ACHI
INSPIRING HEALTHY ACTS

PROFILE OF THE PRIMARY CARE PHYSICIAN WORKFORCE IN ARKANSAS

Arkansas Center for Health Improvement
June 2023

This report was supported by the University of Arkansas for Medical Sciences with funding from the Health Resources and Services Administration (HRSA), an agency of the U.S. Department of Health and Human Services.

Suggested Citation

ACHI. (2023). *Profile of the Primary Care Physician Workforce in Arkansas*. Arkansas Center for Health Improvement. Little Rock, AR.

Table of Contents

Introduction

Healthcare provider shortages continue to be one of the most pressing challenges faced by healthcare organizations and communities seeking to ensure access to quality care for their residents. Having a shortage generally means that large segments of the population do not have enough healthcare providers to meet their demand for care. Assessing provider shortages is a critical component of assuring broader access to quality care, including addressing insurance coverage gaps, out-of-pocket cost barriers, challenges with social needs such as transportation, and linguistic or cultural impediments.

Shortages for a particular geographic area or population segment may be assessed by provider type (e.g., physician or pharmacist) specialty type (e.g., cardiology), or type of needed care (e.g., mental health care), and assessments may use different methods to quantify shortages, such as projections, estimations, simulation models, or surveys.[1] A shortage may be quantified as a patient population-to-provider ratio (e.g., 3,500 patients per primary care provider),[a] drive time (e.g., an average of 75 miles to the nearest cardiologist), or wait time (e.g., an average of 35 days for the earliest available appointment). National efforts to assess health professional shortage areas (HPSAs), while helpful for cross-state comparisons, may not adequately reflect local needs or optimally support stakeholder needs to design solutions to address shortages.

This report uses state-specific physician licensure and insurance claims data to quantify primary care physician supply in Arkansas. More specifically, the report provides demographic and geographic profiles for “active” primary care physicians, i.e., primary care physicians contributing to the clinical workforce as evidenced by activity in insurance claims. This is the first time that Arkansas’s primary care physician workforce has been profiled in this way, and the report is intended to be the first in a series of assessments that will characterize the state’s healthcare workforce to inform clinical leaders and policymakers regarding decisions that impact provider access for Arkansas communities.

Background

STATE HEALTH WORKFORCE ANALYSIS AND PIPELINE DEVELOPMENT

Roughly a decade ago, the Arkansas Center for Health Improvement (ACHI) published a study that identified considerable health workforce shortages and provider maldistribution in Arkansas.[2] Using a microsimulation methodology, the study found that primary care physician demand exceeded supply statewide by 15%, and regional shortages outside of Central and Northwest Arkansas were greater, although the shortages were somewhat mitigated by the supply of non-physician primary care providers such as advanced practice nurses. Other components of the study included office capacity surveys, payer mix assessments, and drive-time analysis.

[a] This is the standard ratio of patients to primary care providers to be considered a primary care health professional shortage area by the Health Resources and Services Administration.

Concurrently, a task force issued more than 50 recommendations as part of a statewide health workforce strategic plan. Since that time, there has been considerable progress on the health workforce pipeline.

- Two osteopathic schools — the Arkansas College of Osteopathic Medicine in Fort Smith and the New York Institute of Technology College of Osteopathic Medicine at Arkansas State University in Jonesboro — have graduated their inaugural classes.
- The University of Arkansas for Medical Sciences expanded its four-year medical degree program and began a three-year program at its northwest campus in Fayetteville.
- The Whole Health School of Medicine is expected to welcome its inaugural class in 2025.
- Arkansas colleges have expanded or are planning programs for nursing, pharmacy, dental and other disciplines.
- Clinical scope of practice has been expanded by the Arkansas General Assembly.

Combined with expanded health insurance coverage in Arkansas beginning in 2014, these changes have the potential to result in drastic improvement in potential provider availability. However, there have been no ongoing efforts since the ACHI study to assess and monitor practice patterns and changing demand for healthcare services to understand whether these new programs and policies are effective at addressing provider shortage and geographic maldistribution challenges in Arkansas.

PHYSICIAN WORKFORCE ESTIMATES FROM NATIONAL ENTITIES

The federal Health Resources and Services Administration (HRSA) identifies health professional shortage areas (HPSAs), which are designations for areas or population groups that are experiencing a shortage of health professionals. To be designated as a HPSA, an area must have a population-to-provider ratio that meets a certain threshold established by federal regulations. For primary medical care, the population-to-provider ratio must be at least 3,500 to 1 (3,000 to 1 if there are unusually high needs in the community).[3] As of September 2022, more than one third of Arkansans resided in primary care HPSAs.[4] In March 2023, Monroe, Drew, and Phillips counties[5] joined 11 other entire counties as geographic HPSAs.[6]

Nationally, there was a 7% increase in the total number of active physicians[b] from 2016 to 2021,[7] according to an Association of American Medical Colleges (AAMC) report. However, AAMC projects a shortage of at least 37,800 and potentially up to 124,000 physicians by 2034 in the U.S.[8] Shortages of at least 17,800 and up to 48,000 physicians in primary care[c]

[b] For purposes of this report, physicians who are licensed are considered active if they are working more than 20 hours per week. Physicians who are retired, semi-retired, temporarily not in practice, or not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care or in administration, medical teaching, research, or other non-patient-care activities.

[c] For purposes of this report, primary care includes family medicine, general internal medicine, general pediatrics, and geriatric medicine.

are expected by 2034, according to the AAMC report. The report lists Arkansas as having the 13th-highest need for primary care physicians among all states in 2020 with 83 active primary care physicians per 100,000 people compared to 94.7 per 100,000 people nationwide.[9]

Primarily using data from the 2018 American Medical Association (AMA) Physician Masterfile, and using additional sources to identify osteopathic physicians not in the AMA file, the Robert Graham Center published profiles of the primary care physician workforce for each state in 2019.[10] The report identified 1,782 Arkansas primary care physicians in direct patient care,[d] with 59 primary care physicians in patient care per 100,000 people, compared to 76 per 100,000 nationally. The report included an age and gender profile that was focused on the state's family medicine physician workforce,[e] which indicated that the percentage of family physicians in Arkansas over the age of 55 mirrored the nationwide percentage at 55% and that younger family physicians in Arkansas tended to be female compared to their older counterparts, also consistent with national trends. The report did not reflect the rapidly expanding demand due to population growth in Northwest Arkansas.

IMPACT OF PRIMARY CARE PHYSICIAN SHORTAGES

There is near consensus that primary care is a critical component of any healthcare system. Access to primary care offers a usual source of care, early detection and treatment of disease, chronic disease management, and preventive care,[11] but, as discussed below, findings are mixed regarding the impact on access to care of increasing primary care physician supply when unaccompanied by other policy changes.

Primary care physician shortages have been associated with higher rates of preventable emergency department visits.[12] Conversely, greater primary care physician supply has been associated with fewer ambulatory care-sensitive condition hospitalizations,[13] earlier diagnosis of disease,[14] lower mortality,[15] and lower costs.[16]

Notably, there is evidence suggesting that merely producing a greater supply of primary care physicians is not sufficient to increase patient access to care and that more targeted and comprehensive policies are needed.[17] As noted in a summary of the literature on access to primary care by the Centers for Disease Control and Prevention's Healthy People 2030 initiative, factors other than primary care physician shortages can decrease access to services, including challenges related to lack of healthcare coverage, transportation, language barriers, and patients' inability to take time off work.[18]

REASONS FOR PRIMARY CARE PHYSICIAN SHORTAGES

Among the reasons that leading medical organizations cite as drivers of primary care physician shortages is an aging U.S. population with increasing demand for services.[19] Population growth of more than 10% is expected over the next decade nationally, with

[d] For purposes of the report, primary care includes family medicine, internal medicine, pediatrics, general practice, and geriatrics. Physicians were categorized as being in direct patient care based on self-reported status in the AMA file.
[e] The report was sponsored by the American Academy of Family Physicians.

disproportionate growth among those over 65.[20] Arkansas has a slightly older population compared to the nation as a whole, with the 65 and older population representing 17.4% of Arkansans compared to 16.8% of the U.S. population.[21] Arkansans are also less healthy than the nation as a whole. According to the 2022 America's Health Rankings report, 14% of adult Arkansans had three or more chronic health conditions, the fifth-highest percentage among all states.[22]

The physician workforce is aging as well. According to the AAMC, "more than two of every five active physicians in the U.S. will be 65 or older within the next decade."[23] The association's 2021 Physician Specialty Data Report found that 49% of family medicine physicians and 48% of pediatricians were ages 55 or older.[24] A 2016 study of primary care physician retirement patterns from 2010 to 2014 indicated that the median age of retirement from clinical activity during that period was 64.9 years.[25]

An aging workforce combined with increasing reports of burnout could hasten retirements or reduce clinical activity, thus exacerbating shortages. A 2022 survey of primary care clinicians[f] found that 25% planned to leave the field within the next three years and 62% had personal knowledge of clinicians who retired early or quit during the COVID-19 pandemic.[26] Researchers at the Mayo Clinic observed a dramatic increase in burnout and decrease in satisfaction with work-life integration among U.S. physicians during the pandemic, with primary care physicians in family practice and pediatrics having increased risk for burnout.[27] Other factors contributing to physician burnout have been documented in a systematic review,[28] including excessive workloads, long working hours, excessive requirements for documentation in electronic medical records, risk of malpractice lawsuits, sleep deprivation, work-life imbalance, and engagement in unhelpful coping strategies.

