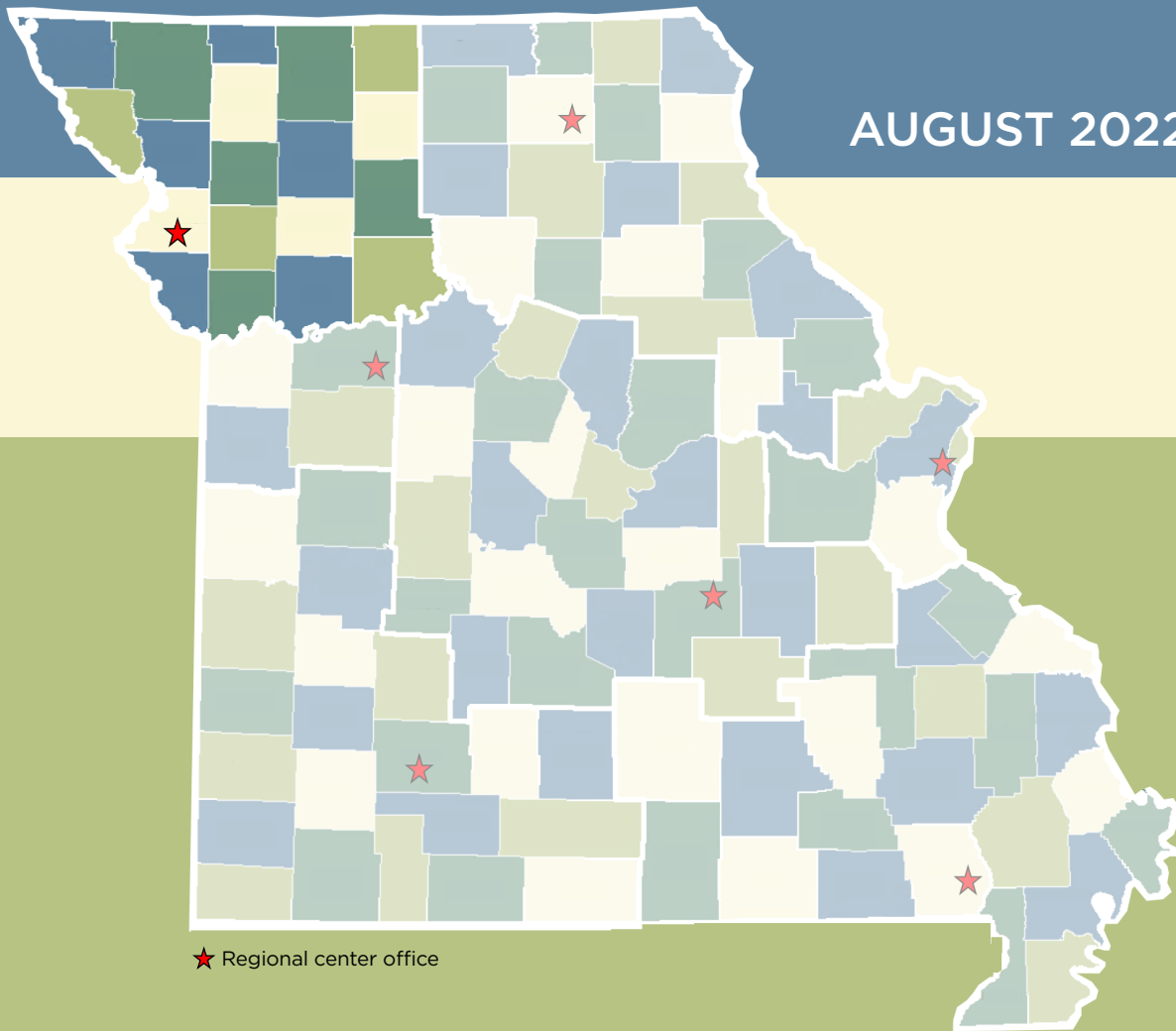


Northwest Missouri Area Health Education Center Needs Assessment & Gap Analysis

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 report for each region, including the Northwest Missouri AHEC (NWMO AHEC) region. Analysis of population health in the region focuses on the social determinants of health and indicates that the NWMO AHEC region's health disparities largely follow statewide patterns. Demographic factors play an important role in the NWMO AHEC region, where the population is aging in a pattern similar to the state. Demand for health care may 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 CHP's Missouri Health Care Workforce Project (MHCWP). In-depth information on the NWMO 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 NWMO AHEC region follows statewide patterns, with rural residents experiencing lower access to most health care providers than their urban counterparts. 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.

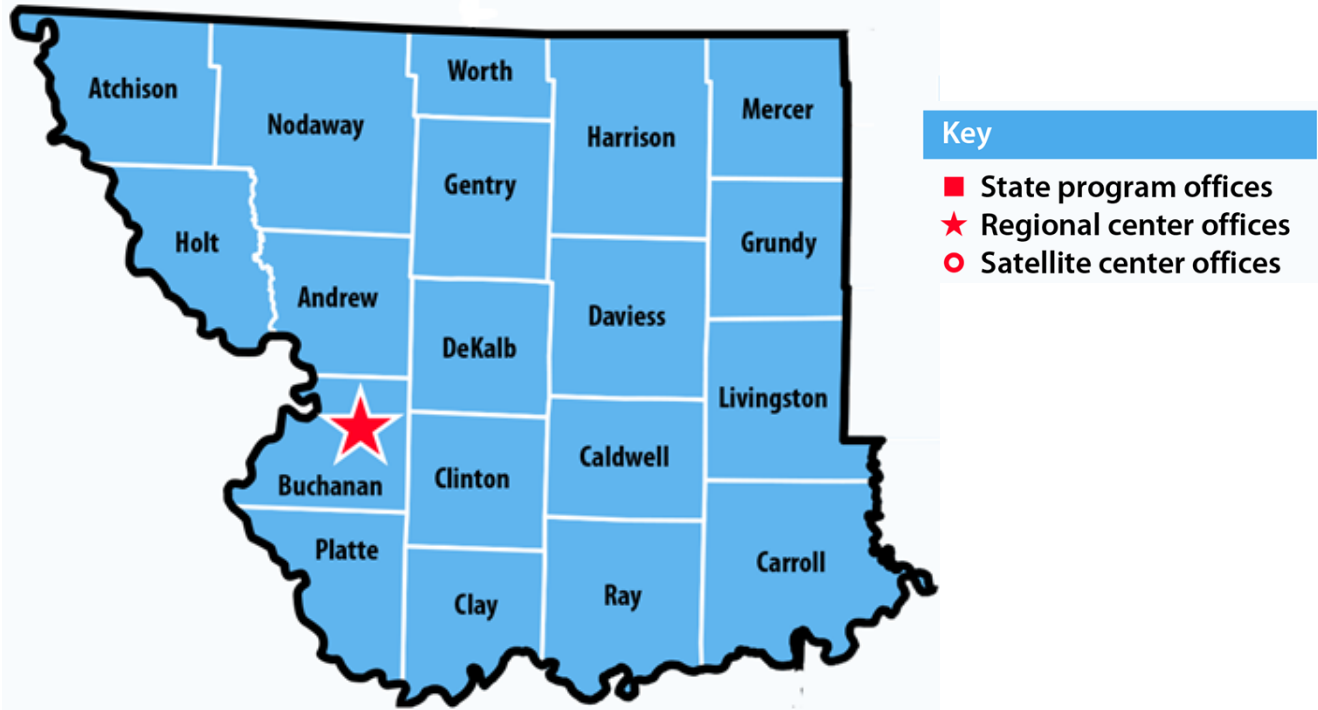
Any analysis of health care needs and workforce in 2022 would be remiss to ignore the impact of the COVID-19 pandemic. While data sources always lag real-time conditions in health care, the impacts of the lag are more apparent during a pandemic. Health care needs and workforce are changing quickly in 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 uses 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. Retrieved from <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: Northwest Missouri Area Health Education Center (NWMO AHEC) Region



Population Health in the Region

The NWMO AHEC region covers 19 counties in the Northwest corner of the state (Figure 1). The region has a population of 609,093 and covers a land area of 9,541 square miles. Nearly three-quarters of the region’s population (73.7%) live in urban areas while 26.3% live in rural areas by HRSA definition⁴ (Table 1). Fifteen of the region’s counties are defined as rural by HRSA, meaning the majority of the region’s population is concentrated into 4 urban counties. The residents of the region face socioeconomic and cultural obstacles that result in health disparities. The NWMO AHEC region’s shortages and maldistributions of physicians and other health care providers are similar to other parts of Missouri, where rural counties have lower rates of most provider types. Mindful of this, the region may need to implement strategies to attract additional health care workforce to rural counties and increase access to tools such as telehealth.

Population Demographics, Including Regional Challenges/Barriers

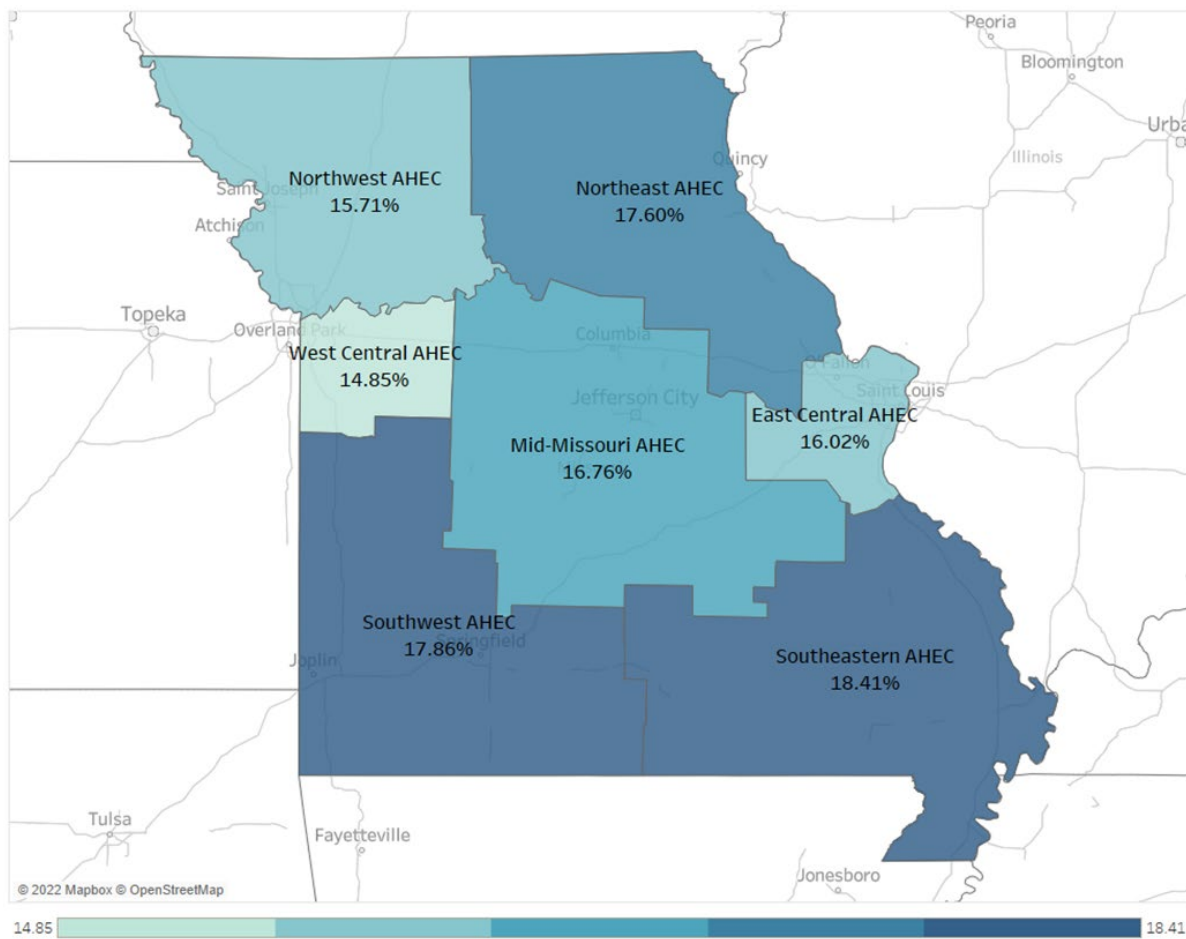
Table 1 shows the demographics and social determinants of health of the NWMO AHEC region and Table 2, for comparison, shows the same data for the entire state. Data are from the American Community Survey (ACS), a sample survey conducted by the United States Census Bureau. Note that the font in Tables 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

⁴ Health Resources and Services Administration. (n.d.) *Defining Rural Population*. Retrieved from <https://www.hrsa.gov/rural-health/about-us/definition/index.html>.

