A Few Doctors Will See Some of You: The Critical Role of Underrepresented in Medicine (URiM) Family Physicians in the Care of Medicaid Beneficiaries

Anushree Vichare, PhD, MBBS, MPH[1]
Mandar Bodas, PhD, MHA[1]
Anuradha Jetty, MPH[2]
Qian (Eric) Luo, PhD[1]
Andrew Bazemore, MD, MPH[3]

[1]Fitzhugh Mullan Institute for Health Workforce Equity, Department of Health Policy and Management, Milken Institute School of Public Health, The George Washington University, Washington, DC

[2]Robert Graham Center, Washington, DC

[3]American Board of Family Medicine, Washington, DC

MORE ONLINE
www.annfammed.org

VISUAL ABSTRACT

Conflicts of interest: A.V. received funding from the American Board of Family Medicine and the US Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA); M.B. received funding from the American Board of Family Medicine, Ralph C. Wilson Jr Foundation, Susan T. Buffett Foundation, and the HHS HRSA; A.J. received funding from The George Washington University; Qian (Eric) Luo received funding from the Susan T. Buffett Foundation and the HHS HRSA; and A.B. received funding from the American Board of Family Medicine.

CORRESPONDING AUTHOR

Anushree Vichare
Department of Health Policy and Management
Fitzhugh Mullan Institute
for Health Workforce Equity
The George Washington University
950 New Hampshire Ave, Suite 603
Washington, DC 20037
avichare@gwu.edu

ABSTRACT

PURPOSE Despite being key to better health outcomes for patients from racial and ethnic minority groups, the proportion of underrepresented in medicine (URiM) physicians remains low in the US health care system. This study linked a nationally representative sample of family physicians (FPs) with Medicaid claims data to explore the relative contributions to care of Medicaid populations by FP race and ethnicity.

METHODS This descriptive cross-sectional study used 2016 Medicaid claims data from the Transformed Medicaid Statistical Information System and from 2016-2017 American Board of Family Medicine certification questionnaire responses to examine the diversity and Medicaid participation of FPs. We explored the diversity of FP Medicaid patient panels and whether they saw ≥150 beneficiaries in 2016. Using logistic regression models, we controlled for FP demographics, practice characteristics, and characteristics of the communities in which they practiced.

RESULTS Of 13,096 FPs, Latine, Hispanic, or of Spanish Origin (LHS) FPs and non-LHS Black FPs saw more Medicaid beneficiaries compared with non-LHS White and non-LHS Asian FPs. The patient panels of URiM FPs had a much greater proportion of Medicaid beneficiaries from racial and ethnic minority groups. Overall, non-LHS Black and LHS FPs had greater odds of seeing ≥150 Medicaid beneficiaries in 2016.

CONCLUSIONS These findings clearly show the critical role URiM FPs play in caring for Medicaid beneficiaries, suggesting physician race and ethnicity are correlated with Medicaid participation. Diversity in the health care workforce is essential for addressing racial health inequities. Policies need to address problems in pathways to medical education, including failures to recruit, nurture, and retain URiM students.

Ann Fam Med 2024;22:383-391. https://doi.org/10.1370/afm.3140

INTRODUCTION

Despite evidence supporting the positive effects of workforce diversity on equity in scientific investigation and access to care, racial disparities are persistent in the composition of the US physician workforce. The term "underrepresented in medicine" (URiM) refers to those racial and ethnic groups that do not have adequate representation in the medical profession relative to their numbers in the general population of the United States.[1] In spite of investments to boost the diversity of the US health workforce, individuals from URiM backgrounds remain severely underrepresented.[2,3] For example, in 2022, only 5% of active physicians identified themselves as Black, approximately 7% as Latine, Hispanic, or of Spanish Origin (LHS), and only 0.3% as American Indian or Alaska Native.[4] Such lack of representation in the US health workforce might be further exacerbated by the recent Supreme Court decision regarding affirmative action.[5]

The National Academy of Medicine asserted that it is in the US health care's compelling interest to ensure a representative health workforce because increased health workforce diversity can have implications for the workforce itself and the patients it serves.[6] This is particularly important in light of evidence suggesting worsening primary care workforce shortages in minoritized communities and the overall decrease in URiM primary care physicians.[7-9] Yet, the goal of a diverse and inclusive health workforce remains aspirational for the United States. A recent

review concluded that diversity of health professionals could improve patient health outcomes, quality of care, and financial performance.[10] Similarly, a preponderance of evidence supports the vital role a diverse health workforce plays to improve the experience of care and health outcomes, particularly for patients from racial and ethnic minority groups.[11-20] Studies have also shown the essential role URiM physicians play in providing care for the nation's most disadvantaged populations. Physicians identifying as URiM are more likely to practice in primary care and in underserved areas than their White or Asian peers.[21-23]

However, there are compositional and distributional differences among primary care physicians by specialty.[24] For example, family physicians (FPs), who constitute the largest and most broadly distributed primary care specialty, are more racially and ethnically diverse than most other primary care specialties.[25] In addition, one study reported that FPs who identify as URiM were also more likely to have a larger proportion of disadvantaged populations in their patient panels.[23] Overall, these findings suggest that URiM physicians could have a profound effect on access to health care for socioeconomically disadvantaged populations, particularly those covered by Medicaid.

Considering URiM physicians' role in primary care access for socioeconomically disadvantaged populations, understanding their role in caring for Medicaid beneficiaries is critical. Yet, little is known about the diversity of the FP workforce that cares for Medicaid beneficiaries. Further, no study to date has quantified the contribution of URiM FPs to Medicaid in terms of Medicaid beneficiary volume.

In this study, we examined the diversity of the FP workforce that provides care for Medicaid beneficiaries by linking a unique data set containing information on FP race and ethnicity to national-level Medicaid claims data (Transformed Medicaid Statistical Information System [T-MSIS]). Further, we explored how individual-level physician and practice characteristics are associated with URiM FP Medicaid participation. Specifically, we evaluated the following research questions: (1) does the racial/ethnic composition of Medicaid patient panels differ by FP race and ethnicity?, and (2) are URiM FPs more likely to meaningfully participate in Medicaid programs?

