General Practitioners in US Medical Practice Compared With Family Physicians

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ABSTRACT

PURPOSE General practitioners (GPs) are part of the US physician workforce, but little is known about who they are, what they do, and how they differ from family physicians (FPs). We describe self-identified GPs and compare them with board-certified FPs.

METHODS Analysis of data on 102,604 Doctor of Medicine and Doctor of Osteopathy physicians in direct patient care in the United States in 2016, who identify themselves as GPs or FPs. The study used linking databases (American Medical Association Masterfile, American Board of Family Medicine [ABFM], Area Health Resource File, Medicare Public Use File) to examine personal, professional, and practice characteristics.

RESULTS Of the physicians identified, 6,661 self-designated as GPs and 95,943 self-designated as FPs. Of the self-designated GPs, 116 had been ABFM certified and were excluded from the study. Of the remaining 102,488 physicians, those who self-designated as GPs but were never ABFM certified constituted the GP group (n = 6,545, 6%). Self-designated FPs that were ABFM certified made up the FP group (n = 79,449, 78%). The remaining self-designated FPs not ABFM certified constituted the uncertified group (n = 16,494, 16%). GPs differed from FPs in every characteristic examined. Compared with FPs, GPs are more likely to be older, male, Doctors of Osteopathy, graduates of non-US medical schools, and have no family medicine residency training. GPs practice location is similar to FPs, but GPs are less likely to participate in Medicare or to work in hospitals.

CONCLUSIONS GPs in the United States are a varied group that differ from FPs. Researchers, educators, and policy makers should not lump GPs together with FPs in data collection, analysis, and reporting.

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INTRODUCTION

Primary care requires an adequate workforce of appropriately trained generalist clinicians. Among the mix of primary care clinicans are general practitioners who provide primary care services, but whose role in US medical care has evolved over the past 50 years.

Historically, most generalist physicians were called general practitioners (GPs) and entered practice with 1 to 2 years of hospital-based training that was not designed to prepare physicians for community-based primary care practice. The specialty of family medicine was built on the foundation of the GP, addressing problems of insufficient access to primary care, fragmentation of care, and increasing costs.[1,2] (Supplemental Appendix, http://www.AnnFamMed.org/content/18/2/127/suppl/DC1). In 1969, the American Medical Association (AMA) Council on Medical Education and the independent American Board of Medical Specialties (ABMS)approved the American Board of Family Practice (now Family Medicine [ABFM]) to set standards for residency training, examination, and ongoing certification.[3] ABFM certification requires completion of 3 years of residency training and passing of the examination. There is no certification in general practice recognized by the ABMS.[4]

During the transition to family practice certification, GPs could qualify for ABFM certification through continuing medical education and examination. Many GPs chose not to become board certified and continued to practice, as either GPs or FPs.[3] Most early GPs have aged out of the workforce. Physicians ineligible for ABFM certification still enter practice as GPs or FPs. In the United States, neither federal nor state laws regulate how physicians label their specialty to the public. Little is known about physicians who call themselves GPs. Given the key role of primary care in US health care, it is important to identify GPs, understand who they are, what they do, and how they compare with FPs.

There is a potential problem with the common practice in health care research to combine FPs and GPs into an aggregate "FP/GP" group.[5] Lumping GPs and FPs together risks misclassification bias and threatens validity of findings. We examined US national physician databases with 2 study aims: (1) to describe the personal and professional characteristics and practice activities of GPs; and (2) to compare the characteristics of GPs with those of FPs.

METHODS

Starting with the 2016 AMA Masterfile, which provides demographic, training, and practice information on all on Doctors of Medicine and Doctors of Osteopathy (DOs) in the United States, we linked to data from multiple sources using the National Provider Identifier. We determined: (1) board certification status from ABFM administrative data; (2) medical services billed from the 2016 Medicare Public Use File (Center for Medicare and Medicaid Services); and (3) characteristics of practice community from the 2016 Area Health Resource File (US Department of Health and Human Services).

We limited our sample to physicians in direct patient care with the primary specialty of GP or family medicine (FM), according to the AMA Masterfile. We divided physicians into 3 groups: (1) GPs, who self-identify as GPs and were never certified by the ABFM; (2) FPs, who self-identify as FPs and were ever certified by the ABFM; and (3) uncertified, who self-identify as FPs but were never ABFM certified.

We categorized post-graduate specialty training from AMA data into 4 groups: (1) those with 3 years or more of residency training; (2) those with less than 3 years of residency training, then by (3) whether the training was in FM or (4) in any other specialty.