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 rural portions of the NWMO AHEC region is 112, with a margin of error of 1066.8%. Based on the margin of error calculation, the actual population of Pacific Islanders in the NWMO AHEC region is likely between zero and 1,307.

The NWMO AHEC region is less diverse than other parts of Missouri: 88.3% of residents are white compared to 82.2% of the state’s population. The age structure in the region is similar to the state. The percentage of older adults in the region is 15.7% compared to 16.5% aged 65 and older in the state. See Figure 2 for a map of the population age 65 and older.

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

Children under age eighteen comprise 23.3% of the region's population compared to 22.6% in the state as a whole. Most residents of the region have earned at least a high school diploma or its equivalent (91.8%), slightly higher than the state rate of 89.9%. Further, 29.1% of residents in the region have earned at least a bachelor's degree, similar to the state rate of 29.2%.

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. In the NWMO AHEC region, almost one in four households (23.2%) is housing cost burdened, slightly less than the state rate of 26.4%. Housing cost burdened is defined as households with rent or mortgage and utilities accounting for more than 30% of household income.

While margins of error for the NWMO AHEC region are too large to reliably report on food insecurity and transportation at the regional level, data for Missouri can provide useful information. Missouri has the 17th highest food insecurity rate in the nation.⁶ Food insecure families are at a higher risk for weight gain and chronic disease, e.g., diabetes and hypertension.⁷ Food insecurity is also associated with psychological distress, anxiety, and depression among low-income women and children.⁸ These physical and mental health effects are especially detrimental when there is the lack of access to proper medical care.⁹

Health insurance coverage is one measure of access to medical care, and 9.7% of residents in the NWMO AHEC region lack health insurance compared to 10.9% of Missourians. Lack of insurance impedes the ability of low-income individuals to access primary and preventive care. Further, 9.2% of residents under the age of 65 in the NWMO AHEC region live with a disability, lower than the state rate of 10.2%.

⁶ 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>.

⁷ 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>.

⁸ 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>.

⁹Ibid 8.

Table 1: Summary of Demographics in the NWMO AHEC Region¹⁰

Criterion	Northwest Region		MOE ¹¹	Rural	% of NWMO	MOE	Urban	% of NWMO	MOE
Estimated 2015-2019 Population	609,093		2.4%	159,932	26.3%	9.3%	449,161	73.7%	3.3%
Land Area (mi ²)	9,541			7,882	82.6%		1,658	17.4%	
Population Density/mi ²	64			20			271		
Counties	19			15			4		
Racial/Ethnic	Northwest Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
White	537,872	88.3%	2.6%	151,616	94.8%	9.1%	386,256	86.0%	3.6%
Black/Afr. American	29,762	4.9%	27.5%	3,225	2.0%	253.8%	26,537	5.9%	30.8%
Native American	2,654	0.4%	57.1%	776	0.5%	195.2%	1,878	0.4%	80.7%
Asian	10,053	1.7%	35.9%	941	0.6%	383.4%	9,112	2.0%	39.6%
Pacific Islander	1,686	0.3%	70.9%	112	0.1%	1066.8%	1,574	0.4%	75.9%
Other	7,057	1.2%	52.3%	430	0.3%	858.4%	6,627	1.5%	55.7%
Multi-Racial	20,009	3.3%	20.8%	2,832	1.8%	147.1%	17,177	3.8%	24.2%
Hispanic/Latino ¹²	31,960	5.2%	17.7%	3,185	2.0%	177.3%	28,775	6.4%	19.6%
Age Cohorts	Northwest Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
<18	141,642	23.3%	5.9%	34,672	21.7%	23.9%	106,970	23.8%	7.8%
65+	95,696	15.7%	4.9%	30,483	19.1%	15.5%	65,213	14.5%	7.3%
Social Determinants of Health	Northwest Region	%	MOE	Rural	% of Rural	MOE	Urban	% of Urban	MOE
Persons in poverty ¹³	47,207	7.8%	16.5%	21,575	13.5%	48.4%	41,623	9.3%	25.1%
<18 in poverty	31,450	5.3%	21.6%	6,336	4.2%	68.5%	13,743	3.1%	31.6%
HS Graduate +	379,276	91.8%	3.5%	96,514	88.9%	13.6%	282,762	92.8%	4.6%
Bachelor's Degree +	120,331	29.1%	6.1%	20,700	19.1%	35.2%	99,631	32.7%	7.3%
No Health Insurance (<65)	49,583	9.7%	13.4%	15,991	12.4%	41.5%	33,592	8.7%	19.7%
Disability (<65)	46,997	9.2%	11.1%	11,712	9.0%	34.4%	35,285	9.2%	16.3%
Housing Cost Burdened	52,582	23.2%	10.6%	12,255	20.6%	45.7%	40,327	24.1%	13.9%
Households without a vehicle	12,543	5.4%	22.2%	3,788	6.1%	73.4%	8,755	5.1%	31.8%

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 Includes Hispanic or Latinx of any race.

¹³ 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 Counties¹⁴

Criterion	Missouri		MOE¹⁵	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 ¹⁶	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 ¹⁷	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 ¹⁸	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%

¹⁴ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

¹⁵ MOE: Relative margin of error.

¹⁶ 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.

¹⁷ Includes Hispanic or Latinx of any race.

¹⁸ Denominator includes persons for whom poverty status is determined, which is lower than total population.

Demand for Culturally Competent and Diverse Workforce

Nearly 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.¹⁹ However, culturally competent and trauma informed health care professionals are still needed to meet the needs of the underrepresented among the NWMO 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.²⁰ 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%).²¹

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.²² Missouri began processing applications on October 1, 2021.²³ Prior to expansion, just over one million Missourians (n=1,029,000)

¹⁹ Missouri Census Data Center. (2021). ACS Profiles [dataset application]. Retrieved from <https://mcdc.missouri.edu/applications/acs/profiles/>.

²⁰ 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>.

²¹ 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>.

²² 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>.

²³ Norris, L. (2021). *Missouri and the ACA's Medicaid Expansion*. Retrieved from <https://www.healthinsurance.org/medicaid/missouri/>.

were enrolled in the MO HealthNet program.²⁴ New Medicaid expansion enrollees in the 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, including 14,403 in the NWMO AHEC region, which is 4.4% of the area’s population. 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 NWMO 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.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.

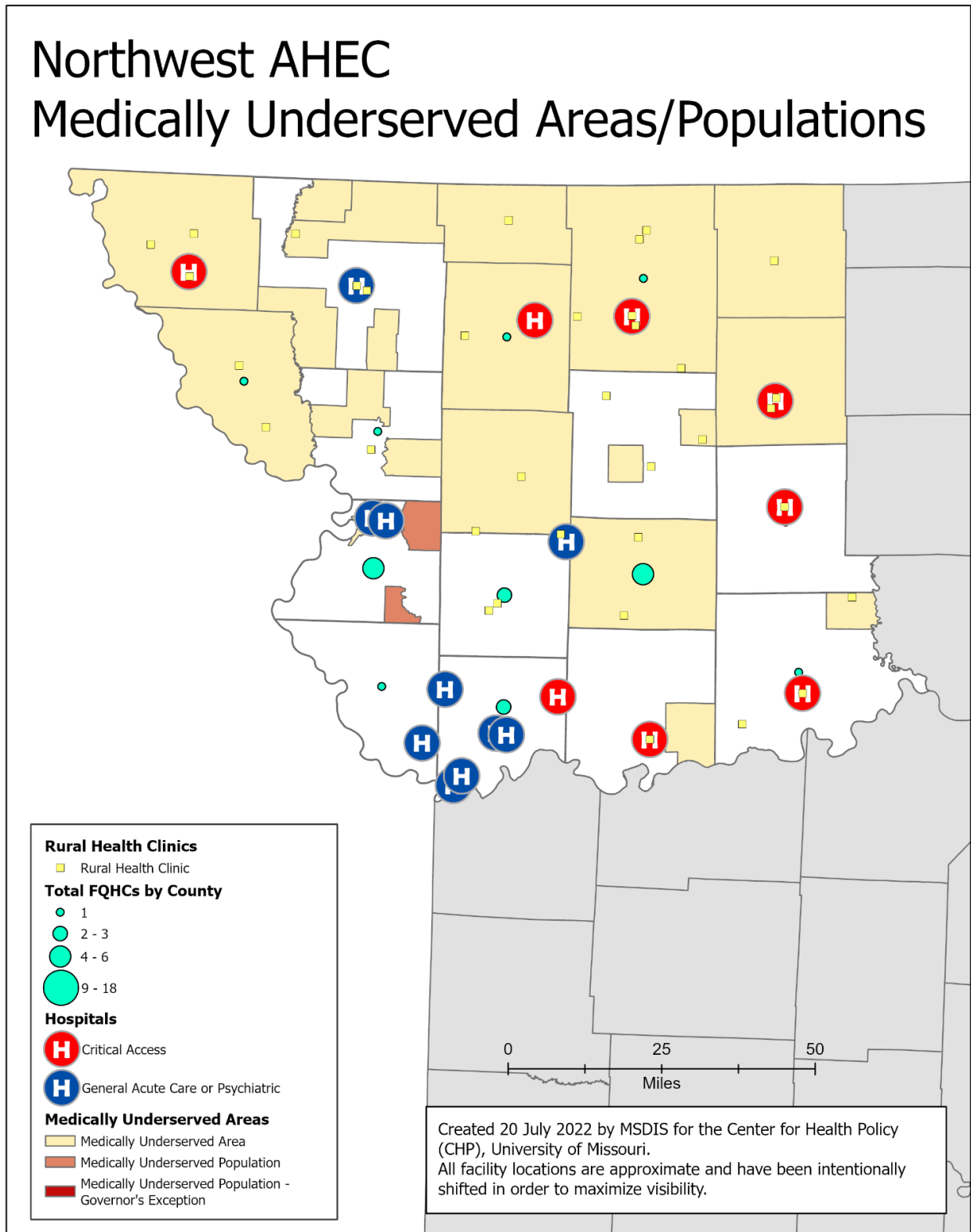
²⁴ Missouri Foundation for Health. (2021). *Medicaid expansion enrollment and eligibility update: Characteristics of expansion enrollees*. Retrieved from https://cpb-us-w2.wpmucdn.com/sites.wustl.edu/dist/1/2391/files/2020/04/FactSheet_NewEnrolleeDemographics_final.pdf.

²⁵ Ibid 24.

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

All but four of the nineteen counties in the NWMO AHEC region (Clay, Clinton, Livingston and Platte) are designated as MUA/Ps. Nine counties in the region (Atchison, Caldwell, DeKalb, Gentry, Grundy, Harrison, Holt, Mercer and Worth) and portions of an additional five counties (Andrew, Carroll, Daviess, Nodaway and Ray) have been designated as medically underserved areas (MUAs). Portions of Buchanan County are designated as a medically underserved population. See Figure 3 for more information on MUA/Ps in the NWMO AHEC region.