Some have suggested that shortages are driven by the income gap between primary care physicians and specialists.[29] According to the 2023 Medscape Physician Compensation Report, average annual specialist physician compensation was $382,000 compared to an average of $265,000 annually for primary care physicians.[30] The National Academies of Science, Engineering, and Medicine has indicated that at least some of the compensation disparity is driven by the way Medicare pays for services, which the organization says places "little intrinsic value on promoting health or keeping people healthy" and is instead "skewed toward procedures, tests, and specialists over relationships, holistic consideration of the individual and their diagnoses, and population health."[31]

Others have suggested shortages cannot be alleviated without addressing the lack of residency slots and clinical training sites.[32] This has prompted numerous congressional bills aimed at increasing residency slots, including one filed in 2023 and co-sponsored by Arkansas Sen. John Boozman that would increase residency slots by 14,000 from 2025 through 2031.[33] Those residency slots would be in addition to the 1,000 new Medicare-funded residency slots authorized in the federal Consolidated Appropriations Act of 2022.[34]

[f] Survey respondents included all primary care clinicians and were not limited to primary care physicians.

Family medicine residency programs filled a record 4,530 slots during the National Resident Matching Program Main Residency Match in 2023, 60 more than in 2022.[35]

Methodology

APPROACH

Previous assessments of active physician workforce supply in Arkansas have varied in both results and methodologies and have relied on sources of data that do not provide sufficient information to answer more granular questions about actively practicing physicians. Researchers in other states have similarly identified limitations in the data sources used for physician workforce estimates and have turned to insurance claims data to identify active physicians and specialty types.[36] However, this analysis did not progress to answer questions about the extent to which physicians are delivering clinical services, the locations at which those services are being provided, or the populations being served. To answer those questions and provide a more precise and comprehensive profile of the state's primary care physician workforce capacity,[g] the Arkansas Center for Health Improvement has compiled and analyzed the unique data sources described below. This analysis is also intended to establish a baseline for assessing future changes in the primary care physician workforce profile to inform policy strategies.

DATA SOURCES

Data used for this analysis were obtained from the Arkansas State Medical Board licensure files for 2019 through 2021 and enrollment, provider, and health insurance claims files from the Arkansas Healthcare Transparency Initiative's All-Payer Claims Database (APCD). Physician files maintained by NORC, a research group at the University of Chicago, and CarePrecise, a proprietary, licensed provider database product, were used to refine or validate physician information. In addition to the APCD, this analysis uses the U.S. Census Bureau's 2021 American Community Survey (ACS) five-year estimates of county-level populations.

The APCD contains health insurance claims data for approximately 85% of all publicly and privately insured lives in Arkansas. Those not contributing claims data to the APCD include insurers that cover fewer than 2,000 individuals, self-insured companies not receiving state (public) dollars, and federal employee and Tricare/veteran plans. The version of the APCD used for this analysis contains data for 2019 through 2021 for Medicaid and commercial payers and 2019 through 2020 for Medicare.

METHODS

Step 1: Demographics and Primary Care Designation

Demographic and practice-related information including active/inactive license status, license number, National Provider Identifier (NPI), and specialty designation for allopathic

[g] Future plans include an assessment of specialist physicians.

and osteopathic physicians were extracted from the Arkansas State Medical Board (ASMB) licensure files. Using either the NPI or license number obtained from the ASMB licensure files, primary care physicians were identified in a dataset developed by NORC, which has developed a method of establishing a physician specialty designation using licensure and health insurance claims data,[h] a method which NORC has applied to Arkansas APCD data. Physician specialty designations found in the NORC dataset were extracted and assigned to one of five primary care groups based on the NORC designation: family practice, pediatrics, internal medicine, geriatrics, or general practice. All physicians found in the NORC file who were not in any of these primary care groups were assigned to the "Other" physician category.

For physicians with a missing NPI whose license number did not match to the NORC dataset, provider files from the APCD and CarePrecise were searched to obtain NPI information. If an NPI was matched, the physician was assigned a specialty designation based on information in the licensure file. In the absence of an NPI number or specialty designation in the licensure file, a manual name search was conducted for physicians noted as active in the licensure file, and the physician was assigned a specialty designation based on the manual search.

Step 2: Level of Clinical Contribution

To assess level of clinical contribution for each primary care physician identified in Step 1, insurance claims from 2019 through 2021 were extracted from the APCD by identifying the physician identified on claims as the service provider using their NPIs. Claims listing other providers such as advanced practice nurses or physician assistants as the service provider were excluded. Evaluation and management (E/M) codes were used to identify claims for E/M services provided by primary care physicians. Claims for lab services were excluded, using place of service and procedure codes to identify those service types.

An active day for a primary care physician was defined as a date of service on which the primary care physician was the service provider of E/M services for two or more patients in Arkansas as evidenced by claims. A primary care physician with at least one active day was classified as active in that year. A primary care physician's activity level in a single year was defined by the number of active days in that year.

Primary care physician activity levels were established on an annual basis with the following categories:

- Full-time: a primary care physician who had more than 150 active days per year.
- Part-time: a primary care physician who had between 50 and 149 active days per year.
- Limited-time: a primary care physician who had between 11 and 49 active days per year.

[h] NORC's work was funded by the federal Agency for Healthcare Research and Quality.

- Very limited-time: a primary care physician who had at least one but no more than 10 active days per year.

Activity levels were determined at the statewide and county levels for each primary care physician. County-level activity was established by limiting claims to E/M services provided to two or more patients in a county, with county of service being assigned based on service provider ZIP code. This means that a primary care physician's activity level may be full-time on a statewide basis and part-time, limited-time, or very limited-time in multiple counties.

PAYER ASSIGNMENT

Patient and visit coverage types were assigned based on the type of coverage the patient had at the time the service occurred. Therefore, a patient may have different coverage types within a year or across years.

LIMITATIONS

This report utilizes licensure data on all Arkansas physicians and claims data on all Medicare and Medicaid enrollees and the majority of commercially-insured Arkansans. Services provided by institutionally employed physicians (e.g., Veterans Administration) and charity or other care for which no insurance claim was filed are not included in this report. Similarly, insurers that cover fewer than 2,000 individuals, self-insured companies not receiving state (public) dollars, and federal employee and Tricare/veteran plans do not currently contribute claims to the APCD. Therefore, the additional volume of service contribution represented by primary care physicians providing services for patients in these plans is not captured. As with any claims-based analysis, this analysis is subject to inherent provider-level billing and coding variation. While this is a known limitation of healthcare claims-based data analysis, the team at ACHI uses evidence-based research methods and conducts multi-layer data and analytic-validation processes.

Physician licensure files are intended to keep a record of who has met qualifications for licensure as a physician for regulatory purposes rather than research purposes. The Arkansas State Medical Board updates records throughout the year as needed, e.g., adding physicians as they meet qualifications and apply for licensure, changing the status of a physician's license from active to inactive, or changing personal or practice information as reported by the physician. The licensure files used for this analysis are point-in-time snapshots for each year and do not reflect changes made in the interim. Additionally, data in the licensure files are not reported consistently across years, and not all the desired information is necessarily captured in a standardized manner.

Because Medicare claims were not available for 2021, this analysis does not capture the full extent of services provided by primary care physicians in that year. Primary care physician telemedicine services identified in the claims were included in the analysis; however, inconsistent coding in telemedicine claims and the nature of the remote delivery of services results in challenges with identifying location of service for purposes of a primary care physician's level of activity in a particular county. Although telemedicine represents a small portion of the level of activity for primary care physicians, further assessment of these claim

types to solidify service delivery locations is needed as use of remote care delivery expands.

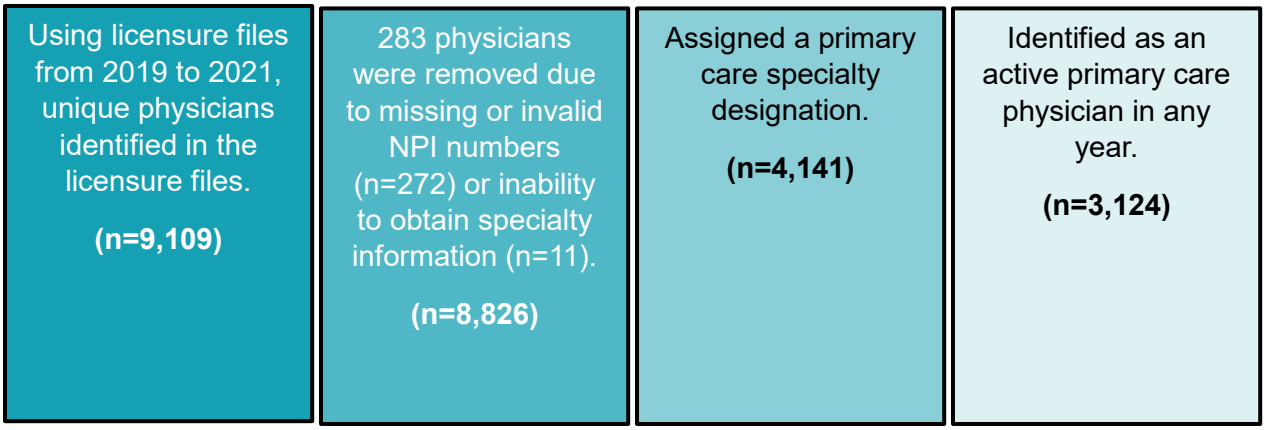
Finally, direct care services provided by resident physicians in primary care who do not bill using their own NPI are attributed to the attending physician identified by the NPI on the claim.[i] Therefore, while the net volume of services provided is accurate, the individual contributions of residents in training to direct service delivery are underrepresented or absent in these analyses, and the individual contributions of attending physicians to direct care service delivery are overrepresented, although their contributions as preceptors are acknowledged and appreciated.

Findings

STUDY POPULATION AND DEMOGRAPHICS OF ACTIVE PRIMARY CARE PHYSICIANS

For the years 2019 through 2021, there were 9,019 unique physicians identified in the licensure files.[j] After applying methods to identify National Provider Identifier (NPI) numbers and assign specialties, 283 physicians were dropped from the study population due to missing or invalid NPI numbers (n=272) or inability to obtain specialty information (n=11), since both data elements were required for these analyses. Of the remaining 8,826 physicians, 4,141 were assigned a primary care specialty designation. Of those 4,141 primary care physicians, 3,124 were identified as active in any year in the claims data. Figure 1 shows the process flow for identifying the study population.

