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The Racial and Ethnic Diversity of the Family Physician Workforce in Non-Metropolitan and Metropolitan Counties

Lars E. Peterson, MD, PhD; Zachary J. Morgan, MS

Overview of Key Findings

- The family physician workforce is becoming more racially diverse; however, non-metropolitan family physicians are not.
- Using data from over 24,000 family physicians who either registered to continue their American Board of Family Medicine (ABFM) certification or completed the graduate survey from 2017 to 2019, we found that early career family physicians are more diverse than later career physicians (66.9% vs. 72.8% White; 58.3% vs. 44.0% female) but, in both groups, the percentage of White non-metropolitan family physicians was even higher (82.7% to 90.5%).
- Minority non-metropolitan family physicians, particularly Black and Native American/Alaska Native physicians, are more likely to practice in persistent poverty counties. The lack of resources in these counties may make delivering health care harder.

Introduction

Rural America faces well-known challenges in access to health care and relies considerably on the availability of Family Physicians (FPs), the most widely and evenly distributed medical specialty across the rural continuum.¹ On average, rural populations have a greater proportion of Whites than urban populations, but variation exists with rural minorities often concentrated in counties with higher social deprivation.^{2,3} In general, physicians are disproportionately White and male compared to the U.S. workforce and population.^{4,5}

Greater supply of primary care physicians, which includes FPs, general internists, and pediatricians, is associated with lower all cause mortality^{6,7} and lower disparities in health outcomes.⁷ Additionally, a growing body of work shows that racial/ethnic concordance of clinicians and patients improves health outcomes by increasing access to care for underserved populations and by increasing opportunities for racial/ethnic minority patients to see practitioners with whom they share a common race, ethnicity, or language.⁸ This may be particularly important in rural counties that are majority minority where there are higher rates of premature mortality⁹ and cancer mortality.¹⁰

Little is known about racial and ethnic distribution of FPs according to rurality and how this compares to urban FPs. In 2012, among physicians in a combined FP/general practitioner group, Native Americans and Whites were more likely to practice in rural locations than physicians in other racial and ethnic categories.¹¹ Additionally, there is variation among racial/ethnic categories in practice location in Health Professional Shortage Areas (HPSAs).¹¹ Other studies have found that racial/ethnic minority physicians are more likely to practice in areas with more Spanish speakers,¹² and international medical graduates (IMGs) are more likely to practice in areas with a higher proportion of the racial/ethnic group they identify with¹³ and in rural areas of higher need.¹⁴ Thus, it is likely that minority rural

FPs may not be distributed evenly across rural areas. Our objective was to determine the distribution of FPs in rural areas by race/ethnicity and also whether rural minority physicians were more likely to be in underserved rural areas.

Methods

We used data from the 2017 through 2019 American Board of Family Medicine (ABFM) Family Medicine Certification Examination practice demographic questionnaire and the National Graduate Survey (NGS).^{15,16} FPs take the ABFM exam every 7-10 years throughout their careers and this group is our “later career” cohort. The NGS is administered to FPs three years after residency graduation and this group is our “early career” cohort. Each instrument has common items that capture practice organization, size, and address. Race is collected on the certification examination questionnaire; for the NGS respondents, we linked to their initial certification examination data to obtain race/ethnicity data. Race data were collected as a “select best” option with an “other” option added in 2016, which means “other” was not available to the NGS respondents. Hispanic ethnicity is collected in a separate question. Gender was collected separately from either instrument and is recorded as male or female only. We geocoded practice address to the county level and linked to the Area Health Resources File to obtain persistent poverty and full primary care Health Professional Shortage Area (HPSA) status.

We limited our sample to FPs in the United States and who primarily provided outpatient continuity care. We used descriptive and bivariate statistics to test for differences by race/ethnicity between cohorts and over time. To study whether non-metropolitan minority FPs were more likely to practice in underserved settings, we conducted an analysis of only non-metropolitan FPs by county characteristics.

Findings

Our sample included 5,063 early career FPs from the NGS and 19,234 FPs who sought to continue their ABFM certification (Tables 1 and 2). In both groups around 9% were practicing in micropolitan counties, but early career FPs were more likely to be in non-core/non-metro counties than later career FPs (7.3% vs. 6.3%). In both cohorts, FPs in micropolitan and non-core/non-metro areas were generally White, non-Hispanic, and U.S. medical graduates. Early career FPs were more racially/ethnically diverse, and majority female, compared to the continuing certification cohort and more females were in non-core/non-metro counties in this cohort.