We linked each physician to their Medicare Public Use File to identify services billed. We used Berenson-Eggers Type of Service codes[6] to classify Medicare billing data to describe primary care services. To characterize physician practices, we used the practice address in the AMA Masterfile, geocoded at the county level and linked to county-level data in the Area Health Resource File:

Practice urbanicity/rurality was characterized using the Rural Urban Continuum Codes[7] and medically underserved status using Primary Care Health Professional Shortage Area codes.[8]

Significance level was set at $P = 0.05$, with 2-sided tests. All analyses were conducted using STATA version 15.1 (StataCorp LLC).

RESULTS

We identified 102,604 physicians in direct patient care in 2016 who designated themselves as either

Table 1. Characteristics of US General Practitioners (GP) and Family Physicians (FP) in 2016

Characteristics	Specialty Group[a]			Total
	GPs	Uncertified	FPs	
No. (%)	6,545 (6.4)	16,494 (16.0)	79,449 (77.6)	102,488
Age, mean (range), years[a]	64.6 (30-96)	57.6 (28-95)	49.4 (29-89)	
Sex, No. (%)[a]				102,488
Female	1,486 (23)	4,587 (28)	33,456 (42)	
Male	5,059 (77)	11,907 (72)	45,993 (58)	
Medical school, No. (%)[a]				102,488
United States	3,866 (59)	13,188 (80)	61,211 (77)	
Other	2,679 (41)	3,306 (20)	18,238 (23)	
Medical degree, No. (%)[a]				102,488
MD	4,712 (72)	8,764 (53)	71,669 (90)	
DO	1,833 (28)	7,730 (47)	7,780 (10)	
Residency training, No. (%)[a,b]				93,500
FM ≥3 years	41 (1)	5,593 (48)	71,026 (91)	
FM <3 years	291 (8)	3,020 (26)	6,480 (8)	
Other ≥3 years	1,211 (34)	1,086 (9)	171 (0)	
Other <3 years	1,973 (56)	1,850 (16)	758 (1)	

DO = Doctor of Osteopathy; FM = family medicine; IQR = interquartile range; MD = Doctor of Medicine.

Age mean and range exclude 229 physicians due to missing data on birth year. Differences between GP and FP groups significant at $P < .001$, t-test for age, χ^2 for other variables.

[a]American Medical Association (AMA) Masterfile data 2016.

[b]Missing training information in AMA data: GP n = 3,029; Uncertified n = 4,945; FP n = 1,014.

GPs (n = 6,661, 6.5%) or as FPs (n = 95,943, 93.5%). GPs were more often excluded than FPs for not being involved with direct patient care (Supplemental Appendix, Table 1).

Of the GPs only 116 (1.2%) were ever ABFM certified and they were excluded from further analysis. Of the remaining 102,488 physicians, 6,545 (6%) self-designated as GPs and were never ABFM certified; these constituted our GP group. Of the self-designated FPs, 79,449 (83%) were ABFM certified; these constituted our FP group. The remaining 16,494 (16%) self-designated as FPs who were never ABFM certified constituted our uncertified group.

GPs were much different from FPs on every characteristic examined (Table 1). The mean age of GPs was 64.6 years (range 30 to 96), compared with 49.4 years (range 26 to 89) for FPs. GPs were 77% male compared with 58% male for FPs. DOs made up 28% of all GPs but only 10% of all FPs. Non-US medical graduates made up 41% of GPs, but 23% of FPs.

GPs born and trained outside of the United States came from a wide variety of countries, mostly from Asia and the Americas. Top countries of origin were the Philippines (15.6%), Cuba (13.7%), and India (13.5%). (Supplemental Appendix, Table 2).

Only 1% of GPs completed 3 years of FM residency training, compared to 91% of FPs. Another 8% of GPs had 1 to 2 years of FM training but 91% of GPs received their post-graduate training in non-FM specialties. Only 48% of GPs completed any training in any program related to primary care. (Supplemental Appendix Table 3).

When examining GP practices, they appear in some ways similar to FP practices (Table 2). Their distribution across the United States is largely the same for rural-urban, medically underserved, and region characteristics. FPs (86%) are slightly more likely than GPs (83%) to work in counties that are partially Health Professional Shortage Areas and less likely to work in locations where none of the county is a Health Professional Shortage Area.

Only 53% of GPs participate in the Medicare program, compared with 76% of FPs (Table 2). GPs (13%) were less likely to provide services in hospitals than FPs (22%), but slightly more likely than FPs to provide services in nursing homes (13% vs 11%) and to make home visits (3% vs 1%).

The uncertified group was intermediate between GP and FP groups on most comparisons.