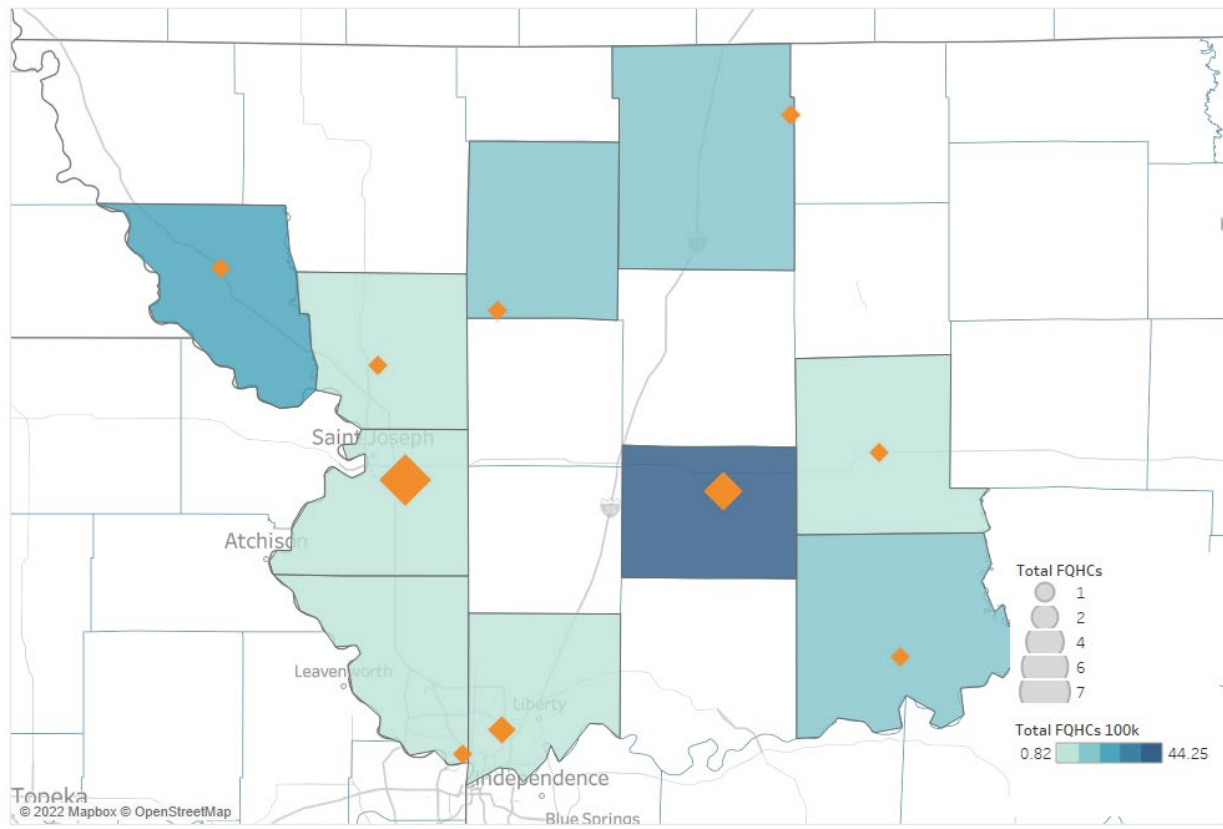
Figure 3: Medically Underserved Areas/Populations (MUA/Ps)



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

Many counties in the NWMO AHEC region lack a Federally Qualified Health Center, as seen in Figure 4. Driving distances to FQHCs are a factor throughout this rural region. FQHCs are important safety net providers for primary care, dental, and mental and behavioral health.

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

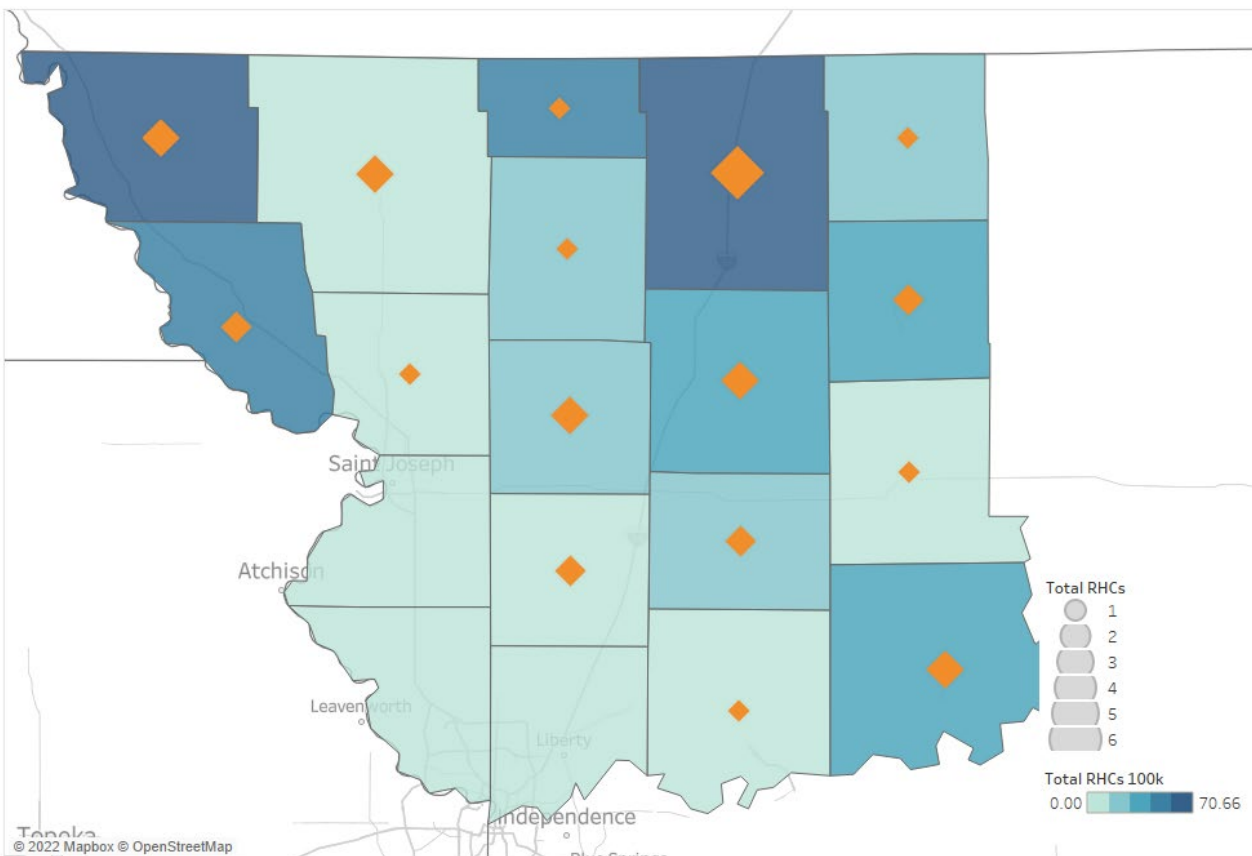


Source: American Community Survey (2015-2019 5 year estimates), MO Department of Health and Senior Services via Missouri Spatial Data Information Service (2022)

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

Like FQHCs, Rural Health Clinics fill important gaps in primary care, dental care, and mental and behavioral health in rural areas. Figure 5 displays Rural Health Clinics (RHCs) and rates of clinics per 100,000 residents in the region. RHCs are better distributed throughout the region than FQHCs, providing an important access point for affordable health care.

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 NWMO 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.

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 864 persons (Table 4). This ratio is below the state's ratio of one PCP per 621 residents.

Table 4: Primary Care Physicians by NWMO AHEC Region and State

Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Primary Care Physicians	Region	81 (11%)	0 (0%)	624 (89%)	705	609,093	1 to 864
	State	1,224 (12%)	847 (9%)	7,753 (79%)	9,824	6,104,910	1 to 621

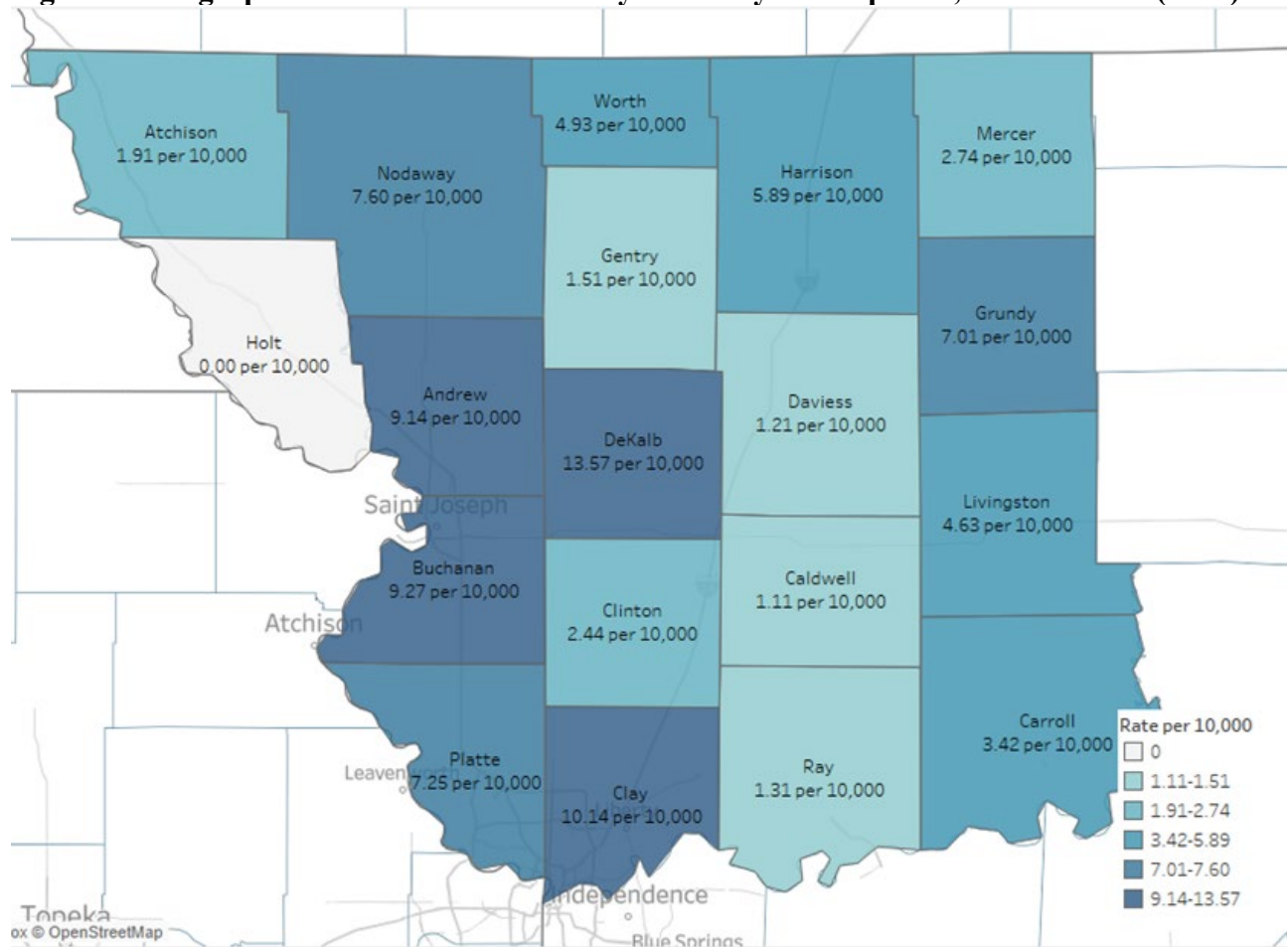
Note: Primary care physicians include the specialties of Family Medicine, General Practice, Internal Medicine, Obstetrics and Gynecology (OB/GYN) and Pediatrics.

Data on primary care physicians in the region are from the Missouri Division of Professional Registration public release file.²⁸ According to these data, Holt County does not have any PCPs. DeKalb County has the highest rate of physicians per 10,000 residents with 13.57. See Figures 6 and 7 for more information on primary care providers in each county in the NWMO AHEC region.

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. Other physicians may practice in multiple counties. Only one county is recorded in the public release file. Therefore, the number of physicians may be underreported for some counties.