FIGURE 1: PROCESS FLOW FOR STUDY POPULATION



[i] Personal communications with insurance experts confirmed our observations in the claims data.
[j] Physicians with inactive licenses were not reported consistently across all years. Therefore, the total includes some physicians who may have transitioned to inactive status over time. Our methods use claims activity to determine active status rather than the licensure file. For reference, however, there were 6,304, 6,503, and 6,871 physicians identified as having active licensure in the licensure file for the years 2019, 2020, and 2021, respectively.

Figure 2 shows the number of active primary care physicians in Arkansas by year. For purposes of this report, the most recent year of comprehensive claims data, 2020, will be used to describe the findings unless there are considerable differences from other years included in the analysis. In 2020, there were 2,778 active primary care physicians in Arkansas. There were 9.2 active primary care physicians per 10,000 Arkansans statewide in that year, and 6 full-time primary care physicians per 10,000 Arkansans.

FIGURE 2: NUMBER OF ACTIVE PRIMARY CARE PHYSICIANS BY YEAR

Year	Active PCPs
2019	2732
2020	2778
2021	2795

Of those 2,778 active primary care physicians in 2020, 68% were male (n=1,878) and 32% were female (n=900) (Figure 3). Thirty-nine percent of active primary care physicians were ages 44 or below (n=1,073), 35% ages 45 to 59 (n=975), and 25% ages 60 or above (n=730) (Figure 4).[k] A more detailed breakdown is shown in Figure 5.

FIGURE 3: PERCENTAGE OF ACTIVE PCPs BY SEX

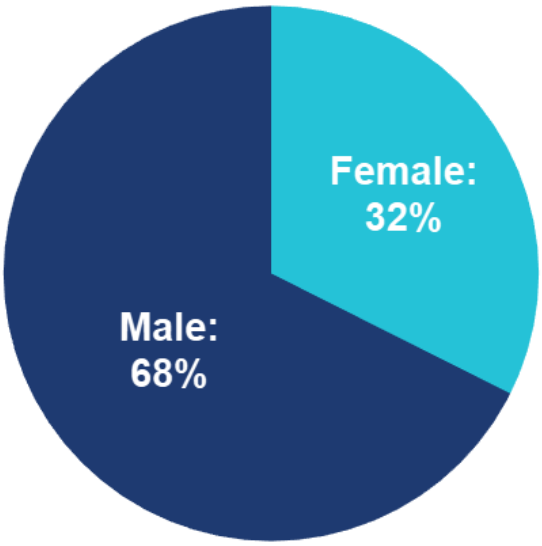
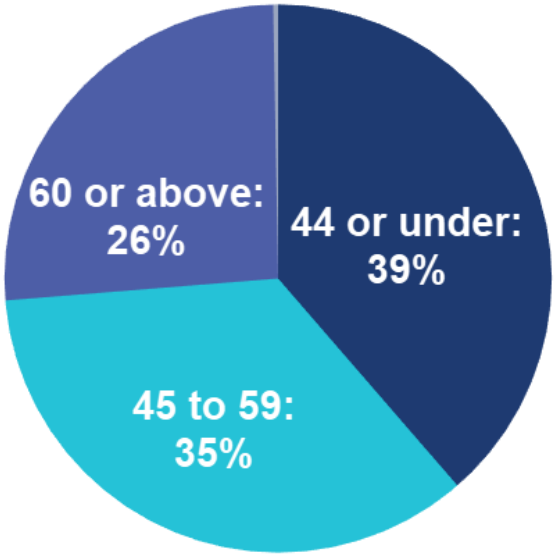
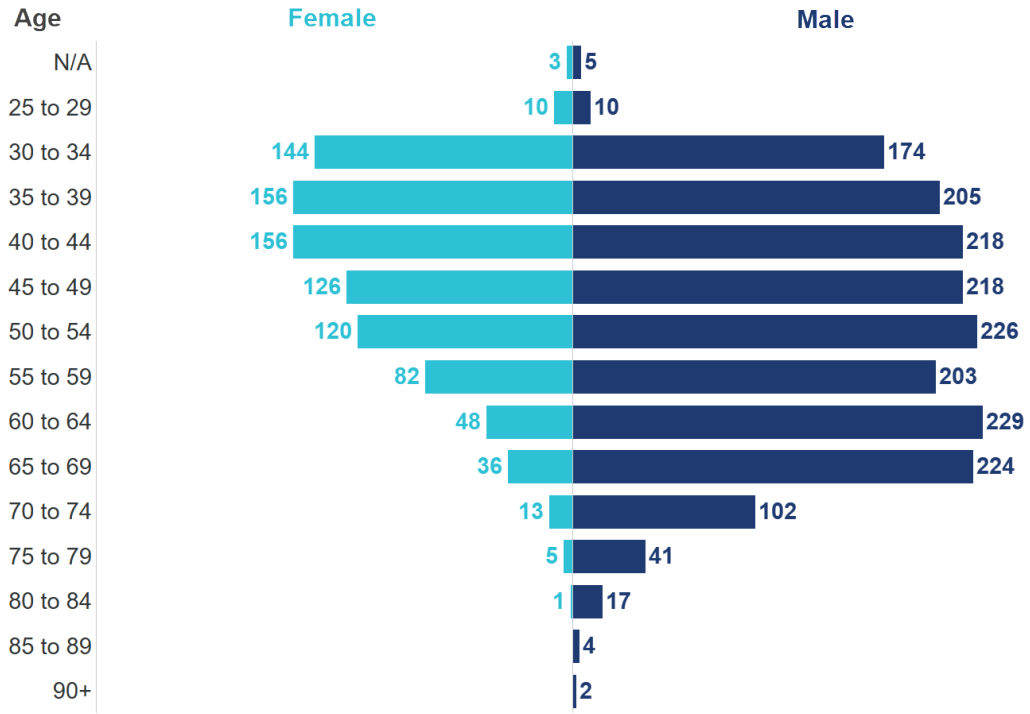


FIGURE 4: PERCENTAGE OF ACTIVE PCPs BY AGE



[k] Age was not able to be identified for eight physicians.

FIGURE 5: NUMBER OF ACTIVE PCPs BY AGE AND SEX



As shown in Figure 6, the disparity in the numbers of male and female active primary care physicians in 2020 is more pronounced with age. Females represented only 14% of active primary care physicians ages 60 or above (n=103), but they represent 34% and 43% of active primary care physicians in age groups 45 to 59 (n=328) and 44 or below (n=466), respectively.

FIGURE 6: PERCENTAGE OF ACTIVE PCPs BY AGE AND SEX

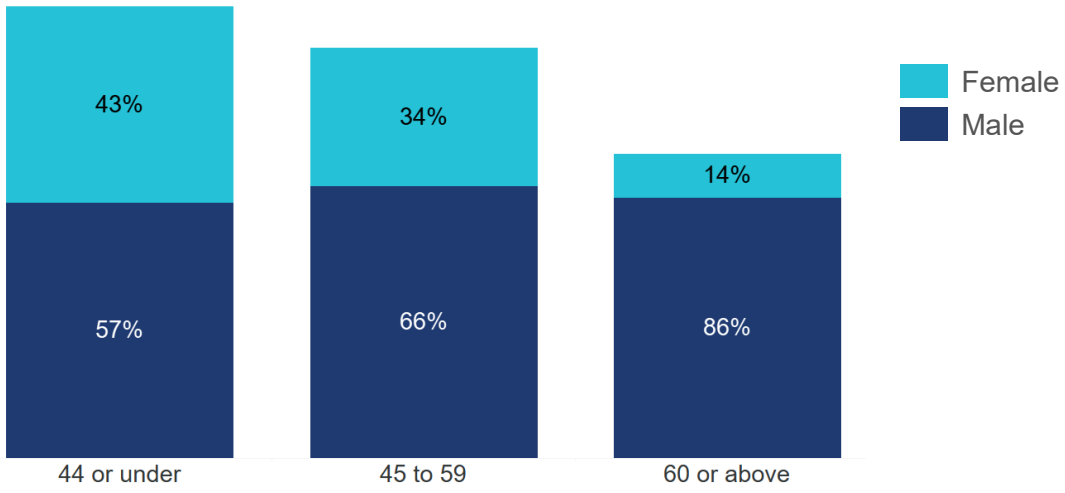


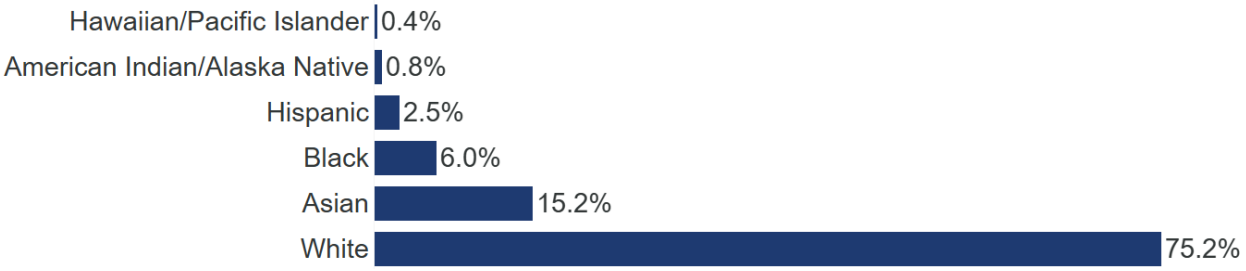
Figure 7 shows race and ethnicity percentages for the Arkansas population.[37] The white population (68.5%) is the largest, followed by Black (14.9%) and Hispanic (8.5%). As shown in Figure 8, active primary care physicians in 2020 were 75% white (n=2,088), 15% Asian (n=422), 6% Black (n=167), 2.5% Hispanic (n=69), and less than 1% each for American Indian/Alaska Native (n=21) and Hawaiian/Pacific Islander (n=11).