METHODS

Data

The main data sources for this study were (1) 2016 T-MSIS Other Services, Pharmacy, Demographic and Eligibility, and Annual Provider files (Release 2) and (2) 2015-2016 American Board of Family Medicine (ABFM) Certification Examination application questionnaire data (certification data). The certification data provided information on self-reported race and ethnicity of physicians as well as demographic characteristics such as years in practice, gender, type of medical degree received (doctor of medicine [MD]/doctor of osteopathic medicine [DO]), and whether they were an international medical graduate (IMG). In addition, the survey questionnaire data provided information about physician practice setting including size, ownership type, and amount of time each physician spent in direct patient care. Rural status of practice location was determined by using county-level information (geocoded addresses) and US Department of Agriculture Rural-Urban Continuum Codes. Using the Census Tract from the geocoded addresses, the ABFM data were combined with the Robert Graham Center census-tract–level Social Deprivation Index (SDI) (https://www.graham-center.org/maps-data-tools/social-deprivation-index.html). Information on physician patient panels was derived from the T-MSIS. In addition, we used data on physician county-level socioeconomic factors from the Area Health Resources Files and from the US Census Bureau.[26] We used data from KFF (formerly known as the Kaiser Family Foundation) on the Medicaid expansion status of physicians' states and on states' primary care payment rates under Medicaid in 2016.[27]

Study Sample

We limited the analytical sample to Medicaid-participating FPs who practiced in states that did not have any data quality issues in the 2016 T-MSIS. Data quality issues were assessed using a combination of Centers for Medicare and Medicaid Services resources and internal analysis, details of which are available elsewhere.[28,29] As a result, FPs from 6 states (Arkansas, Florida, Maine, Minnesota, Pennsylvania, and Rhode Island), Washington, DC, and Puerto Rico were excluded; those from the other 44 states were included in the sample. Family physicians for whom data on demographic characteristics were missing were also excluded from the sample. Finally, we excluded FPs who saw an unusually high number of Medicaid beneficiaries in 2016 to avoid skewing the results as a result of outliers. We excluded FPs who saw >2,000 Medicaid beneficiaries based on prior evidence on average patient panel size for a typical family physician.[30] The final analytical sample comprised 13,096 FPs (Supplemental Figure).

Measures

We included 2 measures of Medicaid participation in the analysis. The first pertained to meaningful FP participation in Medicaid, and the second to the racial/ethnic composition of each FP's Medicaid patient panel. For regression analysis, the outcome measure was whether an FP participated meaningfully in Medicaid by seeing ≥150 Medicaid beneficiaries in 2016. The 150-beneficiary cutoff has been used in research on Medicaid participation, with physicians that satisfy this condition being termed core Medicaid providers.[31] Family physician race and ethnicity were self-reported and included the following categories: LHS (all races), Non-LHS White, Non-LHS Black, Non-LHS Asian, Non-LHS American Indian or Alaska Native (AIAN), and Non-LHS Hawaiian or Pacific Islander (HPI). We also controlled for FP-level characteristics

including gender, years in practice (as a proxy for age), type of medical degree (MD/DO), and whether they were an IMG. In a unique contribution to literature on Medicaid participation, we controlled for several practice-level characteristics such as percentage of time FPs spent on direct patient care, the ownership and operating type of their medical practice (private solo practice, group practice, hospital outpatient departments, or safety net locations; this information was self-reported in the ABFM survey), and census tract SDI score. The SDI is a measure of area-level deprivation, constructed using 7 demographic factors (percentage living in poverty, percentage with <12 years of education, percentage of single-parent households, percentage living in rented housing units, percentage living in an overcrowded housing unit, percentage of households without a car, and percentage of nonemployed adults aged <65 years) from the American Community Survey (detailed methodology found elsewhere).[32] We categorized SDI scores into quintiles, with the lowest quintile representing less deprivation and the highest representing more deprivation. Further, we controlled for county-level measures for whether the county was rural, the primary care physician-to-population ratio, and the populations that belonged to select racial and ethnic groups because these can potentially influence utilization of services by Medicaid beneficiaries.[28] Finally, to account for state-level variations in Medicaid policies, we controlled for the Medicaid expansion status of each FP's state in 2016 and whether the state had higher payment rates for primary care providers compared with the national average.

Analysis

We began with a descriptive analysis of FPs in the sample, in terms of demographic and practice characteristics, along with Medicaid participation patterns. We then focused on the racial and ethnic composition of each FP's Medicaid patient panel. We used multivariate logistic regression models to assess whether FPs saw ≥150 Medicaid beneficiaries in 2016, controlling for FP-, practice-, community-, and state-level characteristics. As a sensitivity check, we relaxed the condition of seeing ≥150 Medicaid beneficiaries each year and redefined the main outcome measure to whether an FP saw ≥10 Medicaid beneficiaries in the study year. This allowed us to examine a broader pattern of FP engagement with Medicaid programs. We also explored an alternate specification whereby we assessed the effect of FP characteristics on the total number Medicaid beneficiaries seen using negative binomial regression models. All statistical tests were run at an alpha level of .05. All analyses were conducted using Stata 18 (StataCorp LLC).

RESULTS

Sample Description

Table 1 describes sociodemographic and other characteristics of the study sample. Among a sample of 13,096 FPs, 72% were non-LHS White, 15% non-LHS Asian, a similar proportion non-LHS Black (7%) and LHS (6%), and 1% non-LHS AIAN and non-LHS HPI. Forty percent of FPs were female, 10% graduated from schools of osteopathic medicine, 18%

Table 1. Description of Family Physicians in Study Sample

	Sample	LHS	Non-LHS AIAN	Non-LHS Asian	Non-LHS Black	Non-LHS HPI	Non-LHS White
No. (%)	13,096 (100)	777 (6)	127 (1)	1,897 (15)	848 (7)	67 (1)	9,380 (72)
Medicaid participation							
No. of beneficiaries, mean (SD)	291.85 (355.60)	342.50 (416.57)	253.69 (284.12)	282.98 (365.85)	354.12 (394.55)	244.42 (301.15)	284.68 (344.51)
Family physicians with ≥150 beneficiaries, No. (%)	6,793 (52)	418 (54)	65 (51)	904 (48)	493 (58)	30 (45)	4,883 (52)
Medicaid panel composition by patient race and ethnicity, mean (SD)							
LHS	16.90 (24.57)	42.25 (32.92)	13.44 (19.98)	20.31 (22.59)	12.79 (18.60)	22.58 (2.90)	14.48 (23.36)
Non-LHS AIAN	2.10 (9.74)	1.91 (9.69)	12.25 (23.82)	1.35 (7.94)	1.62 (9.10)	0.41 (0.12)	2.18 (9.76)
Non-LHS Asian	3.62 (9.62)	2.93 (5.90)	2.22 (5.81)	10.69 (18.60)	2.23 (5.57)	7.38 (1.60)	2.37 (6.31)
Non-LHS Black	15.66 (21.31)	11.01 (15.57)	15.76 (21.65)	17.78 (20.54)	43.67 (30.03)	9.79 (1.94)	13.12 (18.94)
Non-LHS HPI	0.53 (2.80)	0.47 (3.74)	0.74 (3.66)	0.97 (3.88)	0.31 (1.77)	2.12 (0.87)	0.45 (2.43)
Non-LHS White	58.31 (32.01)	39.59 (29.85)	53.89 (29.60)	47.39 (29.01)	36.52 (27.86)	54.49 (3.81)	64.13 (31.11)

