HRSA Health Workforce

State of the Primary Care Workforce, 2023

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Primary care is a fundamental part of the nation's health care system. Better access to and use of primary care has been shown to improve treatment of chronic conditions and increase life expectancy. However, it is well-documented that significant challenges face the workforce providing this care.[1] These include: shortages and maldistribution of primary care providers (PCPs), low compensation compared to other health occupations, increasing burnout and job dissatisfaction, and an aging and minimally-diverse workforce.

The primary care workforce is defined in this report as physicians, nurse practitioners (NPs), and physician assistants (PAs) practicing in primary care specialties: family medicine, general pediatric medicine, general internal medicine, and geriatric medicine. While the majority of the nation's hospitalists—providers who mainly provide care to hospitalized patients—are trained in primary care specialties, they are excluded from provider counts in this report (except where noted) as these clinicians are not engaged in activities that meet the definition of primary care.[2] All physicians, NPs, and PAs in this report refer to the primary care workforce unless noted.

Improving access to primary care services and increasing the number of practicing PCPs are key components to achieving national objectives in the Health Resources and Services Administration (HRSA) strategic plan.[3] As such, the purpose of this report is to update and discuss HRSA's most recent projected estimates of the future supply of primary care occupations and give context for that workforce by examining their current state. Key takeaways include:

- In 2021, there were 268,297 primary care physicians in the U.S. In 2022, there were an estimated 270,660 NPs delivering primary care and 26,455 PAs also working in primary care.
- There is a projected shortage of 68,020 full-time equivalent (FTE) primary care physicians by 2036, which will be particularly acute in nonmetro areas.
- A substantial and increasing amount of behavioral health and obstetrics and gynecology (OB-GYN) services are being provided by PCPs.
- Primary care physicians, NPs, and PAs earn less than counterparts in other specialties.
- Burnout has increased in many healthcare occupations, but especially among primary care physicians. More than half reported feeling burnout in 2022.
- Primary care physicians used telehealth more during the COVID-19 pandemic than prior to 2020.
- The demographics and geographic location of the U.S population are projected to change dramatically over the next 35 years. The primary care workforce will have to change with it to continue to deliver high-quality care.

About the National Center for Health Workforce Analysis

The National Center for Health Workforce Analysis informs public and private sector decision makers on health workforce issues by expanding and improving health workforce data, disseminating workforce data to the public, and improving and updating projections of the supply and demand for health workers.

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Describing the Primary Care Workforce

PCPs are often the first point of contact for patients seeking medical care and play a vital role in preventive care, early detection and treatment of diseases, management of chronic conditions, and acute care in both inpatient and outpatient settings.[4,5] PCPs also play a crucial role in the provision of behavioral health and women's health services.[6,7] Overall, this workforce is vital for the U.S. population to remain healthy, manage diseases, and prevent illnesses and deaths.[8]

Enumeration

In 2021, 268,297 primary care physicians were actively working, representing 29.9% of all U.S. active physicians.[9] From 2016 to 2021, the number of primary care physicians increased by only 3.6%, in contrast to a 8.7% increase among other (including unknown) specialties.[10] These figures include only primary care physicians who met these criteria: actively practicing, younger than age 75, and not in residency. Table 1 presents the breakdown of these physicians by specialty.

Table 1. Active Primary Care Physicians by Specialty in 2021, Number and Percent

Physician Specialty	Active Primary Care Physicians
Family Medicine	104,054 (38.8%)
Internists	101,397 (37.8%)
Geriatricians	5,320 (2.0%)
Pediatricians	57,526 (21.4%)
All primary care physicians	268,297 (100%)

Source: 2021 AMA Physician Masterfile.

One striking finding is the low number and percentage of geriatricians in the U.S. This is notable due to the well-documented large number of U.S. adults aged 65 and older, who might require the care of a geriatrician. Additionally, in 2022 an estimated 270,660 NPs and 26,455 PAs provided primary care.[11,12] (PAs with a secondary position in primary care were not included in this estimate.) While NPs and PAs do not have the same level of training and autonomy as primary care physicians, they do deliver primary care services.

Demographics

The primary care physician workforce varies demographically depending on the specialty (*Tables 2a and 2b*).