Table 2. Practice Characteristics of US General Practitioners (GP) and Family Physicians (FP) in 2016

Characteristics	Specialty Group[a]			Total
	GPs	Uncertified	FPs	
Total, No. (%)	6,545 (6)	16,494 (16)	79,449 (78)	102,488
Rural-Urban, No. (%)[b]				102,096
Metropolitan RUCC 1-3	5,528 (85)	13,673 (83)	67,099 (85)	
Large rural RUCC 4-5	345 (5)	1,065 (6)	4,846 (6)	
Small rural RUCC 6-7	532 (8)	1,435 (9)	6,196 (8)	
Frontier RUCC 8-9	123 (2)	274 (2)	980 (1)	
Medically underserved, No. (%)[c]				99,154
None of county HPSA	862 (13)	1,697 (10)	8,281 (10)	
Part of county HPSA	5,434 (83)	14,106 (86)	65,353 (86)	
Entire county HPSA	247 (4)	653 (4)	2,521 (3)	
Region, No. (%)[b]				100,566
Midwest	1,229 (22)	3,779 (24)	20,028 (25)	
Northeast	730 (13)	2,577 (16)	10,861 (14)	
South	2,190 (39)	6,047 (38)	27,728 (35)	
West	1,432 (26)	3,587 (22)	20,378 (26)	
Medicare participation, No. (%)[d]				102,988
Yes	3,496 (53)	10,838 (66)	60,409 (76)	
No	3,049 (47)	5,656 (34)	19,540 (24)	
Medicare services[d] provided by participating physicians, No. (%)				74,743
Office	2,945 (84)	9,004 (83)	50,013 (83)	
Hospital	470 (13)	1,780 (16)	13,271 (22)	
Nursing home	455 (13)	1,442 (13)	6,634 (11)	
Home visit	407 (3)	247 (2)	657 (1)	
Emergency	234 (7)	868 (8)	3,659 (6)	
Procedures	1,301 (37)	4,647 (43)	21,035 (35)	

All differences between general practitioner and family physician groups significant at $P < 0.001$, χ^2 test.

[a]American Medical Association Masterfile data 2016.

[b]Rural-Urban Continuum Code (RUCC), 2016.[7]

[c]Health Professional Shortage Area (HPSA), Health Area Resource File data 2016.[8]

[d]Medicare data 2016, clustered by Berenson-Eggers Type of Service code.[6]

DISCUSSION

This is the only recent study describing GPs in the United States and comparing them with FPs. It documents that GPs are different from FPs in personal and professional characteristics and in training and credentials.

Compared with FPs, GPs are more likely to be older, male, DOs, and graduates of non-US medical schools. They are unlikely to have any FM residency training or to have ever been ABFM certified.

The GPs trained prior to establishment of the specialty of FM and ABFM certification have mostly left the workforce. Physicians entering the GP pool (DOs and graduates of non-US medical schools) are important to the total US physician work force. Though smaller than the population of FPs in the United States, the number of GPs currently in practice (6,545) is greater than the numbers of physicians practicing in 19 of the 44 largest specialties recognized by the ABMS, including geriatric medicine (4,733), internal medicine/pediatrics (4,591), and preventative medicine (4,123).[9]

GPs are less likely than FPs to work in hospitals, possibly due to lack of current skills, difficulty getting privileges, and lifestyle concerns of older physicians. Slightly more than one-half of GPs participate in Medicare compared with over three-quarters of FPs. Thus, though GPs practice in many communities across the United States, they may not provide as much care as FPs do for seriously ill or senior patients.

Our study has the usual limitations of secondary data analysis. Our data come from the most comprehensive sources available, but may still be incomplete. We do not know if physicians were certified by boards other than ABFM, including osteopathic boards. Clinical service data were limited to Medicare records and thus omit important populations and services. We have no data on GP scope of practice, resource use, or care quality or outcomes.

Our findings are limited to the United States and do not apply to countries where the term "general practitioner" is applied to specialty-trained comprehensive primary care physicians.[10]

Our findings point to the need for further research. The uncertified group of physicians, made up largely of physicians with 1 to 3 years of family medicine specialty training but lacking American Board of Medical Specialties board certification, comprises 16% of the combined FP/GP group and deserves further study.

Our cross-sectional data cannot describe the trends of aging and retirement among the physician groups. Even if many GPs are aging out of the primary care workforce in greater numbers than FPs, they are still primary care providers in many communities. Further research on physician age and career path could help predict primary care workforce trends.

Unlike primary care physicians of 40 years ago, present day GPs in the United States are a heterogeneous group that is distinctly different from FPs. The differences may impact decisions made regarding medical education, post-graduate training, specialty certification, assessments of patterns, outcomes of care, and workforce planning. To avoid misunderstanding the dynamics of contemporary family medicine and primary care, the 2 groups should be analyzed separately because not doing so risks misclassification bias and may obscure important differences.

CONCLUSIONS

GPs and FPs are distinct groups, varying in personal and professional characteristics. Researchers, educators, and policy makers should keep GPs and FPs separate in data collection, analysis, and reporting. Understanding the services GPs provide to different communitites warrants further study.

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