Table 1. Personal and Practice Characteristics of Early Career Family Physicians Practicing Outpatient Care Who Completed the American Board of Family Medicine National Graduate Survey from 2017 to 2019 by Rurality (N=5,063)

	National Graduate Survey			
	Metropolitan	Micropolitan	Non-Core Non-Metropolitan	Total
	N=4,242	N=450	N=371	N=5,063
Mean Age in Years (95% CI)	35.6 (35.5, 35.7)	35.3 (34.9, 35.7)	35.4 (35.0, 35.8)	35.6 (35.4, 35.7)
Gender*				
Male	1,709 (40.3%)	234 (52.0%)	166 (44.7%)	2,109 (41.7%)
Female	2,533 (59.7%)	216 (48.0%)	205 (55.3%)	2,954 (58.3%)
Degree Type				
MD	3,374 (79.5%)	354 (78.7%)	301 (81.1%)	4,029 (79.6%)
DO	868 (20.5%)	96 (21.3%)	70 (18.9%)	1,034 (20.4%)
Site of Medical School*				
International Medical Graduate	1,211 (28.5%)	104 (23.1%)	62 (16.7%)	1,377 (27.2%)
US/CAN Medical Graduate	3,031 (71.5%)	346 (76.9%)	309 (83.3%)	3,686 (72.8%)
Race*				
White	2,839 (66.9%)	372 (82.7%)	329 (88.7%)	3,540 (69.9%)

Asian	1,009 (23.8%)	46 (10.2%)	24 (6.5%)	1,079 (21.3%)
Black or African American	316 (7.4%)	25 (5.6%)	14 (3.8%)	355 (7.0%)
American Indian or Alaska Native	45 (1.1%)	5 (1.1%)	3 (0.8%)	53 (1.0%)
Native Hawaiian or Other Pacific	33 (0.8%)	2 (0.4%)	1 (0.3%)	36 (0.7%)
Other				
Ethnicity*				
Not Hispanic or Latino	3,857 (90.9%)	429 (95.3%)	360 (97.0%)	4,646 (91.8%)
Hispanic or Latino	385 (9.1%)	21 (4.7%)	11 (3.0%)	417 (8.2%)

* P value < .05 for either t-test or Chi-Square test across the four categories.

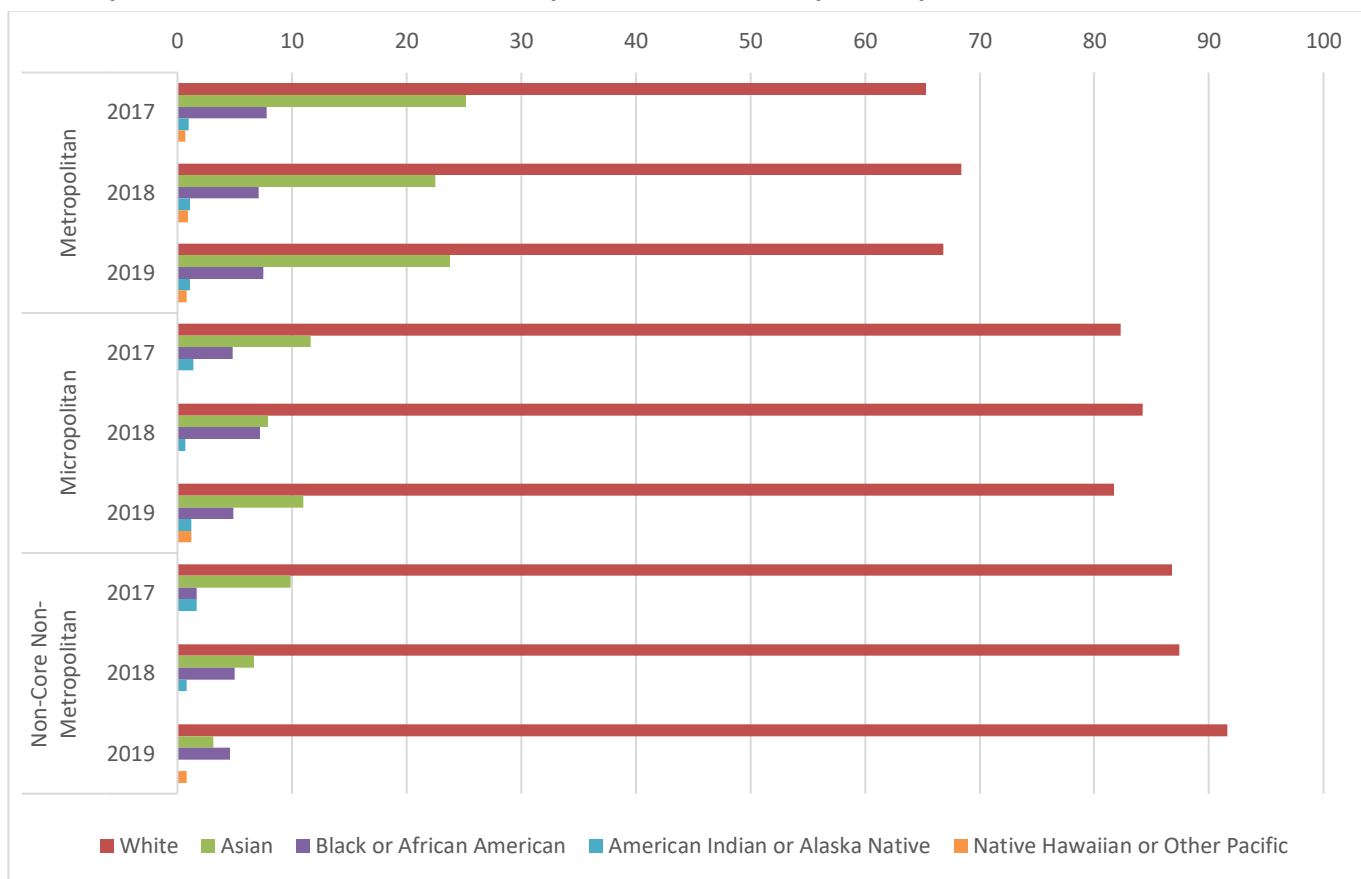
The proportion of White FPs increases with rurality in both cohorts. The proportion of Asian FPs decreases precipitously outside of metropolitan counties in both cohorts. In the continuing certification cohort, the proportion of American Indian/Alaska Native FPs is double in micropolitan and non-core/non-metro counties compared to metropolitan counties (0.7% vs 1.5-1.7%).

