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REVIEW

Building a More Inclusive Urology Workforce: Lessons from Successful Initiatives

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Abstract: The field of urology faces a projected workforce shortage, along with persistent gaps in rural care and underrepresentation of providers from diverse backgrounds. These challenges highlight the need to explore and identify strategies that may enhance diversity within the urologic workforce and ensure more equitable access to care across patient populations. This review examines the current landscape of inclusivity within urology, focusing on three key populations: osteopathic physicians, underrepresented minorities in medicine, and women. Each of these groups faces distinct obstacles in urology such as limited access to mentorship, disparities in residency program match rates, and underrepresentation in leadership positions. Despite these barriers, several targeted initiatives have demonstrated success in improving representation within urology and fostering a more inclusive professional environment. Mentorship programs such as the R. Frank Jones Urology Interest Group, Under Represented Trainees Entering Residency (UReTER) program, and the Michigan Urology Academy have shown encouraging match outcomes and positive participant feedback, underscoring the value of early engagement and structured guidance in supporting the success of individuals historically underrepresented in urology. The growth of professional affinity groups such as the Society of Women in Urology and Women in Urologic Oncology have meaningfully expanded mentorship networks, supported women in academic publishing, and propelled advocacy on key issues like parental leave and promotion equity. Furthermore, specific institutional pilot programs have been effective in addressing traditionally unrecognized departmental contributions and confronting gender-based bias and discrimination in the workplace. Altogether, current initiatives have illustrated the central role of structured mentorship, community-building, and institutional action in advancing workforce support systems and heterogeneity.

Keywords: workforce diversity, representation in urology, inclusion, osteopathic physicians, underrepresented minorities, women in urology, mentorship programs, academic leadership

Introduction

There is an increasing demand for urological care in the United States, driven by the high prevalence of related conditions among an aging population.[1] However, the current workforce is not adequately equipped to meet the growing patient needs. According to the 2024 American Urological Association (AUA) Census, nearly 30% of practicing urologists are aged 65 or older.[2] This aging workforce, combined with a trend toward earlier planned retirement, raises concerns about future capacity in the field.[3] Projection models estimate that the number of practicing urologists per capita may fall short of demand by as much as 46% by 2035, with continued shortages expected to persist until 2060.[1,4]

In addition to an overall workforce shortage, structural disparities in the geographic distribution and demographic composition of practicing urologists further limit access to urologic care. Urologists remain disproportionately concentrated in urban settings, with only 10% practicing in non-metropolitan areas and 0.5% serving rural populations.[2] Furthermore, the urologic workforce remains demographically skewed, with limited representation across various provider backgrounds. While modest gains have been made in recent years, women currently comprise just 12.1% of practicing urologists, with African American/Black and Hispanic representation at 2.9% and 5.8%, respectively.[2] Altogether, these trends underscore the need to expand and diversify the urologic workforce to meet evolving population health demands.

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Certain groups may be uniquely positioned to help address these workforce needs. Osteopathic (DO) physicians have historically trained and practiced in rural communities, playing a key role in expanding care in underserved regions.[5,6] Osteopathic urologists are twice as likely to practice in rural settings compared to their allopathic counterparts.[7] An estimated 16% of osteopathic urologists practice in rural areas, compared to 8% of allopathic urologists.[7] Moreover, the value of a diverse provider workforce is well documented in existing medical literature. Racial, ethnic, and gender concordance between patients and providers have been linked to higher trust, greater patient satisfaction, and better clinical outcomes.[8–12] A recent randomized clinical trial found that Black patients expressed greater trust in online videos about prostate cancer screening and clinical trials when information was delivered by a Black speaker rather than a White speaker.[12]

Enhancing diversity within the urological workforce is crucial for providing more comprehensive and equitable patient care. This review aims to highlight current initiatives in the United States that promote inclusivity in the field and address existing gaps in the workforce.

