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Workforce Diversity in Female Pelvic Medicine and Reconstructive Surgery: An Analysis of the American Urological Association Census Data

Elodi J. Dielubanza, MD, Ekene A. Enemchukwu, MD, MPH, and Humphrey O. Atiemo, MD

OBJECTIVE	To describe the current state of workforce diversity in Female Pelvic Medicine and Reconstructive Surgery (FPMRS) using the 2014-2019 American Urological Association (AUA) census data.
MATERIALS	We evaluated FPMRS workforce diversity using the AUA census data from 2014 to 2019. Under-represented in medicine (URiM) groups were categorized as individuals who self-identified as non-Hispanic Black/African American, Hispanic, Multiracial, and Other. The FPMRS workforce was then compared to the overall urologic workforce and the other urologic subspecialties (oncology, pediatric urology, and endourology) and assessed by AUA section.
RESULTS	In 2019, 602 urologists self-identified as FPMRS providers. Of these 12.4% ($n = 74$) were categorized as URiM urologists compared to 8% of the overall urologic workforce. Women who represent 9.9% of all urologists were overrepresented in FPMRS workforce (46.5%). FPMRS had the largest proportion of URiM and women urologists when compared to the other subspecialty areas.
CONCLUSION	The FPMRS urologic subspecialty has the highest percentage of women and URiM urologists compared to all other urologic subspecialty areas. Engagement initiatives and targeted programs may offer insights into this trend. Further research is required to determine the impact of such programs in attracting URiM and women to FPMRS. UROLOGY 00: 1–5, 2021. © 2021 Elsevier Inc.

Female pelvic medicine and reconstructive surgery (FPMRS) is a subspecialty of urology which focuses on the evaluation and management of complex pelvic floor disorders including urinary incontinence (UI), pelvic organ prolapse (POP), neurogenic and idiopathic voiding dysfunction, and childbirth related injuries. Pelvic floor disorders (PFD) are highly prevalent, increase with age, and impair daily functioning and quality of life in women. 25 percent of women 20 years and older will

experience a symptomatic pelvic floor disorder with almost one third of women age 50-59 and half of women over the age of 80 with at least one pelvic floor disorder.^{1,2} By 2060, the population of people aged 65 and over is expected to double from 2018 estimates. During the same time period, this aging population is expected to become more ethnically diverse, with a decline in the proportion of non-Hispanic Whites from 77% in 2018 to 55% by 2060.³ As this large segment of the population ages and becomes more diverse, building a racially and ethnically representative workforce will have increasing importance.

Growing evidence suggests that racial concordance between doctor and patient can help address healthcare disparities. Patients with racial or ethnic concordance with their primary care physicians were more likely to use needed health services, and were less likely to delay or postpone care than those with racially discordant providers.⁴ Furthermore, racial concordance between patients and their primary care doctor was associated with a higher likelihood of patient perceived engagement and participation in their health care, and higher patient satisfaction.⁵

Given the known disparities in PFD-related knowledge, management, and treatment outcomes in minority women with pelvic floor disorders,⁶⁻¹⁰ the FPMRS workforce will

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play a pivotal role in providing care for these diverse populations. This study aims to describe the FPMRS workforce as it pertains to providers from groups who are underrepresented in medicine (URiM) and to determine the trends of URiM representation over a 6 year period.

METHODS

The American Urological Association (AUA) census data from 2014-2019 was queried to determine the racial/ethnic and gender distribution for practicing urologists in the FPMRS specialty. FPMRS specialists were defined as urologists who self-reported FPMRS as their primary area of practice. This included those with and without specialty training and/or board certification. Urologists were categorized as non-Hispanic White, Asian, non-Hispanic Black, Hispanic, Multiracial and Other. All racial groups with Hispanic ethnicity were categorized as Hispanic. URiM urologists were defined as non-Hispanic Black, Hispanic, Multiracial and Other. For comparison, we also analyzed the racial/ethnic distribution of providers who identified their primary urological subspecialty as oncology, pediatric urology or endourology. Gender distribution for each of these subspecialties was also evaluated. Additionally, racial/ethnic groups were stratified by AUA section. Descriptive statistics were used to describe workforce demographics across specialties, over the study period. Statistical significance was determined via Chi Squared analysis

for categorical variable. This study was exempt from institutional review board approval due to the de-identified nature of this public data. External funding sources were not utilized.