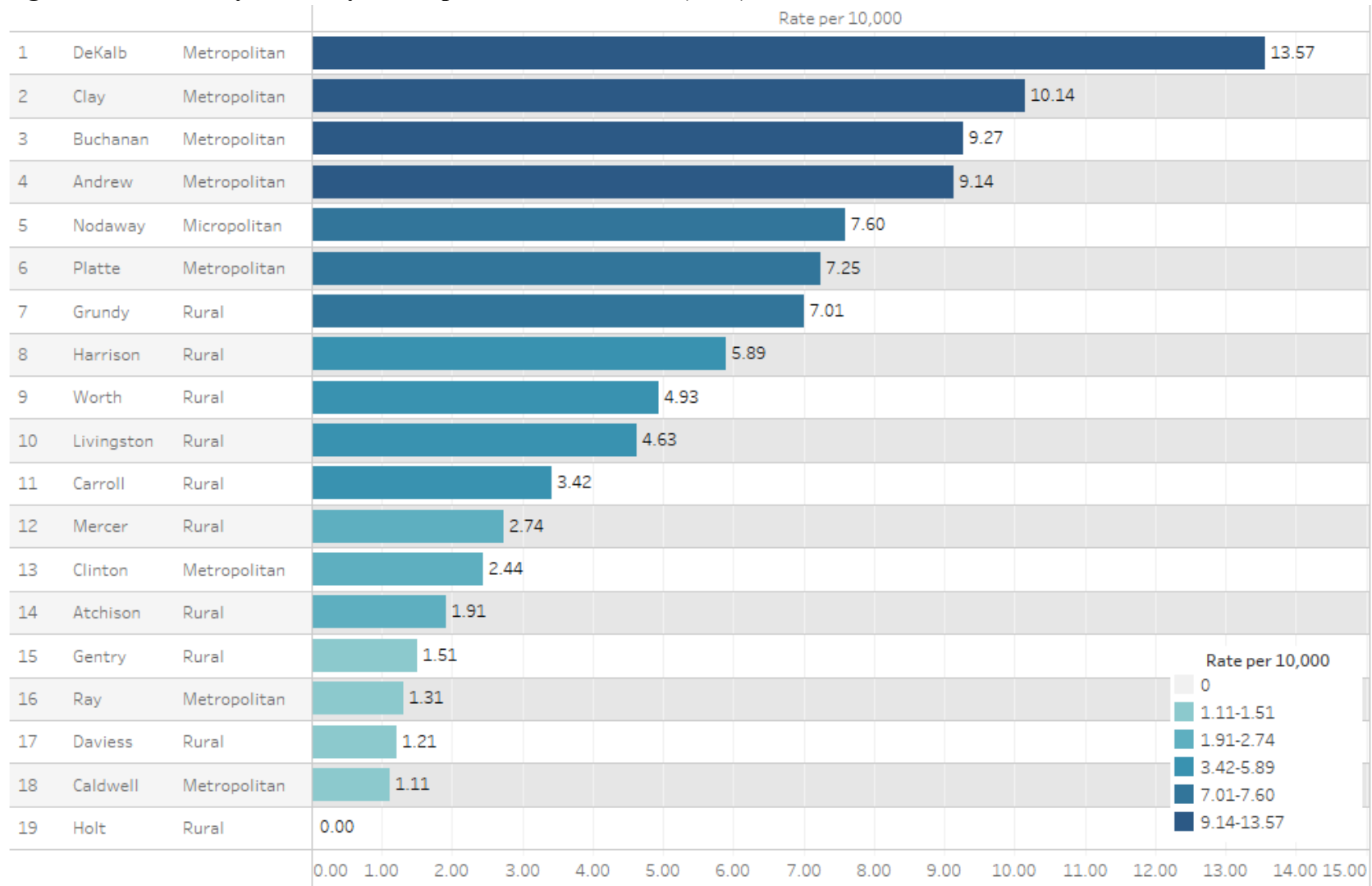
Figure 6: Geographic Distribution of Primary Care Physicians per 10,000 Residents (2022)



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 top four counties with the highest rates of physicians per 10,000 residents (DeKalb, Clay, Buchanan and Andrew) are all metropolitan counties (Figure 7). Interestingly, three of the counties with the lowest rates of physicians per 10,000 residents in the NWMO AHEC region (Caldwell, Clinton and Ray) are also metropolitan.

Figure 7: All 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.

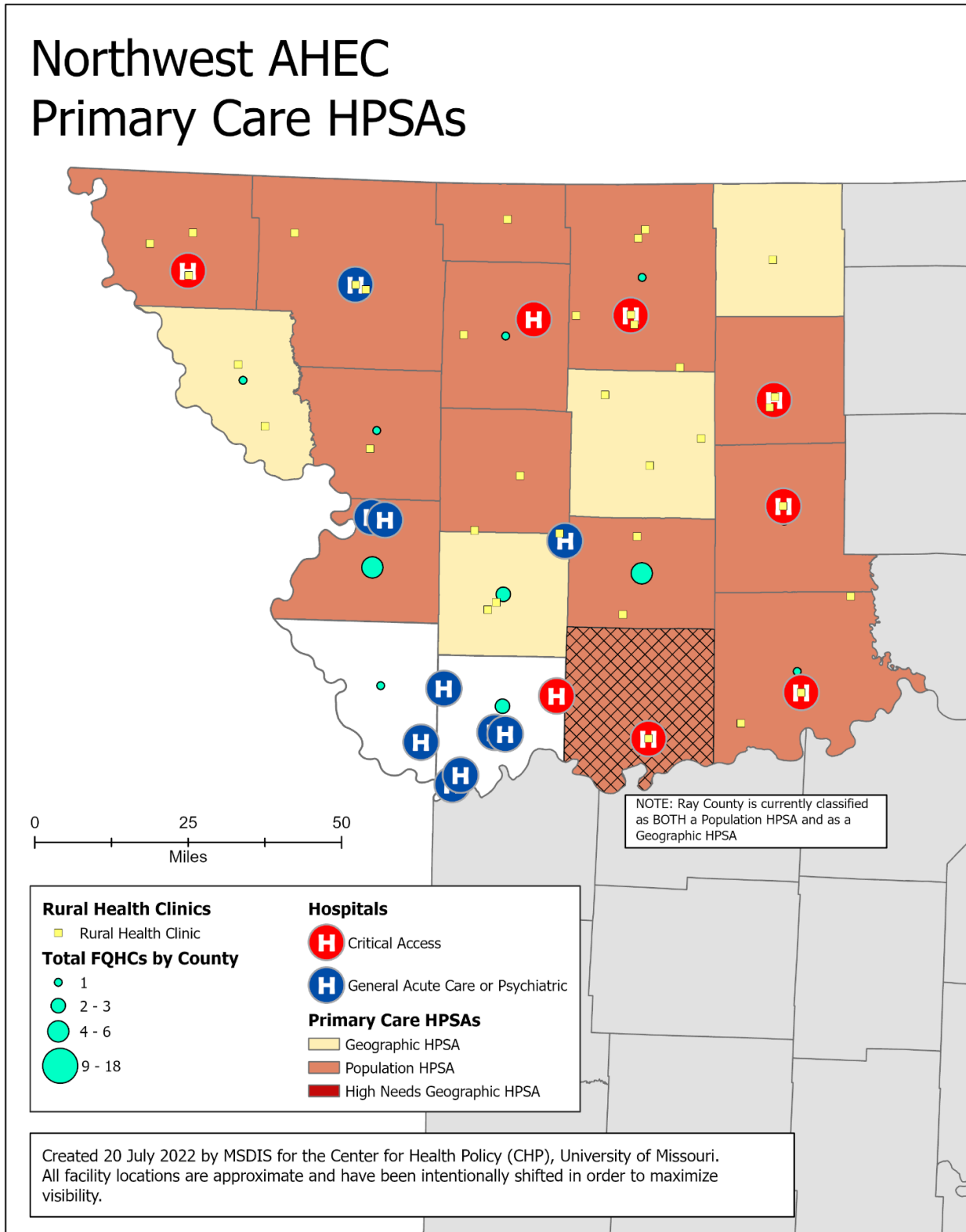
A Primary Care Health Professional Shortage Area (HPSA) is an area, population, or facility designated by HRSA as having an insufficient number of primary care providers. HPSAs are utilized by federal programs such as National Health Service Corps, Nurse Corps, Indian Health Service (IHS) Loan Repayment Program, and Rural Health Clinic Program to allocate resources to designated areas of shortage.²⁹ All but two counties in the region (Clay and Platte) are included in a primary care HPSA. Andrew, Clinton, Daviess, DeKalb, Holt, Mercer and Ray counties are designated as geographic and Atchison, Buchanan, Caldwell, Carroll, Gentry, Grundy, Harrison, Livingston, Nodaway and Worth counties 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.

²⁹ Health Resources and Services Administration. (2021). *What is a shortage designation?* Retrieved from <https://bhwhrsa.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 region and the state. Provider ratios are more favorable in the NWMO AHEC region than the state for both dentists (1:1,846 vs. 1:1,902) and dental hygienists (1:1,447 vs. 1:1,683). There are fewer dental assistants in the region (1:1,050) in comparison to the state ratio (1:981)

Table 5: Dental Health Providers by NWMO AHEC Region and State

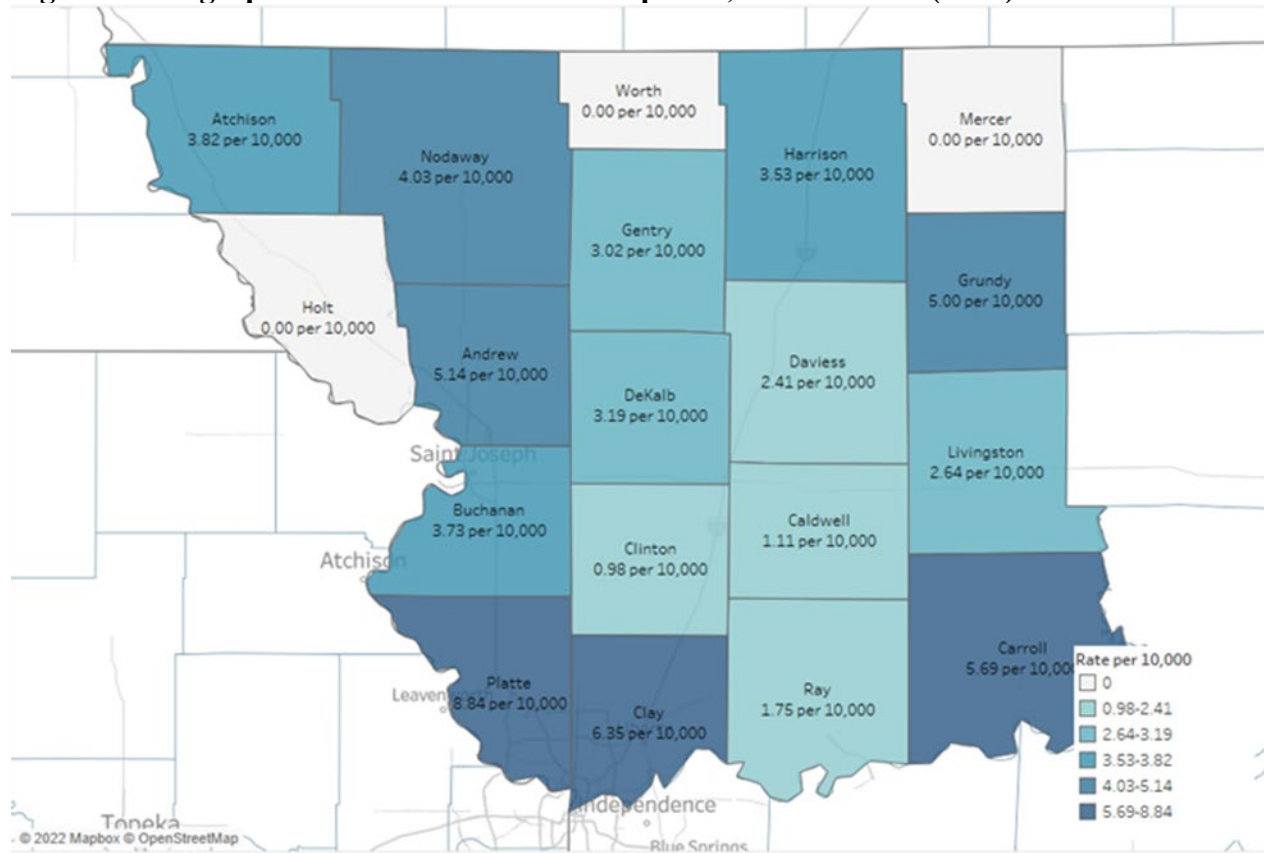
Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Dentists	Region	43 (13%)	0 (0%)	287 (87%)	330	609,093	1 to 1,846
	State	537 (17%)	222 (7%)	2,452 (76%)	3,211	6,104,910	1 to 1,902
Dental Hygienists	Region	73 (17%)	0 (0%)	348 (83%)	421	609,093	1 to 1,447
	State	893 (25%)	311 (9%)	2,424 (67%)	3,628	6,104,910	1 to 1,683
Dental Assistants	Region	113 (19%)	0 (0%)	467 (81%)	580	609,093	1 to 1,050
	State	2,198 (35%)	507 (8%)	3,512 (56%)	6,217	6,104,910	1 to 981

The geographic distribution of dentists and dental hygienists are provided in Figure 9. There are no dentists noted in three counties (Holt, Worth, and Mercer) of the region. This scarcity of providers not only causes issues for patient access to dental care, but also may lead to overburdened providers in surrounding counties. 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.³¹

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>.