Table 2a. Race/Ethnicity Composition of Primary Care Physicians by Specialty Type in 2021*

Race/Ethnicity	Family Medicine	Internists	Geriatricians	Pediatricians
White**	66.3%	52.7%	44.1%	64.5%
Black/African American**	6.7%	7.8%	7.2%	7.4%
Asian**	16.2%	29.4%	35.4%	17.0%
Other**	2.9%	2.9%	3.9%	2.4%
Hispanic or Latino	7.9%	7.2%	9.4%	8.7%

Source: Race/ethnicity data are from the AAMC Physician Specialty Data Report prepared based on analysis of AMA Physician Masterfile (Dec. 31, 2021), with race and ethnicity obtained from a variety of AAMC sources, including DBS, ERAS, APP, MCAT, SMDEP, GQ, MSQ, PMQ, FACULTY, GME, and STUDENT, with priority given to the most recent self-reported source. * Data include hospitalists. **Non-Hispanic or Latino.

Non-Hispanic White primary care physicians constitute a majority in all specialties except for geriatricians, which also has the highest percentages of Asian physicians and individuals of Hispanic or Latino ethnicity.

Table 2b. Gender and Age of Primary Care Physicians by Specialty Type in 2021*

Gender** and Age	Family Medicine	Internists	Geriatricians	Pediatricians
Men	55.9%	59.0%	44.3%	33.4%
Women	44.1%	41.0%	55.7%	66.6%
Ages 34 and younger	7.1%	8.6%	5.9%	8.2%
Ages 35 to 44	22.3%	22.1%	26.1%	23.9%
Ages 45 to 54	28.0%	26.8%	34.1%	30.1%
Ages 55 to 64	25.1%	26.3%	21.0%	23.8%
Ages 65 and older	17.5%	16.2%	12.9%	14.0%

Source: Gender and age data are from the 2021 AMA Physician Masterfile. * Data exclude hospitalists. **Excludes unknown gender.

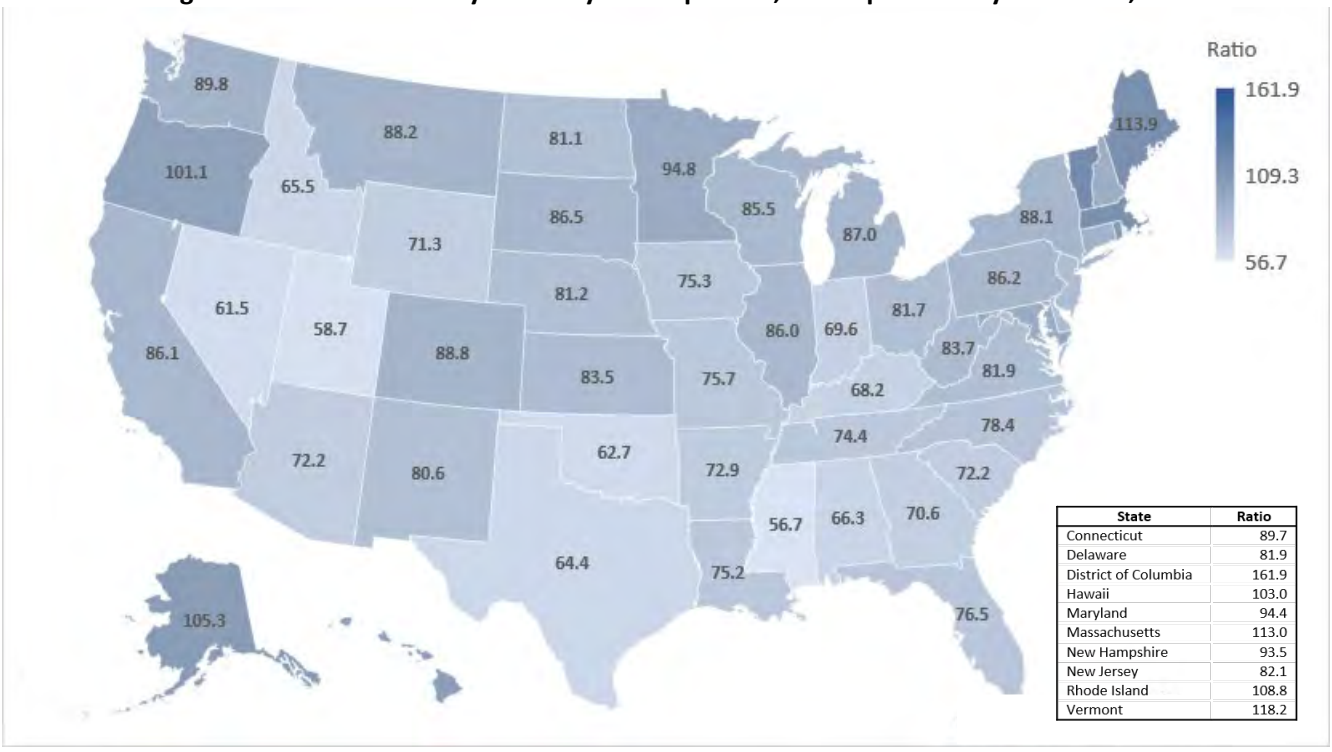
Women make up most geriatricians and pediatricians while there are more male family medicine physicians and internists. Further, over 40% of family medicine physicians and internists are age 55 and older.