RESULTS

The 2019 AUA Census data identified 12,256 active practicing urologists. The self-reported racial and ethnic distribution was 81% White, 12% Asian, 2% Black, 3% Hispanic and 2% Multiracial/Other category. (Fig. 1)

In 2019, 602 urologists identified FPMRS as their primary area of practice. 72 percent self-identified as White, 15% Asian, 6% Black and 4.4% Hispanic and 1.8% Multiracial/Other (Table 1). When compared to the oncology, pediatric, and endourology subspecialties, FPMRS represented the highest percentage of URiM providers, with 12.4% URiM, followed by Endourology with 8.9% (Table 2).

The AUA census data was evaluated from 2014 - 2019 to identify the percentage of URiM urologists amongst the 4 subspecialties. URiM urologists accounted for 6.7% of the workforce over the 6 year period. The FPMRS subspecialty demonstrated the greatest change in URiM presence from 5.6% in 2014 with a peak of 15.2% in 2016 and most recently 12.4% in 2019 (Table 2). Notably, pediatric urology recorded the highest number of URiM urologists with about 13.8% in 2014. URiM pediatric urologists then steadily declined to 4.7% in 2019. Oncology

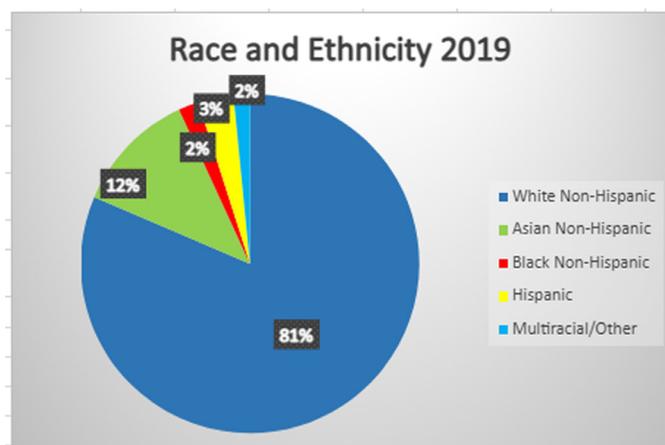


Figure 1. Racial and ethnic distribution of the 2019 AUA census. (Color version available online.)

Table 1. Race and ethnicity amongst primary urological subspecialties

		Race and Ethnicity					Total Count Row n %	
		White non-hispanic Row n %	Asian non-hispanic Row n %	Black non- hispanic Row n %	Hispanic Row n %	Multiracial/ Other Row n %		
Primary subspecialty	Female pelvic medicine and reconstruction	72.2%	15.5%	6.2%	4.4%	1.8%	602	100.0%
	Oncology	82.0%	14.4%	2.4%	0.4%	0.8%	1421	100.0%
	Pediatrics	85.5%	9.8%	0.5%	3.9%	0.3%	778	100.0%
	Endourology/ stone disease	75.3%	15.8%	0.7%	7.5%	0.7%	563	100.0%
	Others	82.0%	10.9%	1.8%	3.5%	1.8%	8892	100.0%
Total		81.4%	11.7%	1.9%	3.4%	1.6%	12257	100.0%

Table 2. Six year trend in URiM presence

Primary subspecialty	URiM Presence					
	2014	2015	2016	2017	2018	2019
Female pelvic medicine and reconstruction	5.6%	10.9%	15.2%	13.3%	10.9%	12.4%
Oncology	2.7%	6.9%	5.2%	5.2%	6.1%	3.5%
Pediatrics	13.8%	10.8%	10.7%	9.2%	11.2%	4.7%
Endourology/stone disease	6.2%	9.1%	4.2%	4.6%	10.4%	8.9%
Others	6.8%	5.2%	5.7%	6.3%	6.5%	7.1%
Total	6.7%	6.4%	6.5%	6.6%	7.1%	6.9%
P Value	0.023	0.025	0.001	0.039	0.127	0.054

demonstrated consistently low numbers of URiM providers over the 6 year period (Fig. 2).

Urology remains a predominantly male profession with women representing approximately 9.9% of practicing urologists. FPMRS exhibited the greatest gender diversity among all urologic subspecialties with 46.5% women physicians, followed by pediatric urology (25.1%) (Supplemental Table 1).

An analysis of racial demographics by AUA section revealed the Mid-Atlantic section had the highest percentage of URiM providers at 11.5% and the New England Section as the lowest with 3.6% of providers (Supplemental Table 2).

