



A path forward: women in gastroenterology

Pegah Hosseini-Carroll, MD, FASGE, Mohammad Bilal, MD, FASGE, Shani W. Clay, MD, FASGE, Victoria Gómez, MD, FASGE, Jennifer A. Christie, MD, MASGE

The American Society for Gastrointestinal Endoscopy (ASGE) presents the second document in our series, A Path Forward, which will focus on women in gastroenterology, another underrepresented group. In 2016, the Association of American Medical Colleges (AAMC) published a report highlighting that only 16.4% of practicing gastroenterologists in the United States were women.¹ In 2021, this number modestly increased to 19.7%.² Encouragingly, the American Board of Internal Medicine reported that 38% of first-year GI fellows were females in 2022/2023.³ Despite this recent improvement, significant work needs to be done to create an enduring gender-diverse workforce. Representation of women is not only a challenge in gastroenterology but also in academic medicine in general. A 2015 study by Wehner et al found that among the top 50 National Institute of Health (NIH)—funded medical schools, only 13% of department leaders were women.⁴ According to 2018 to 2019 AAMC data, women accounted for 41% of medical school faculty but only 25% of full professors, 18% of medical school deans, and 18% of department chairs. Unfortunately, the only rank where women outnumbered men was at the clinical instructor level. By 2023, AAMC data indicated that women comprised 51% of full-time faculty under the age of 50, 29% of full professors, 27% of medical school deans, and 25% of department chairs. Women continued to remain in the majority at the instructor level.

In a 2007 survey of the American Gastroenterological Association (AGA) members, men were more likely to achieve a rank of full professor, whereas significantly more women reported that gender negatively affected their career advancement.⁵ Women in academic careers report less satisfaction with their careers than men.¹ A 2015 survey of North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) members revealed that only 9% of women perceived that they earned the same as men.⁶ They also had higher dissatisfaction with being mentored than men (29% vs 13%) and reported a significantly lower number of spouses with flexible jobs (14% vs 35%). These survey findings reflect the challenges women gastroenterologists face regarding career advancement, pay equity, and work-life balance.

A unique study initiated by the American College of Gastroenterology studied gastroenterologists at 3, 5, and

10 years after graduation from GI fellowship to study trends in gastroenterology practice.⁷ The results showed male gastroenterologists earned a significantly greater annual gross income of \$375,000 versus \$245,000 for women. Even after adjusting for practice settings, work hours, vacation time, practice ownership, and endoscopy center contribution, female gastroenterologists earned \$82,000 or 22% less per year than their male colleagues.⁷ In 2021, Wang et al reported gastroenterology was in the top 3 Internal medicine specialties for largest gender disparities—both in pay and representation. This inequity of salary for women physicians is persistent at all career stages, and the cumulative impact over time leads to considerable differences in net worth over the span of a career,⁷ which can lead to disenfranchisement of women gastroenterologists in private practice as well as in academia.⁸

The reasons for the gender gap in gastroenterology are multifaceted. One of the major considerations is that the 3-year fellowship occurs in a period when women are or may become mothers, and the responsibilities of caring for family and other domestic responsibilities often disproportionately impact women.⁹ It is also important to note that gastroenterology is a procedural specialty, and the lack of support for maternity leave, as well as for child care, when hours on procedure days may be unpredictable, can deter women from pursuing a career in gastroenterology. It has been reported that female trainees are more likely to be childless than their male counterparts and more likely to alter their family planning during training.¹⁰ In addition, maternity leave duration is variable and can result in delayed graduation for trainees and loss of income for attending physicians, which can be counterproductive for women gastroenterologists' careers and long-term finances.

Although there have been efforts from the American Board of Medical Specialties to standardize parental leave policies for residents and fellows, there are still significant limitations to these policies. Moreover, this leave is only available once during training and only applies to training programs requiring a duration of 2 or more years.¹¹ Not surprisingly, a recent survey found that most women gastroenterologists younger than 35 years reported never having been pregnant. The most common reasons for not having

children included delaying until completion of training or career advancement (56.6%), personal choice (52.6%), and prohibitive work schedule (44.7%).¹² These findings highlight the need for standardized and improved parental leave policies across all institutions and practice settings.¹³ Although improved parental leave policies are long overdue, they alone might not be enough.¹⁴ A study from Germany by Engelmann et al¹⁵ showed that despite better parental leave policies, the career perspectives were still perceived more negatively than positively by the health workers after return from parental leave, and it influenced future choices regarding duration of parental leave, with the risk of falling behind in professional career. Therefore, in addition to improved parental leave policies, we need to ensure that physicians are not subject to increased work backlog on return, and the leave does not result in delay in academic promotions.

