

Washington University Center for Health Economics and Policy &
Saint Louis University Center for Health Law Studies

Introduction

The State of Missouri is implementing an expansion of the Medicaid program to include all adults age 19-64 earning up to 138% of the federal poverty line, FPL (\$30,305 for a family of three). Based on an earlier analysis by our research team, the number of new adults projected to enroll in the expansion of Medicaid in Missouri within the first year is 247,500, while a recent release of Missouri Governor Parson's budget assumes that the projected enrollment for the Medicaid expansion will be 274,312 adults in the first year. The expansion has raised questions about whether the capacity exists among providers to provide care for these new enrollees, and how capacity may vary across the state.

This fact sheet describes the geographic distribution of healthcare providers in Missouri, including primary care professionals, mental health providers, and dentists. The aim of this document is to provide important background information for the state, local communities, providers, and community service organizations as they prepare to serve the newly eligible enrollees, as well as estimate the current supply of health care services across the State. This fact sheet outlines the practice location of providers in Missouri, however it does not take into account which providers accept Medicaid patients or are currently accepting new patients. Additional analyses will be needed to determine the distribution of providers across Missouri who are accepting new Medicaid patients.¹ The Fact Sheet concludes with a description of the data and methods used to compile these estimates.

Geographic Distribution of Healthcare Providers in Missouri

As an increased demand is expected for healthcare providers in many areas of the State due to the expansion of the Medicaid program, it is important to understand the current provider availability. The federal government uses measures of healthcare capacity shortages, including Health Professional Shortage Areas (HPSAs) (defined as 3,500 population to 1 primary care physician) and Medically Underserved Areas (MUAs), which draw on some of the same data used here.² The current distribution of healthcare providers varies across Missouri, with higher numbers and densities of most providers in urban areas, particularly the St. Louis and Kansas City areas. With fewer providers in rural areas, access to care has

been shown to be more limited in rural areas in most parts of the State.¹ However, without knowing which providers are accepting Medicaid patients it remains challenging to estimate the capacity to care for the newly eligible Medicaid population.

[\[Link to interactive maps and interactive sortable table](#) – click the tabs at the top to navigate to the different provider maps]

Missouri Total Provider Counts

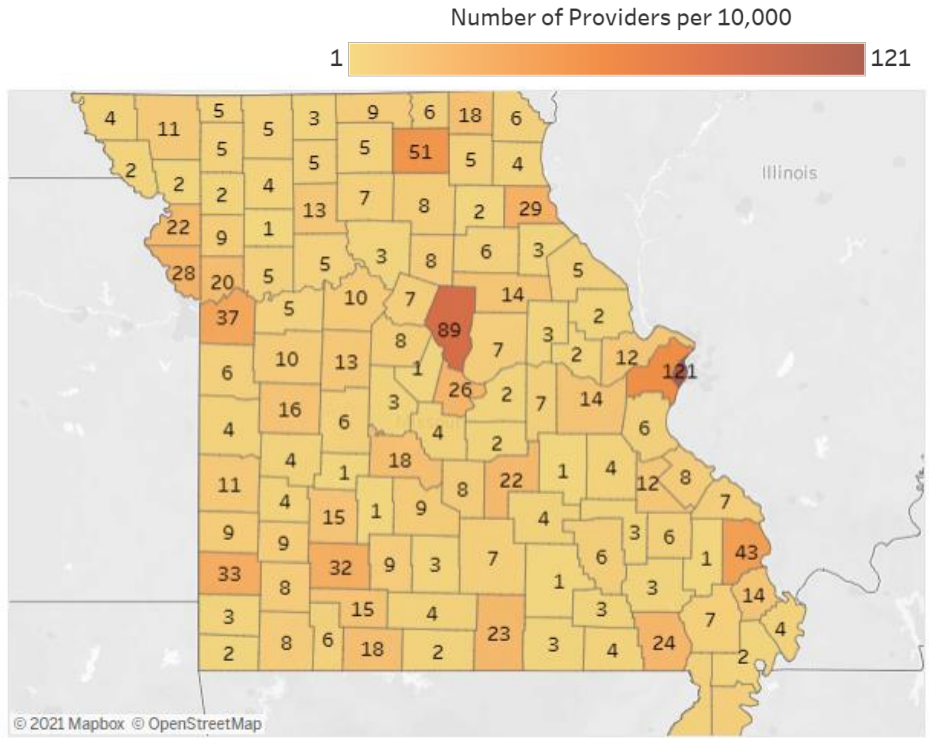
3,025	Active Dentists
19,021	Active Physicians
15,746	Mental Health Providers
16,166	Primary Care Non-Physicians
19,968	Total Primary Care Providers