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

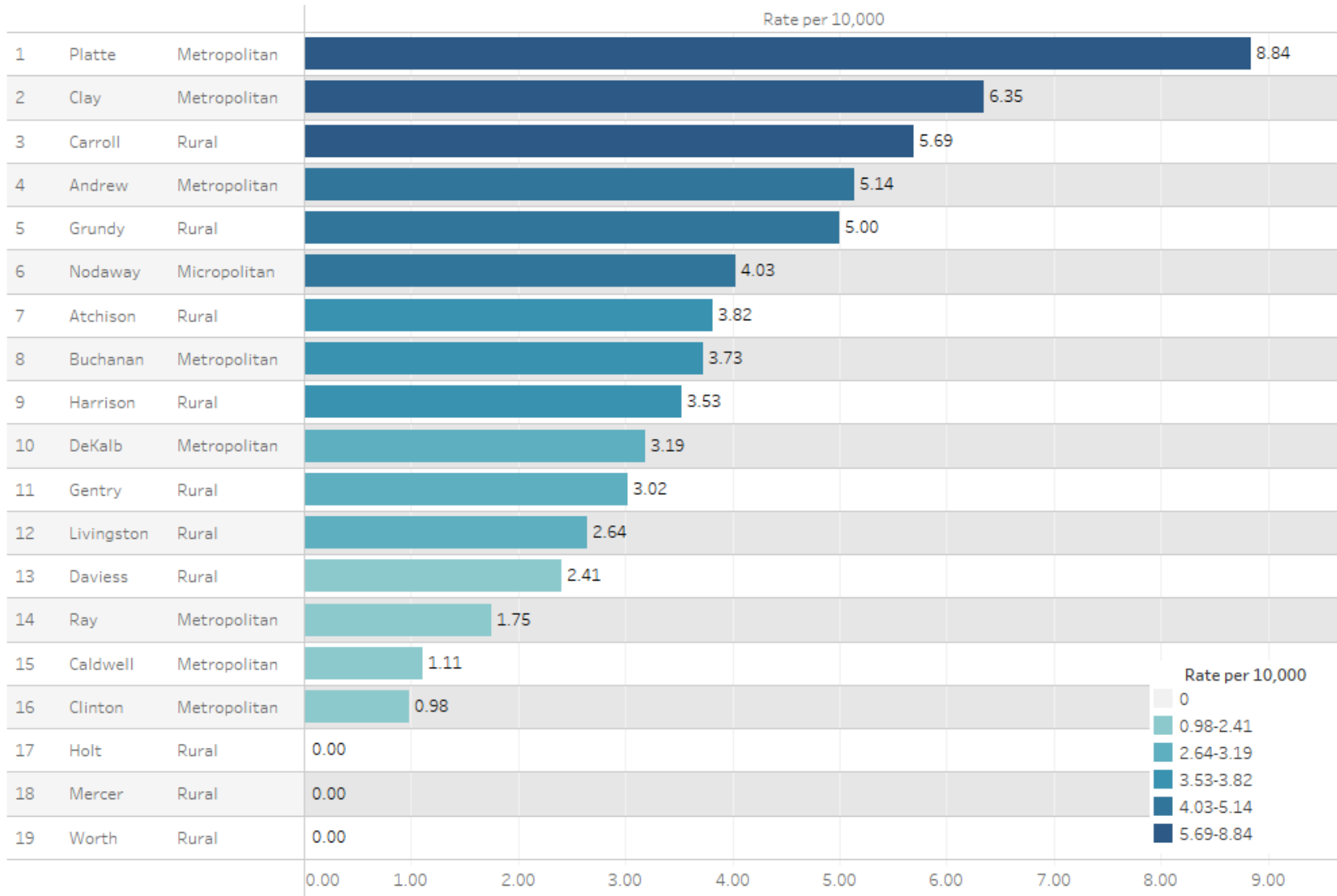


Source: Missouri Division of Professional Registration (2022)

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 higher number of dentists per 10,000 residents in metropolitan counties close to Kansas City. Platte County has 8.84 and Clay County has 6.35 dentists per 10,000 residents. Carroll County, a rural county further from Kansas City, as the third highest rate of dentists at 5.69 per 10,000 residents.

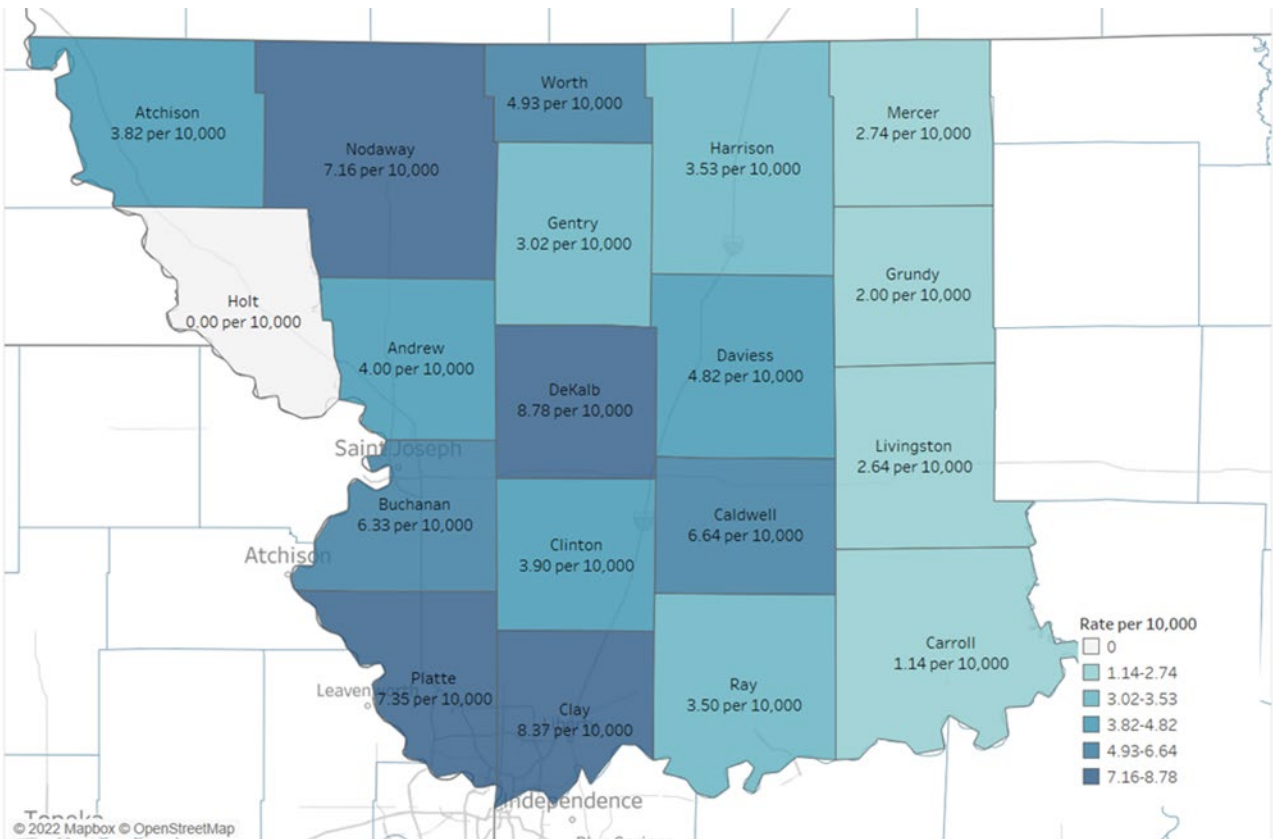
Figure 10: Dentists per 10,000 Residents (2022)



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, Holt County has neither dentists nor dental hygienists. Counties on the eastern border of the NWMO AHEC region all have less than three dental hygienists per 10,000 residents, including Mercer (2.74), Livingston (2.64), Grundy (2.00) and Carroll (1.14). DeKalb and Clay counties have the highest rate of dental hygienists per 10,000 residents, with 8.78 and 8.37, respectively.

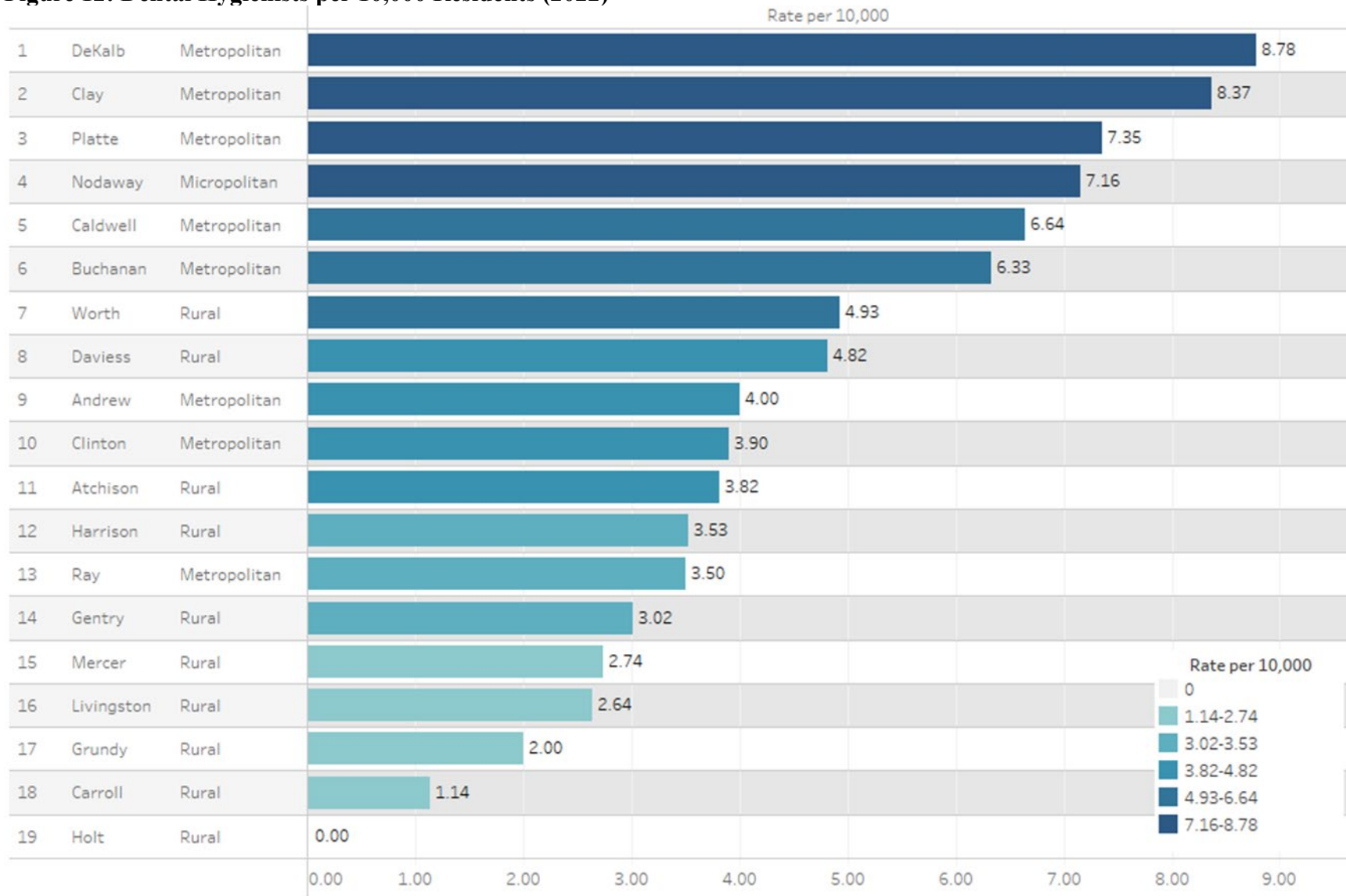
Figure 11: Geographic Distribution of Dental Hygienists per 10,000 Residents (2022)