For all NPs (not just primary care), 89% are women, 82% are non-Hispanic White, and have a median age of 43.[13] PAs (not just primary care) are predominately non-Hispanic White (73%), 39 years and younger (59%), and women (67%).[14]

Distribution

The distribution of primary care physicians differs by level of urbanization. In general, rural areas have lower primary care physician ratios than urban areas.[15,16,17] In 2021, 7.3% of U.S. counties did not have a primary care physician at all and the national ratio of primary care physicians was 80.8 per 100,000 population.[9,18] Whether or not this is considered adequate at the national level, the range of ratios across the states shows an uneven distribution of these physicians (*Figure 1 and Table A in Appendix*). Often a national maldistribution is interpreted as a shortage at the state (or lower) geographic level.

Figure 1. Ratios of Primary Care Physicians per 100,000 Population by U.S. State, 2021



State	Ratio
Connecticut	89.7
Delaware	81.9
District of Columbia	161.9
Hawaii	103.0
Maryland	94.4
Massachusetts	113.0
New Hampshire	93.5
New Jersey	82.1
Rhode Island	108.8
Vermont	118.2

Source: 2021 AMA Physician Masterfile and the U.S. Census Bureau's State Population Totals: 2020-2022 (census.gov).

NPs and PAs are important in providing primary care in rural areas. Approximately half of PAs were practicing or interested in practicing in rural locations (44%), Medically Underserved Areas (MUAs) (58%), or Health Professional Shortage Areas (HPSAs) (54%).[19,20]

Current and Projected Shortages

As of September 30, 2023, there are 8,352 designated primary care HPSAs in the United States, with nearly 101 million residents (30% of the U.S. population).[21] According to the most recent data, 65.5% of designated primary care HPSAs are in rural areas. Based on a minimum adequate population-to-primary care physician ratio of 3,500 to 1, HRSA estimates that the United States needs 17,396 additional physicians to remove all primary care shortage destinations.

As for the future, HRSA projects a national shortage of 68,020 full-time equivalent (FTE) primary care physicians by the year 2036.[22] To determine if the number of physicians in a specialty will be adequate, the projected demand is subtracted from the projected supply. As seen in Table 3, all primary care physician specialties will experience some level of shortage ranging from 76% adequacy (internists) to 95% adequacy (pediatricians) in 2036. The projected supply of internists in 2036 will be sufficient to meet only 76% of demand in that year; stated simply, there will be a 24% shortage of these physicians. There are also significant differences in projected shortages between metro and nonmetro areas.[22]

Table 3. Projected Shortage of Primary Care Physicians by Specialty in 2036, Number and Percent Adequacy

Physician Specialty	Metro	Nonmetro	All United States
Family Medicine Physicians	27,200 (79%)	5,900 (73%)	33,100 (78%)
Geriatricians	1,310 (85%)	430 (44%)	1,740 (81%)
Internists	23,360 (79%)	6,720 (44%)	30,080 (76%)
Pediatricians	1,110 (98%)	1,990 (65%)	3,100 (95%)
Total	52,980 (83%)	15,040 (63%)	68,020 (81%)

Source: HRSA Workforce Projections - https://data.hrsa.gov/topics/health-workforce/workforce-projections.