Missouri Active Physicians per 10,000 Population

Active Physicians per 10,000

This map shows the combined number of active practicing physicians—Doctors of Medicine and Doctors of Osteopathy—per 10,000 population in each county.

The density of physicians is highest in the urban population centers. This pattern is particularly pronounced for specialty care physicians, as rural areas have lower access to specialty care services, and specialty care physicians are more likely to practice in urban areas. ¹



Data Source: 2019-2020 Area Health Resource File

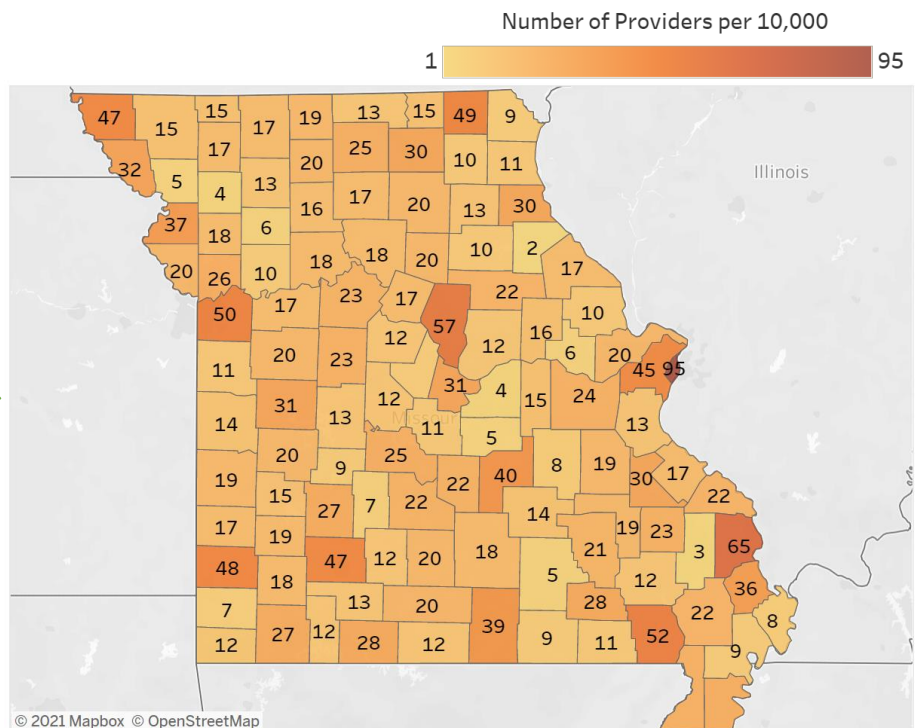
Total MDs, DOs: American Medical Association Physician Masterfiles

Missouri Primary Care Physicians per 10,000 Population

Primary Care Physicians per 10,000

This map shows the number of *primary care* physicians per 10,000 population in each county (both active and inactive). ‘Primary care physicians’ is a category that includes Doctors of Medicine and Doctors of Osteopathy in the following specialties:

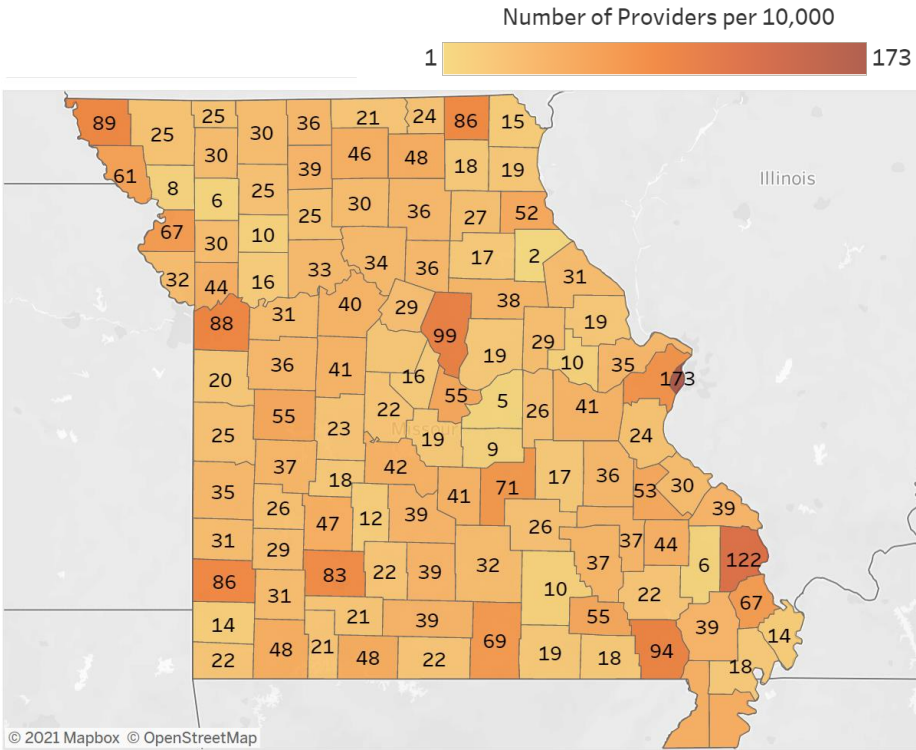
- General Family Medicine
- General Practice
- General Internal Medicine
- General Pediatrics



Data Source: 2019-2020 Area Health Resource File

Total MDs, DOs: American Medical Association Physician Masterfiles

Missouri Total Primary Care Providers per 10,000 Population



Data Source: 2019-2020 Area Health Resource File
 Total MDs, DOs: American Medical Association Physician Masterfiles
 Total Non-Physicians: Centers for Medicare and Medicaid Services

Total Primary Care *Providers* per 10,000

This map shows the number of total primary care providers (both physicians and non-physicians) per 10,000 population in each county.

Total Primary Care Providers

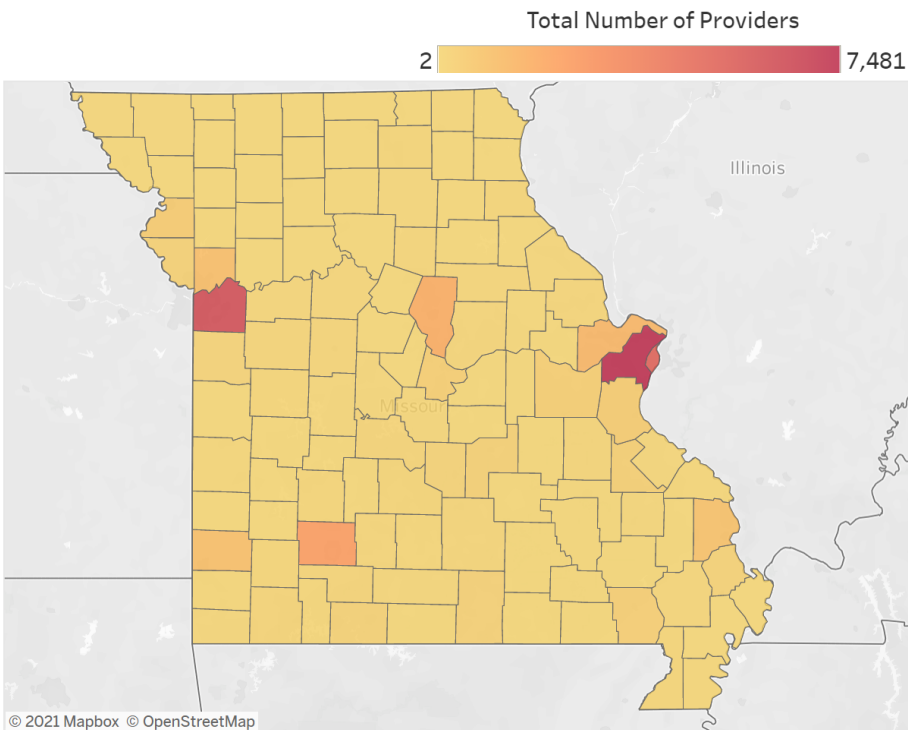
By default, Total Primary Care Providers include MDs and DOs in General Family Medicine, General Practice, General Internal Medicine, General Pediatrics, and the following non-physician professionals:

- Advanced Practice Nurse Midwives
- Advanced Practice RNs
- Clinical Nurse Specialists
- Nurse Practitioners
- Physician Assistants

The [interactive map](#) may be set to display either only physicians or non-physicians, as well as an option to view the total of these primary care providers.

The density of primary care providers varies across the state with higher densities in population centers.

Missouri Total Primary Care Provider Counts

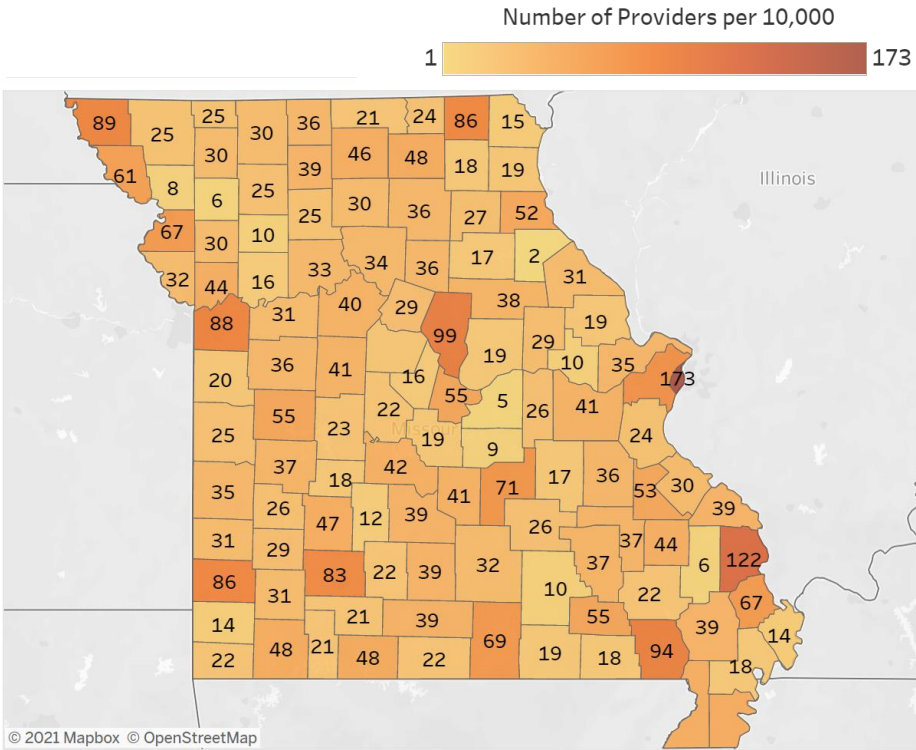


Data Source: 2019-2020 Area Health Resource File
 Total MDs, DOs: American Medical Association Physician Masterfiles
 Total Non-Physicians: Centers for Medicare and Medicaid Services

Total Primary Care *Providers-Counts*

This map shows the total number of primary care providers (both physicians and non-physicians) in each county.

Missouri Mental Health Provider Counts per 10,000 Population



Data Source: 2019-2020 Area Health Resource File
 Total Mental Health Providers: 2020 National Provider Identifier Files

Mental Health Providers per 10,000

This map shows the number of mental health care providers per 10,000 population, by county, including psychiatrists.