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)

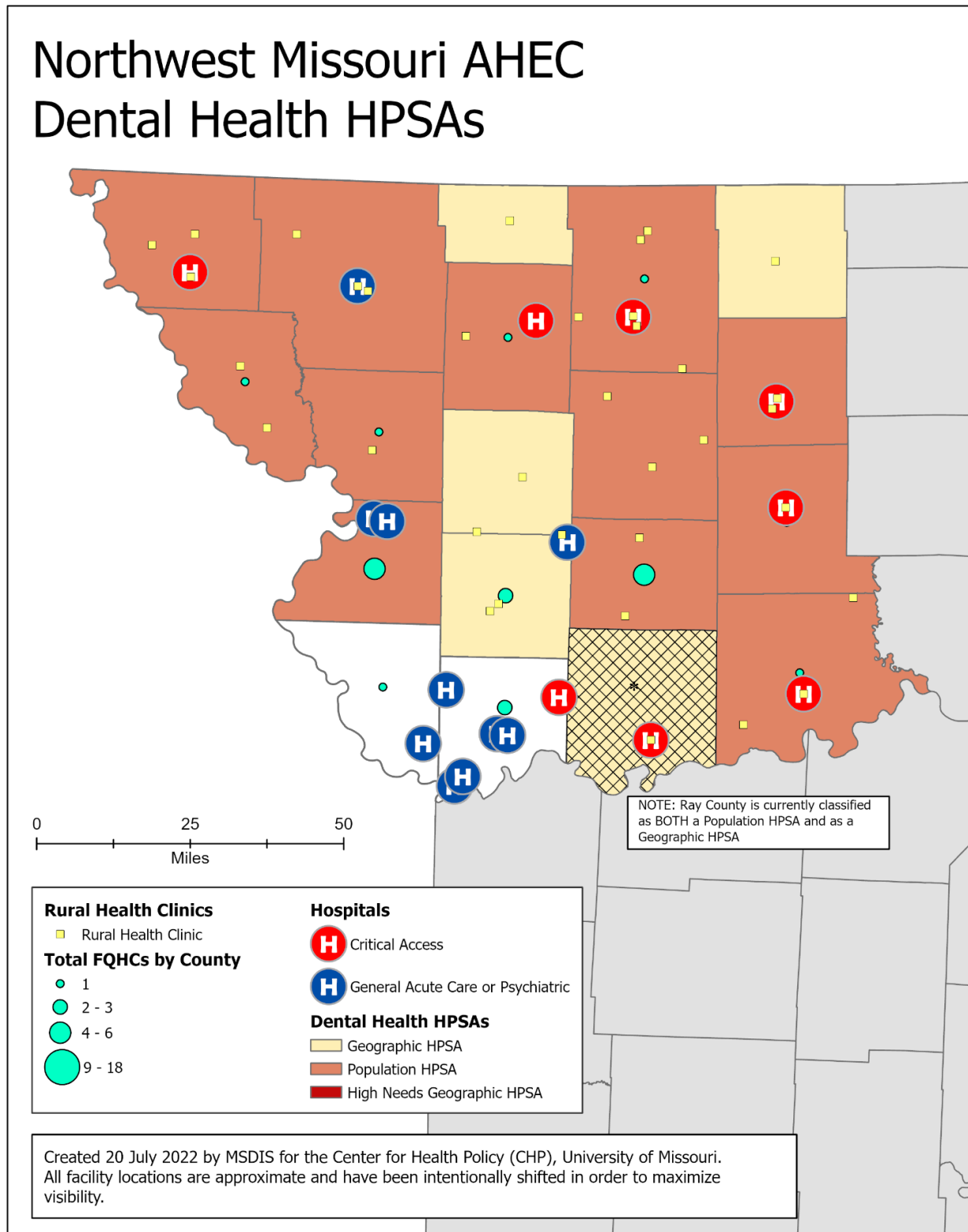
Dental Health Professional Shortage Areas (HPSAs)

All but four counties in the region are designated as population HPSAs (Figure 13) for dental health, which means that special populations in the region lack access to dental health care.

Mercer and Worth counties are geographic HPSAs, meaning that all residents in these counties face a shortage of dental health care. Ray County is both a geographic and a population HPSA. Clay and Platte counties are not designated as HPSAs for 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 NWMO 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 was retrieved from the 2015-2019 ACS 5-year estimates.

The NWMO AHEC region has fewer mental and behavioral health providers (one for every 492 NWMO AHEC region 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.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 NWMO AHEC Region and State

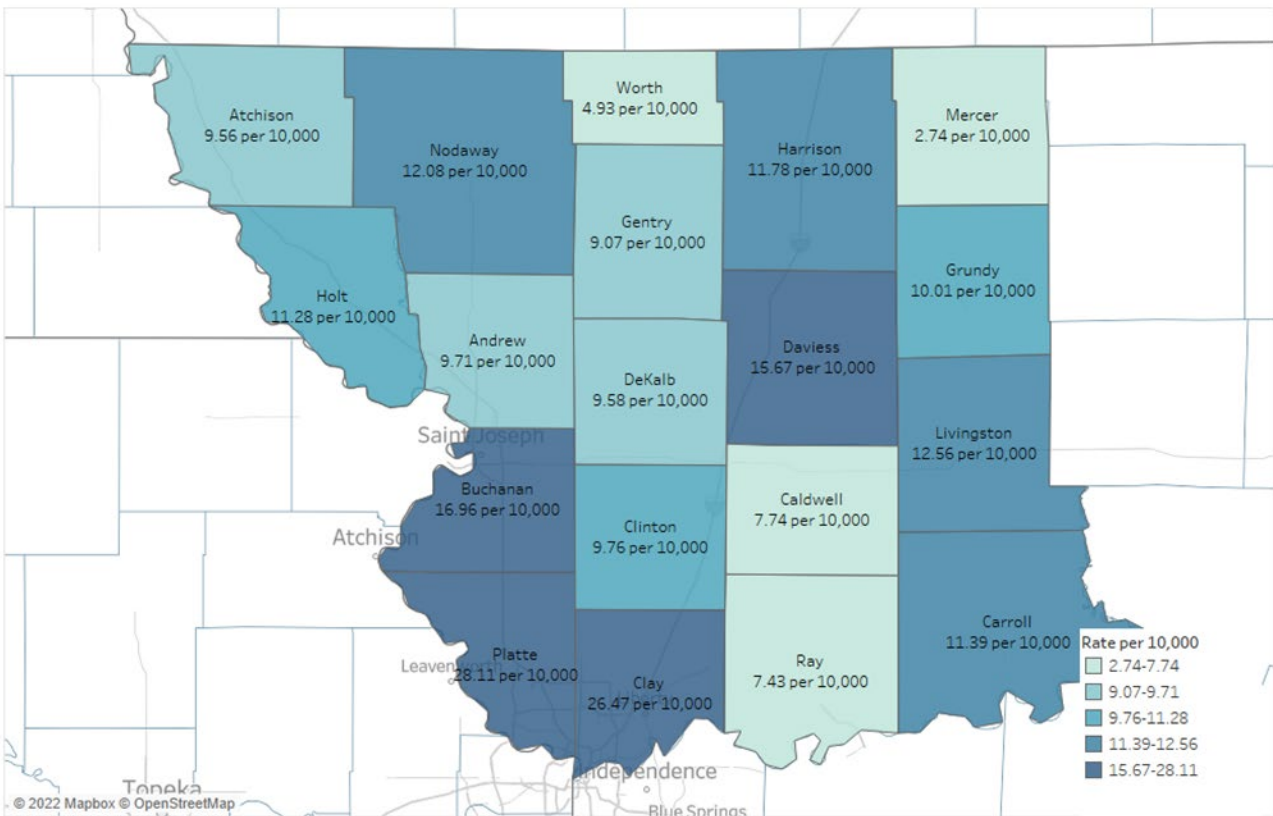
Region Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Mental and Behavioral Health	Region	157 (14%)	0 (0%)	958 (86%)	1,238	609,093	1 to 492
	State	2,283 (16%)	1,184 (8%)	10,709 (76%)	15,478	6,104,910	1 to 394

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

³⁴ Grimm, 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 that the three highest rates of mental health providers are metropolitan counties, including Platte at 28.11, Clay at 26.47 and Buchanan at 16.96 per 10,000 residents. In contrast, Ray County within the Kansas City metropolitan area has just 7.43 mental and behavioral health providers per 10,000 residents, and rural Daviess County has the fourth highest rate at 15.67 providers per 10,000 residents. Mercer County has the most acute shortage, with just 2.74 providers per 10,000 residents.

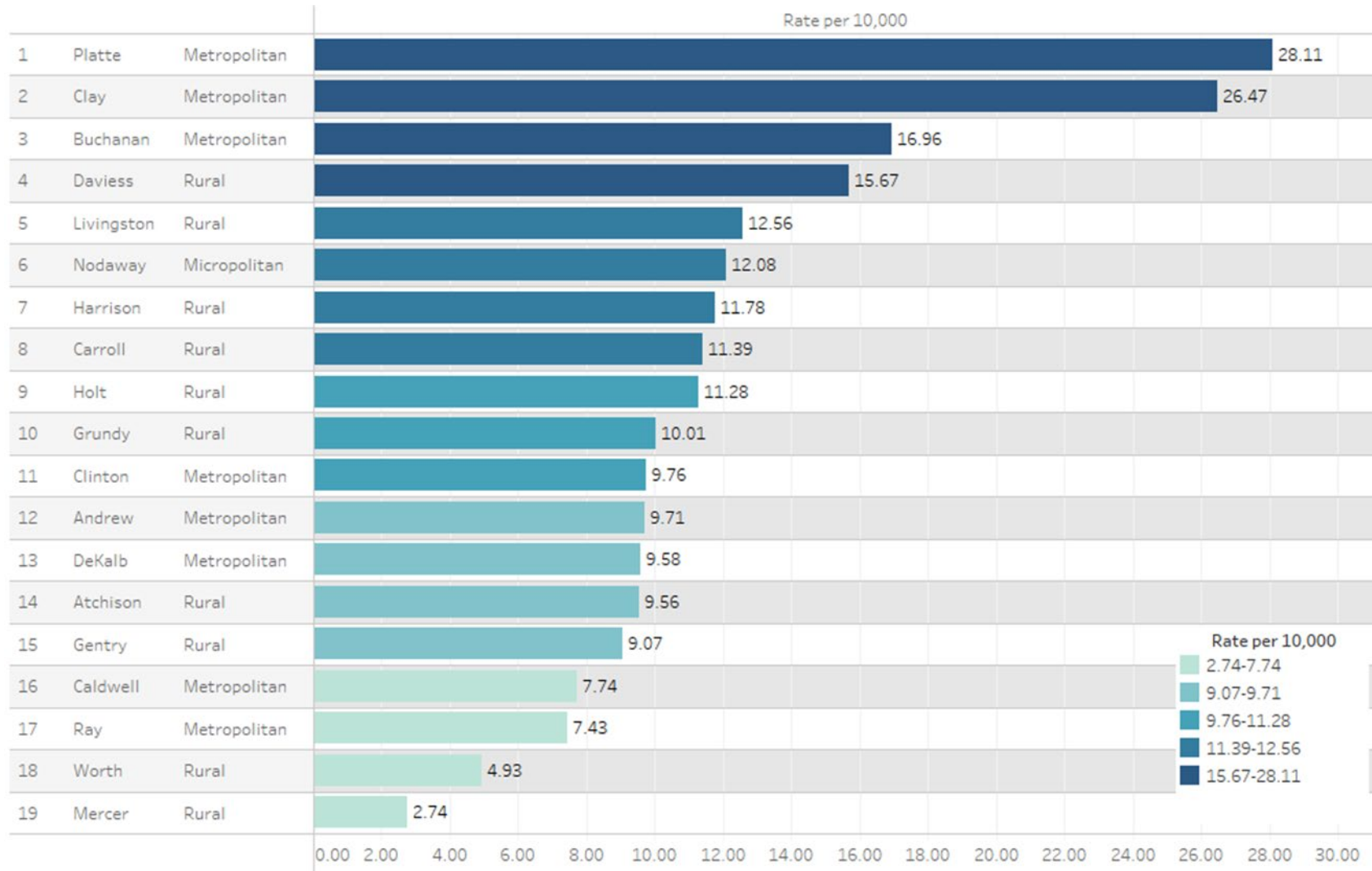
Figure 14: Geographic Distribution of Mental and Behavioral Health Providers per 10,000 Residents (2022)



