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VIEWPOINT

Building Support to Increase Representation of Women in Cardiology

The Trainee Perspective

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Although there has been a worldwide push for diversity and inclusion initiatives targeted at promoting and increasing women in cardiology (WIC), women's representation in the field remains low at <15% of practicing cardiologists.[1] Although career satisfaction remains high among both men and women cardiologists in recent decades, personal life choices continue to differ for men and WIC, even though differences have diminished.[2] Women remain more likely to experience discrimination in the workplace, to not have children, to require childcare assistance, and to be single than men in cardiology.[2] Over the past 2 decades, more men in cardiology are now balancing career and professional obligations such as traveling with family priorities.[2] Career flexibility plays a key role in professional satisfaction for WIC,[3] with women continuing to be more likely to practice in academic centers and pursue careers in pediatric cardiology and noninvasive subspecialties.[2]

Studies have identified several barriers that women face when considering a career in cardiology, including concerns regarding adverse job environment, perceived lack of diversity and fewer positive role models in the field, disparities in compensation compared to male colleagues, concerns about work-life balance, considerations related to starting a family during training, and discrimination from both colleagues and program leadership.[4,5] Temporal analyses of survey data demonstrate that negative perceptions of cardiology have persisted over the past decade.[5]

Additional systemic barriers for minority women trainees often manifest as a lack of respect in the workplace and more hurdles toward advancing professionally in the field[6]; the responsibility for diversifying the field of cardiology all too often falls upon the individuals themselves rather than on systemic solutions. To diversify the field in the long term, it is necessary to invest in young and upcoming talent, the leaders of tomorrow, and provide systemic support in their transition from trainee to senior career. Efforts to improve sex disparities in cardiology must focus on breaking barriers and building support at every stage of training to recruit women trainees and retain them as midcareer WIC transition to senior career stages.

RECRUITING TALENT AND CULTIVATING INTEREST IN CARDIOLOGY

There is no doubt that there is an abundance of well-motivated women trainees who would make excellent future cardiologists and leaders; in 2021, 55.5% of matriculating medical students[7] and 43.5% of active internal medicine residents[8] identified themselves as women. It is crucial to identify and execute early opportunities for trainee recruitment. The American College of Cardiology (ACC) hosts the Young Scholars Program to provide promising high school and undergraduate students with early exposure to cardiology, through mentorship, research opportunities, and sponsorship to present an abstract at the ACC's Annual Scientific Session. The ACC also recently launched the Women's Internal Medicine Cardiology

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Program to provide similar opportunities, guidance, and mentorship to women internal medicine residents. However, a gap in opportunities at the medical student level must be addressed; there is no dedicated program by ACC or other professional cardiology societies to specifically recruit and mentor medical students interested in cardiology. Medical school is a formative time concerning the career and specialty choice, and this is a missed opportunity to recruit women medical students into cardiology and provide them with long-term mentorship and support.

RECOMMENDATIONS.

- *Establish a resolute, longitudinal cardiology mentorship and research program, organized by professional societies, for women medical students interested in cardiology.*

VISIBILITY AND MENTORSHIP OF INTERESTED TRAINEES

Women trainees in medicine highly value mentors and positive role models in their career development,[9] and the importance of WIC in visible leadership and teaching positions is undeniable. Trainees who reported positive experiences during residency described having greater access to mentorship and lower feelings of isolation,[6] thus highlighting the importance of mentorship and visibility. Visibility is a key tenet to the recruitment of trainees and should be institution-wide, with emphasis on women representation on interview committees, speaker panels, and leadership positions where WIC can interact directly with trainees.