continues

AIAN = American Indian or Alaska Native; HPI = Hawaiian or Pacific Islander; LHS = Latine, Hispanic, or of Spanish origin; SDI = Social Deprivation Index.

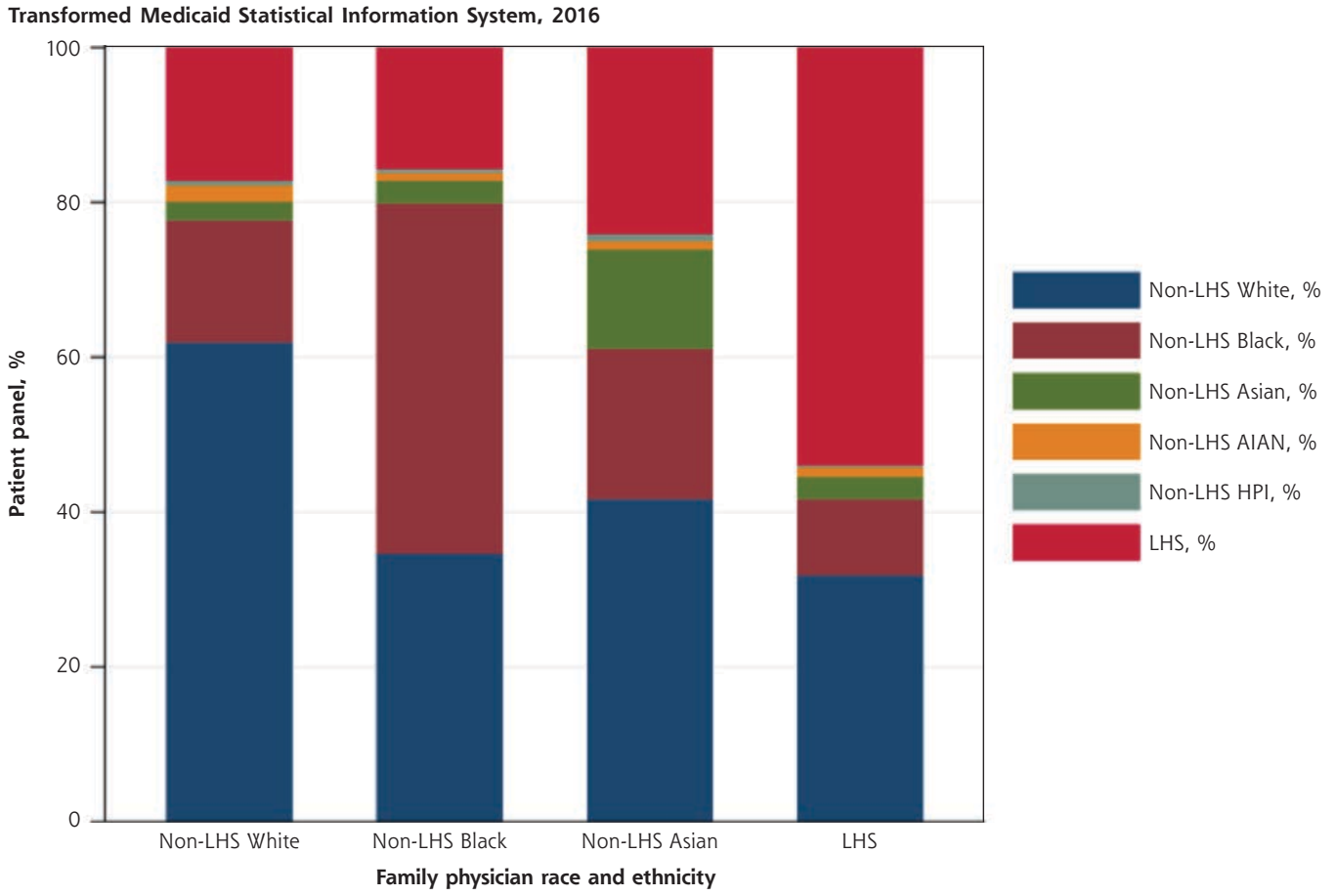
Table 1. Description of Family Physicians in Study Sample *(continued)*