In September 2023, the ASGE released a statement recognizing the importance of family and parental leave for the well-being and diversity of the GI workforce.¹⁴ The ASGE supports the development of paid leave policies for all genders after the birth, adoption, or fostering of a child as well as the care of other family members for qualifying events. The Society endorses 12 weeks of paid leave consistent with data showing proven benefits.¹⁴ Distinctively, the ASGE even recommends flexible work structures and adjustment to clinical workload to support parents, pregnancy, and postpartum needs. The Society recommends the development of care models and staffing plans to support adequate leave without compromising patient care access or overburdening colleagues. Importantly, the Society endorses transparent, consistent policies with protection against retaliation, bias, or discrimination for those who take the leave.

Another challenge facing women in gastroenterology is a lack of women as role models and mentors. As mentioned earlier, the number of women trainees in gastroenterology is increasing, but for now, leadership and senior faculty female representation are inadequate. Ultimately, this results from historic low numbers of women in gastroenterology and may contribute to or encourage gender bias.¹⁶ Without role models for encouragement, it is increasingly difficult for trainees to envision themselves in specialties where they are currently underrepresented. For example, concordant gender mentor-mentee relationships allow for advice and sharing of a lived experience regarding family planning, maternity leave, and childbearing as a mother and practicing gastroenterologist.¹⁷ Nevertheless, the onus should not only be on women mentors to inspire the next generation of women gastroenterologists; there is a great need for men to serve as mentors, allies, and sponsors for women trainees as well.^{18,19} Several GI societies have taken this challenge upon themselves with the development of mentoring programs. For instance, ASGE is unique in offering the multifaceted Leadership Education and Development Program (LEAD), which is a 12-month

program devoted to providing invaluable professional skills, leadership training, and mentorship to early-career female-identifying gastroenterologists. In 2023, the ASGE launched the Elevate Leadership Retreat, another program targeting early-career underrepresented physicians in medicine. The Elevate Leadership Retreat is a focused weekend program incorporating coaching, networking, and fostering mentorship. These programs are part of the society's investment into a diverse medical workforce, future leaders in our field, and equitable health care.

Another often overlooked challenge is that GI endoscopy equipment, most notably endoscopes, is generally designed for men. Reports have shown that female endoscopists have more musculoskeletal injuries than male endoscopists.²⁰⁻²² A European survey including 171 gastroenterologists found female gender to be independently associated with musculoskeletal injuries, a higher number of injuries, and severe pain.²⁰ In addition, a survey of American College of Gastroenterology members found that almost 80% of women reported a new-onset endoscopy-related injury during pregnancy, and approximately 70% reported worsening of a pre-existing endoscopy-related injury.²³ In addition, there was a higher prevalence of upper extremity injuries in women, which suggests that female endoscopists are at higher risk of these injuries because of smaller hand size. Therefore, it is critical for the gastroenterology community to collaborate with industry partners to focus on developing and refining endoscopes and accessories to tailor to female endoscopists.

Women face other challenges as well, particularly in advanced endoscopy fellowships. Women are deterred from pursuing advanced endoscopy because of the absence of same-sex mentors, perception of gender-based bias in the workplace, family planning, fertility/pregnancy risks from radiation, and lack of ergonomic equipment.¹² In addition, this subspecialty of gastroenterology could lend to increased call frequency, including nights and weekends.

Another disturbing yet important finding to consider is that the incidence of gender discrimination and sexual harassment is higher in male-predominant surgical specialties, which warrant close physical proximity.²⁴ Although gastroenterology is not a surgical specialty, it is a heavily procedural field where trainees are often in close proximity with attendings and learning may require tactile interactions at times. A survey conducted in 2002 found that 39% of female gastroenterology fellows experienced gender discrimination during their training, and 19% were subject to sexual harassment.¹⁰ This problem is not unique to GI and, sadly, is very common for women in medicine. The “#MedToo” study, which surveyed 2723 faculty from the University of Michigan Medical School and had 705 respondents, highlighted that 82.5% of women reported at least 1 incident of sexual harassment from insiders within the past 1 year.²⁵ Women also had 2.15 times the odds of experiencing unwanted sexual attention from patients and families than men. According to another survey, approximately

36% of women physicians reported sexual harassment at one point in their careers.²⁶