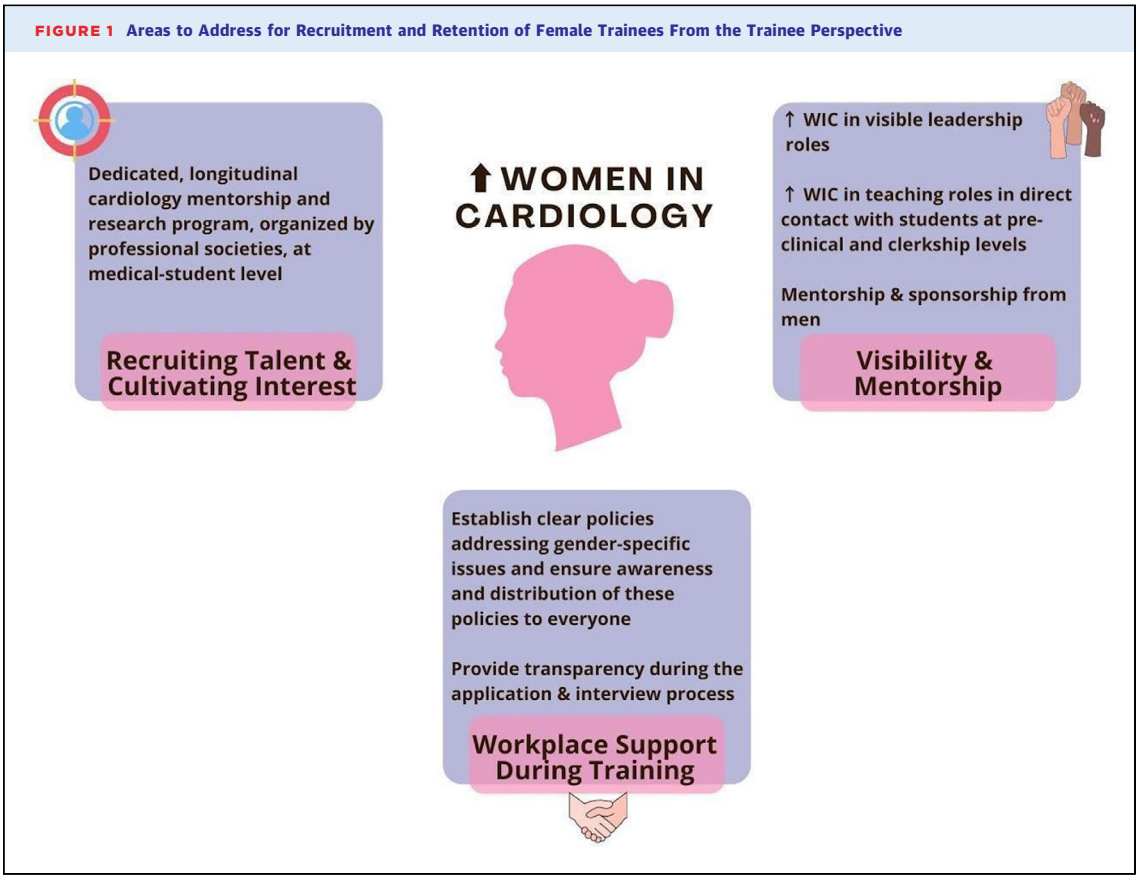
Among cardiology faculty at U.S. medical schools, women are less likely than men to be full-tenured professors, with 1 study finding that only 16.5% of cardiologists with faculty rank identified as female.[10] Student exposure to WIC at their institutions is crucial at both the preclinical and clerkship stages of training. At the preclerkship level in medical school, interested students network with lecturers to find opportunities for shadowing and mentorship to pursue similar paths. The visibility of successful WIC has the potential to drive more women trainees to express interest and pursue careers in cardiology. Additionally, cardiology clerkships in medical school are often short and optional. It is crucial to create a welcoming environment during this short exposure to cardiology; the opportunity to collaborate with women attending physicians and fellows provides visible examples of success and creates entry points for interested women students to begin establishing and exploring their networks within cardiology.

Furthermore, while women students do desire and seek out women mentors, relational mentoring was found to be more important than the sex of the mentor,[9] thus opening the path for men in cardiology to be effective allies and mentors for women trainees as well. Hashtag activism to amplify discussions about the WIC experience online has become widespread,[11] and the #HeForShe and #SheForShe movements illustrate the importance of diverse mentors.

Effective male mentors for women students interested in cardiology must first demonstrate an understanding of the challenges women disproportionately face in the field and adapt to the sex-related needs of mentees. Women are often overmentored and undersponsored,[12] and men allies must intentionally sponsor women trainees and nominate them for leadership positions, awards, and career-advancement opportunities. Men who are mentors and allies must also call out inappropriate behaviors, as the onus of dealing with microaggressions, implicit biases, sexual harassment, and discrimination should not fall solely on women trainees themselves.[12]

Professional organizations must also be intentional in recruiting diverse speakers and avoiding “manels” (or even “wanels”); intentionality in emphasizing inclusivity is crucial for women trainee retention over time.[12]

Equally important is amplifying the visibility of women trainees and their accomplishments. Training programs must aim to reduce implicit bias in highlighting and promoting trainee accomplishments. For example, 1 residency program systematized this process by identifying resident publications via structured PubMed queries and an online form for trainees to notify program leadership of their accomplishments rather than relying on self-reporting in informal settings.[13] By systematizing such initiatives, programs can reduce implicit bias in situations where men trainees may otherwise dominate the conversation through increased self-promotion.[13] Institutions should work closely with their Offices of Continuing Medical Education and Diversity and Inclusion to integrate implicit bias-reduction training early in the curriculum, similar to Harvard University’s Project Implicit and Stanford University’s Unconscious Bias in Medicine Course. Additionally, departments



should individually review student and faculty demographics data and set diversity and inclusion goals to make data-driven decisions after implicit bias training. Individual departments should also hold faculty accountable, be transparent in the progress against goals, and reward faculty who engage with affinity groups and bring out the best in the culture. By implementing such strategies, institutions will increase collaboration and celebration of all trainees to create a welcoming environment for women trainees to thrive.