DISCUSSION

The changing demographics in the United States, and a pandemic that has magnified the impact of racial disparities on patient outcomes has brought equity in racial and ethnic representation to forefront of medicine. The most recent AUA census data indicates persistent underrepresentation of URiM urologists (10%) compared to the overall U.S population (33.4%), revealing there is still a long way to go for equity. In this study, we sought to

define the demographic distribution of FPMRS subspecialists and found that it demonstrated the highest percentage of URiM urologists in 2019 (12.4%) compared to other subspecialties, with an increasing trend over the last 6 years (range 5.6-15.2%). While the percentage of black urologists was 1.9% overall, it was 6.2% in FPMRS. Hispanic representation in FPMRS closely mirrors levels overall (4.4% vs 3.4%). Gender diversity was also highest among this subspecialty group with women representing 46.5% in 2019, nearly 2-fold the percentage among pediatric urologists (25%) and 8-fold that of oncologists.

To our knowledge, this is the first study to describe these demographic trends in urologic subspecialists. These observations are likely multifactorial but understanding factors which may improve diversity is vital achieving equity in representation. Visibility of gender and racial/ethnic concordant role models may play a role in attracting URiM and women urologists to FPMRS. Inclusive mentorship and outreach programs developed by the Society of Urodynamics, Female Pelvic Medicine, and Urogenital Reconstruction's (SUFU), which target urology residents may have also contributed to the upward trend

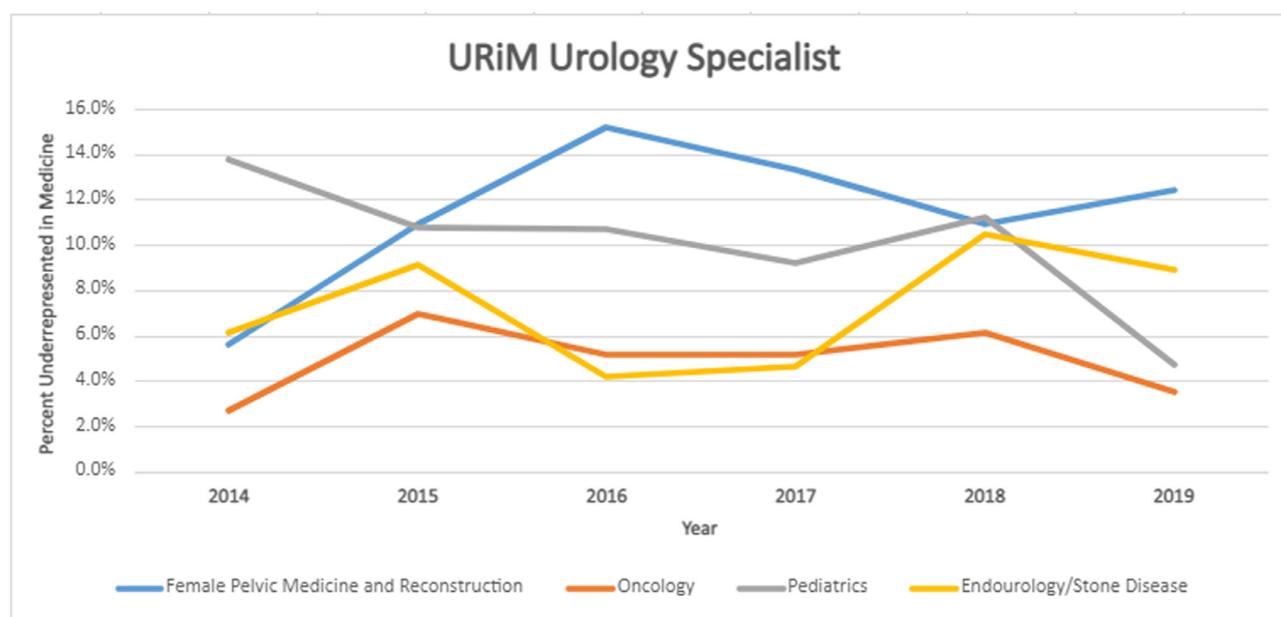


Figure 2. Trend in URiM urologist stratified by urologic specialty. (Color version available online.)

in URiM physicians. The SUFU Resident Travel Award offers travel grants for the society's annual meeting to present research and participate in resident centered programs for networking with peers, fellows, and leaders in FPMRS and SUFU.¹¹ The annual meeting's Fellows' Forum provides an opportunity for mentorship, career advising, and networking with colleagues and a diverse group of renowned leaders in the field in a small group setting. Since 2010, the SUFU Rodney Appell Research Foundation Resident Preceptorship Program has provided early exposure to the FPMRS subspecialty. In the first 7 years, over 330 residents attended this weekend course with lectures, didactic sessions, and surgical workshops by SUFU executive board members and leaders in the field.¹² The Young SUFU Committee offers a one-on-one formal mentorship program for trainees for career development, research, and practice building. Other subspecialty societies offer targeted programs to promote diversity including the Society of Urologic Oncology's (SUO) Women in Urologic Oncology subsection, created in 2019 to foster mentorship, sponsorship and networking among the growing number of women in urology. In 2020, SUO introduced a research award for women and underrepresented minorities in urologic oncology in 2020. Despite these efforts, there is still work to be done to achieve true representation and enhance our efforts to create inclusive environments.

