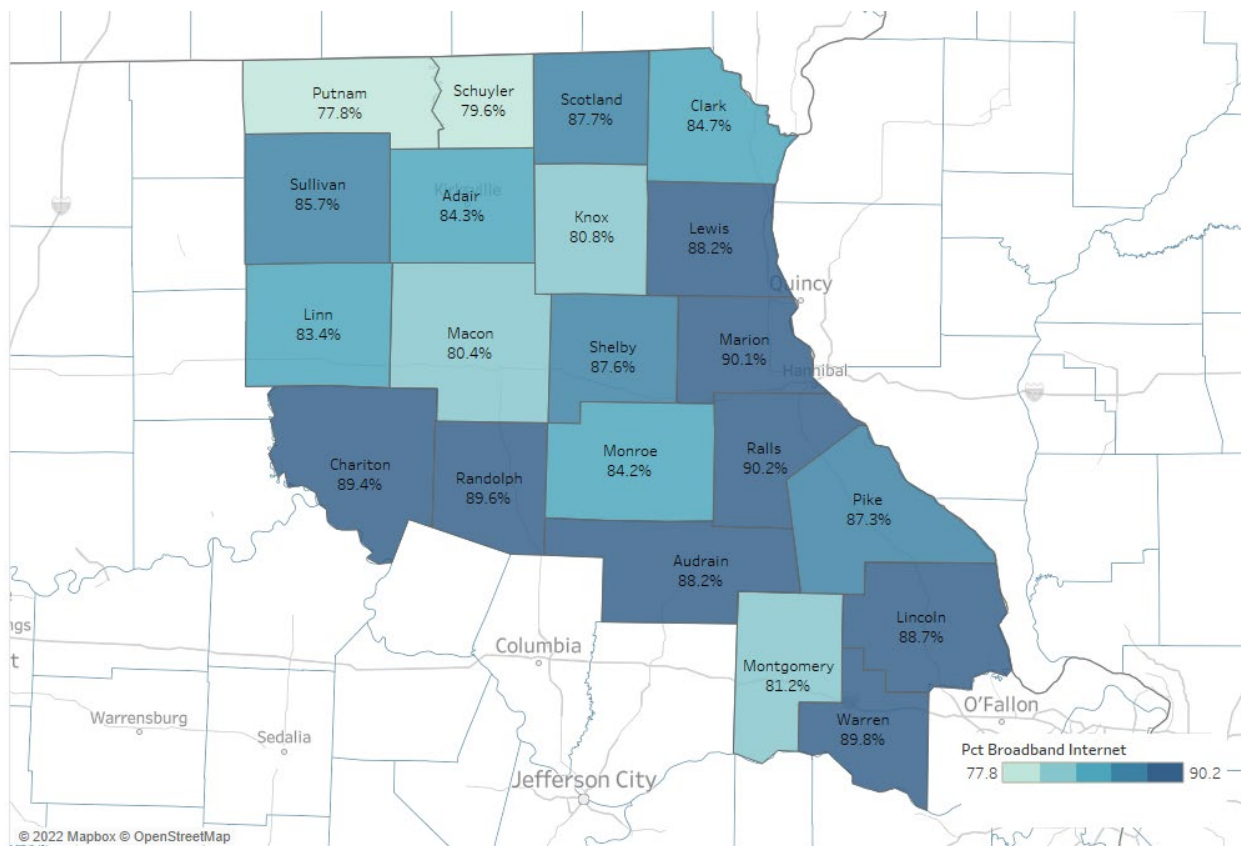
Note: Dynamic, interactive maps of medical facilities in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/medical-facilities/>. Age 65 and older was used as the age category of interest due to Medicare eligibility. Care levels include:

- 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.⁴¹ 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 NEMO 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. 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.⁴²

Figure 19. Percentage of Households with a Broadband Internet Subscription



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

⁴¹ 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>.

⁴² Ibid 41.

Northeast 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

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