	Sample	LHS	Non-LHS AIAN	Non-LHS Asian	Non-LHS Black	Non-LHS HPI	Non-LHS White
Physician characteristics, No. (%)							
Female	5,263 (40)	308 (40)	57 (45)	986 (52)	527 (62)	37 (55)	3,348 (36)
Doctor of osteopathic medicine	1,288 (10)	39 (5)	13 (10)	160 (8)	38 (5)	6 (9)	1,032 (11)
International medical graduate	2,342 (18)	214 (28)	9 (7)	1,027 (54)	166 (20)	27 (40)	899 (10)
Years in practice, mean (SD)	18.67 (9.05)	16.90 (8.54)	17.76 (9.14)	13.97 (7.18)	16.48 (8.07)	13.94 (6.44)	20.02 (9.13)
Specific years in practice, No. (%)							
<5	228 (2)	32 (4)	3 (2)	72 (4)	26 (3)	4 (6)	91 (1)
5-14	4,505 (34)	309 (40)	54 (43)	1,046 (55)	364 (43)	31 (46)	2,701 (29)
15-24	4,866 (37)	269 (35)	40 (32)	614 (32)	306 (36)	25 (37)	3,612 (39)
25-34	2,791 (21)	147 (19)	22 (17)	131 (7)	130 (15)	7 (10)	2,354 (25)
≥35	706 (5)	20 (3)	8 (6)	34 (2)	22 (3)	0 (0)	622 (7)
Percent of time spent in direct patient care, mean (SD)	87.04 (21.05)	88.34 (18.79)	84.31 (19.62)	89.06 (18.90)	86.64 (19.95)	85.42 (21.08)	86.61 (21.72)
<75% time spent in direct patient care, No. (%)	1,928 (15)	102 (13)	27 (21)	224 (12)	133 (16)	13 (19)	1,429 (15)
Practice ownership characteristics, No. (%)							
Safety net	1,282 (10)	84 (11)	20 (16)	137 (7)	98 (12)	4 (6)	939 (10)
Private solo practice	1,449 (11)	129 (17)	14 (11)	267 (14)	133 (16)	6 (9)	900 (10)
Group practice	5,063 (39)	273 (35)	42 (33)	671 (35)	239 (28)	25 (37)	3,813 (41)
Urgent care	1,057 (8)	60 (8)	17 (13)	105 (6)	73 (9)	3 (5)	799 (9)
Hospital outpatient setting	2,907 (22)	152 (20)	20 (16)	503 (27)	187 (22)	21 (31)	2,024 (22)
Other	940 (7)	25 (3)	12 (9)	90 (5)	43 (5)	6 (9)	236 (3)
Government	398 (3)	54 (7)	2 (2)	124 (7)	75 (9)	2 (3)	669 (7)
Community characteristics							
Rural, No. (%)	2,213 (17)	67 (9)	21 (17)	106 (6)	72 (9)	4 (6)	1,943 (21)
SDI score, mean (SD)	48.56 (28.31)	52.92 (29.28)	50.56 (28.90)	48.03 (28.84)	57.11 (29.97)	51.09 (27.45)	47.48 (27.80)
Primary care physician-to-population ratio, mean (SD)	0.81 (0.31)	0.77 (0.27)	0.81 (0.32)	0.84 (0.29)	0.79 (0.29)	0.84 (0.27)	0.81 (0.32)
County percentage population AIAN, mean (SD)	1.76 (4.76)	2.07 (4.74)	5.44 (13.35)	1.54 (2.58)	1.43 (4.83)	1.73 (1.98)	1.75 (4.87)
County percentage population Asian, mean (SD)	5.52 (6.37)	7.48 (7.23)	4.90 (6.35)	9.26 (8.50)	6.01 (5.89)	9.69 (10.00)	4.54 (5.39)
County percentage population Black, mean (SD)	11.88 (12.65)	10.62 (10.10)	12.16 (13.82)	12.36 (10.96)	24.39 (17.16)	9.70 (8.49)	10.77 (12.06)
County percentage population LHS, mean (SD)	15.94 (15.69)	31.99 (21.98)	12.19 (11.48)	22.06 (16.62)	17.01 (15.55)	23.51 (17.52)	13.28 (13.62)
County percentage population White, mean (SD)	78.14 (14.54)	77.07 (12.99)	74.14 (18.75)	73.68 (13.11)	65.67 (16.91)	75.17 (14.98)	80.34 (13.82)
State policy characteristics, No. (%)							
Medicaid expansion status	8,549 (65)	519 (67)	83 (65)	1,428 (75)	456 (54)	53 (79)	6,010 (64)
High primary care reimbursement rate	4,597 (35)	187 (24)	63 (50)	408 (22)	263 (31)	9 (13)	3,667 (39)

AIAN = American Indian or Alaska Native; HPI = Hawaiian or Pacific Islander; LHS = Latine, Hispanic, or of Spanish origin; SDI = Social Deprivation Index.

were IMGs, and 17% practiced in rural areas. The average number of years in practice was 19, with >70% having practiced 5-24 years. Family physicians spent their time primarily in direct patient care; only 15% spent <75% of their time in direct patient care. The FPs in our sample practiced in a variety of settings; approximately 40% were in a group practice, 22% were in a hospital outpatient setting, 11% were in a private solo practice, and 10% practiced in a safety net setting. The mean SDI score for FP practice location was 48.56, approximately two-thirds were in a state that expanded Medicaid, and 35% practiced in a state with a high primary care reimbursement rate for Medicaid.

Figure 1. Medicaid patient panel characteristics of family physicians.



AIAN = American Indian or Alaska Native; HPI = Hawaiian or Pacific Islander; LHS = Latine, Hispanic, or of Spanish origin.

Medicaid Participation and Patient Panel Racial/Ethnic Diversity

On average, FPs saw 292 Medicaid beneficiaries, with 52% participating meaningfully in Medicaid by seeing ≥150 Medicaid beneficiaries. Notably, non-LHS Black and LHS FPs saw a greater mean number of beneficiaries (354 and 342, respectively) relative to the overall sample mean of 292 beneficiaries—a difference of 17%-21%. Whereas the differences in proportion of core FPs appeared to be smaller, much larger differences existed in terms of mean number of beneficiaries seen by core FPs from each racial/ethnic group (Supplemental Table 1). For example, non-LHS Black and LHS FPs saw a mean of 570 and 586 beneficiaries, respectively, relative to non-LHS White FPs (495), a difference of 15%-18%.

In the overall sample, regardless of FP race or ethnicity, more than one-half of their patient panels comprised non-LHS White patients, 16% non-LHS Black patients, and 17% LSH patients (Table 1). However, the racial and ethnic composition of the FPs' Medicaid patient panels differed by FP race and ethnicity (Figure 1). There were relatively smaller proportions of non-LHS AIAN and non-LHS HPI patients (2% and 0.5%, respectively). Family physicians were more likely to see Medicaid beneficiaries of similar race and ethnicity to them. For example, for non-LHS Black FPs, 44% of patient panels comprised non-LHS Black patients. Similarly, approximately 55% of patients in LHS FPs' patient panels were of LHS ethnicity.