Methods: Thematic Development and Search Strategy

Themes for the review were developed through an iterative, concept-driven approach. We first identified populations historically underrepresented in urology based on both existing literature and clinical experience. The literature was then synthesized within these categories (ie osteopathic physicians, underrepresented minorities in medicine, and women) to highlight barriers faced by these groups, as well as ongoing efforts to address them. This process informed the structure and headings of the manuscript.

To identify literature for this review, we conducted a targeted search of peer-reviewed publications using databases including PubMed and Google Scholar. Search terms encompassed combinations of "urology", "diversity", "equity", "inclusion", "disparities", "osteopathic physicians", "underrepresented minorities", "sexual and gender minorities", "women", "race", and "gender", among others. We also examined the websites of organizations and professional groups cited in peer-reviewed publications to contextualize their mission statements and initiatives. Articles were included if they presented relevant data or described measures aimed at improving representation and inclusivity within the field of urology.

The Competitive Landscape of Urology Match

Urology is a competitive surgical subspecialty with a selective residency match rate. The process of matching medical students to residency programs is overseen by the Society of Academic Urology (SAU) Match Program. In the 2025 Urology Match, 529 applicants submitted rank lists for a total of 403 available residency positions, leaving 126 (23%) applicants unmatched. Further analysis of specific subgroups revealed several notable differences in match rates. Among fourth-year applicants, 43% of DO students went unmatched, compared to 14% of MD students. By primary ethnicity, the proportion of unmatched applicants was highest among Black/African American (36%) and Hispanic/Latinx (33%) individuals, followed by Asian (22%) and White (18%) applicants. Male applicants had a slightly higher unmatched rate (25%) than female applicants (22%).[13]

Bridging Gaps: Obstacles and Opportunities for Underrepresented Groups in Urology

Osteopathic (DO) Applicants

Osteopathic (DO) and allopathic (MD) medical programs share a similar framework in their educational structure, accreditation processes, and clinical training. However, they are distinctly unique in their core philosophical approach to medicine and in the medical specialties their graduates tend to pursue. Both pathways necessitate a comprehensive 4-year curriculum, commencing with a preclinical phase dedicated to basic science education, followed by intensive clinical rotations in a hospital setting. Both types of training are also rigorously accredited by respected national bodies. The Liaison Committee on Medical Education (LCME) oversees allopathic schools, while the Commission on Osteopathic College Accreditation (COCA) accredits DO schools. These accrediting bodies strictly mandate that

students successfully pass a national licensing examination—the United States Medical Licensing Examination (USMLE) for MDs and the Comprehensive Osteopathic Medical Licensing Examination of the United States (COMLEX-USA) for DOs. Upon passing, graduates are recognized as fully licensed physicians, eligible to pursue all medical specialties.[14]

Osteopathic schools are distinguished by their incorporation of specialized training in the Osteopathic Manipulative Method. This method places a strong emphasis on the interconnectedness of the musculoskeletal system and a holistic approach to patient care, considering the entire person in treatment.[15] Historically, DO programs have also placed a greater focus on primary care and community-based training sites compared to allopathic schools. Earlier data from 2016 indicate that 67% of DO graduates match into primary care residencies.[16] MD graduates, conversely, tend to pursue primary care specialties at lower rates. In a review of match data from 2003–2014, only 22.3% of MD graduates pursued a primary care residency.[17]

Prior to 2020, DO students participated in a separate residency match process through the National Matching Services (NMS). Beginning in 2020, however, graduates from both osteopathic and allopathic schools entered a unified matching program.[18,19] Despite the similarities in training and accreditation processes, DO applicants have consistently experienced a lower match rate into urology compared to their MD counterparts, although this disparity has encouragingly narrowed in recent years. Since the implementation of the consolidated match system, the DO match rate into urology has continued to increase, from 4.4% in 2019 to 7.4% in 2025.[20] Still, MD applicants have consistently represented over 80–90% of matched candidates.[20,21]