Source: Missouri Division of Professional Registration (2022)
 Mental & Behavioral Health includes Assistant Behavior Analyst, Behavior Analyst, Child Psychiatry, Licensed 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)



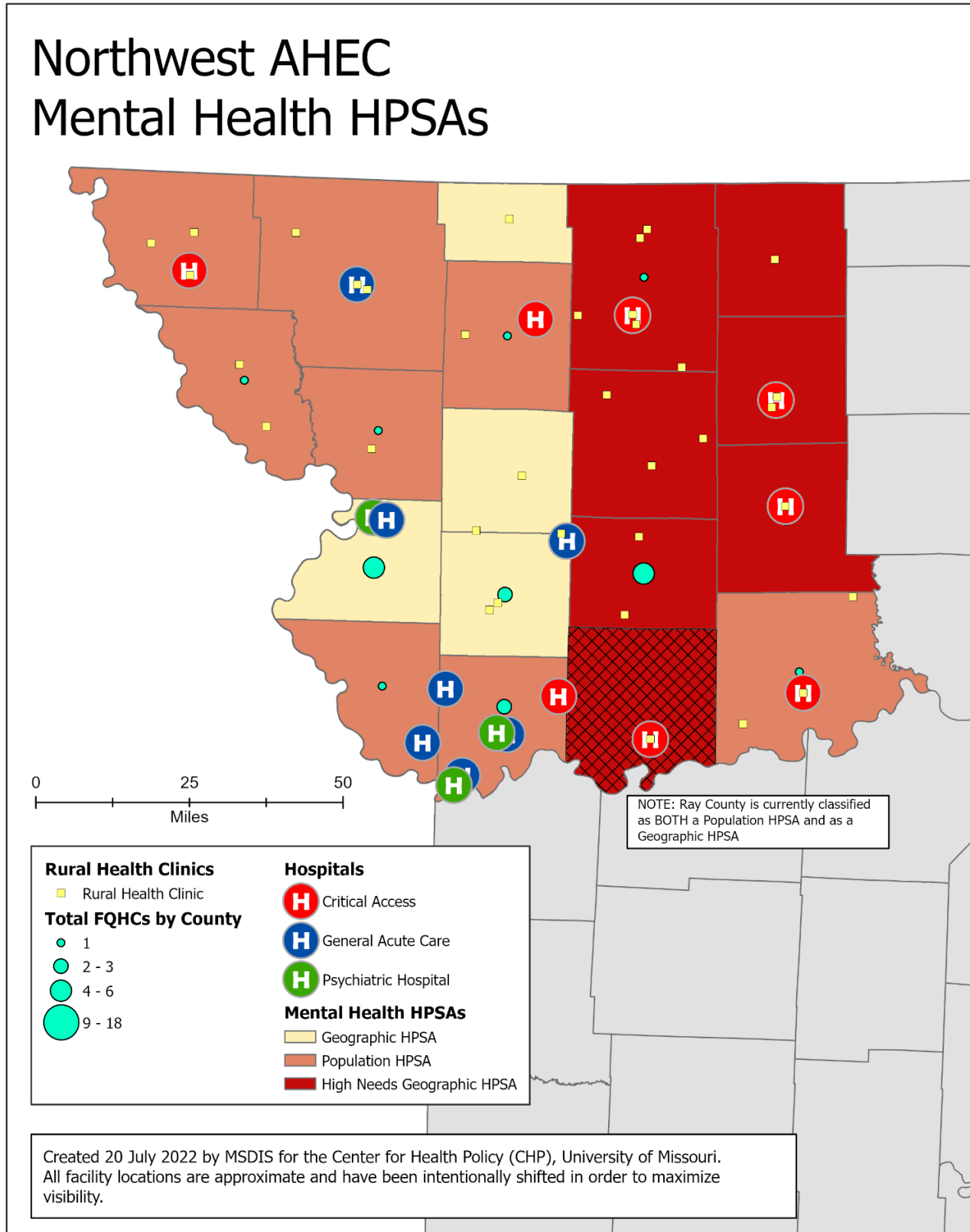
Source: Missouri Division of Professional Registration (2022)

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)

All of the NWMO AHEC region is covered by a mental health HPSA (Figure 16) including a **high needs geographic HPSA** covering Caldwell, Daviess, Grundy, Harrison, Livingston, and Mercer counties. Gentry and Nodaway counties are a geographic HPSA and the remaining counties are population HPSAs.

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/>.

Missouri's 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.

There are lower rates of APRNs and RNs in the NWMO AHEC region than the state. There is one APRN per 1,013 residents in the NWMO AHEC region compared to one APRN per 672 residents in the state, and one RN per 108 regional residents compared to one RN per 88 Missourians. There are more LPNs per population in the region (1: 367) than the state as a whole (1:401).

Table 7: Nursing Workforce by NWMO 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	100 (17%)	0 (0%)	501 (83%)	601	609,093	1 to 1,013
	State	1,506 (17%)	697 (8%)	6,881 (76%)	9,084	6,104,910	1 to 672
Registered Nurses (RNs)	Region	1,030 (18%)	0 (0%)	4,632 (82%)	5,662	609,093	1 to 108
	State	11,594 (17%)	5,693 (8%)	5,2325 (75%)	69,612	6,104,910	1 to 88
Licensed Practical Nurses (LPNs)	Region	578 (35%)	0 (0%)	1,083 (65%)	1,661	609,093	1 to 367
	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. The NWMO AHEC region has more pharmacists and physical therapy assistants but fewer pharmacy technicians, physical therapists, and community health workers than the state as a whole.

Pharmacy Workforce

Pharmacists and pharmacies are an important component of the health care system. In addition to prescriptions, pharmacies provide access to important health care services such as vaccinations and monitoring of chronic conditions such as high blood pressure. The NWMO AHEC region has more pharmacists (1:797) but fewer pharmacy technicians (1:314) than the state as a whole (1 pharmacist:859 residents; 1 pharmacy technician:290 residents).

Physical Therapy Workforce

Residents of the NWMO AHEC region have less access to physical therapists (PTs) but more access to physical therapist assistants (PTAs) than Missourians overall. There is 1 physical therapist per 2,044 residents in the region compared to 1,707 Missourians. In contrast, there is one physical therapy assistant for every 3,647 regional residents compared to 1:5,017 in the state as a whole. 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.³⁵ 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.³⁶ Table 8 presents the most current counts of credentialed CHWs in Missouri. There are fewer certified CHWs in the region (1:50,758) than the state (1:29,351). 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.

³⁵ 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>.

³⁶ 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 NWMO AHEC Region and State

Provider Type	Region State	Rural # (%)	Partially Rural # (%)	Urban # (%)	Total Provider Type	Total Population	Ratio Provider Type to Population
Pharmacists	Region	119 (16%)	0 (0%)	645 (84%)	764	609,093	1 to 797
	State	1,350 (19%)	520 (7%)	5,238 (74%)	7,108	6,104,910	1 to 859
Pharmacy Technicians	Region	480 (25%)	0 (0%)	1,460 (75%)	1,940	609,093	1 to 314
	State	6,204 (29%)	1,317 (6%)	13,539 (64%)	21,060	6,104,910	1 to 290
Physical Therapists	Region	40 (13%)	0 (0%)	258 (87%)	298	609,093	1 to 2,044
	State	579 (16%)	296 (8%)	2,701 (76%)	3,576	6,104,910	1 to 1,707
Physical Therapy Assistants	Region	54 (32%)	0 (0%)	113 (68%)	167	609,093	1 to 3,647
	State	395 (33%)	105 (9%)	704 (58%)	1,204	6,104,910	1 to 5,071
Community Health Workers	Region	0 (0%)	0 (0%)	12 (100%)	12	609,093	1 to 50,758
	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.³⁷ 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.

³⁷ 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 Summary³⁸

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/NW_Region_2022_WF.pdf). MHA's profiles focus on the vacancy and turnover rates of health care professions working in hospitals.

MHA's Northwest Region Profile overlaps with most of the NWMO AHEC region, although the NWMO AHEC region includes three counties from MHA's Kansas City region (Clay, Platte and Ray) as well as Carroll County from MHA's West Central region. In the Northwest MHA region, the highest vacancy rates in hospitals are mammography technologist, nurse assistants, and licensed practical nurse. The West Central MHA region's highest vacancies are housekeeper, respiratory therapist-registered, and medical laboratory technician. MHA's Kansas City region has the highest vacancies for licensed practical nurse, sterile processing technician, and respiratory therapist-certified. The RN vacancy rate in Northwest (15.1%) and West Central (13.2%) MHA regions are both lower than the state average rate of 19.8%. However, RN vacancy rate of Kansas City region (24%) is higher than the state rate.

The hospital professions with the highest turnover rates are sterile processing technician, food service worker/dietary aid, and nurse assistant in the Northwest MHA region; nurse assistants, housekeeper, and food service worker/dietary aid in West Central MHA region; and occupational therapy assistant-certified, housekeeper, and food service worker/dietary aid in Kansas City MHA region. Unlike the vacancy rates, the RN turnover rate in the Northwest (26.3%) and West Central (26.4%) MHA regions are higher whereas the RN turnover rate in Kansas City (19.7%) MHA region is lower than the state average rate of 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.

³⁸ Missouri Hospital Association. (2022). *2022 MHA Workforce Report: Northeast Region Profile*. Retrieved from https://www.mhanet.com/mhaimages/workforce/2022/NW_Region_2022_WF.pdf.