Addressing the underrepresentation in the urologic physician workforce, will require renewed focus on the persistently "leaky pipeline" to medicine that begins prior to medical school. In 2009 the Liaison Committee on Medical Education (LCME) issued formal accreditation guidelines for medical schools to create programs to increase access to medical education for URiM groups. These efforts have failed to achieve the goal of representation. The Association of American Medical Colleges (AAMC) data of medical school applicants and matriculants from 2002-2017 showed that despite increases URiM applicants and matriculants by 53.6% and 29.3%, respectively, Black, Hispanic, and Native American/Asian Pacific Islander applicants and matriculants remained underrepresented relative to the population, with black women actually showing a significant trend towards decreased representation.¹³ AAMC data on residents for 9 surgical specialties, including urology from 2010-2018 showed that URiM individuals comprised 14.6% of applicants and 12.6% of matriculants, with no change in the representation of URiM applicants or matriculants during the study period except for an increase in the representation of Hispanic men in thoracic surgery.¹⁴

Among academic faculty in 16 specialties at US allopathic medical, Black and Hispanic physicians in all specialties except OB/GYN, at ranks of assistant professor or higher were more underrepresented in 2016 than they were in 1990.¹⁵ From 2005-2015 Black academic general surgeons at assistant and full professor rank had unchanged underrepresentation and Hispanic surgeons

had modest decreases in underrepresentation at the ranks of associate and full professor.¹⁶

Role models and mentors can significantly impact outcomes for medical students and trainees. Early exposure to research experiences, opportunities to publish manuscripts, and formal mentorship can increase interest, improve preparedness and provide a competitive edge for success in residency, fellowship, and careers in academic medicine.^{17,18} A mixed methods study found that resident physicians actively seek gender and racially concordant mentors but report difficulty identifying them. Though there is no evidence that racially discordant mentor relationships impair the quality of mentorship, respondents perceived lack of racial/ethnic concordance as a barrier to successful mentorship due to differences in background and lack of shared lived experiences.¹⁹ A cross-sectional study of medical faculty at Johns Hopkins School of Medicine found that few URiM faculty have racially or ethnically concordant mentors.²⁰ When there is a lack of diversity in professional environments, underrepresented groups also lack the mentorship needed to navigate unique challenges. Further, disparities in career advancement contribute to higher attrition rates for women and URiM faculty, perpetuating underrepresentation at all academic levels,^{21,22} maintaining a cycle of limited role models. Formal programs may provide exposure to the clinical and research aspects of urology and its subspecialties.

There are several opportunities to increase equity in racial and ethnic representation in urology and its subspecialties through early exposure, mentorship and sponsorship including establishing formal partnerships and pipeline programs for undergraduate and medical students through established student groups such as Latino Medical Student Association, the Student National Medical Association, R. Frank Jones Urologic Society Interest Group, Urology Unbound, LatinaX in Medicine, the Michigan Urology Academy, and the local undergraduate chapters of the Association of Women Surgeons. Virtual forums could present new avenues to create equity in networking and exposure by allowing medical students and trainees to attend and present their research at annual professional meetings irrespective of financial resources

A strength of this study is that the census data was inclusive of subspecialist with and without fellowship training. However there are several limitations to this manuscript. AUA census data is voluntary, self-reported and limited to members of the AUA. Data may not represent the full urologic and subspecialty workforce. Additionally, not all respondents of the survey recorded their race or ethnicity. Racial demographic census data for FPMRS specialists in obstetrics and gynecology is not collected by American Urogynecology Society (AUGS). This prevents a complete analysis of the FPMRS workforce demographics across the country. The retrospective nature of the study does not allow for analysis of factors impacting URiM physician subspecialty selection. Finally,

our data did not compare the diversity of FPMRS workforce to the diversity of the general population. This is an apt area for further study.

CONCLUSION

The FPMRS subspecialty of urology has the highest percentage of urologists from groups underrepresented in medicine. Though more progress is needed to reach true representation, there may be very useful insights to gather from engagement initiatives and targeted programs. Further research is required to determine the impact of such programs in attracting URiM and women to urology and its subspecialties.

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SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found in the online version at <https://doi.org/10.1016/j.urology.2021.06.031>.

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