FIGURE 7: POPULATION DISTRIBUTION BY RACE AND ETHNICITY IN ARKANSAS

Race/Ethnicity	Population Distribution in Arkansas
White	68.5%
Black	14.9%
Hispanic	8.5%
Two or More Races	4.9%
Asian	1.7%
American Indian/Alaska Native	0.7%
Native Hawaiian/Pacific Islander	0.5%
Other	0.3%

As shown in Figure 8, active primary care physicians in 2020 were 75% white (n=2,088), 15% Asian (n=422), 6% Black (n=167), 2.5% Hispanic (n=69), and less than 1% each for American Indian/Alaska Native (n=21) and Hawaiian/Pacific Islander (n=11).

FIGURE 8: PERCENTAGE OF ACTIVE PCPs BY RACE/ETHNICITY



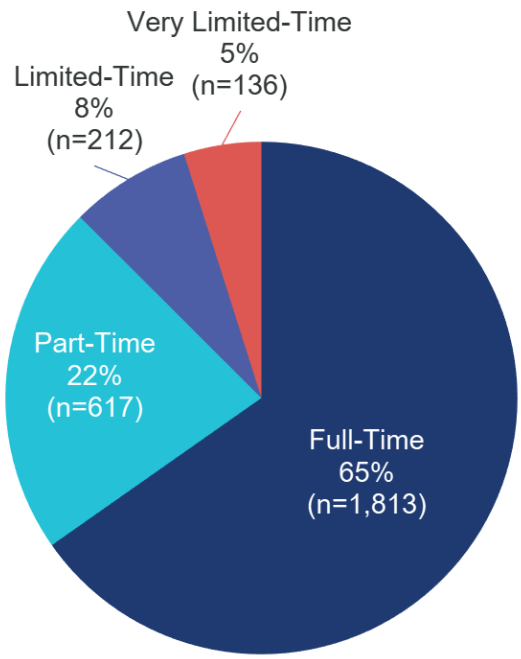
In Lafayette County, all of the active primary care physicians in 2020 were ages 60 or above (n=3), including the only full-time primary care physician (n=1).

ACTIVITY STATUS OF PRIMARY CARE PHYSICIANS

Of the 2,778 active primary care physicians in Arkansas in 2020, 65% (n=1,813) were active full-time (150 or more active days), 22% (n=617) were active part-time (between 50 and 149 active days), 8% (n=212) were active limited-time (between 10 and 49 active days), and 5%

(n=136) were active very limited-time (at least one but no more than nine active days) (Figure 9).

FIGURE 9: ACTIVITY STATUS OF ACTIVE PCPs IN ARKANSAS



IN 2020, THERE WERE 9.2 ACTIVE PCPs AND 6 FULL-TIME PCPs PER 10,000 ARKANSANS.

As shown in Figure 10, there were active primary care physicians in all Arkansas counties in 2020. The number of active primary care physicians ranged from three in Lafayette County to 1,120 in Pulaski County.

FIGURE 10: NUMBER OF ACTIVE PCPs BY COUNTY

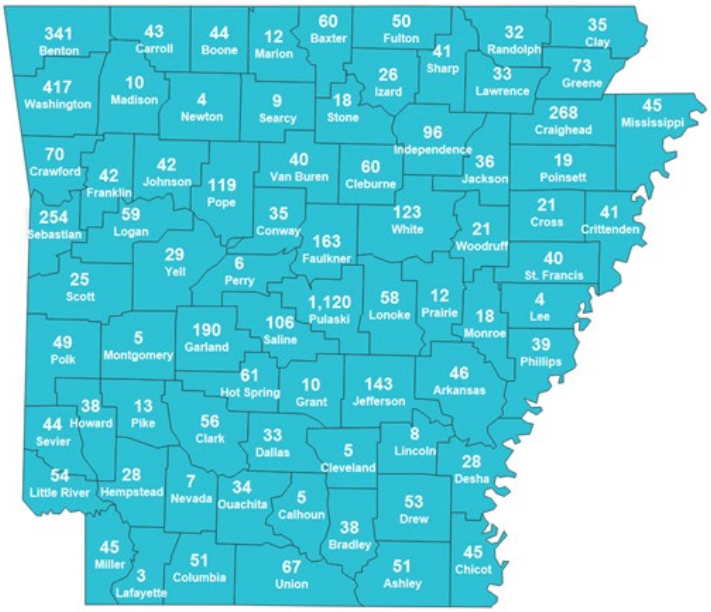
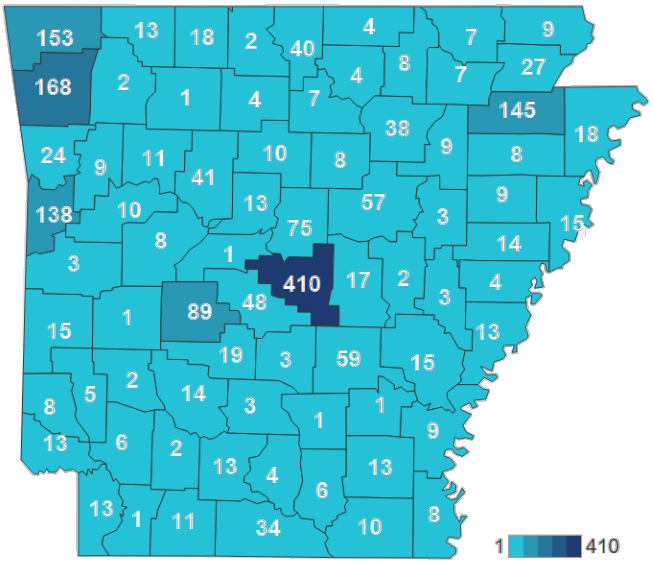


Figure 11 shows the number of full-time primary care physicians in Arkansas by county. Lafayette, Newton, Montgomery, Perry, Lincoln, and Cleveland counties each had one full-time primary care physician in 2020, while Pulaski County had 410 full-time primary care physicians in the same year.

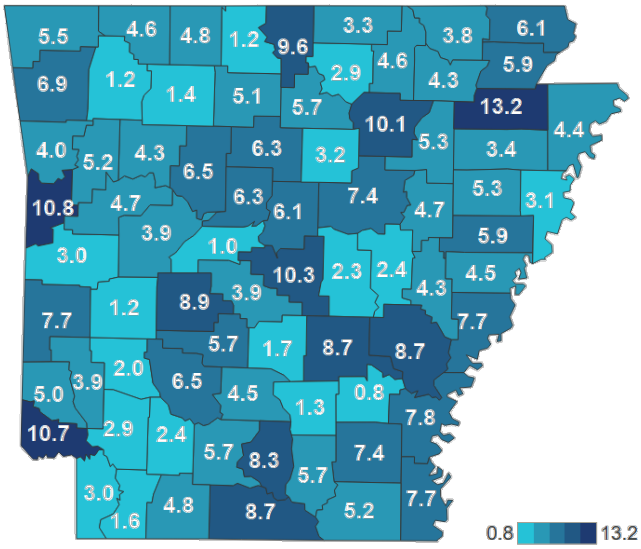
FIGURE 11: NUMBER OF FULL-TIME PCPs BY COUNTY



IN 2020, SIX COUNTIES HAD ONLY ONE FULL-TIME PRIMARY CARE PHYSICIAN.

Figure 12 shows the rate of full-time primary care physicians per 10,000 Arkansans by county. Rates ranged from 0.8 full-time primary care physicians per 10,000 people in Lincoln County in 2020 to 13.2 full-time primary care physicians per 10,000 people in Craighead County. There were 6 full-time primary care physicians per 10,000 Arkansans statewide in 2020, down from 6.2 per 10,000 Arkansans in 2019.

FIGURE 12: RATE OF FULL-TIME PCPs PER 10,000 ARKANSANS BY COUNTY



Figures 13 and 14 are examples of two counties — Madison and Union — showing the activity status of all active primary care physicians in each county in 2020. In Madison County, there were two full-time, three part-time, two limited-time, and three very limited-time primary care physicians active in 2020. In Union County, there were 34 full-time, nine part-time, 10 limited-time, and 14 very limited-time primary care physicians active in 2020.