Results of Multivariate Regression Analysis

We used multivariate logistic regression to examine the association between FP race and ethnicity and meaningful Medicaid participation, defined as seeing ≥150 Medicaid beneficiaries (Table 2). Non-LHS Black FPs (odds ratio [OR] = 1.60; 95% CI, 1.36-1.89) and LHS FPs (OR = 1.42; 95% CI, 1.18-1.71) had significantly greater odds of seeing ≥150 Medicaid beneficiaries. Select provider-, practice-, community-, and state-level factors were also associated with study outcomes. Female FPs had lower odds of seeing ≥150 Medicaid beneficiaries (OR = 0.67; 95% CI, 0.62-0.72). Whereas IMGs had greater odds of seeing ≥150 Medicaid beneficiaries (OR = 1.48; 95% CI, 1.22-1.80), there were no

notable differences between DOs and MDs or according to years in practice. Relative to FPs in safety net settings, all other practice settings had lower odds of seeing ≥150 Medicaid beneficiaries. Family physicians practicing in rural areas (OR = 1.42; 95% CI, 1.16-1.74) and in communities with greater SDI had significantly greater odds of seeing ≥150 Medicaid beneficiaries. Finally, whereas Medicaid expansion status of a state was positively associated (OR = 1.83; 95% CI, 1.36-2.48), greater primary care reimbursement rate for Medicaid was not associated with the likelihood of seeing ≥150 Medicaid beneficiaries. Our results remained largely robust in sensitivity analyses (Supplemental Tables 2 and 3).

DISCUSSION

In this cross-sectional study of Medicaid claims data, we documented the contribution of URiM physicians in caring for Medicaid beneficiaries and factors associated with FPs' meaningful participation in Medicaid. The present study builds on prior work in the area of health workforce diversity by leveraging the largest health care utilization data set for Medicaid beneficiaries and by using data on race and ethnicity for both physicians and Medicaid beneficiaries. In addition, we included several FP and practice characteristics not previously examined to evaluate physicians' participation in Medicaid. Our findings suggest that FP race and ethnicity are associated with the size of their Medicaid patient panel. We also observed that URiM physicians not only care for a greater number of Medicaid beneficiaries on average but also see a greater proportion of Medicaid beneficiaries from racial and ethnic minority groups.

Medicaid covers >90 million low-income people in the United States and is critical to improving access to primary care in this socioeconomically disadvantaged population.[33] Notably, Medicaid covers a greater share of Black, LHS, and AIAN children and adults and is a vital source of coverage for these populations.[34] Racial and ethnic minority communities continue to bear a disproportionately greater burden of poor health outcomes as a result of differences in access, quality, and experiences of care.[35,36] Therefore, improving access to care for those who have Medicaid is key to addressing racial health inequities. Whereas expansions in Medicaid have improved health coverage, lower provider participation in Medicaid continues to pose barriers and worsens gaps in care for low-income racial and ethnic minority populations.[37-39]

Evidence suggests that multiple factors can affect physicians' decisions to participate in Medicaid, and these decisions are largely attributed to variations in practice and policy characteristics.[40-50] To engage more providers in Medicaid, policy changes have traditionally focused on economic incentives of increasing reimbursement rates and decreasing administrative burden associated with processing reimbursements. Yet, these policies have shown minimal effect on meaningfully engaging the primary care workforce in Medicaid, and evidence suggests that Medicaid participation remains highly concentrated among a small percentage of physicians.[31,51] The present study also found that greater reimbursement rates were not associated with increased Medicaid participation. These findings are consistent with prior studies that found mixed evidence on the effect of greater reimbursement rates on Medicaid participation.[42,51] It is postulated that the complexities of billing for Medicaid, such as higher claim denials, prior authorization

Table 2. Odds of Seeing ≥150 Medicaid Beneficiaries, by Family Physician Characteristic (N = 13,096)

	Coefficient (95% CI)
Physician characteristics	
LHS	1.42[b] (1.18-1.71)
Non-LHS AIAN	0.90 (0.60-1.35)
Non-LHS Asian	0.98 (0.84-1.15)
Non-LHS Black	1.60[b] (1.36-1.89)
Non-LHS HPI	0.92 (0.55-1.54)
Female	0.67[b] (0.62-0.72)
Doctor of Osteopathic Medicine	1.01 (0.87-1.18)
International medical graduate	1.48[b] (1.22-1.80)
Years in practice	
5-14	1.15 (0.72-1.84)
15-24	0.99 (0.62-1.60)
25-34	0.86 (0.54-1.34)
≥35	0.64 (0.40-1.02)
<75% time spent in direct patient care	1.01 (0.85-1.20)
Ownership	
Private solo practice	0.21[b] (0.15-0.30)
Group practice	0.27[b] (0.17-0.44)
Urgent care	0.88 (0.57-1.36)
Hospital outpatient setting	0.38[b] (0.23-0.65)
Other	0.16[b] (0.11-0.22)
Government	0.12[b] (0.08-0.19)
Community Characteristics	
Rural	1.42[b] (1.16-1.74)
SDI quintile 2	1.16[a] (1.01-1.34)
SDI quintile 3	1.34[b] (1.09-1.64)
SDI quintile 4	1.45[b] (1.20-1.76)
SDI quintile 5	2.06[b] (1.74-2.45)
Primary care physician-to-population ratio	0.81 (0.63-1.03)
County percentage population AIAN	0.98[b] (0.97-0.99)
County percentage population Asian	0.96[b] (0.95-0.98)
County percentage population Black	1.00 (0.99-1.00)
County percentage population LHS	0.99[b] (0.98-1.00)
State policy characteristics	
Medicaid expansion status	1.83[b] (1.36-2.48)
High primary care reimbursement rate	1.24 (0.89-1.72)

AIAN = American Indian or Alaska Native; HPI = Hawaiian or Pacific Islander; LHS = Latine, Hispanic, or of Spanish origin; SDI = Social Deprivation Index.

[a] $P < .05$.
[b] $P < .01$.

requirements, and reimbursement delays, result in greater administrative burden for providers, which could discourage their Medicaid participation.[45,52,53] It will therefore be critical to address the Medicaid administrative burden for small and solo practices, in which URiM FPs are more likely to practice.[54] Further, our results on meaningful URiM FP participation in Medicaid suggest that they have systematically different patterns of engaging with Medicaid beneficiaries, even after adjusting for provider- and practice-level factors. Our findings are consistent with research showing that URiM physicians are more likely to care for underserved communities, and they bolster evidence on the likely differences in Medicaid service commitment by URiM FPs.[23,24,55]

Notably, we found that non-LHS Black and LHS FPs have racially diverse patient panels composed of a greater proportion of patients of race and ethnicity similar to their own. We were not able to examine preferences of Medicaid beneficiaries for physicians of their own race and ethnicity, in other words, their preference for a racial- and ethnic-concordant physician. Research has shown that patients of minority racial and ethnic groups strongly prefer to receive medical care from physicians with the same racial/ethnic background.[56] Further, robust evidence supports the positive effect of a racial/ethnic-concordant physician-patient dyad on patient experience and satisfaction with care, quality of care, and health outcomes.[12-16,20,57,58] It is postulated that racial/ethnic-concordant interactions between providers and their patients build trust and improve patient-provider communication. For decades, racial and ethnic minority communities have experienced discrimination and implicit bias, which has led to medical mistrust.[59,60] Therefore, a diverse health workforce that is representative of the populations served is undoubtedly an important pathway to restore trust.