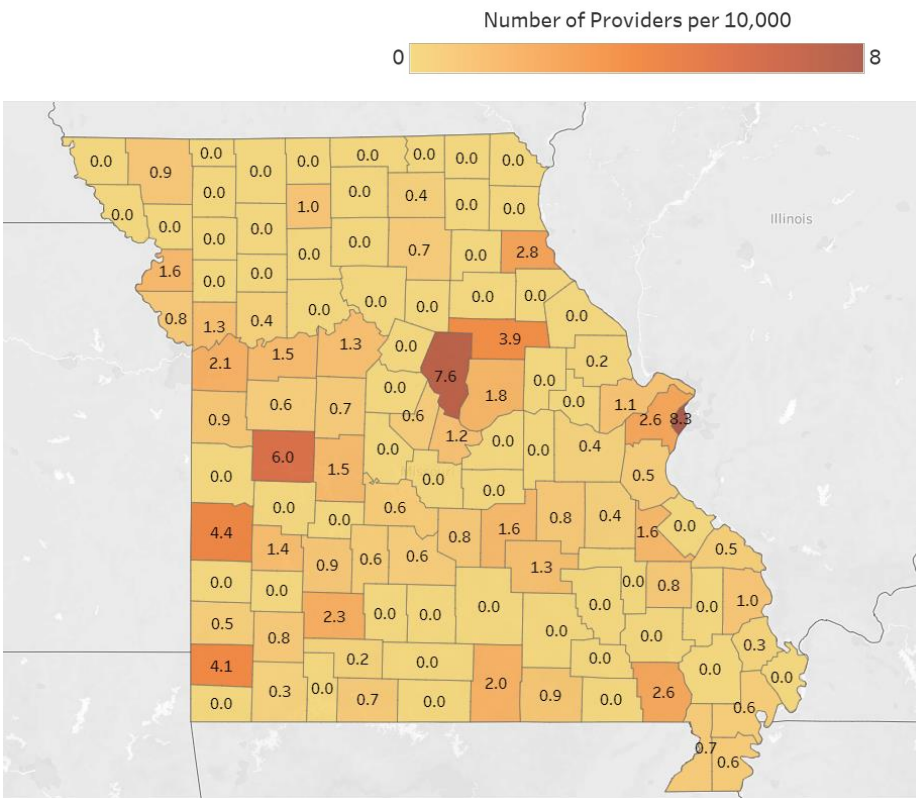
Mental Health Providers

This category includes the following types of mental health providers working in both inpatient and outpatient settings.

- Psychiatrists
- Therapists
- Counselors
- Psychiatric Clinical Nurse Specialists
- Psychiatric Nurse Practitioners
- Clinical Social Workers

The [interactive map](#) may be set to display only psychiatrists and to exclude non-physician/non-prescribing mental health professionals. The density of mental health professionals varies across the state with higher densities in population centers.

Missouri Psychiatrists per 10,000 Population



Data Source: 2019-2020 Area Health Resource File
 Total Mental Health Providers: 2020 National Provider Identifier Files

Psychiatrists per 10,000

This map shows the number of psychiatrists in each county per 10,000 population. To see the total number of psychiatrists in each county, follow [the hyperlink](#) and hover over the counties, or view the [interactive table](#).

Data Sources & Methods

Healthcare provider counts were pulled from the 2019-2020 Area Health Resource File (AHRF) county-level data along with the 2020 National Provider Identifier (NPI) Files. The AHRF provides both current and historic data on healthcare professions, health facilities, population characteristics, economics, health professions training, hospital utilization, hospital expenditures, and environmental characteristics. This information is collected from multiple data sources and the AHRF data also contains state and county FIPS codes to analyze these health resource variables by geographic groups.

For this analysis, the AHRF was restricted to data with the FIPS state code for Missouri. The following healthcare profession variables were pulled: total active MDs, total active DOs, total primary care physicians, total active dentists, active physician assistants, advanced practice registered nurses with a National Provider Identifier (NPI), nurse practitioners with an NPI, clinical nurse specialists with an NPI, and advanced practice nurse midwives with an NPI. Total primary care physicians included MDs and DOs in general family medicine, general practice, general internal medicine, and general pediatrics. A new variable for primary care non-physicians was created by combining counts for physician assistants, advanced practice registered nurses, nurse practitioners, clinical nurse specialists, and advanced practice nurse midwives. Since the AHRF does not contain data on several types of mental health providers, the 2020 NPI files were referenced for this information instead. From these files, both psychiatrists and non-prescribing providers could be differentiated. Non-prescribers included therapists, counselors, clinical psychologists, psychiatric/mental health nurse practitioners, psychiatric/mental health clinical nurse specialists, and clinical social workers.