Several significant structural barriers contribute to this challenging landscape for DO applicants, including limited access to "home" institution urology programs, fewer opportunities to participate in urologic research, and challenges in securing sub-internship rotations (a clinical rotation in which a fourth-year medical student takes on responsibilities similar to that of a first-year resident, or intern).[22] Indeed, it has been demonstrated that DO students are less likely to have home urology programs than MD students,[22] which inherently restricts opportunities for mentorship, hands-on clinical exposure, and research experience. Additionally, research publications have become an increasingly important component of residency applications, particularly for competitive specialties such as urology. In general, DO applicants tend to report a lower average number of research publications when compared to their MD counterparts,[23] who often benefit from their research-intensive home institutions with established urology programs.

Despite these inherent barriers, DO physicians play an undeniably significant role in bridging the gap in rural urologic care. Their integration into the workforce is important in addressing the worsening shortage of urologists in non-urban settings. As previously mentioned, it is well-established that DO physicians are more inclined than their MD counterparts to practice in rural and underserved areas, a trend observed in both primary care and surgical specialties.[6] DO urology residents appear to be four times more likely to train at a rural residency program compared to MD urology residents.[24] Currently, few formal programs or policies exist at the national or local level to actively promote recruitment of DO applicants into urology. Notably, an early pilot initiative was conducted to examine engagement among DO surgical residents (including DO urology residents) on the social media platform X (formerly Twitter), with the goal of pairing them with DO student mentees in a mentorship program.[25] However, the study was limited by a small sample size. Of the 51 DO urology residents with X, only 7.8% signed up to become mentors.[25] Further efforts are needed to better support and mentor DO applicants pursuing urology.

The SAU has stated that the recent implementation of virtual interviews and preference signaling may help reduce barriers related to geography and institutional affiliation for candidates applying into residency programs.[26] These measures could particularly benefit DO applicants, who have historically been disadvantaged by the lack of home urology programs. Additionally, data indicate that DO students who initially do not match but later complete a -research year are more likely to match into their desired field than those who do not engage in dedicated research time.[27] This benefit is similarly seen in MD applicants who pursue a research year after going unmatched. While the opportunity to undertake a research year is reportedly equally accessible to both MD and DO applicants, a fundamental issue persists in that DO medical schools are less often affiliated with research-intensive academic institutions that host established urology programs.[23]

Taken together, it is evident that DO applicants face significant barriers to entering the field of urology. Despite their underrepresentation, they play a seemingly important role in delivering urologic care in non-urban settings. Increased efforts should be focused on continuing to evaluate the unique challenges they encounter.

Underrepresented Minorities in Medicine (URiM) Applicants

Available data consistently demonstrate that underrepresented minorities in medicine (URiM) have significantly lower match rates into urology compared to their White counterparts. A recent comprehensive review of the AUA match statistics spanning from 2019–2023 revealed that URiM applicants had roughly one-third the odds of matching into urology compared to White applicants. This disparity persisted even as the number of applications from underrepresented students increased during this period.[28] The demographic composition of current urologists in the workforce further underscores this issue. In a survey conducted in both 2011 and 2020, only approximately 8% of urology residents identified as URiM, highlighting a notable stagnation in representation over a 10-year period.[29]

Trends over time show limited progress in improving representation among certain racial and ethnic groups. For Black populations, representation among urology residents has not significantly increased over the last decade.[30] Similarly, despite a modest increase in Latinx applicants, the proportion of Latinx individuals among urology residents has largely remained unchanged. From 2007–2008 to 2019–2020, the proportion of Latinx/Hispanic urology applicants increased by 0.38% per year, yet the proportion of Latinx residents in urology did not change significantly, demonstrating a 0.07% per year increase.[29] This observed discrepancy seems to suggest a bottleneck at the match and matriculation stages of the residency application process. The root causes behind this persistent disparity are multifaceted and complex, encompassing: 1) perceived barriers to successfully pursuing a career in urology; 2) a notable lack of faculty diversity within urology programs themselves; 3) the inherent competitiveness of the field, which can disproportionately affect certain groups; and 4) negative perceptions or experiences encountered during the application process.[31]