FIGURE 13: ACTIVITY STATUS OF ACTIVE PCPs IN MADISON COUNTY

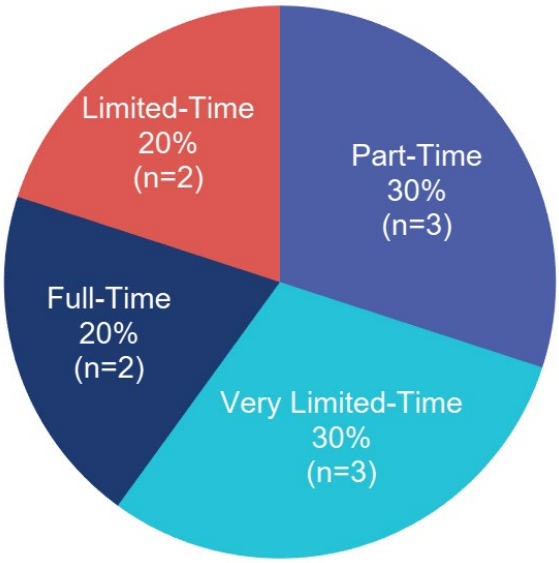


FIGURE 14: ACTIVITY STATUS OF ACTIVE PCPs IN UNION COUNTY

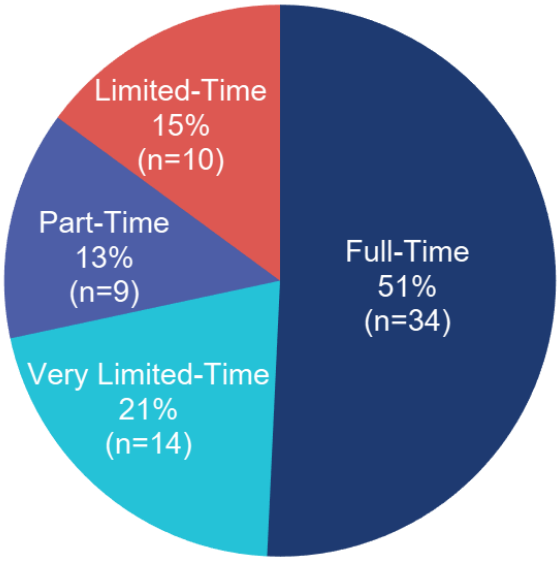
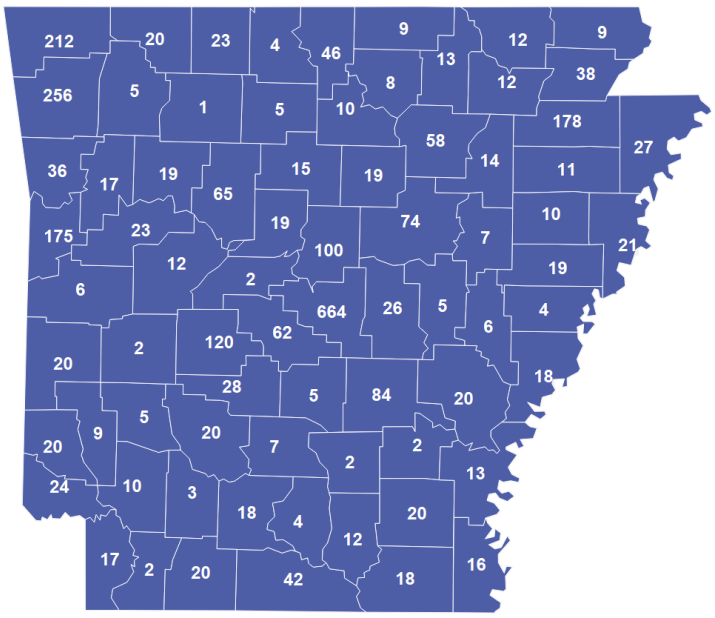


Figure 15 shows the number of full-time primary care physician equivalents statewide and by county in 2020. These totals were calculated by adding the number of reported full-time primary care physicians according to the definition in the methods (at least 150 active days) to the number of full-time primary care physicians that the state or county would have if the active days for primary care physicians categorized as part-time, limited-time, and very limited-time were combined. For example, if a county had two full-time primary care physicians and the active days for the other active physicians totaled 300, then the county would have four full-time primary care equivalents.

There were 2,958 full-time primary care physician equivalents statewide in Arkansas in 2020. Full-time primary care physician equivalents ranged from one in Newton County to 664 in Pulaski County.

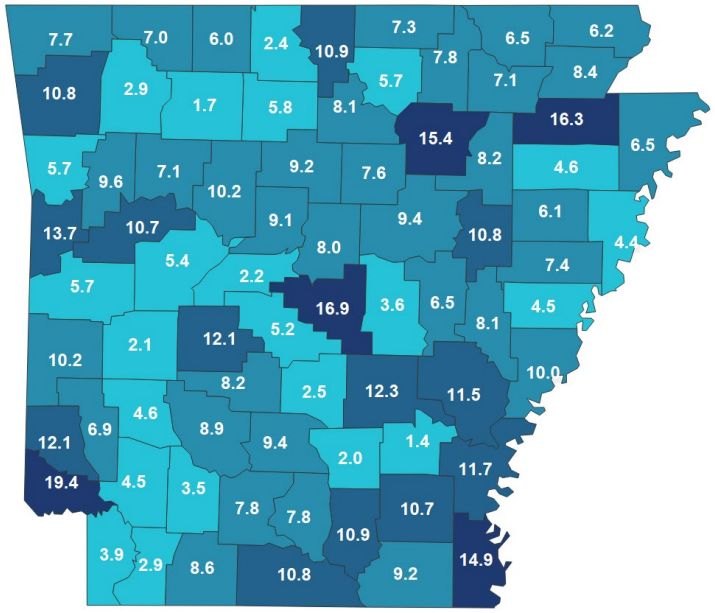
FIGURE 15: NUMBER OF FULL-TIME PCP EQUIVALENTS BY COUNTY



NEWTON COUNTY HAD ONLY ONE FULL-TIME PRIMARY CARE PHYSICIAN EQUIVALENT IN 2020.

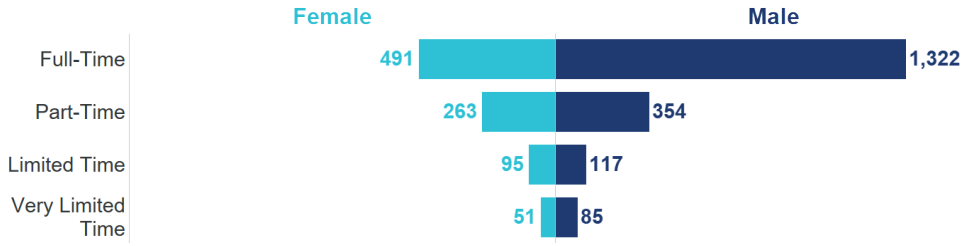
Figure 16 shows the number of full-time primary care physician equivalents per 10,000 Arkansans statewide and by county. There were 9.8 full-time primary care physician equivalents per 10,000 Arkansas statewide in 2020. Full-time primary care physician equivalents ranged from 1.4 per 10,000 Arkansans in Little River County.

FIGURE 16: RATE OF FULL-TIME PCP EQUIVALENTS PER 10,000 PEOPLE BY COUNTY



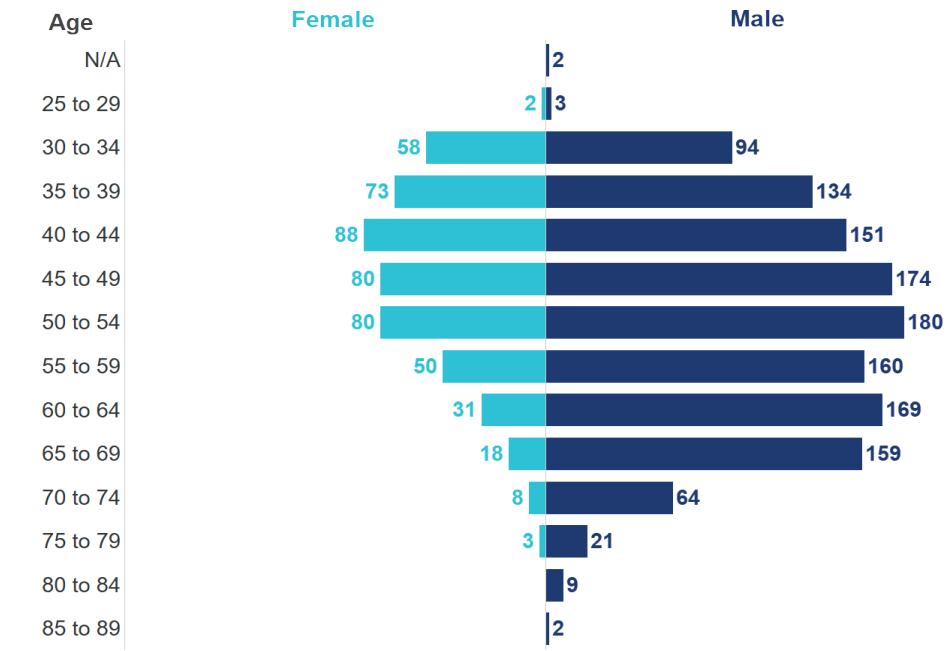
Examining variations in sex demographics between full-time and all active primary care physicians revealed considerable differences. Of the 1,813 full-time primary care physicians, 27% were female (n=491), compared to 32% of all active primary care physicians. The remaining 1,332 were male, representing 73% of all full-time primary care physicians, compared to 68% of all active primary care physicians. Figure 17 provides a more detailed look at sex demographics by activity status.

FIGURE 17: SEX DEMOGRAPHICS OF FULL-TIME ACTIVE PCPs BY ACTIVITY STATUS



Full-time primary care physicians ages 44 and below represented 33% of all full-time primary care physicians (n=603), compared to 39% of all active primary care physicians. Full-time primary care physicians ages 45 to 59 represented 40% of all full-time primary care physicians (n=724), compared to 35% of all active primary care physicians. Full-time primary care physicians ages 60 or above represented 27% of all full-time primary care physicians (n=484), compared to 25% of all active primary care physicians. Figure 18 provides a more detailed breakdown of full-time primary care physicians by age and sex.

FIGURE 18: NUMBER OF FULL-TIME PCPs BY AGE AND SEX



The race/ethnicity of full-time primary care physicians did not differ considerably from the race/ethnicity of active primary care physicians on a statewide basis. Seventy-seven percent of full-time primary care physicians were white (n=1,401), compared to 75% of all active primary care physicians. Fourteen percent of full-time primary care physicians were Asian n=249), compared to 15% of all active primary care physicians. Percentages for other races/ethnicities in full-time primary care practice were comparable to the percentages represented among all active primary care physicians.

PAYER MIX

The presence of a primary care physician in a geographic location is one way to measure patient access. However, the presence of a primary care physician does not ensure patient access for a number of reasons, including whether the physician accepts or limits patients with a certain type of insurance coverage. The payer mix — i.e., the mix of patients and visits by insurance coverage type — for active primary care physicians in Arkansas is explored in this section.