The types of healthcare professionals displayed in the interactive maps are total active MDs plus total active DOs, primary care physicians and non-physicians, active dentists, and mental health providers. There are four sets of maps to focus on the different categories of providers: all active physicians, primary care providers, dentists, and mental health providers. For each category, there is a map detailing the provider counts per 10,000 people based on county population data, and a second map in the same sheet which shows only the total number of providers. Additionally, an interactive, sortable table is available to view counts of each type of provider in tabulated form.

Each type of provider originated from specific data sources. Data on the total MDs and DOs were collected from the American Medical Association Physician Masterfiles, the American Dental Association Masterfile provided data on the total number of dentists, and the Centers for Medicare and Medicaid Services National Provider Identifier File contained the number of mental health providers and the non-physician professionals defined above except for physician assistants, of which data was drawn from the American Academy of Physician Assistants.

One limitation of this data is that there is no way to confirm whether the location of the healthcare provider refers to their place of residence or where they practice. For example, a provider may live in St. Louis County but work in St. Louis City, which could result in a misclassification of the number of providers in those geographic areas. Additionally, some providers may have more than one place where they practice, which would not be reflected in the data. Another limitation to note is that it can't be confirmed whether all the non-physicians/advanced practice practitioners included in the primary care provider counts actually work in primary care settings. It could be assumed that most advanced practice practitioners are in these settings, but this information is not available in the AHRF.

Conclusion

Health care professionals are concentrated in population-dense cities, particularly St. Louis and Kansas City. In Missouri, as is the case nationwide, providers in rural counties are more likely to be non-prescribing or non-specialists, whereas physician specialists are largely concentrated in major metropolitan areas.¹

This brief does not contain information about the willingness of providers to see Medicaid patients. Many providers either do not bill Medicaid, or see only a small number of Medicaid patients – this is especially true for dental and mental health providers, including psychiatrists.^{3,4}

Another element that affects capacity to provide care for Medicaid patients are the managed care networks. Ongoing work that aims to identify gaps in Medicaid managed care networks may be important in developing a fuller picture of how Medicaid patients' ability to access care varies across the state.

The information contained in this brief can be viewed as a starting point to assess provider capacity to take Medicaid patients; there are additional factors to be considered through ongoing research.

References

- 1 Johnston, K, Wen, H., Wiemken, T., Huang, K. & Joynt Maddox, K. (2020). Disparities in Access to Specialists Explain Higher Preventable Hospitalization and Mortality Rates for Rural Medicare Patients: Implications for Missouri. Retrieved from: <https://publichealth.wustl.edu/wp-content/uploads/2020/02/02-18-20-Rural-Preventable-Policy-Brief-CLEAN.pdf>.
- 2 Kaiser Family Foundation. (2020). Health Professional Shortage Areas. Retrieved from: <https://www.kff.org/other/state-indicator/primary-care-health-professional-shortage-areas-hpsas/?currentTimeframe=0&sortModel=%7B%22colld%22:%22Location%22,%22sort%22:%22asc%22%7D>.
- 3 Health Policy Institute and American Dental Association. (N.d.). Medicaid Fee-for-Service (FFS) Reimbursement and Provider Participation for Dentists and Physicians in Every State. Retrieved from: https://www.ada.org/~/media/ADA/Science%20and%20Research/HPI/Files/HPIgraphic_0417_1.pdf?la=en
- 4 Carroll, L. Fewer psychiatrists take Medicaid patients even as the program has expanded. Reuters. Retrieved from: <https://www.reuters.com/article/us-health-psychiatry-medicaid/fewer-psychiatrists-take-medicaid-patients-even-as-the-program-has-expanded-idUSKCN1T82AC>

*The views and opinions expressed in this fact sheet are those of the authors and do not reflect the official policy or position of Washington University or Saint Louis University



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