RECOMMENDATIONS.

- *Increase the number of WIC in visible leadership roles at academic institutions.*
- *Increase the number of WIC in direct contact with students at both the preclinical and clerkship levels.*
- *Men in cardiology can mentor women trainees by acting as career sponsors, publicly endorsing and nominating trainees for development opportunities, connecting trainees to their professional networks, and adapting to the sex-related needs of their mentees.*
- *Systematize initiatives to highlight trainee accomplishments to reduce implicit bias and disparities in self-promotion among trainees.*

WORKPLACE SUPPORT DURING TRAINING AND BEYOND: A CULTURE CHANGE

Workplace support during training and beyond is key to recruiting and retaining WIC. Programs must emphasize the removal of negative factors that women trainees associate with cardiology.[4] Fellowship programs must establish and be vocal about clear and supportive policies on sex-specific issues, including parental leave of 2 months for all trainees (men and women), availability of lactation rooms and systemic support for breastfeeding mothers, radiation exposure recommendations provided by a radiation safety officer, access to maternity lead and fetal dosimeters, and zero tolerance for workplace discrimination and harassment.[3]

There is wide variability in current parental leave policies, and absent or limited parental leave policies

may have more substantial adverse consequences on the professional advancement and satisfaction of women cardiologists.[14] According to a survey of the ACC and Women as One, 41.2% of women experienced a salary decrease during pregnancy; only 7.4% had their relative value units prorated for time on maternity leave, and 23.2% had no paid maternity leave.

Improved contractual understanding, advocacy, and education during time off are crucial to addressing this basic parental right.[14]

Program transparency must also include clear policies for external and anonymous reporting of harassment without the fear of retaliation. An ACC survey study demonstrated higher rates of a hostile work environment, including emotional and sexual harassment and discrimination, among women and Black people.[15] Program leadership must advocate for women trainees and eliminate key problems, such as discrepancies in pay[16] and implicit biases among leadership, which function as barriers to professional advancement for women. Beyond pay inequity, there are also differences in opportunities for women related to retention packages, research and administrative support, and access to cardiovascular team members, which leads to opportunity inequity and diminishes productivity.

Additionally, a key component of a culture change includes increasing the visibility of leadership organizations' work to attract diversity into the field of cardiology. For example, the ACC has zero tolerance policies and successful mentor-mentee programs to encourage and recruit women medical trainees. Trailblazers in the field have paved the way for diversity, equity, and inclusion (DEI) in cardiology, and organizations must highlight their work to communicate their dedication to serving as the "professional home" for all in cardiology.

Partnerships between WIC and DEI committees within organizations can highlight the unique challenges faced by Black and Hispanic women and develop initiatives that focus on diversifying the cardiology pipeline regarding both race and sex. Initiatives like ACC's Sandra J. Lewis Mid-Career Leadership programs have a potential to retain and expand the midcareer women leadership pool to be at the table to make impactful decisions. Furthermore, social media has emerged as a powerful tool to advocate for WIC on a global stage, with hashtags such as #ACCWIC, #AHAWIC, #SCAIWIN, and #WomenInEP gaining significant popularity on Twitter.[11] Professional organizations and training programs must embrace this tool to network with and connect WIC and recruit more women trainees to the field.

RECOMMENDATIONS.

- *Establish clear policies addressing sex-specific issues and ensure awareness and distribution of these policies to all faculty at institutions.*
- *Provide transparency throughout the fellowship application process about policies on sex-specific issues and program culture.*
- *Implement policies for reporting inappropriate behavior without fear of retaliation on a national level and enforced on a local level (eg, Discrimination, Harassment, or Sexual Misconduct Anonymous Complaint Form).*
- *Increase the work visibility of leading organizations and individuals to communicate that DEI is a priority.*
- *Create partnerships between WIC groups and professional organizations to lead DEI initiatives that address both the sex and racial gaps in cardiology.*
- *Embrace social media as a tool for networking and advocacy for WIC.*

CONCLUSIONS AND A CALL TO ACTION

Recruitment and retention of women trainees are more important than ever to reduce sex disparities in cardiology (**Figure 1**). Areas to address from the trainee perspective include focused initiatives to recruit and mentor interested women from the medical student level and beyond, emphasizing the visibility of WIC in teaching roles that interact directly with trainees, and establishing the groundwork for men to understand and effectively mentor women trainees. Finally, systemic policies and protocols are needed to reduce implicit biases and enhance welcoming and flexible training environments for our future women cardiologists. The time is now to build out the pipeline from trainee to cardiologist for long-term change and diversity.

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