It is widely recognized that a diverse physician workforce enhances patient care by fostering improved communication and actively addressing existing health disparities.[32–34] Patients from underrepresented racial and gender groups are consistently more likely to report superior communication, higher levels of satisfaction, and improved adherence to medical recommendations when they receive care from physicians who share similar backgrounds. Across all areas of medicine, this enhanced trust and open communication between providers and patients can directly translate into better health outcomes and help mitigate the disparities that disproportionately affect these groups.[32] In the field of urology, particularly within urologic oncology, there is compelling evidence indicating that outcomes are often worse among minority patients. This is largely because they are less likely to receive timely care that aligns with the best available guidelines, ultimately resulting in poorer survival outcomes.[33] Other contributing factors include limited access to healthcare services, significant communication barriers, and a lower level of trust in the healthcare system.[34] All of these factors further emphasize the need for a diverse physician workforce that possesses the potential to improve communication, build trust, and ultimately enhance care for all patients.

In response to these workforce needs, programs such as the R. Frank Jones Urology Interest Group, UCSF Under Represented Trainees Entering Residency Mentorship Program, and the Michigan Urology Academy, stand out as successful initiatives aimed at increasing the representation of URiM individuals in urology.

The R. Frank Jones Urology Interest Group (RFJUIG) is a pipeline program that was established in 2020 by the nonprofit Urology Unbound.[35] It builds upon the legacy of the R. Frank Jones Urological Society, which was founded in 1965 to increase the number of Black urologists and support their professional growth.[36] RFJUIG provides invaluable mentorship, essential research opportunities, and robust professional development for URiM students across the nation. A significant majority of its members also identify as immigrants or first-generation Americans, and 89% report having no prior friend or family connection to the field of urology. The program delivers comprehensive education on urology-related topics and offers hands-on assistance with the residency application process by conducting mock interviews with members or reviewing application essays. This personalized support was designed to uncover the often-unspoken "hidden curriculum" challenges that URiM students may encounter. To date, RFJUIG has demonstrated remarkable success in its match rates. In the 2021 urology match, an impressive 79% of its 39 applicants successfully matched, and these newly accepted trainees constituted almost 9% of the overall 2021 match cohort.[35]

The University of California, San Francisco (UCSF) Under Represented Trainees Entering Residency (UReTER) Mentorship Program also serves as a strong initiative designed to support targeted mentorship and resources to underrepresented medical trainees. UReTER was piloted in 2020–2021 with the explicit goal of enhancing diversity within the field of urology. The program paired 71 medical student mentees who identified as Black, Indigenous, and/or Latinx with a robust network of 101 mentors. Of these mentees, 16 went on to pursue the 2021 Urology Match, with 15 (95%) successfully matching into urology. Feedback collected from participants about the program was overwhelmingly positive, with 38% of mentees noting that the UReTER program directly contributed to their successful match.[37] While the long-term impact of UReTER is yet to be determined, this program represents a low-cost, scalable model that illustrates how structured, intentional mentorship can contribute to the cultivation of a more diverse urology workforce.