Table 9: NWMO AHEC Region Compared to Missouri Hospital Association (MHA) Regions

Northwest AHEC Region Counties	MHA Region
Andrew County	Northwest
Atchison County	Northwest
Buchanan County	Northwest
Caldwell County	Northwest
Carroll County	West Central
Clay County	Kansas City
Clinton County	Northwest
Daviess County	Northwest
DeKalb County	Northwest
Gentry County	Northwest
Grundy County	Northwest
Harrison County	Northwest
Holt County	Northwest
Livingston County	Northwest
Mercer County	Northwest
Nodaway County	Northwest
Platte County	Kansas City
Ray County	Kansas City
Worth County	Northwest

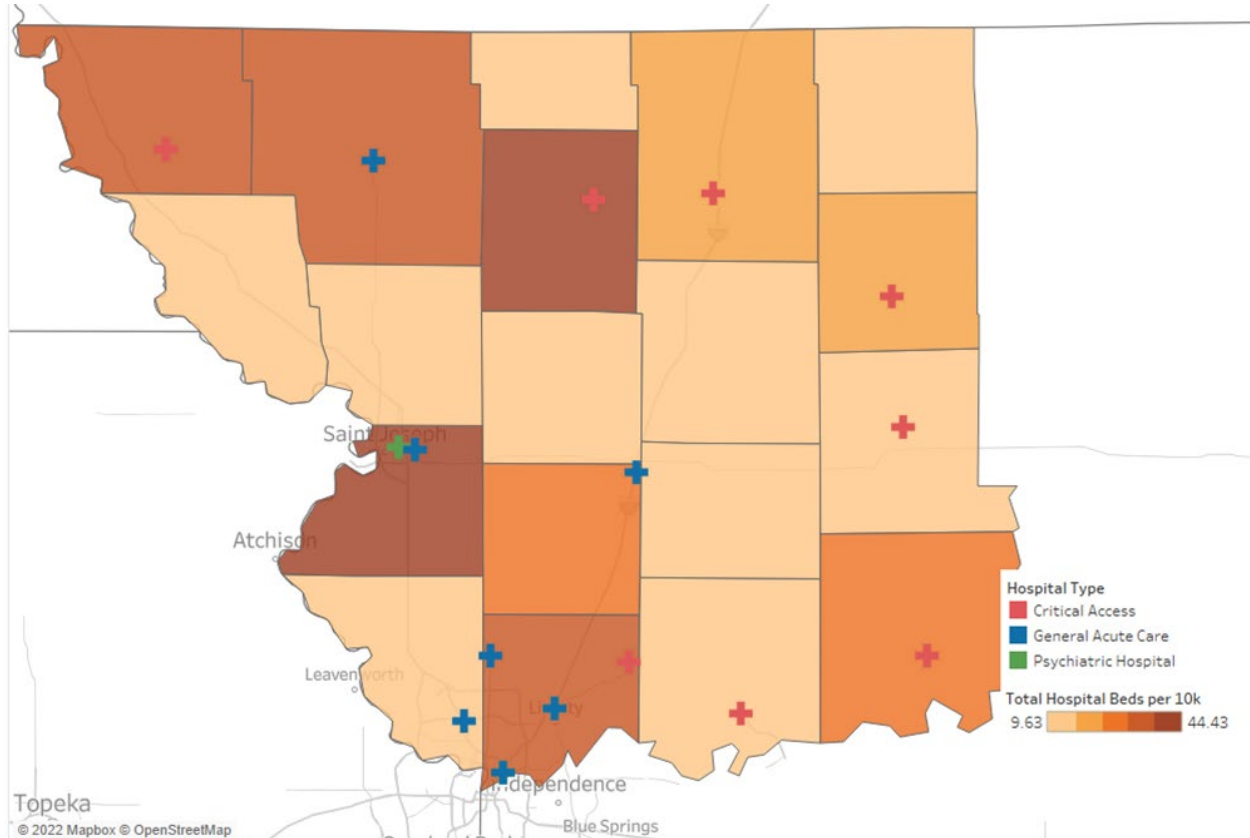
Health Care Infrastructure in the Region

Primary care, dental health care, and mental and behavioral health care, and the workforce needed to deliver services, are all important aspects of the NWMO AHEC region’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 region, along with rates of total beds per 10,000 residents. The NWMO AHEC region has nineteen hospitals with 27 hospital beds available for every 10,000 residents. There are no Level I or III 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 Kansas City provides 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 North Kansas City and Liberty in Clay County, as well as in St. Joseph in Buchanan County. Level III Trauma Centers can assess, resuscitate, and stabilize patients before transfer to Level I and II hospitals. As stated earlier, there are no Level III hospitals in the region. Gaps in availability of hospital care are visible throughout the NWMO AHEC region, as rural residents face long drive times and increased cost to access care, and emergency responders may need to cross county lines to connect patients with life-saving services. While there are critical access hospitals in eight counties in the NWMO AHEC region, there are seven counties in the region with neither a general acute care nor critical access hospital: Andrew, Caldwell, Davies, DeKalb, Holt, Mercer and Worth.

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



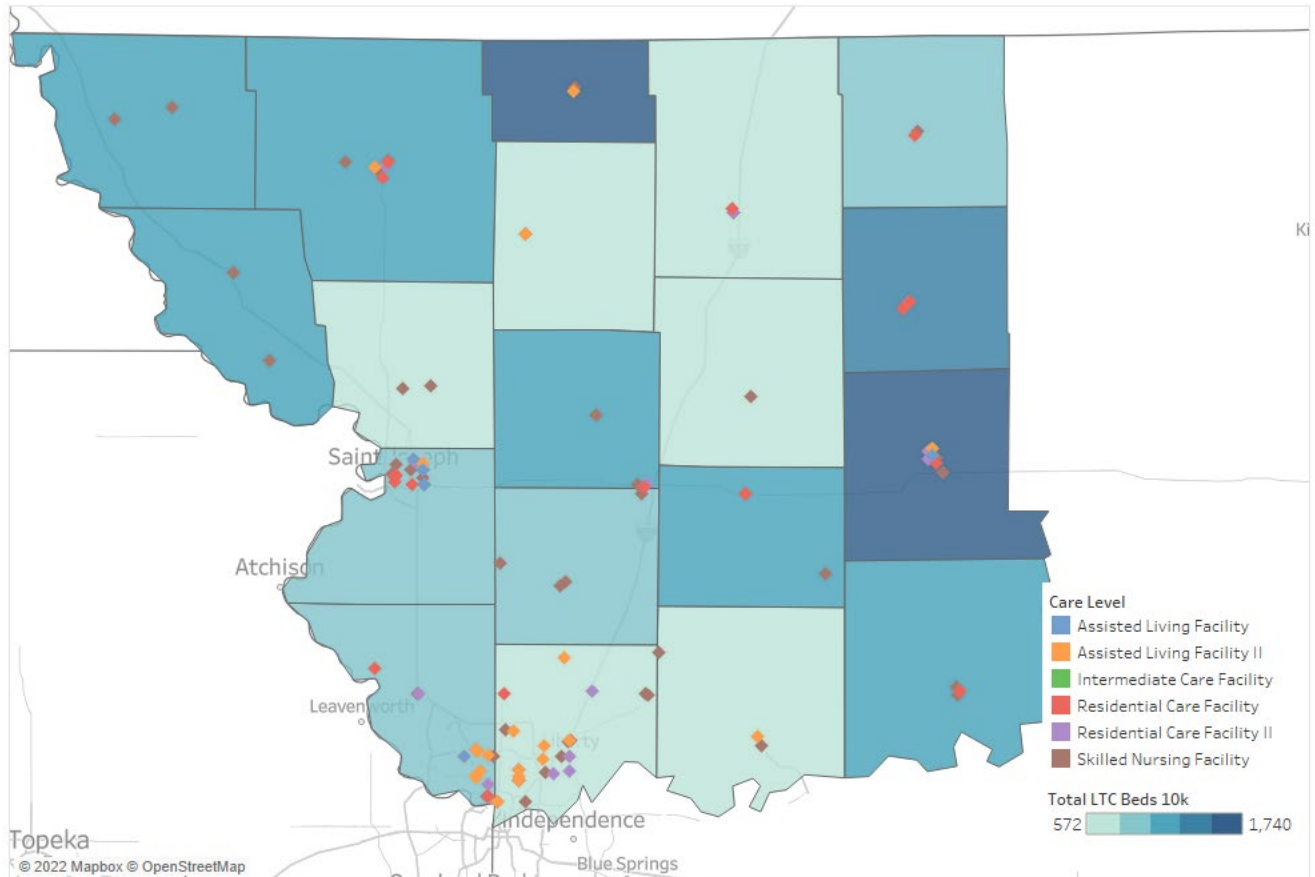
Source: American Community Survey (2015-2019 5 year estimates), MO Department of Health and Senior Services via Missouri Spatial Data Information Service (2022)

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 residents age 65 or older in 2022. NWMO AHEC has 819.31 beds per 10,000 residents 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)

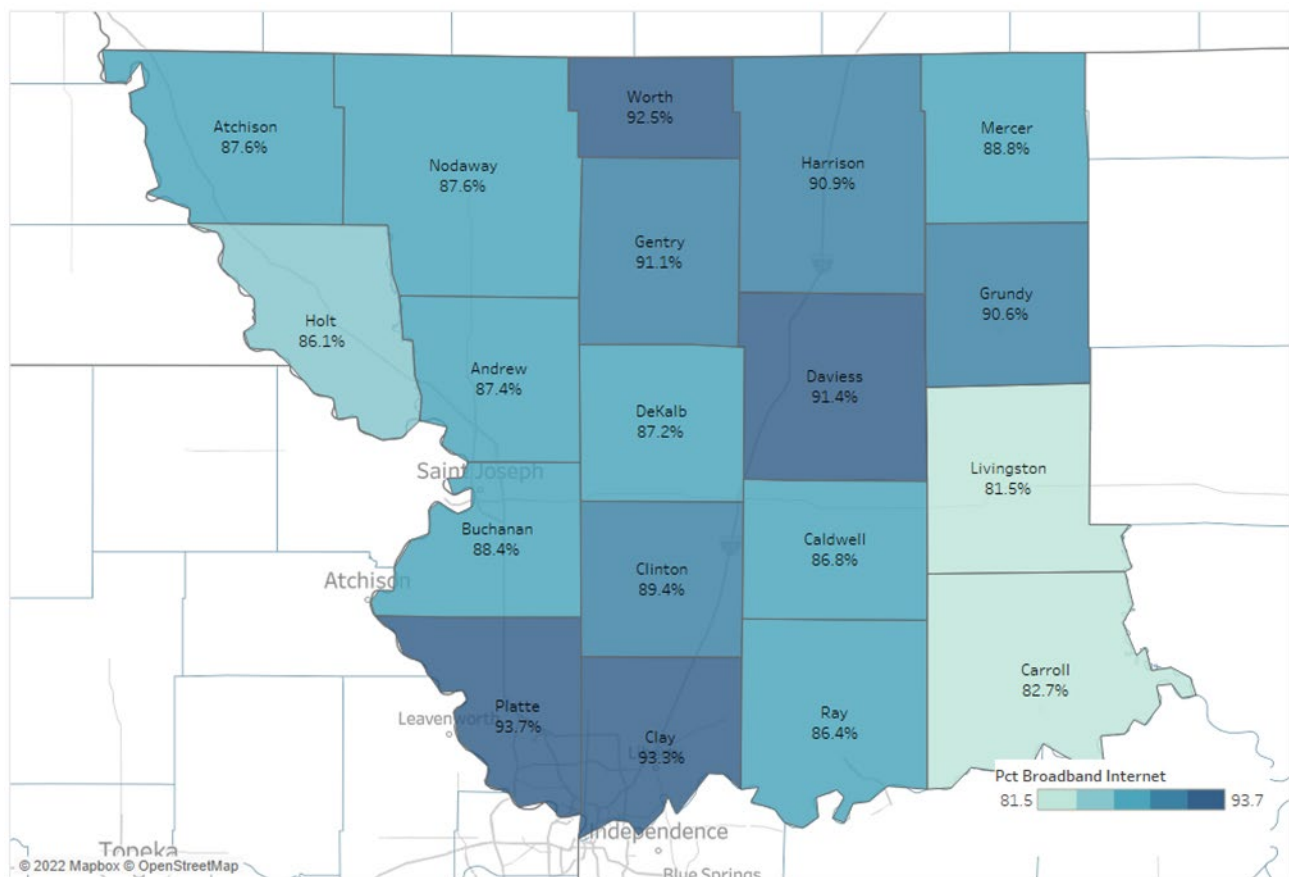
Note: Dynamic, interactive maps of medical facilities in all AHEC regions are available at <https://mohealthcareworkforce.org/indicator-dashboards/medical-facilities/>. Age 65 and older was used as the age category of interest due to Medicare eligibility. Care levels include:

- 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 NWMO AHEC region. Unfortunately, many of the counties with lower percentages of broadband at home, including Carroll at 82.7% and Livingston at 81.5%, 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.⁴⁰

Figure 19: Percentage of Households with a Broadband Internet Subscription



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.

Northwest Missouri Area Health Education Center
Needs Assessment and Gap Analysis

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at A.T. Still University-Kirksville College of Osteopathic Medicine

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