The ability to provide gender concordance between physician and patient for requesting female patients is a challenge with current female representation in gastroenterology, highlighting the need to increase representation of women in gastroenterology. There are several reasons why this should be a priority for our gastroenterology community. Gender concordance between patients and physicians has been linked to better medical decision-making and treatment of chronic diseases such as diabetes, hypertension, and obesity. Both published data and anecdotal experience suggest that women prefer to see women gastroenterologists. A survey of over 1000 patients found that women had a stronger preference for office visits with women gastroenterologists and colonoscopists.²⁷ These findings may be different in other nonprocedural specialties where patient-physician gender concordance was not associated with a significant impact on patient experience.²⁸ However, especially in a field such as gastroenterology with several chronic and acute GI conditions, some women might not feel comfortable discussing some issues with male physicians or undergoing procedures such as colonoscopy. In addition, there are data suggesting that patients cared for by women physicians have better outcomes.^{28,29} A study published in *JAMA Internal Medicine* in 2017 found that elderly hospitalized patients treated by women internal medicine physicians had lower mortality and readmission rates than those treated by men of the same specialty.³⁰ Similarly, in 2024, the same group published showing that both male and female Medicare patients had lower 30-day mortality and readmission rates under the care of female hospitalist physicians; however, female patients had a larger benefit than male patients.²⁹

Career advancement for women gastroenterologists can be elevated by including them on expert panels and making key speaking opportunities available to them at national conferences and courses. Equity assessments for funding by the NIH and other sources should be evaluated to ensure women are receiving the opportunities comparable to their male counterparts. Fortunately, there are key gastroenterology societies, including the ASGE, working together through the Gastroenterology Women's Coalition to identify and address issues specifically related to women. Although current progress, such as increasing numbers of female trainees entering the field, is promising for the future, efforts to identify and address issues impacting women in gastroenterology are crucial to motivate and impel continued progress.

DISCLOSURES

The following authors disclosed financial relationships: P. Hosseini-Carroll: Speaker and on the advisory board for

Janssen Biotech. M. Bilal: Consultant for Boston Scientific, Cook Medical, and Steris Endoscopy; research support from Aspero Medical. All other authors disclosed no financial relationships.

REFERENCES

1. Pallardy C. Male and female active physicians: 70 statistics by specialty. *Becker's GI & endoscopy*. 2015. Available at: <http://www.beckersasc.com/gastroenterology-and-endoscopy/male-female-active-physicians-70-statistics-by-specialty.html>. Accessed February 10, 2021.
2. AAMC physician data specialty report. Available at: <https://www.aamc.org/data-reports/workforce/data/active-physicians-sex-specialty-2021>. Accessed October 24, 2024.
3. ABIM. Percentage of first-year fellows by gender and type of medical school attended. Available at: <https://abim.org/about/statistics-data/resident-fellow-workforce-data/first-year-fellows-by-gender-type-of-medical-school-attended.aspx>. Accessed October 24, 2024.
4. Wehner MR, Nead KT, Linos K, et al. Plenty of moustaches but not enough women: cross sectional study of medical leaders. *BMJ* 2015;351:h6311.
5. Gerson LB, Twomey K, Hecht G, et al. Does gender affect career satisfaction and advancement in gastroenterology? Results of an AGA institute-sponsored survey. *Gastroenterology* 2007;132:1598-606.
6. Tomer G, Xanthakos S, Kim S, et al. Perceptions of gender equality in work-life balance, salary, promotion, and harassment: results of the NASPGHAN task force survey. *J Pediatr Gastroenterol Nutr* 2015;60:481-5.
7. Singh A, Burke CA, Larive B, et al. Do gender disparities persist in gastroenterology after 10 years of practice? *Am J Gastroenterol* 2008;103:1589-95.
8. Whaley CM, Koo T, Arora VM, et al. Female physicians earn an estimated \$2 million less than male physicians over a simulated 40-year career. *Health Aff (Millwood)* 2021;40:1856-64.
9. Jolly S, Griffith KA, DeCastro R, et al. Gender differences in time spent on parenting and domestic responsibilities by high-achieving young physician-researchers. *Ann Intern Med* 2014;160:344-53.
10. Arlow FL, Raymond PL, Karlstadt RG, et al. Gastroenterology training and career choices: a prospective longitudinal study of the impact of gender and of managed care. *Am J Gastroenterol* 2002;97:459-69.
11. Feld LD. Baby steps in the right direction: toward a parental leave policy for gastroenterology fellows. *Am J Gastroenterol* 2021;116:505-8.
12. David YN, Dixon RE, Kakked G, et al. Pregnancy and the working gastroenterologist: perceptions, realities, and systemic challenges. *Gastroenterology* 2021;161:756-60.
13. Feld LD, Oxentenko AS, Sears D, et al. Parental leave and return-to-work policies: a practical model for implementation in gastroenterology. *Clin Gastroenterol Hepatol* 2023;21:2709-15.
14. ASGE recognizes importance of family and parental leave for well-being and diversity of GI workforce. Available at: <https://www.asge.org/home/about-asge/newsroom/news-list/2023/09/25/asge-recognizes-importance-of-family-and-parental-leave-for-well-being-and-diversity-of-gi-workforce>. Accessed October 28, 2023.
15. Engelmann C, Grote G, Miemietz B, et al. Career perspectives of hospital health workers after maternity and paternity leave: survey and observational study in Germany [in German]. *Dtsch Med Wochenschr* 2015;140:e28-35.
16. Rabinowitz LG, Grinspan LT, Kim MK. Mentorship and women in gastroenterology. *Lancet Gastroenterol Hepatol* 2021;6:604-5.
17. The state of women in academic medicine. AAMC. Available at: <https://www.aamc.org/data-reports/faculty-institutions/report/state-women-academic-medicine>. Accessed October 24, 2024.