A major factor contributing to the projected shortage of primary care physicians in the future is the age of primary care physicians. The primary care physician workforce is older than other occupations, which means higher rates will be leaving the labor force in the coming decades.

NPs and PAs may to some degree alleviate the issues associated with the shortage of primary care physicians. There is a projected surplus of PAs (13,190 FTEs) in 2036.

Challenges for the Primary Care Workforce

Compensation

One of the main challenges to attract new clinicians to the primary care workforce is low compensation relative to other clinicians. Primary care is among the lowest paid physician fields. Table 4 shows 2022 annual average salaries for the selected physician specialties.

Table 4. Earnings for Selected Physician Specialties, 2022

Specialty	Annual Salary
Plastic Surgery	$619,000
Orthopedics	$573,000
General Surgery	$412,000
Obstetrics and Gynecology	$337,000
Psychiatry	$309,000
*Internal Medicine**	*$273,000*
*Family Medicine**	*$255,000*
*Pediatrics**	*$251,000*

Source: 2023 Medscape's Physician Compensation Report (geriatrics was not included in the report).
*Indicates primary care specialties.

The substantial gap in compensation between primary care physicians and specialist physicians may be one of the explanatory factors for medical students choosing residency in specialties other than primary care.[23] Further, salaries for NPs and PAs working in primary care are lower than the average salaries of their counterparts outside of primary care. The average NP salary in 2021 was $113,000, and a reported average salary for NPs working in primary care was $100,820 in 2022.[11,24] The 2022 median salary for all PAs was $126,010; PAs working in primary care earned a median annual salary of $105,000 in 2021.[12,25]

Burnout

Primary care physicians have high rates of burnout, and the COVID-19 pandemic has exacerbated this burnout.[26,27] Recent studies show that rates of burnout for physicians increased from 42% in 2020 to 47% and 53% in 2021 and 2022, respectively.[28,29] Compared to other physician specialties, three of the four primary care specialties are among the five specialties reporting the highest level of burnout (*Table 5*).

Table 5. Percentage of Physicians Reporting Burnout in Selected Specialties, 2022

Physician Specialty	Percent of Physicians who Reported Burnout
Emergency Medicine	65%
*Internal Medicine**	*60%*
*Pediatrics**	*59%*
OB-GYN	58%
*Family Medicine**	*57%*
Oncology	52%
Surgery General	51%
Psychiatry	47%

Source: https://www.medscape.com/slideshow/2023-lifestyle-burnout-6016058?faf=1#3.
* Indicates primary care specialties.

High burnout rates among primary care physicians were also reported prior to the COVID-19 global pandemic. Studies that surveyed U.S. physicians in 2011, 2014, 2017, and 2020 found family medicine physicians and

internists had high burnout rates and low satisfaction with work-life integration.[30,31] Primary care physicians reported higher rates of burnout in the 2021 survey when compared to the surveys conducted in 2011, 2014, 2017 and 2020.[32]

Common factors contributing to physician burnout are workload, long working hours, clerical duties, and a large number of patients.[33] In addition, violence in the workplace contributes negatively to health care workforce wellbeing.[31,34] The health care workforce experiences higher rates of workplace violence than workers in other industries.[35,36]

Telehealth

During the COVID-19 pandemic, health care providers increased their use of telehealth resources.[37] A recent study evaluating the use of telehealth before and during the COVID-19 pandemic found that only 5.3% of primary care physicians used telehealth "often" before the COVID-19 pandemic, while nearly half (46.2%) reported using telehealth often during the COVID-19 pandemic (*Table 6*).[38] Telehealth increases access to care in shortage areas, reduces travel and wait time for patients, and increases access for patients with limited mobility as well as collaboration between care providers.[39,40] Telehealth proved to be a highly effective instrument in connecting health care providers and patients during the pandemic.