Table 2. Personal and Practice Characteristics of Family Physicians Practicing Outpatient Care Who Registered for the American Board of Family Medicine National Continuing Certification Examination from 2017 to 2019 by Rurality (N=19,234)

	Continuing Certification			
	Metropolitan	Micropolitan	Non-Core Non-Metropolitan	Total
	N=16,277	N=1,745	N=1,212	N=19,234
Mean Age in Years (95% CI)*	51.7 (51.5, 51.8)	52.7 (52.3, 53.1)	53.0 (52.5, 53.5)	51.9 (51.7, 52.0)
Gender*				
Male	8,855 (54.4%)	1,119 (64.1%)	799 (65.9%)	10,773 (56.0%)
Female	7,422 (45.6%)	626 (35.9%)	413 (34.1%)	8,461 (44.0%)
Degree Type*				
MD	14,667 (90.1%)	1,532 (87.8%)	1,077 (88.9%)	17,276 (89.8%)
DO	1,610 (9.9%)	213 (12.2%)	135 (11.1%)	1,958 (10.2%)
Site of Medical School*				
International Medical Graduate	3,514 (21.6%)	177 (10.1%)	99 (8.2%)	3,790 (19.7%)
US/CAN Medical Graduate	12,763 (78.4%)	1,568 (89.9%)	1,113 (91.8%)	15,444 (80.3%)
Race*				
White	11,369 (69.8%)	1,532 (87.8%)	1,097 (90.5%)	13,998 (72.8%)
Asian	2,714 (16.7%)	89 (5.1%)	38 (3.1%)	2,841 (14.8%)
Black or African American	1,015 (6.2%)	47 (2.7%)	32 (2.6%)	1,094 (5.7%)
American Indian or Alaska Native	118 (0.7%)	26 (1.5%)	20 (1.7%)	164 (0.9%)
Native Hawaiian or Other Pacific	91 (0.6%)	4 (0.2%)	2 (0.2%)	97 (0.5%)
Other	970 (6.0%)	47 (2.7%)	23 (1.9%)	1,040 (5.4%)
Ethnicity*				
Not Hispanic or Latino	15,044 (92.4%)	1,691 (96.9%)	1,194 (98.5%)	17,929 (93.2%)
Hispanic or Latino	1,233 (7.6%)	54 (3.1%)	18 (1.5%)	1,305 (6.8%)