A representative health workforce has several benefits including boosting learning environments, improving patient-cinician interactions, improving health outcomes for patients from minority racial and ethnic groups, and building trust in communities.[22] Most importantly, diversity of the health workforce promotes social justice by holding health professions accountable for the historic exclusionary policies that kept individuals from minority racial and ethnic groups from becoming physicians.[61] Yet, efforts to improve the racial/ethnic diversity of the health workforce have not produced desirable results. Educational institutions for health professions play an important role in generating a diverse pool of candidates for the health workforce that will eventually lead to a more representative health workforce. Thus, the adoption of policies focused on recruiting, admitting, retaining, and nurturing students of diverse backgrounds by institutions of higher education, including medical schools, can be an important pathway to diversify the health workforce. In addition to changes in recruitment policies, there is a greater need to ensure that URiM clinicians have opportunities for professional growth and choice of specialties by making our institutional culture and climate more inclusive. Mechanisms can be put into place to track and monitor the diversity of the student cohort at the institutional/medical school level to increase transparency and improve accountability.[2] Although there is a strong evidence base showing the central role of a racially/ethnically diverse workforce in addressing health inequities faced by minority populations, the United States continues to debate the importance of race-conscious medical admissions. Statewide laws banning affirmative action have shown a sharp decrease in the first-time matriculation of URiM medical school students.[62] Therefore, the recent nationwide ban on affirmative action is concerning, given its likely deleterious effect and further worsening the underrepresentation of URiM physicians.[5] Future studies should expand on these findings to explore the effects of COVID-19 pandemic disruptions, recent Supreme Court decisions, state-level bans on diversity, equity, and inclusion initiatives, ongoing state-level Medicaid expansion efforts, and the acceleration of telemedicine use on the patterns of URiM care for Medicaid populations.

Limitations

One potential limitation of the present study is the sampled assessment of all FPs, drawing from 2 years' certification survey responses. However, each year's respondents are a random selection of all certified FPs, which as a compulsory survey achieves a 100% response rate, making this sample functionally a partial census, which should be nationally representative of the overall FP workforce.[63] That the responses are from 2016 opens the possibility that our estimates of Medicaid service are now slightly dated in light of recent policy changes because of continued state-level expansions and disenrollment efforts that could affect total Medicaid population counts. In addition, changes in the primary care workforce as a result of COVID-19 and increasing diversity among medical students were not captured in our data.[64,65] Notwithstanding, our findings provide baseline evidence to compare future estimates from a longitudinal assessment of the Medicaid claims data to track if URiM FPs' role in caring for Medicaid patients has evolved in response to the aforementioned changes and trends. Finally, we could not explicitly measure or control for patient preferences in terms of race and ethnicity of their treating FP because we had access only to claims data.

CONCLUSION

Whereas the present study is correlational,[63] it nonetheless underscores how recent policy and legal developments might have an effect on Medicaid beneficiaries' access to care by uncovering the importance of URiM FPs for Medicaid programs.

Read or post commentaries in response to this article.

Key words: health workforce diversity; Medicaid; racial health inequities

Submitted November 29, 2023; submitted, revised, May 13, 2024; accepted May 20, 2024.

Funding support: This study was made possible by a grant from the American Board of Family Medicine Foundation.

Previous presentations: AcademyHealth Annual Research Meeting, June 24-27, 2023, Seattle, Washington

Acknowledgments: We would like to thank Dr Yalda Jabbarpour and Dr Alison Huffstetler for their contribution in contextualizing our study findings.