The Michigan Urology Academy (MUA), a training program launched in 2020, represents another targeted effort to increase representation in urology. The program specifically aims to expand exposure to urology among URiM students and those at institutions without a home urology program. MUA is a two-day program, hosted both virtually and in-person, featuring skills workshops, guidance on the match process (including important topics such as navigating away rotations, residency applications, and interviews), and conversations with URiM urology faculty.[38] Since its inception, the program has successfully recruited students from varied backgrounds. From 2020–2023, MUA welcomed 208 students representing 104 different medical schools. Among these participants, 42% identified as African American/Black, 19% as Asian/Indian, 15% as Hispanic/Latinx, 13% as White, 8% as Middle Eastern/North African, and 0.5% as Native Hawaiian/Pacific Islander. Roughly one-third of participants attended a medical school without a home urology program. MUA has received resoundingly positive feedback, with participants rating their overall experience an average of 4.85 out of 5 and 100% indicating that they would recommend MUA to a peer. In particular, students appreciated that MUA fostered an inclusive community, openly addressed strategies associated with the of urology match, and facilitated connections with urology faculty from underrepresented backgrounds.[39] The 2024 MUA cohort achieved a match rate of 77%, comparable to AUA's match rate for all applicants. However, MUA participants from schools lacking a home urology program matched at a slightly lower rate of 73% in the 2024 Urology Match. Moving forward, MUA seeks to strengthen community-building and mentorship, particularly for participants without a home urology program, while continuing to provide high-quality support for virtual attendees.[38]

Some urology programs have also undertaken initiatives to improve URiM representation in their residency cohorts. For instance, in 2015, the University of Pennsylvania's (Penn's) Division of Urology implemented a 3-pronged approach to increase URiM representation within its residency program. The first component of this strategy involved a scholarship program that provided a $1,500 stipend to support housing and travel for 3 URiM students selected for a visiting urology sub-internship at Penn. The scholarship program also offered resident and faculty mentorship during the sub-internship. The second component of Penn's initiative focused on adopting a holistic residency application review process, elevating leadership experience, service-oriented work, letters of recommendation, and personal hardships. The final component of Penn's strategy featured targeted outreach to URiM applicants before and during the interview process. Together, these initiatives appear to have been effective. In 2015, URiM candidates comprised 6% of all Penn Urology interviewees. Since the program's implementation, this proportion has consistently increased, reaching as high as 40% in 2020 and most recently 15% in 2022. Furthermore, by 2022, URiM trainees comprised 35% of Penn's total urology residency cohort, an increase from 10% in 2015.[40]

Sexual and Gender Minority Applicants

Sexual and gender minorities (SGM) refer to a broad and diverse group that includes but is not limited to individuals who identify as lesbian, gay, bisexual, transgender, queer, nonbinary, or gender nonconforming.[41] An estimated 7% of the general adult population in the United States identifies as SGM.[42,43] The documented proportion of SGM individuals is even lower among medical professionals. Data suggest that approximately 4.6% of attending physicians and 8.3% of medical trainees identify as SGM.[43] According to the 2024 AUA Census, 97.2% of practicing urologists identified as heterosexual, while only 0.3% identified as bisexual, 1.9% as gay or lesbian, and 0.7% reported a sexual orientation outside of these categories.[2] An analysis of survey data from the Association of American Medical Colleges Graduation

Questionnaire reported that 4.7% of graduating MD students entering urology self-identified as a sexual minority (ie bisexual, gay, or lesbian).[44]

SGM clinicians face unique professional challenges. At the medical student level, lesbian, gay, or bisexual (LGB) individuals experience higher rates of mistreatment and burnout compared to their heterosexual peers.[45] SGM resident and attending physicians also appear to face greater rates of burnout, anxiety, and depression, as well as lower levels of professional fulfillment.[43] Within urology, lesbian, gay, bisexual, transgender, queer, intersex, or asexual (LGBTQIA+) medical students have cited the perceived lack of diversity as a barrier to pursuing the specialty.[46]

While broader institutional efforts in medicine have emphasized the importance of SGM competency and education such as training in trauma-informed care and acknowledgment of personal biases,[47] targeted interventions to foster inclusivity for SGM individuals within urology is seemingly lacking in the literature. This presents an opportunity for the specialty to strengthen its commitment to inclusivity by developing affinity groups, mentorship networks, and curricular initiatives that address the unique needs of SGM individuals and support their entry into urology.