18. Fitzgerald CA, Smith RN, Luo-Owen X, et al. Screening for harassment, abuse, and discrimination among surgery residents: an EAST multi-center trial. *Am Surg* 2019;85:456-61.
19. Bilal M, Balzora S, Pochapin MB, et al. The need for allyship in achieving gender equity in gastroenterology. *Am J Gastroenterol* 2021;116:2321-3.
20. Morais R, Vilas-Boas F, Pereira P, et al. Prevalence, risk factors and global impact of musculoskeletal injuries among endoscopists: a nationwide European study. *Endosc Int Open* 2020;8:E470-e480.
21. Ruan W, Walsh CM, Pawa S, et al. Musculoskeletal injury and ergonomics in pediatric gastrointestinal endoscopic practice. *Surg Endosc* 2023;37:248-54.
22. Austin K, Schoenberger H, Sesto M, et al. Musculoskeletal injuries are commonly reported among gastroenterology trainees: results of a national survey. *Dig Dis Sci* 2019;64:1439-47.
23. Pawa S, Banerjee P, Kothari S, et al. Are all endoscopy-related musculoskeletal injuries created equal? Results of a national gender-based survey. *Am J Gastroenterol* 2021;116:530-8.
24. Freedman-Weiss MR, Chiu AS, Heller DR, et al. Understanding the barriers to reporting sexual harassment in surgical training. *Ann Surg* 2020;271:608-13.
25. Vargas EA, Brassel ST, Cortina LM, et al. #MedToo: a large-scale examination of the incidence and impact of sexual harassment of physicians and other faculty at an academic medical center. *J Womens Health (Larchmt)* 2020;29:13-20.
26. Association of American Medical Colleges. The state of women in academic medicine. Available at: <https://www.aamc.org/data-reports/data/2018-2019-state-women-academic-medicine-exploring-pathways-equity>. Accessed February 15, 2021.
27. Shah DK, Karasek V, Gerkin RD, et al. Sex preferences for colonoscopists and GI physicians among patients and health care professionals. *Gastrointest Endosc* 2011;74:122-7.e2.
28. 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:e2024583.
29. Miyawaki A, Jena AB, Rotenstein LS, et al. Comparison of hospital mortality and readmission rates by physician and patient sex. *Ann Intern Med* 2024;177:598-608.
30. Tsugawa Y, Jena AB, Figueroa JF, et al. Comparison of hospital mortality and readmission rates for medicare patients treated by male vs female physicians. *JAMA Intern Med* 2017;177:206-13.

Abbreviations: AAMC, Association of American Medical Colleges; AGA, American Gastroenterological Association; ASGE, American Society for Gastrointestinal Endoscopy; LEAD, Leadership Education and Development Program; NIH, National Institute of Health; NASPGHAN, North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition.

Copyright © 2025 by the American Society for Gastrointestinal Endoscopy
0016-5107/\$36.00
<https://doi.org/10.1016/j.gie.2025.12.249>

Received December 2, 2025. Accepted December 3, 2025.

Corresponding author: Pegah Hosseini-Carroll, MD, FASGE E-mail: phcarrollmd@gmail.com.

Access to ***Gastrointestinal Endoscopy Online*** is reserved for all subscribers!

Full-text access to ***Gastrointestinal Endoscopy Online*** is available for all subscribers. ASGE MEMBER SUBSCRIBERS: To activate your individual online subscription, please visit <http://www.asge.org> and follow the instructions. NON-MEMBER SUBSCRIBERS: To activate your individual online subscription, please visit <http://www.giejournal.org> and follow the prompts to activate your *online access*. To activate your account, you will need your subscriber account/membership number, which you can find on your mailing label (*note*: the number of digits in your subscriber account number varies from 6 to 10 digits). See the example below in which the subscriber account number has been circled:

Sample mailing label

This is your Nonmember subscriber account number →

1234567-89 J037 10/00 Q: 1

CHRIS SMITH, MD
12TH & PINE STREET
CENTER CITY, NY 10001-001

Personal subscriptions to ***Gastrointestinal Endoscopy Online*** are for individual use only and may not be transferred. Use of ***Gastrointestinal Endoscopy Online*** is subject to agreement to the terms and conditions as indicated online.