For purposes of this report, the following payer categories are used:

- Medicaid: Includes Medicaid fee-for-service, Medicaid qualified health plans, and Medicaid Provider-led Arkansas Shared Savings Entities.
- Medicare: Includes Medicare fee-for-service and Medicare Advantage.
- Commercial: Includes fully insured plans and self-funded plans for employers receiving state funds (e.g., state and public school employees).

As shown in Figure 19, nearly one-third of patients (31%) served by these payers in 2020 were ages 19 to 64. This compares to an estimate of 58% of the general population for the state within this age group (see Figure 20 for 2021 Census Bureau estimates). Forty-three percent of patients served by these payers were ages 65 and over, while in the state's general population only 17% were ages 65 and over. Roughly one quarter (26%) of the patients served were 18 and under, roughly the same as this age group's representation in the state's general population (25%).

FIGURE 19: PERCENTAGE OF PATIENTS FOR ALL PAYERS BY AGE

Age Category	Percentage of Patients
0 to 18	26%
19 to 64	31%
65 or older	43%

FIGURE 20: POPULATION ESTIMATES FOR ARKANSAS

Age Category	Percentage of the Population
0 to 18	25%
19 to 64	58%
65 or older	17%

Because certain age groups access primary care more often and differently than other age groups, it is important to understand the age demographic covered by each payer source.

Figure 21 shows the percentage of patients served in 2020 by age group for Medicaid, Medicare, and commercial payers. Medicaid is the primary payer for children in Arkansas. For adults 19 to 64, a more even balance of private and public (Medicaid and Medicare) patients is observed, while Medicare is the primary payer source for Arkansans ages 65 or above.

FIGURE 21: PERCENTAGE OF PATIENTS BY AGE AND PAYER

Age Category	Commercial	Medicaid	Medicare
0 to 18	23%	77%	0%
19 to 64	44%	41%	15%
65 or older	8%	7%	85%

Similar analyses were conducted for visits in 2020. Figure 22 shows the distribution of all visits in 2020 for each payer. A majority of visits were for Medicare patients in 2020.

FIGURE 22: PERCENTAGE OF VISITS BY PAYER

Commercial	Medicaid	Medicare
18%	**31%**	**51%**

Figure 23 provides the distribution of visits in 2020 within each age group by payer, showing a pattern of age distribution similar to that observed with patients. As anticipated, older adults with greater needs were predominantly covered by Medicare and children with more frequent preventive visits were predominantly covered by Medicaid.

FIGURE 23: PERCENTAGE OF VISITS BY AGE AND PAYER

Age Category	Commercial	Medicaid	Medicare
0 to 18	21%	79%	0%
19 to 64	33%	41%	26%
65 or older	6%	6%	88%

An analysis of each full-time primary care physician's patient panel was conducted to provide insight into the participation rates of physicians across payers. This analysis shows, for example, that all full-time primary care physicians had at least one Medicaid patient in 2020, and roughly 9% of full-time primary care physicians had less than 10% Medicaid patients in their panels. Seven percent of full-time primary care physicians had patient panels consisting of more than 75% Medicaid patients. Eight percent of full-time primary

care physicians — likely pediatricians — had no Medicare patients in their patient panels, while roughly 3% of full-time primary care physicians had patient panels consisting of more than 75% Medicare patients.

Figure 24 shows the distribution of full-time primary care physicians by the percentages of their patients with different payer types. Figure 25 shows the distribution of full-time primary care physicians by the percentages of their visits with different payer types.

FIGURE 24: PERCENTAGE OF FULL-TIME PCPs WITH DISTRIBUTION OF PATIENTS IN EACH PAYER GROUP

Payer	No Patients	Up to 10%	11-25%	26-50%	51-75%	76-90%	> 90%
Commercial	0.06%	24.16%	43.41%	26.92%	4.96%	0.28%	0.22%
Medicaid	0.00%	9.05%	33.31%	38.22%	12.58%	5.13%	1.71%
Medicare	8.00%	4.74%	5.57%	37.67%	40.60%	3.03%	0.39%

FIGURE 25: PERCENTAGE OF FULL-TIME PCPs WITH DISTRIBUTION OF VISITS IN EACH PAYER GROUP

Payer	No visits	Up to 10%	11-25%	26-50%	51-75%	76-90%	> 90%
Commercial	0.06%	30.83%	46.33%	19.31%	2.98%	0.28%	0.22%
Medicaid	0.00%	12.41%	39.16%	30.34%	11.14%	4.96%	1.99%
Medicare	8.00%	4.52%	3.53%	25.15%	50.30%	7.56%	0.94%

Additional analyses were conducted at statewide and county levels to better understand the payer mix of full-time primary care physicians who see all patients, primarily see adults (19 or older) and primarily see children (18 or under). Primary care physicians serving mostly or exclusively children generally rely heavily on Medicaid, particularly in low-income areas. Primary care physicians who serve adults generally rely on Medicare due to the large volume of visits from Medicare patients.

As shown in Figure 26, 88% of full-time primary care physicians in Arkansas had patient panels consisting of more than 50% adults in 2020, while 12% of full-time primary care physicians in Arkansas had patient panels consisting of more than 50% children.

FIGURE 26: PERCENTAGE OF FULL-TIME PCPs WHO PRIMARILY (50% OR MORE) SEE ADULT OR CHILD PATIENTS

50% or more of patients are adults	50% or more of patients are adults
88%	12%

In Figures 27 and 28, each bar represents one physician. In Figure 27, the numbers at left represent numbers of patients ages 18 and under in 2020; in Figure 28, the numbers at left represent numbers of visits for these patients in 2020. The different colors signify payer source. In Figure 27, physicians are oriented by number of Medicaid patients from fewest (left) to most (right). Figure 28 maintains the same sequence of physicians to enable comparison. For purposes of visual clarity, these analyses are limited to those full-time primary care physicians who saw at least 500 patients in 2020.

FIGURE 27: NUMBER OF 18-AND-UNDER PATIENTS BY FULL-TIME PCP AND PAYER

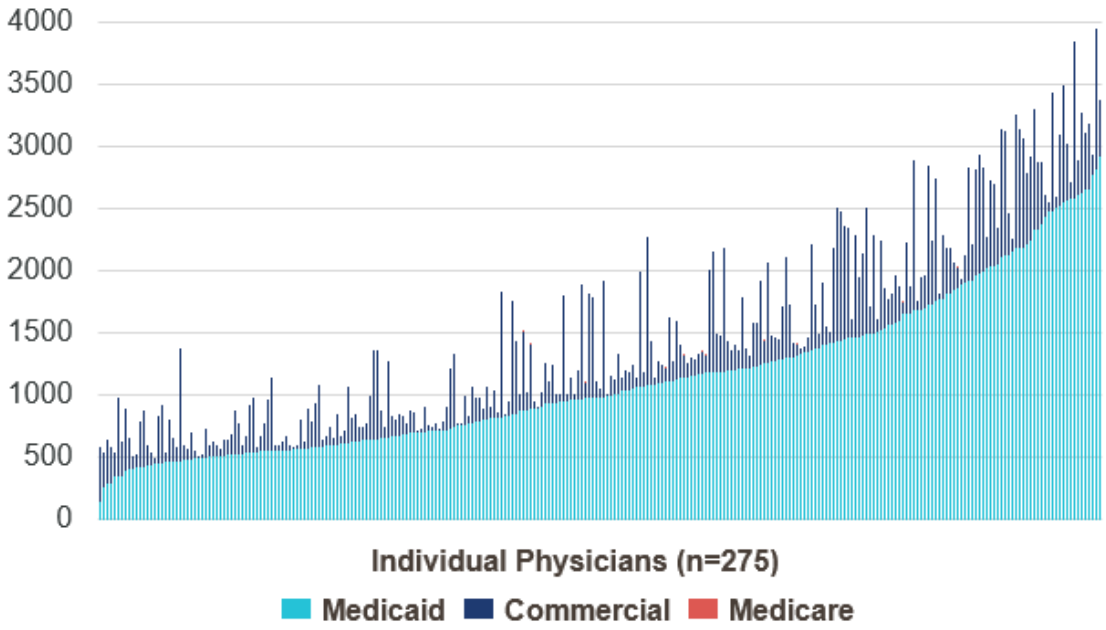
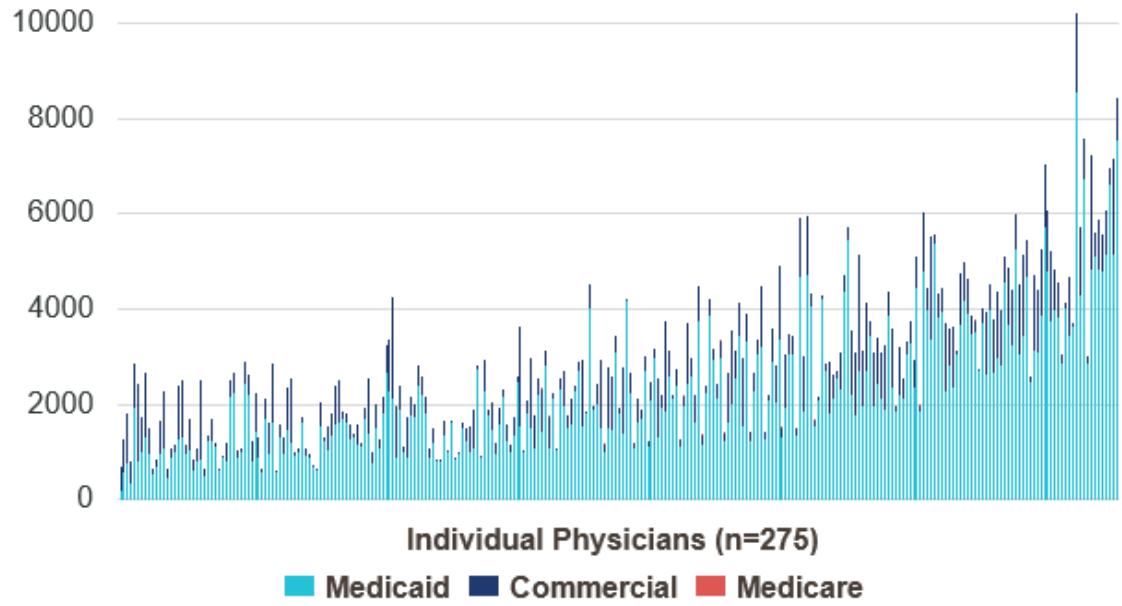


FIGURE 28: NUMBER OF VISITS FOR PATIENTS 18 AND UNDER BY FULL-TIME PCP AND PAYER



Figures 29 and 30 show the numbers of patients ages 19 and over and visits for those patients by payer source in 2020. In Figure 29, physicians are oriented by number of Medicaid patients from fewest (left) to most (right). Figure 30 maintains the same sequence of physicians to enable comparison.