Female Applicants

Women remain significantly underrepresented in the field of urology despite an increase in the proportion of female urologists in recent decades. In 1980, women accounted for less than 2% of the US urologic workforce.[1,48] Today, 12% of practicing urologists in the US are female. Of the practicing female urologists, 22% are younger than 45 years, whereas just 1% are 65 years or older.[2] Evidently, the increase in female urologists is largely driven by a growing number of young trainees entering the workforce. In the 2025 Urology Match, women filled 42% of available residency positions in the United States, up from 26% in 2017.[13,49]

Notably, there have been increased efforts to foster mentorship and professional support for women in urology. The Society of Women in Urology (SWIU), which began as an informal gathering at the 1980 AUA meeting, has since evolved into a formal organization dedicated to advancing the careers of women in urology. Today, SWIU has grown to over 950 members, including board-certified urologists, fellows, residents, researchers, and allies of all genders.[50] The organization has also launched multiple task forces addressing key issues such as authorship disparities, parental support, pay equity, and career development through initiatives like podcasts, editorial partnerships, and resource-sharing.[51] Furthermore, SWIUdent, the organization's medical student section, offers webinars, journal clubs, networking, and mentorship specifically for female and underrepresented gender medical students interested in urology.[52]

Additional women's affinity groups in urology have emerged following SWIU's founding. Officially established in 2019 under the Society for Urologic Oncology (SUO), the Women in Urologic Oncology (WUO) is dedicated to recruiting, retaining, and advancing women in urologic oncology. Recent WUO initiatives have included the creation of a WUO directory to support mentorship and speakership opportunities, presentation of best abstracts at the annual SUO meeting, and establishment of WUO representation at SUO Board of Directors meetings.[53] Overall, WUO's impact has been noted with the growth of SUO female membership from 17 members in 2015 to 102 members in 2022.[54]

Although the increase in female urology trainees and expansion of women's affinity groups is promising, continued attention is needed to better understand and address the persistent challenges women face throughout their urologic training and academic careers. Women continue to be significantly underrepresented in leadership roles within urology. An analysis of 137 AUA-accredited urology residency programs revealed that only 30 (22%) were led by a female program director.[49] Furthermore, earlier estimates suggest that women comprise as few as 3% of urology department chairs.[55] This is consistent with broader trends of gender disparities in surgical leadership, as women hold fewer than 10% of chair positions across all surgical subspecialties.[56] With regard to academic promotion, in 2017, women made up roughly 7% of associate professors and just 5% of full professors in academic urology. Moreover, female academic urologists have been shown to experience significantly longer times to promotion from assistant to associate professor compared to their male colleagues. Male urologists advanced from assistant to associate professor on average 1.2 years before female urologists (6.1 years versus 7.3 years).[57] The longer promotion timeline is remarkable considering female urologists are more likely to work at academic institutions and be fellowship-trained.[2] This promotion gap between male and female urologists is likely attributable to multiple factors, including the involvement of female physicians in mentorship, teaching, and administrative roles that are overlooked in traditional promotion pathways.[56,58] Academic

promotion systems, as they exist today, tend to reward research productivity over mentorship and service responsibilities, which may also disadvantage female urologists engaged in these under-recognized roles. Accordingly, there is growing interest in modifying promotion criteria to reflect a broader spectrum of academic contributions.[58,59]

A novel approach was piloted by Stanford School of Medicine to address traditionally under-recognized workplace contributions. As part of Stanford's Academic Biomedical Career Customization (ABCC) initiative, a "time banking system" was introduced, allowing participating faculty to log activities such as mentorship, committee participation, or clinical shift coverage to earn "credits." Credits were assigned values primarily based on the amount of time a faculty member invested in that activity. These credits could be redeemed at any time for various home-related services (eg housecleaning, laundry, meal delivery) or work-related services (eg grant-writing, manuscript editing, speech coaching), each with an assigned credit value. This initiative aimed to more formally recognize and reward responsibilities that typically go unnoticed and under-appreciated. At a modest cost of $2,500-$3,000 per participant annually, the program garnered positive feedback from participants. Both male and female faculty used over 80% of their credits for home-related services, and generally expressed appreciation for the time-banking system's ability to ease work-life and work-work conflicts.[60]