Supplemental materials

References

1. Underrepresented in medicine definition. Association of American Medical Colleges. Accessed Aug 10, 2023. https://www.aamc.org/what-we-do/equity-diversity-inclusion/underrepresented-in-medicine
2. Salsberg E, Richwine C, Westergaard S, et al. Estimation and comparison of current and future racial/ethnic representation in the US health care workforce. *JAMA Netw Open*. 2021;4(3):e213789. 10.1001/jamanetworkopen.2021.3789
3. Morris DB, Gruppuso PA, McGee HA, Murillo AL, Grover A, Adashi EY. Diversity of the national medical student body - four decades of inequities. *N Engl J Med*. 2021;384(17):1661-1668. 10.1056/NEJMsr2028487
4. Physician specialty data report. Association of American Medical Colleges. Accessed Aug 10, 2023. https://www.aamc.org/data-reports/workforce/report/physician-specialty-data-report
5. *Students for Fair Admissions Inc v President and Fellows of Harvard College*, 600 US ____ (2023).
6. Institute of Medicine (US) Committee on Institutional and Policy-Level Strategies for Increasing the Diversity of the US Healthcare Workforce; Smedley BD, Stith Butler A, Bristow LR, eds. *In the Nation's Compelling Interest*. National Academies Press; 2004.
7. Gaskin DJ, Dinwiddie GY, Chan KS, McCleary RR. Residential segregation and the availability of primary care physicians. *Health Serv Res*. 2012;47(6):2353-2376. 10.1111/j.1475-6773.2012.01417.x
8. Liu M, Wadhera RK. Primary care physician supply by county-level characteristics, 2010-2019. *JAMA*. 2022;328(19):1974-1977. 10.1001/jama.2022.15106
9. Snyder JE, Upton RD, Hassett TC, Lee H, Nouri Z, Dill M. Black representation in the primary care physician workforce and its association with population life expectancy and mortality rates in the US. *JAMA Netw Open*. 2023;6(4):e236687. 10.1001/jamanetworkopen.2023.6687
10. Gomez LE, Bernet P. Diversity improves performance and outcomes. *J Natl Med Assoc*. 2019;111(4):383-392. 10.1016/j.jnma.2019.01.006
11. Chen JG, Zou B, Shuster J. Relationship between patient satisfaction and physician characteristics. *J Patient Exp*. 2017;4(4):177-184. 10.1177/2374373517714453
12. Saha S, Arbelaez JJ, Cooper LA. Patient-physician relationships and racial disparities in the quality of health care. *Am J Public Health*. 2003;93(10):1713-1719. 10.2105/ajph.93.10.1713
13. Meghani SH, Brooks JM, Gipson-Jones T, Waite R, Whitfield-Harris L, Deatrick JA. Patient-provider race-concordance: does it matter in improving minority patients' health outcomes? *Ethn Health*. 2009;14(1):107-130. 10.1080/13557850802227031
14. Otte SV. Improved patient experience and outcomes: is patient-provider concordance the key? *J Patient Exp*. 2022;9:23743735221103033. 10.1177/23743735221103033
15. Gonzalez D, Kenney GM, McDaniel M, O'Brien C. Racial, ethnic, and language concordance between patients and their usual healthcare providers. Robert Wood Johnson Foundation, Urban Institute. Published Mar 2022. Accessed Jul 2, 2024. https://www.rwjf.org/en/insights/our-research/2022/03/racial-ethnic-and-language-concordance-between-patients-and-their-usual-healthcare-providers.html
16. Greenwood BN, Hardeman RR, Huang L, Sojourner A. Physician-patient racial concordance and disparities in birthing mortality for newborns. *Proc Natl Acad Sci U S A*. 2020;117(35):21194-21200. 10.1073/pnas.1913405117
17. Alsan M, Garrick O, Graziani G. Does diversity matter for health? Experimental evidence from Oakland. *Am Econ Rev*. 2019;109(12):4071-4111. 10.1257/aer.20181446
18. Cooper LA, Roter DL, Johnson RL, Ford DE, Steinwachs DM, Powe NR. Patient-centered communication, ratings of care, and concordance of patient and physician race. *Ann Intern Med*. 2003;139(11):907-915. 10.7326/0003-4819-139-11-200312020-00009
19. Jetty A, Jabbarpour Y, Pollack J, Huerto R, Woo S, Petterson S. Patient-physician racial concordance associated with improved healthcare use and lower healthcare expenditures in minority populations. *J Racial Ethn Health Disparities*. 2022;9(1):68-81. 10.1007/s40615-020-00930-4
20. Shen MJ, Peterson EB, Costas-Muñiz R, et al. The effects of race and racial concordance on patient-physician communication: a systematic review of the literature. *J Racial Ethn Health Disparities*. 2018;5(1):117-140. 10.1007/s40615-017-0350-4
21. Walker KO, Moreno G, Grumbach K. The association among specialty, race, ethnicity, and practice location among California physicians in diverse specialties. *J Natl Med Assoc*. 2012;104(1-2):46-52. 10.1016/s0027-9684(15)30126-7
22. Saha S. Taking diversity seriously: the merits of increasing minority representation in medicine. *JAMA Intern Med*. 2014;174(2):291-292. 10.1001/jamainternmed.2013.12736
23. Jetty A, Hyppolite J, Eden AR, Taylor MK, Jabbarpour Y. Underrepresented minority family physicians more likely to care for vulnerable populations. *J Am Board Fam Med*. 2022;35(2):223-224. 10.3122/jabfm.2022.02.210280
24. Xierali IM, Nivet MA. The racial and ethnic composition and distribution of primary care physicians. *J Health Care Poor Underserved*. 2018;29(1):556-570. 10.1353/hpu.2018.0036
25. Jabbarpour Y, Westfall J. Diversity in the family medicine workforce. *Fam Med*. 2021;53(7):640-643. 10.22454/FamMed.2021.284957
26. Area health resources files. Health Resources & Services Administration. data.HRSA.gov. Accessed Jun 8, 2023. https://data.hrsa.gov/topics/health-workforce/ahrf
27. Medicaid-to-Medicare fee index. KFF. Accessed Jul 3, 2024. https://www.kff.org/medicaid/state-indicator/medicaid-to-medicare-fee-index/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D
28. Bodas M, Strasser J, Luo Q, Schenk E, Chen C. Association of primary care physicians' individual- and community-level characteristics with contraceptive service provision to Medicaid beneficiaries. *JAMA Health Forum*. 2023;4(3):E230106. 10.1001/jamahealthforum.2023.0106
29. Luo Q, Bodas M, Vichare A, et al. Primary care provider Medicaid participation across the United States, 2016. *J Health Care Poor Underserved*. 2023;34(2):703-718. 10.1353/hpu.2023.0059
30. Raffoul M, Moore M, Kamerow D, Bazemore A. A primary care panel size of 2500 is neither accurate nor reasonable. *J Am Board Fam Med*. 2016;29(4):496-469. 10.3122/jabfm.2016.04.150317
31. Ludomirsky AB, Schpero WL, Wallace J, et al. In Medicaid managed care networks, care is highly concentrated among a small percentage of physicians. *Health Aff (Millwood)*. 2022;41(5):760-768. 10.1377/hlthaff.2021.01747
32. Social deprivation index (SDI). Robert Graham Center. Accessed Oct 3, 2023. https://www.graham-center.org/maps-data-tools/social-deprivation-index.html
33. Rudowitz R, Burns A, Hinton E, Mohamed M. 10 things to know about Medicaid. KFF. Published Jun 30, 2023. Accessed Sep 11, 2023. https://www.kff.org/mental-health/issue-brief/10-things-to-know-about-medicaid
34. Hill L, Artiga S, Damico A. Health coverage by race and ethnicity, 2010-2022. KFF. Published Jan 11, 2024. Accessed Jul 3, 2024. https://www.kff.org/racial-equity-and-health-policy/issue-brief/health-coverage-by-race-and-ethnicity
35. Call KT, McAlpine DD, Garcia CM, et al. Barriers to care in an ethnically diverse publicly insured population: is health care reform enough? *Med Care*. 2014;52(8):720-727. 10.1097/MLR.0000000000000172
36. Smedley BD, Stith AY, Nelson AR, eds. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. National Academies Press; 2003.
37. Neprash HT, Zink A, Sheridan B, Hempstead K. The effect of Medicaid expansion on Medicaid participation, payer mix, and labor supply in primary care. *J Health Econ*. 2021;80:102541. 10.1016/j.jhealeco.2021.102541
38. Holgash K, Heberlein M. Physician acceptance of new Medicaid patients: what matters and what doesn't. HealthAffairs Forefront. Project HOPE: The People-to-People Health Foundation, Inc. Published Apr 10, 2019. Accessed Apr 28, 2023. 10.1377/forefront.20190401.678690