Table 6. Telehealth Use by Primary Care Physicians

Telehealth Use	Pre COVID-19	During COVID-19	Intent to Use After COVID-19
Often	5.3%	46.2%	26.2%
Occasionally	13.4%	34.4%	46.6%
Rarely	24.9%	11.7%	16.3%
Never	54.6%	5.9%	9.1%
Missing (not reported)	1.8%	1.8%	1.8%

Source: Callaghan T, McCord C, Washburn D, Goidel K, Schmit C, Nuzhath T, Spiegelman A, Scobee J. The Changing Nature of Telehealth Use by Primary Care Physicians in the United States. J Prim Care Community Health. 2022.

Population Factors Impacting the Primary Care Workforce

The U.S. population grew rapidly from 1980 to 2020, increasing 46% (227 million to 331 million).[41] The future U.S. population is predicted to increase 10% (331 million to 364 million) from 2020 to 2060. The number of primary care physicians is increasing at approximately the same rate as the population they serve. It is estimated that in 2036, the national ratio of FTE primary care physicians will be 79.8 per 100,000 individuals as compared to 79.1 in 2021.[22,42]

Geography

The 2020 Census revealed significant geographic shifts in the United States population. Among the 1.7 million U.S. residents who changed their region of residence from 2019 to 2020, 66.7% moved to the South and West regions from the Northeast and Midwest regions of the country.[43,44] Similarly, among the 751,000 immigrants to the United States during the 2019-2020 period, 67.0% moved to the South and West regions.[45] This will have a potentially huge impact on the distribution needs for the primary care workforce now and into the future.

Demographics

Age: The 65 and older population is projected to increase 54% (from 58 million to 88 million) between 2022 and 2060, with nearly 1 in 4 of Americans being 65 years and older in 2060.[46] This trend will have significant implications for the health care industry as the demand for the services related to an older population will surge.[47]

Gender: Between 2022 and 2060, the population of women in the United States is projected to grow nearly 10% (from approximately 168 million to 184 million).[48] Since many primary care physicians provide women's health services, this growth will add to the future demand for primary care physicians.[49, 50, 51]

Race/Ethnicity: By 2060, the racial/ethnic composition of the country's population will change significantly.[52] The percentage of the population that identifies as a minority group (groups other than non-Hispanic White) will increase from 41.1% in 2022 to 55.1% in 2060.[53] A more diverse workforce can help to address health care disparities by providing culturally sensitive care that meets the unique needs of each segment of the population.[54,55,56,57,58,59]

A recent study found a positive association between a higher percentage of Black or African American practitioners and higher Black or African American life expectancy. This finding suggests that a primary care workforce that is as diverse as the community it serves leads to higher life expectancy.[60]

Improving Population Health Via the Primary Care Workforce

Access to and Use of Primary Care Providers

Health care access is generally defined as the ability to obtain health care services in a convenient and affordable way. Studies have shown that better access to primary care providers leads to improved health outcomes for the population.[8,61] Barriers to accessing primary care providers in the United States include shortages and geographical maldistribution of providers, transportation issues, lack of health insurance, language and cultural barriers, and limited office hours.[62,63]

The percentage of the U.S. population having a usual source of care has declined in recent years.[64] The usual source of care is a medical professional or facility where an individual regularly accesses medical care and is typically a primary care provider.[65,66] This is partially why behavioral health care and OB-GYN services are becoming an increasingly large part of primary care visits.[67] A recent study found that the share of primary care visits that addressed mental and behavioral concerns increased by 49% from the period between 2006-2007 and 2016-2018.[68] Primary care physicians often screen patients during their primary care visits for behavioral health issues and prescribe and manage medications to treat depression, substance abuse, and attention deficit hyperactivity disorder.[69] Similarly, primary care physicians now deliver many OB-GYN services. A 2023 study estimated that primary care physicians conducted 39% of preventive gynecological and women's health visits for women aged 18-44.[70] Women residing in rural areas, having a low socioeconomic status, belonging to racial/ethnic minorities, and being over the age of 45 were more likely to see family medicine physicians or internists for OB-GYN services.[71,72]

Chronic Health Conditions

Approximately 60% of adult Americans live with a chronic disease, with 40% of adult Americans having two or more chronic conditions.[73] With such a high percentage of the U.S. population living with chronic diseases, access to preventive care services, early detection, and regular management of chronic conditions is crucial. Experts acknowledge that episodic health care services, delivered in hospitals, are often insufficient in alleviating the impact of chronic disease on Americans' health. This suggests that primary care and a community-based approach is needed to ensure easy and affordable access to primary care.[74,75,76,77,78]