FIGURE 29: NUMBER OF PATIENTS 19 AND OVER BY FULL-TIME PCP AND PAYER

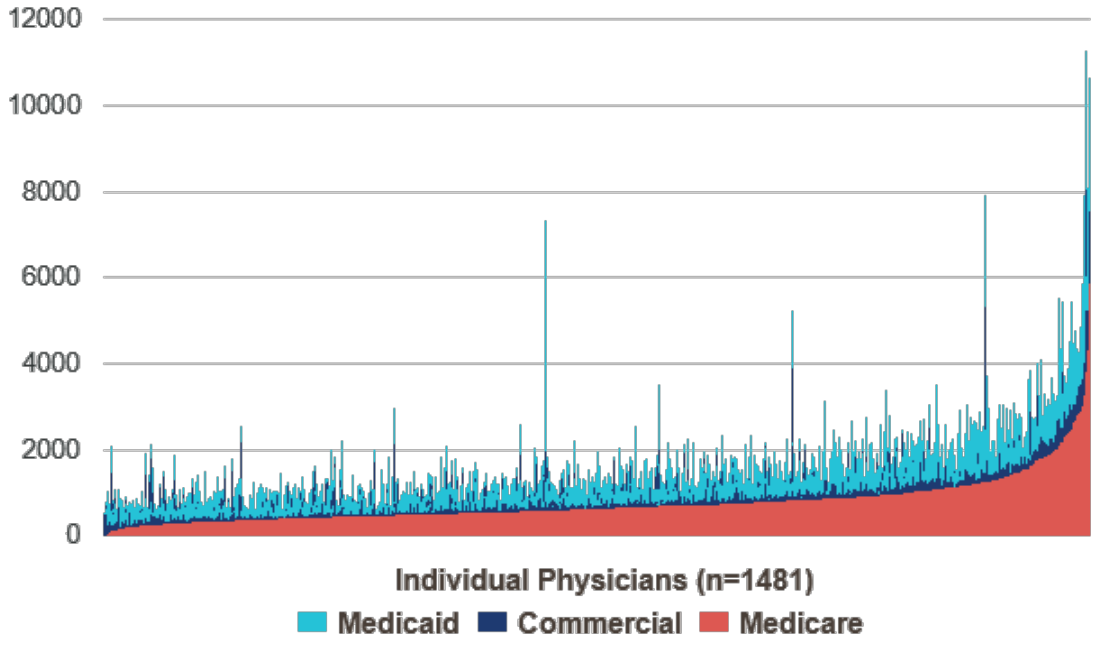


FIGURE 30: NUMBER OF VISITS FOR PATIENTS 19 AND OVER BY FULL-TIME PCP AND PAYER

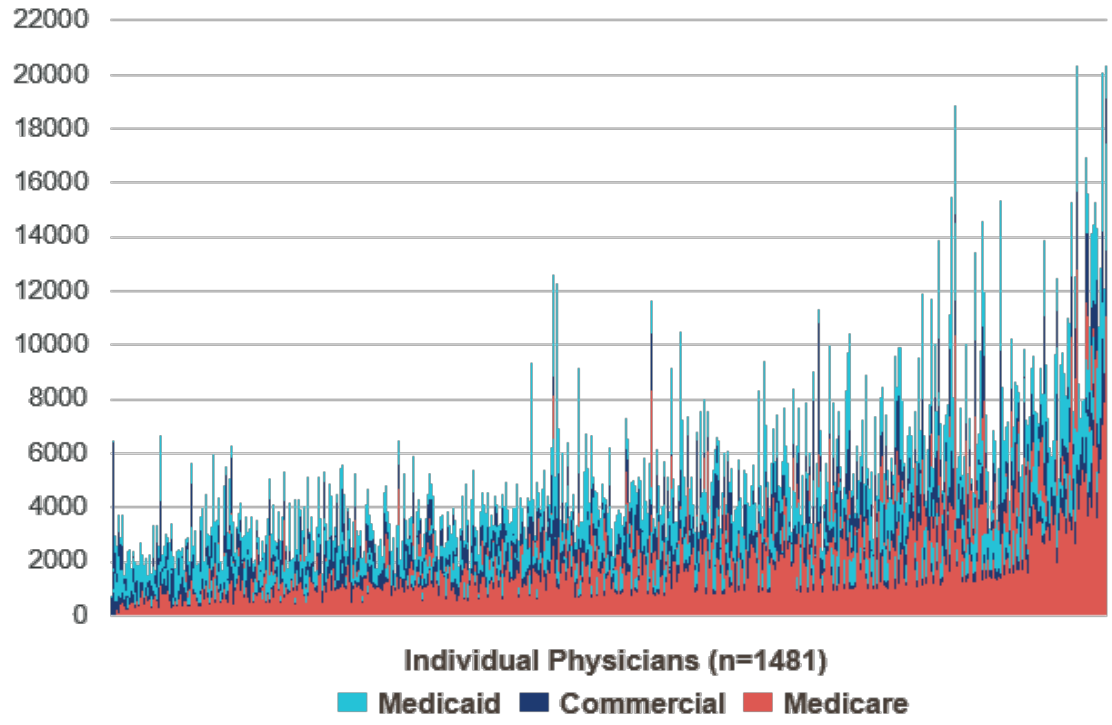


Figure 30 shows a diverse mix of coverage sources. Medicare is a more prominent payer of visits for adults, reflecting the increase in utilization and chronic disease burden among older adults. A few full-time primary care physicians appear to restrict or limit populations served to commercially insured individuals.

Results from two counties — Madison and Union — are provided in detail below. Figures 31 and 32 show the full-time primary care physician payer mix by patient coverage type for all ages in Madison County in 2020. Each bar represents a full-time primary care physician in Madison County.

FIGURE 31: NUMBER OF PATIENTS OF ALL AGES BY FULL-TIME PCP AND PAYER, MADISON COUNTY

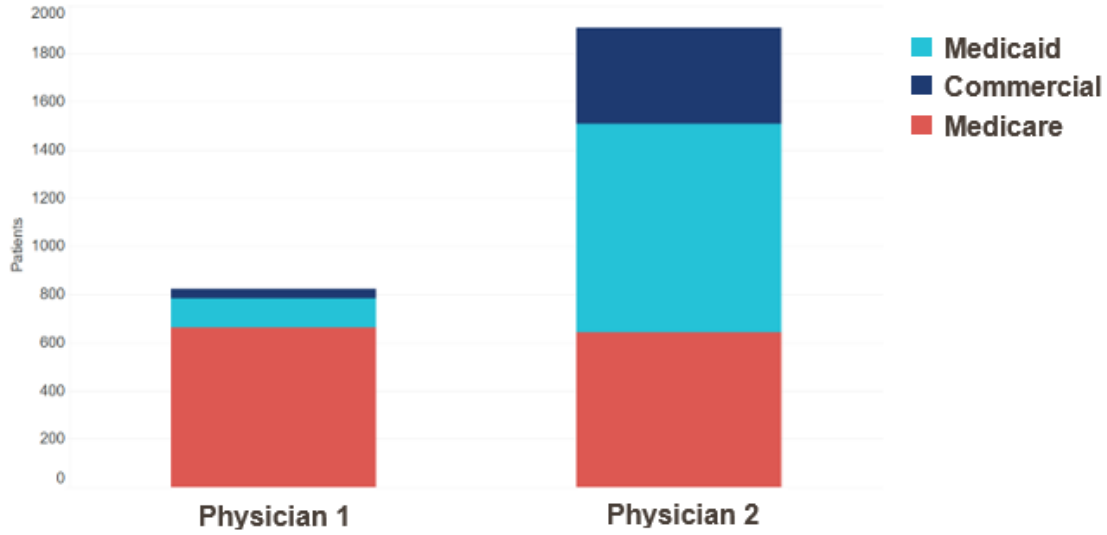
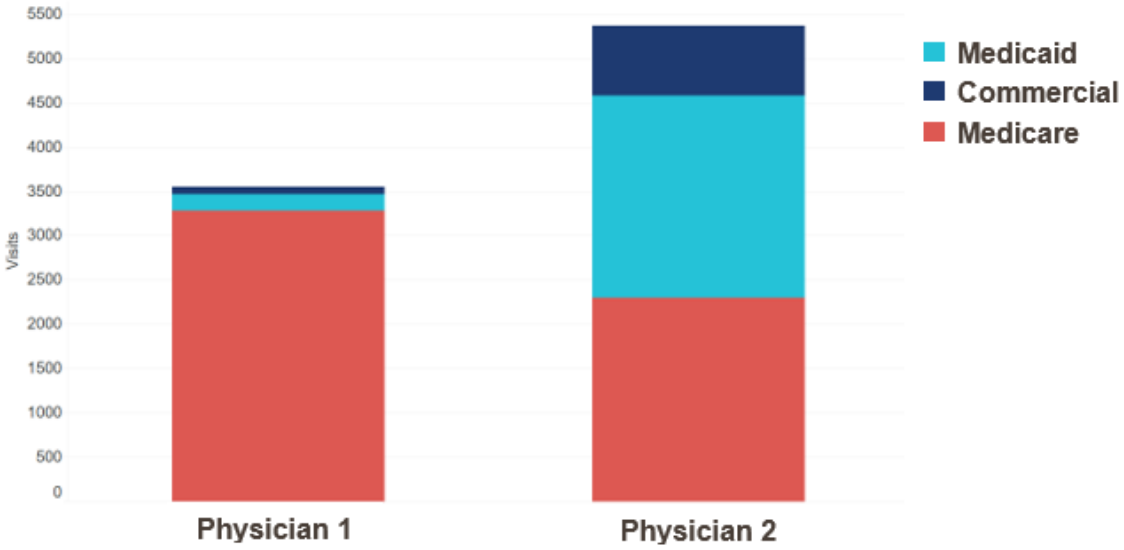


FIGURE 32: NUMBER OF VISITS FOR PATIENTS OF ALL AGES BY FULL-TIME PCP AND PAYER, MADISON COUNTY



One of Madison County's full-time primary care physicians primarily served Medicare patients, while the other served patients with a diverse payer mix and had a patient panel roughly twice that of the other physician serving the county.