With regard to research productivity, data on female urologists' authorship are somewhat mixed. One study examining the five highest-impact urologic journals in 2019 noted that women accounted for 22% of first authors and 15% of senior authors, proportions higher than expected relative to female representation in the field.[61] However, a broader analysis encompassing a wider range of journals suggested that female urologists fall short of their male counterparts in key research metrics such as the H-index, which reflects both scholarly output and citation impact.[62] To support the advancement of female urology authorship, SWIU formalized an official partnership with *Gold Urology Journal* in 2022, designating it as the organization's official journal.[63] This collaboration has not only resulted in SWIU representation on the Gold Journal's editorial board but also established a Women in Urology section that showcases the scholarship of female urologists.[64] Furthermore, the "SWIU-Gold Urology: Advancing Women Urologists in Publishing" task force was created in 2022 to promote the participation of female urologists in academic publishing. Its initiatives have included educational workshops and virtual webinars focused on scholarly writing and review, which have been shown to strengthen participants' confidence in academic writing and interest in peer reviewing.[65] Overall, the SWIU-Gold Urology partnership has expanded opportunities and visibility for female urologists in academic publishing.[64]

In addition, female urologists across all stages of their medical careers report high rates of gender bias and harassment in the form of stereotyping and inappropriate treatment from both colleagues and patients. Among 147 female urology residents surveyed nationwide, 97% reported not being recognized as a doctor, 84% encountered gender stereotyping, and 78% reported experiencing inappropriate or harassing behavior from male patients.[66] A study of 2021 AUA census data using post-stratified weighting found that 75% of female urologists reported differential treatment in practice based on their identity, in contrast to 10% of male urologists reporting similar experiences.[67] Anecdotal reports suggest that gender bias remains a common experience among female urologists, potentially impacting their opportunities for professional growth and advancement.[68]

Efforts to address gender-based bias and discrimination have emerged at the institutional level. In 2017, the Department of Surgery at Massachusetts General Hospital established a Gender Equity Task Force to identify and address gender-based bias and discrimination among residents in general surgery, anesthesia, and internal medicine. The task force ultimately implemented several interventions based on recurring themes identified in residents' reports. These included providing badge supplements clearly displaying the title "Doctor", requiring all general surgery faculty and residents to complete the Implicit Association Test, and instituting bystander training for all residents. Additionally, the task force encouraged increased reporting of gender-based bias and discrimination and sexual harassment.[69] Similarly, the Women's Surgical Collaborative at the University of Michigan that was established in 2016 is dedicated to examining and dismantling barriers that face women in surgery. Specifically, the Collaborative's HeForShe track, inspired by the United Nations HeForShe initiative, aims to engage male physicians in efforts to advance gender equity in medicine.[59] The collaborative has organized panels, symposiums, and other events to foster dialogue and drive institutional change.

Finally, female surgeons often face additional challenges outside of work, particularly in balancing career and family responsibilities. An earlier survey of board-certified surgeons noted that only 9.4% of female surgeons had a spouse who was a homemaker, compared to 56.3% of male surgeons. As a result, female surgeons were more likely to rely on in-home babysitters as the primary caregiver for their children, whereas male surgeons more commonly cited their spouse as the primary caregiver.[70]