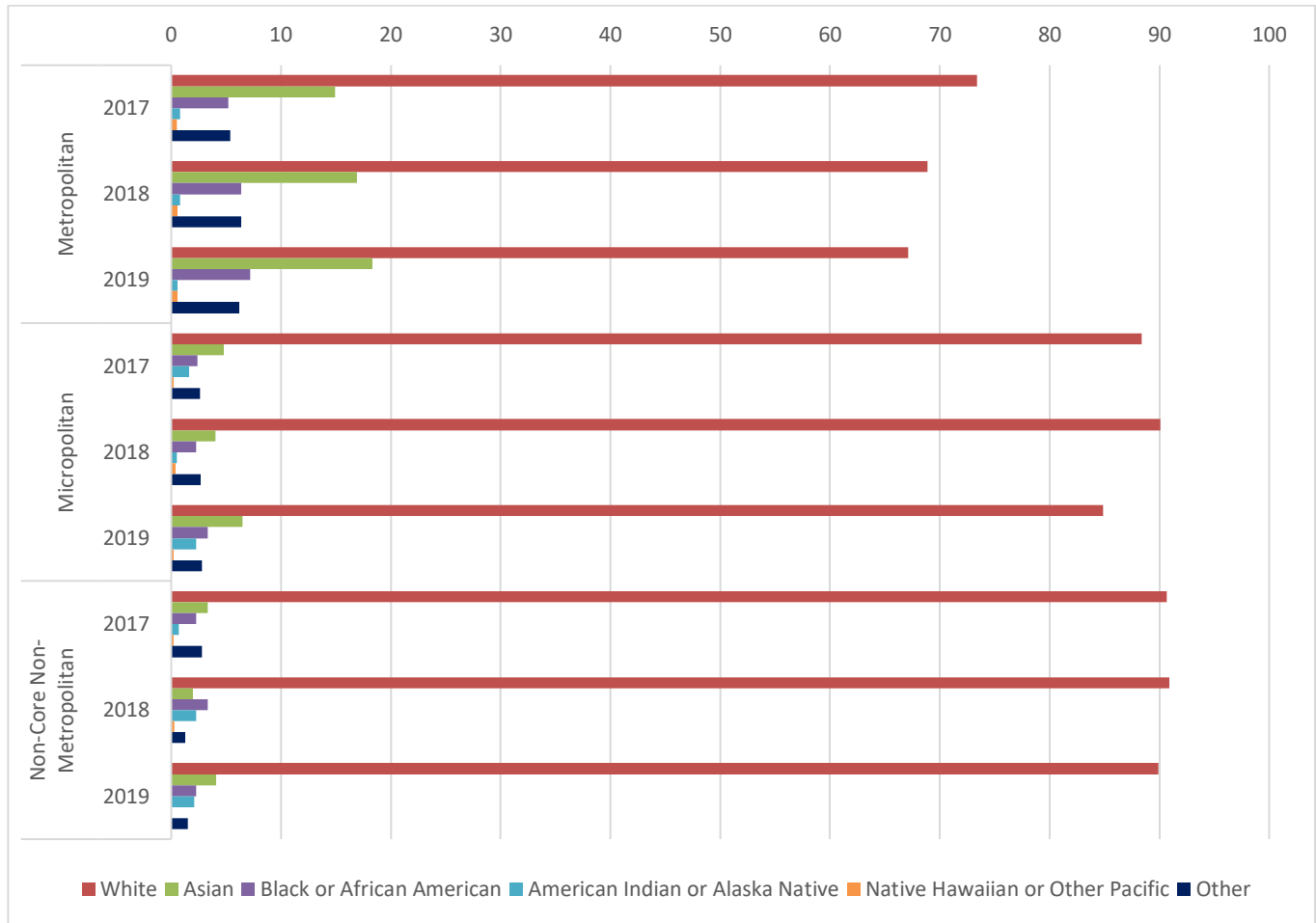
* P value < .05 for either t-test or Chi-Square test across the four categories.

Figure 1. Race of Early Career Family Physicians Practicing Outpatient Care Who Completed the American Board of Family Medicine National Graduate Survey from 2017 to 2019 by Rurality (N=5,063)