Figures 33 and 34 show the full-time primary care physician payer mix by patient coverage type for all ages in 2020. Each bar represents a full-time primary care physician in Union County.

FIGURE 33: NUMBER OF PATIENTS OF ALL AGES BY FULL-TIME PCP AND PAYER, UNION COUNTY

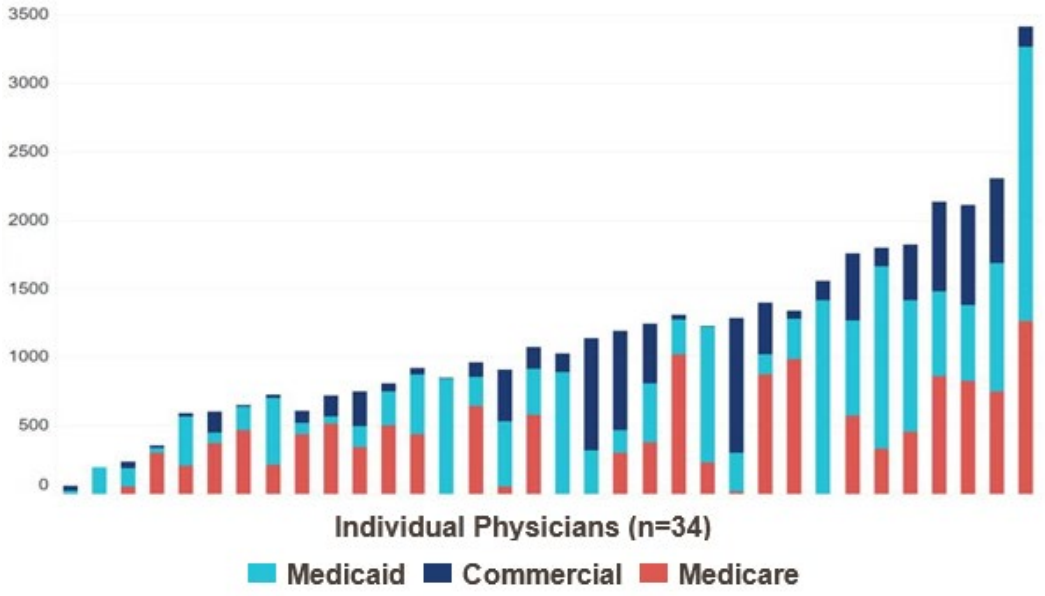
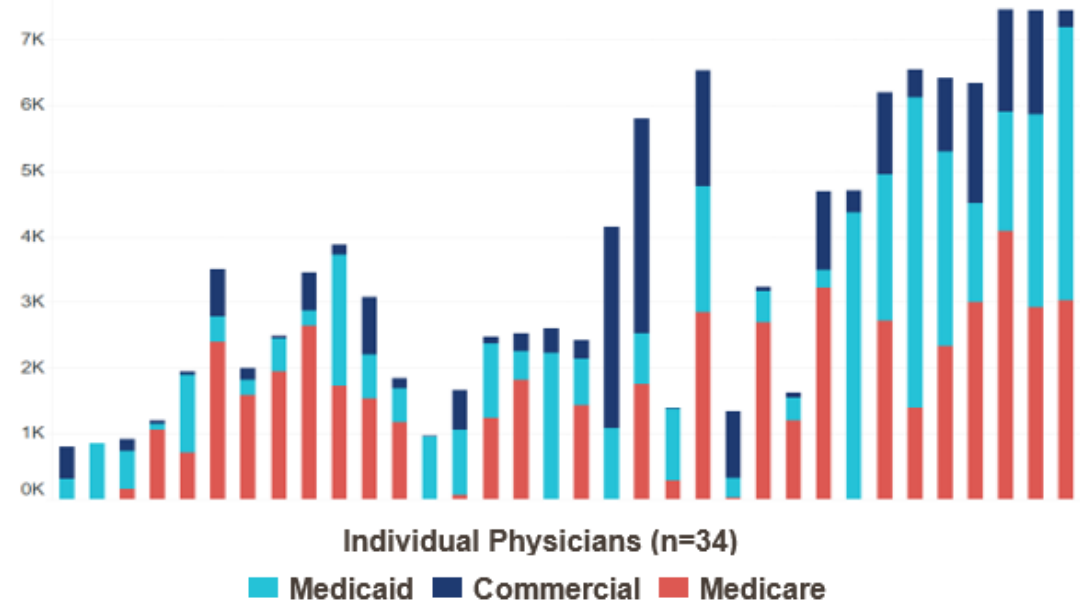


FIGURE 34: NUMBER OF VISITS FOR PATIENTS OF ALL AGES BY FULL-TIME PCP AND PAYER, UNION COUNTY



All of the full-time physicians in Union County saw Medicaid patients in 2020, and for some the majority of their patients were covered by Medicaid. Six likely pediatricians in Union County saw no Medicare patients in 2020, while other full-time primary care physicians in the county heavily relied on Medicare patient visit volume.

Discussion

Although assessments by national entities use different methods and different sources of data for their primary care physician workforce estimates, this analysis found comparable primary care physician workforce availability. The 2020 AAMC estimates of active primary care physicians in Arkansas of 83 active primary care physicians per 100,000 people (or 8.3 active primary care physicians per 10,000 people) were comparable to ACHI's finding of 9.2 active primary care physicians statewide in 2020. The Robert Graham Center's 2019 estimate of 59 primary care physicians in patient care per 100,000 people (or 5.9 primary care physicians in patient care per 10,000 people) is comparable to ACHI's finding of 5.7 active full-time primary care physicians per 10,000 Arkansans in 2021.

A notable difference between the AAMC estimate and the ACHI and Graham Center estimates is that the AAMC estimate includes physicians in administration, medical teaching, research, or other non-patient-care activities, potentially resulting in an overestimate of physicians in direct patient care. The Robert Graham Center's estimate relies on physicians' self-reported status in the AMA Physician Masterfile, which is limited in its ability to identify level of activity. Neither of the entities report at the county level, allowing for more informed assessments of shortages in rural states like Arkansas.

There were disparities in active primary care physicians by sex, with males representing more than two-thirds (68%) and females representing less than one-third (32%) of active primary care physicians. The disparity among active primary care physicians by sex narrowed in lower age ranges, suggesting increases in the primary care physician workforce pipeline among females. However, among full-time primary care physicians, wider disparities by sex were observed even among younger physicians, suggesting a preference among younger female physicians for part-time work.

The findings in this report regarding the aging of the full-time primary care physician workforce are concerning, with 27% of full-time primary care physicians in Arkansas being 60 or older and early-career primary care physicians who are under 45 leaning toward less than full-time practice. This could become a particularly acute challenge for some rural counties which are served by only one or two full-time primary care physicians.

Despite efforts to diversify the primary care physician workforce in Arkansas, the results in this report indicate that continued efforts are needed. Although Black and Hispanic Arkansans represent 14.9% and 8.5% of the state's population, respectively, they only represent 6% and 2.5%, respectively, of the active primary care physician workforce in Arkansas. In counties with large minority communities, cultural and linguistic access barriers could persist without intentional and sustained efforts to diversify the physician workforce.

The findings in this report suggest that active primary care physicians working less than full-time are crucial to ensuring primary care access. There were 2,958 full-time primary care physician equivalents statewide in Arkansas in 2020, or 9.8 per 10,000 people. This compares to 1,813 primary care physicians actively practicing on a full-time basis in 2020, with 6 full-time primary care physicians per 10,000 people.

Full-time primary care physicians serving primarily adults heavily rely on Medicare patients and visit volume, and, alternatively, full-time primary care physicians serving primarily children heavily rely on Medicaid patients and visit volume. Although there was some indication of a small number of full-time primary care physicians limiting or restricting patients with public payer sources (Medicare and Medicaid) on a statewide basis, it did not appear to be a pervasive practice. Notably, however, a more detailed assessment of Medicaid — which includes the fee-for-service, Medicaid QHP, and PASSE programs — and Medicare, which includes the fee-for-service and Medicare Advantage programs — could reveal some different patterns among physicians in restricting or limiting patients by payer type.

Conclusion

The analyses in this report are necessary to characterize the primary care physician workforce supply and address important policy-relevant questions faced by institutional and government leaders at the state and local levels. Profiling the demographics, activity levels, and payer mix of primary care physicians is critical to understanding access patterns and barriers for Arkansas residents. Results presented in this report and through the accompanying dynamic dashboard will serve as a guide for policymakers as the healthcare system responds to changes in demand. Future assessments should include updates to and refinement of findings in this report (e.g., regional and rural/urban views), as well as specialty access, care-seeking behaviors, disease burden leading to demand, and utilization of new technologies such as telemedicine.

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