Life Expectancy

People with better access to primary care live longer. A study of data from 2005-2015 found that an increase of 10 primary care physicians per 100,000 population led to a substantial increase in life expectancy (51.5 days), more than twice as large as the increase resulting from 10 additional specialist physicians per 100,000 population (19.2 days).[79] With an estimated average life expectancy at birth of 77.0 years, the U.S. ranks 31st out of 38 Organization for Economic Co-operation and Development (OECD) countries (*Table 7*).[80] The U.S. also ranks lower in maternal mortality and infant mortality.

Table 7. Life Expectancy at Birth, Maternal Mortality and Infant Mortality in the U.S. and OECD Countries

Country	Life Expectancy at Birth*	Maternal Mortality**	Infant Mortality***
Australia	83.2	2.0	3.2
Canada	81.7	8.4	4.5
Great Britain	80.4	N/A	3.8
Japan	84.6	2.7	1.8
United States	77.0	23.8	5.4
OECD Countries Average	80.5	10.5	4.0

Source: https://data.oecd.org/healthstat/life-expectancy-at-birth.htm#indicator-chart, https://data.oecd.org/healthstat/infant-mortality-rates.htm#indicator-chart, https://stats.oecd.org/index.aspx?queryid=30116. *Life expectancy at birth in years in 2020. **Deaths per 100,000 live births in 2020. ***Infant deaths per 1,000 live births in 2020.

Conclusions

The importance of primary care cannot be overstated. Primary care is often the first contact a patient will have with the health care workforce and sets the trajectory for a positive or negative patient experience and outcome. A high-functioning primary care system treats illnesses and injuries before they become severe, provides ongoing care to mitigate chronic conditions, identifies when more specialized care is required, and connects the patient with a clinician. When primary care does not function as intended, patient issues can compound and become increasingly more difficult to treat and resolve.

The U.S. primary care system faces several challenges in the coming years. Barriers to health care access and shortages of providers result in uneven use of services. Because the primary care workforce is not distributed equally among geographic areas, many rural areas face low rates of physicians. Opportunities to improve the provision of care to underrepresented groups may be missed because primary care providers are not as diverse as the populations they serve. Lower compensation compared to nonprimary care specialties and heightened stress and burnout (especially in the aftermath of COVID-19) are challenges in attracting and retaining new clinicians. The population of the United States will change in the future as will the methods to care for it.

Appendix

Table A. Ratios of Primary Care Physicians per 100,000 Population by U.S. State, 2021*

State	Ratio	State	Ratio	State	Ratio
Alabama	66.3	Kentucky	68.2	North Dakota	81.1
Alaska	105.3	Louisiana	75.2	Ohio	81.7
Arizona	72.2	Maine	113.9	Oklahoma	62.7
Arkansas	72.9	Maryland	94.4	Oregon	101.1
California	86.1	Massachusetts	113.0	Pennsylvania	86.2
Colorado	88.8	Michigan	87.0	Rhode Island	108.8
Connecticut	89.7	Minnesota	94.8	South Carolina	72.2
Delaware	81.9	Mississippi	56.7	South Dakota	86.5
District of Columbia	161.9	Missouri	75.7	Tennessee	74.4
Florida	76.5	Montana	88.2	Texas	64.4
Georgia	70.6	Nebraska	81.2	Utah	58.7
Hawaii	103.0	Nevada	61.5	Vermont	118.2
Idaho	65.5	New Hampshire	93.5	Virginia	81.9
Illinois	86.0	New Jersey	82.1	Washington	89.8
Indiana	69.6	New Mexico	80.6	West Virginia	83.7
Iowa	75.3	New York	88.1	Wisconsin	85.5
Kansas	83.5	North Carolina	78.4	Wyoming	71.3

*Source: 2021 AMA Masterfile and the U.S. Census Bureau estimates of State Population Totals for 2021 https://www.census.gov/data/tables/time-series/demo/popest/2020s-state-total.html.

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