39. Holgash K, Heberlein M; Medicaid and CHIP Payment and Access Commission. Physician acceptance of new medicaid patients. Published Jan 24, 2019. Accessed Jul 3, 2024. https://www.macpac.gov/wp-content/uploads/2019/01/Physician-Acceptance-of-New-Medicaid-Patients.pdf
40. Zuckerman S, Skopec L, Epstein M. Medicaid physician fees after the ACA primary care fee bump. Urban Institute. Published Mar 5, 2017. Accessed Jul 3, 2024. https://www.urban.org/research/publication/medicaid-physician-fees-after-aca-primary-care-fee-bump
41. Cunningham PJ, Hadley J. Effects of changes in incomes and practice circumstances on physicians' decisions to treat charity and Medicaid patients. *Milbank Q*. 2008;86(1):91-123. 10.1111/j.1468-0009.2007.00514.x
42. Cunningham PJ, Nichols LM. The effects of Medicaid reimbursement on the access to care of Medicaid enrollees: a community perspective. *Med Care Res Rev*. 2005;62(6):676-696. 10.1177/1077558705281061
43. Hing E, Decker S, Jamoom E. Acceptance of new patients with public and private insurance by office-based physicians: United States, 2013. *NCHS Data Brief*. 2015;(195):1-8.
44. Sommers AS, Paradise J, Miller C. Physician willingness and resources to serve more Medicaid patients: perspectives from primary care physicians. *Medicare Medicaid Res Rev*. 2011;2(1):E1-E18. 10.5600/mmrr.001.02.a01
45. Cunningham PJ, O'Malley AS. Do reimbursement delays discourage Medicaid participation by physicians? *Health Aff (Millwood)*. 2009;28(1):w17-w28. 10.1377/hlthaff.28.1.w17
46. Sommers BD, Kronick R. Measuring Medicaid physician participation rates and implications for policy. *J Health Polit Policy Law*. 2016;41(2):211-224. 10.1215/03616878-3476117
47. Richards MR, Saloner B, Kenney GM, Rhodes KV, Polsky D. Availability of new Medicaid patient appointments and the role of rural health clinics. *Health Serv Res*. 2016;51(2):570-591. 10.1111/1475-6773.12334
48. Tipirneni R, Kieffer EC, Ayanian JZ, et al. Factors influencing primary care providers' decisions to accept new Medicaid patients under Michigan's Medicaid expansion. *Am J Manag Care*. 2019;25(3):120-127.
49. Spivack SB, Murray GF, Rodriguez HP, Lewis VA. Avoiding Medicaid: characteristics of primary care practices with no Medicaid revenue. *Health Aff (Millwood)*. 2021;40(1):98-104. 10.1377/hlthaff.2020.00100
50. Richards MR, Polsky D. Influence of provider mix and regulation on primary care services supplied to US patients. *Health Econ Policy Law*. 2016;11(2):193-213. 10.1017/S1744133115000390
51. Decker SL. No association found between the Medicaid primary care fee bump and physician-reported participation in Medicaid. *Health Aff (Millwood)*. 2018;37(7):1092-1098. 10.1377/hlthaff.2018.0078
52. Dunn A, Gottlieb JD, Shapiro A, Sonnenstuhl DJ, Tebaldi P. A denial a day keeps the doctor away. National Bureau of Economic Research. Published Jul 2021. Revised Jan 2023. Accessed Jul 4, 2024. 10.3386/w29010
53. Gottlieb JD, Shapiro AH, Dunn A. The complexity of billing and paying for physician care. *Health Aff (Millwood)*. 2018;37(4):619-626. 10.1377/hlthaff.2017.1325
54. Liaw WR, Jetty A, Petterson SM, Peterson LE, Bazemore AW. Solo and small practices: a vital, diverse part of primary care. *Ann Fam Med*. 2016;14(1):8-15. 10.1370/afm.1839
55. Marrast LM, Zallman L, Woolhandler S, Bor DH, McCormick D. Minority physicians' role in the care of underserved patients: diversifying the physician workforce may be key in addressing health disparities. *JAMA Intern Med*. 2014;174(2):289-291. 10.1001/jamainternmed.2013.12756
56. Saha S, Taggart SH, Komaromy M, Bindman AB. Do patients choose physicians of their own race? *Health Aff (Millwood)*. 2000;19(4):76-83. 10.1377/hlthaff.19.4.76
57. Takeshita J, Wang S, Loren AW, et al. Association of racial/ethnic and gender concordance between patients and physicians with patient experience ratings. *JAMA Netw Open*. 2020;3(11):e2024583. 10.1001/jamanetworkopen.2020.24583
58. Ghabowen IK, Bhandari N. Concordance and patient-centered care in Medicaid enrollees' care experience with providers. *J Patient Exp*. 2021;8:23743735211034028. 10.1177/23743735211034028
59. Greer TM, Brondolo E, Brown P. Systemic racism moderates effects of provider racial biases on adherence to hypertension treatment for African Americans. *Health Psychol*. 2014;33(1):35-42. 10.1037/a0032777
60. Benkert R, Peters RM, Clark R, Keves-Foster K. Effects of perceived racism, cultural mistrust and trust in providers on satisfaction with care. *J Natl Med Assoc*. 2006;98(9):1532-1540.
61. Dent RB, Vichare A, Casimir J. Addressing structural racism in the health workforce. *Med Care*. 2021;59(10 Suppl 5):S409-S412. 10.1097/MLR.0000000000001604
62. Garces LM, Mickey-Pabello D. Racial diversity in the medical profession: the impact of affirmative action bans on underrepresented student of color matriculation in medical schools. *J Higher Educ*. 2015;86(2):264-294. 10.1353/jhe.2015.0009
63. Peterson LE, Fang B, Phillips RL Jr, Avant R, Puffer JC. The American Board of Family Medicine's data collection method for tracking their specialty. *J Am Board Fam Med*. 2019;32(1):89-95. 10.3122/jabfm.2019.01.180138
64. HRSA Health Workforce. State of the primary care workforce 2023. Published Nov 24, 2023. Accessed Jul 3, 2024. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/state-of-primary-care-workforce-2023.pdf
65. Diversity increases at medical schools in 2022. Association of American Medical Colleges. Published Dec 13, 2022. Accessed May 8, 2024. https://www.aamc.org/news/press-releases/diversity-increases-medical-schools-2022