For many female surgeons, family planning is further complicated by the timing and demands of medical training. A nationwide survey of 850 surgeons (692 women and 158 men) found that female surgeons were more likely to have fewer children, postpone childbearing due to surgical training, and utilize assisted reproductive technology (ie intrauterine insemination, in vitro sterilization, embryo freezing) compared to male surgeons. A substantial proportion of female surgeons reported intensive work schedules during pregnancy, with 57% working over 60 hours per week and 37% taking more than 6 overnight calls per month. Female surgeons also demonstrated a higher incidence of major pregnancy complications compared to the non-surgeon female spouses of male surgeons (48% vs 27%). Specifically, major pregnancy complications in female surgeons were significantly associated with factors such as maternal age of 35 years or older, multiple gestation, bed rest, and operating more than 12 hours per week during the third trimester. Additionally, 42% of female surgeons reported experiencing a pregnancy loss, more than double the rate observed in the general population. Among those who experienced a pregnancy loss, 75% of female surgeons reported not taking any time off after a miscarriage (pregnancy loss before 20 weeks' gestation) and only 45% took off 1 week or less after a stillbirth (pregnancy loss at or beyond 20 weeks' gestation).[71]

Similar patterns in family planning have also been documented among female urologists. Data from female urologists who had children showed that 40% gave birth during residency and 78% after completing residency, with an average maternal age of 32 years at first birth.[72,73] Compared to other female physicians, female urologists reported taking shorter parental leave, working more hours per week while pregnant, and receiving less lactation accommodations.[73] A separate survey conducted in collaboration with the SWIU Task Force on Parenting Resources revealed an average parental leave duration of 7.6 weeks, with 60% of respondents reporting no formal parental leave policy in place at their institution.[74] While concerns about burdening colleagues during pregnancy and parental leave are commonly expressed by female urologists, many report feeling supported when taking leave.[68,74]

Meaningful steps have been taken at the administrative level to support urology residents navigating parenthood. In 2021, the American Board of Urology (ABU) implemented a policy requiring a minimum of 6 weeks of parental leave, independent from vacation time.[75] However, specifics like paid parental leave or co-resident coverage remain at the discretion of individual residency programs. Future progress may benefit from a focus on establishing standardized and transparent parental leave policies, normalizing family planning discussion within surgical training, extending financial support for fertility preservation (eg egg freezing), and implementing thoughtful adjustments to call schedules and productivity expectations during pregnancy.[73,74,76]

Limitations

This literature review has several important limitations. First, this review was not conducted as a systematic review and therefore may be subject to selection and publication biases inherent to targeted literature searches. While we sought to synthesize a comprehensive overview of existing data and strategies, some relevant publications may have been inadvertently excluded due to the focused scope of our search. Second, this manuscript exclusively explores representation, challenges, and interventions related to three specific groups — osteopathic physicians, underrepresented minorities, and women in urology. We acknowledge that other populations may also face underrepresentation within the field. However, a comprehensive examination of all such groups was not feasible in this review. Our analysis was also limited to initiatives implemented in the United States. A broader evaluation of interventions in other countries could provide additional insights into successful strategies for promoting inclusivity in urology. Finally, assessing the long-term impact of many interventions highlighted in this review remains challenging, as available outcome measures such as residency match rates, survey responses, and membership data provide valuable insight but may not fully capture lasting change.

This limitation underscores the need for ongoing evaluation and robust metrics in order to monitor the effectiveness of strategies that promote inclusivity in urology.

Conclusion

This review explored both the unique challenges faced by underrepresented groups in urology, including DO students, underrepresented minorities in medicine, and women, along with initiatives that have promoted greater inclusivity within the field. While meaningful progress has been made, especially in the recruitment and representation of women in urology, comparable gains have not yet been achieved by DO, Black, or Latinx populations. Overall, mentorship has consistently emerged as a key factor in recruiting historically underrepresented groups into urology, as demonstrated by the success of programs such as the RFJUIG, UReTER, MUA, and SWIUdent. Further, several targeted initiatives have addressed the unique barriers faced by women in urology, including SWIU's partnership with the Gold Journal to support female authorship or institutional changes enacted by the Gender Equity Task Force at Massachusetts General Hospital to combat gender-based discrimination. Still, much work remains to close persistent gaps in the urologic workforce and to ensure it is well-equipped to meet patient needs.

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