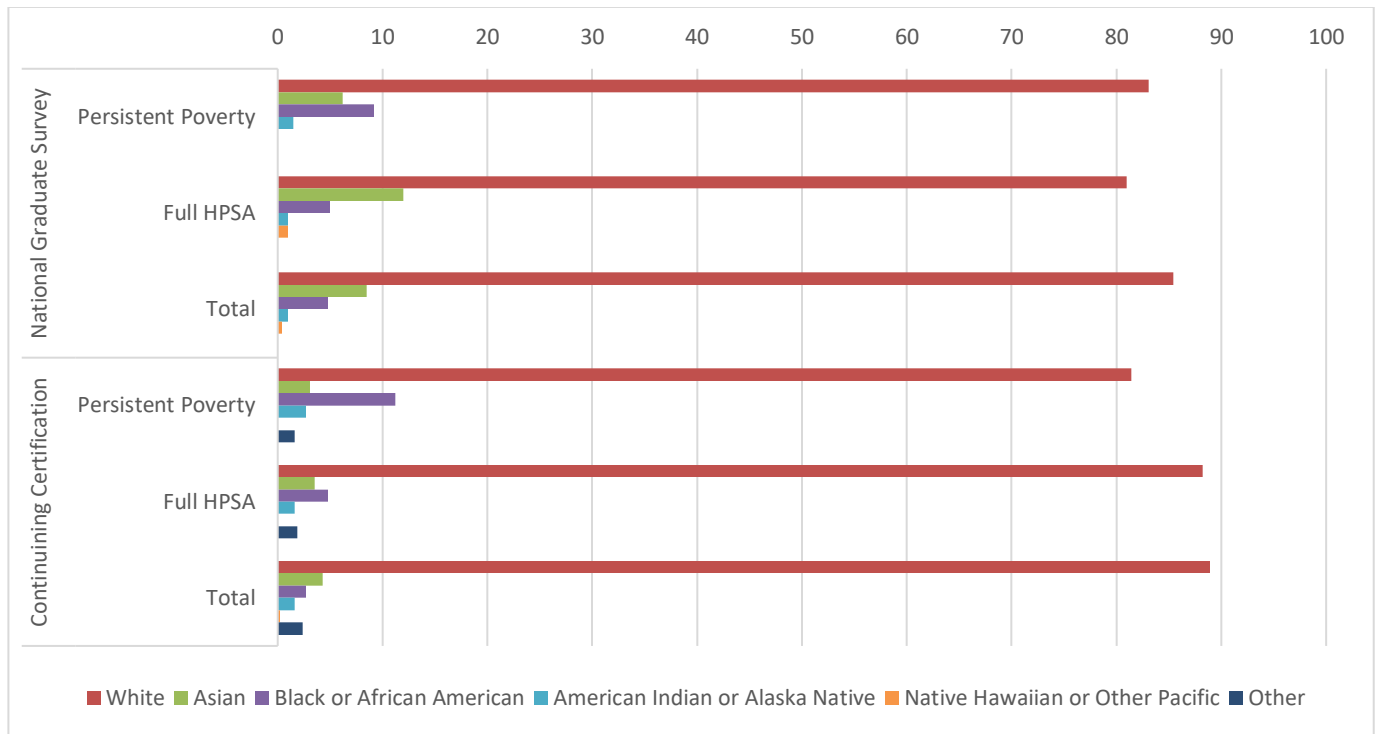
Looking at changes in racial diversity of FPs over time (Figures 1 and 2), the only significant change was the decline in the proportion of White FPs in metropolitan counties in the continuing certification cohort from 2017 to 2019 (73.4% to 67.1%), with an increase in Asian FPs (14.9% to 18.3%). Due to small sample sizes (n=12 to 4 in each year), the decline of Asian FPs in the NGS cohort in non-core/non-metro counties from 9.9% to 3.1% was not significant.

Figure 2. Race of Family Physicians Practicing Outpatient Care Who Registered for the American Board of Family Medicine National Continuing Certification Examination from 2017 to 2019 by Rurality (N=19,234)



Restricting our sample to micropolitan and non-core/non-metro FPs, we found that Black FPs in both cohorts were more likely to practice in persistent poverty counties (Figure 3). Among early career FPs, 9.2% in persistent poverty counties were Black, compared with 4.8% overall. In later career FPs, the differences are higher with 11.2% of FPs in persistent poverty counties being Black, compared with 2.7% overall.

Figure 3. Race of Rural Family Physicians in Persistent Poverty and Full Primary Care Health Professional Shortage Area (HPSA) Counties by Stage in Career (n=3,778)



Conclusion/Discussion

Using data from multiple years and more than 24,000 FPs at different career stages, we found that younger FPs are more racially diverse and more likely to be female than older FPs. However, these gains in racial diversity overall have not reached the non-metropolitan FP workforce. While non-metropolitan FPs are disproportionately male, among early career FPs females were more common in non-core/non-metro counties. In non-metropolitan America, Black FPs are more likely to practice in persistent poverty counties.

Implications

Rural areas are largely dependent on FPs for medical care. Increasing the diversity of the health professions workforce is one component of policies to improve health outcomes. Collecting more detailed data, including on sexual orientation and gender identity, will improve the ability of health care organizations and policymakers to achieve this goal.

Most non-metropolitan FPs are still White and male but overall, FPs are increasingly racially/ethnically diverse. Rural Black FPs are more likely to practice in persistent poverty counties that are at further disadvantage, particularly if these counties are majority minority. Increasing resources to support these professionals in providing care is crucial to improving the health of rural and disadvantaged populations.

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