HHS Public Access

Author manuscript

Acad Med. Author manuscript; available in PMC 2023 April 01.

Published in final edited form as:

Acad Med. 2022 April 01; 97(4): 492–496. doi:10.1097/ACM.0000000000004246.

Strategies for Achieving Gender Equity and Work–Life Integration in Physician-Scientist Training

Shohini Ghosh-Choudhary [fourth-year student],
Medical Scientist Training Program, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.

Neil Carleton [fourth-year student],
Medical Scientist Training Program, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.

JoAnne L. Flynn, PhD [professor of microbiology and molecular genetics],
University of Pittsburgh, and assistant dean and codirector, Medical Scientist Training Program, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.

Corrine R. Kliment, MD, PhD [assistant professor of medicine]
Division of Pulmonary, Allergy, and Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania.

Abstract

Substantial gender inequities persist across academic medicine. These issues are not new: Recent evidence still points to a chilly climate for women in academic medicine, including those in physician-scientist training. The discussion for how to address gender equity and issues of work–life integration typically centers around faculty and rarely includes trainees. The authors delineate specific strategies to address gender inequity in physician-scientist training by identifying key stakeholders for implementation and proposing areas to integrate these strategies with current training timelines. Strategies discussed include multiple-role mentoring, allyship training for trainees and faculty, early implementation of professional development sessions, incorporation of childcare and family-friendly policies, and additional policies from funding bodies to prioritize gender equity practices. The goal of this article is to equip trainees and the academic community with proactive strategies to create a more equitable environment for future generations of trainees in academic medicine.

Substantial gender inequities persist across academic medicine. These issues are not new, and recent evidence still points to a chilly climate for women in academic medicine at both the faculty and the trainee levels.[1,2] Challenges around balancing multifaceted careers and

Correspondence should be addressed to Corrine R. Kliment, Pulmonary, Allergy, and Critical Care Medicine, 3459 Fifth Avenue, Pittsburgh, PA 15213; ckliment@pitt.edu; Twitter: @corrine_kliment.

Other disclosures: None reported.

Ethical approval: Reported as not applicable.

Disclaimers: The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

family can be even more difficult for physician-scientists, especially with the increasing financial costs of education and the additional time required for research training. A study of young physician-scientists funded by the National Institutes of Health (NIH) reports that women spent an additional 8.5 hours per week on domestic tasks compared to their male physician-scientist counterparts, ultimately leaving them with less time to devote to their academic pursuits.[3] Data also indicate that nearly 84% of physician-scientists who are in training anticipate that balancing family and work responsibilities could be a major obstacle to their careers.[4] These data suggest that academic medicine is at risk for even higher rates of attrition for women who are physician-scientists in the coming years if substantial steps are not quickly taken to address issues of gender equity and work–life integration.[5-7] Yet conversations about gender equity and work–life integration largely neglect trainees. In this article, we discuss several approaches, outlined in Table 1, to address gender equity and work–life integration that specifically apply to physician-scientist trainees. We also outline specific actions and key steps for implementation.

Proposed Strategies

Multiple-role mentoring

A multiple-role mentoring strategy moves beyond the traditional dyadic relationship. This approach reflects the finding that several mentors advising a trainee on different aspects of his or her life is more effective than a dyad.[8] It can be challenging for women to find a single mentor who is able to advise them on aspects of both their career and family, which consequently affects their satisfaction with the mentor–mentee relationship.[9] Thus, a multiple-role mentoring strategy[10-12] becomes imperative to equip women with a diverse set of mentors able to advise on a variety of topics, including career and family. Underlying this strategy is the assumption that creating stronger mentoring relationships will help increase the retention of women in academic medicine. Recent evidence has emerged from social cognitive career theory that demonstrates the importance of supporting women in this balancing act. This research correlates perceived self-efficacy with the ability to balance multiple roles.[13] Women balance not only professional activities (teaching, research, and patient care) but also personal roles and other professional goals (such as interests in advocacy, social media, and speaking engagements). Women actively plan and manage their multiple roles in an attempt to achieve a balance between professional and familial and other nonwork demands.[14] Thus, bolstering multiple-role mentoring can help strengthen women's management strategies and can be a means for decreasing attrition and increasing academic advancement, while concurrently fostering a greater sense of empowerment and control.[9,15,16] Despite these findings, formal programs optimized for multiple-role mentoring are an underused strategy.[17] It is incumbent on leadership to implement this type of mentoring in training programs. Further, data from a qualitative analysis indicated that mentees must take a proactive approach in identifying and seeking out women role models to address their specific needs, as perceived needs may not be evident to other mentors. One strategy is to institute training in constructing mentoring maps, which provide a structure individuals use first to identify areas that require mentors and then to find and integrate those mentors into their training.[18]

Allyship

To augment the discussion of work–life integration, allyship training can teach trainees how to amplify the voices of those in underrepresented groups and to advocate for equitable practices.[19] Allyship is typically defined as an action—speaking up in support of women or calling out discrimination in encounters in the hospital—and predicates that everyone can be an ally for others. Allyship begins with an awareness of unconscious biases and then moves to actions that address inequities in everyday interactions to create an inclusive culture. Actionable steps include incorporating effective allyship training into undergraduate and graduate medical education. Allyship training can include both small- and large-group discussions about real-life scenarios from experiences in the laboratory and on the clinical wards. Allyship training can be used to further highlight the impact of traditional gender roles, including stigmatizing men who are involved in childcare, penalizing women professionally for taking on the majority of childcare, and imposing heteronormative ideas on same-sex couples.

Research into the effectiveness of allyship training indicates that incorporating such sessions into medical curricula increases health professionals' perceived ability both to recognize unconscious bias in themselves and others and to have the confidence to interject when necessary.[20] The research also shows that allyship training need not be limited to trainees. For example, medical schools can require faculty sessions of allyship training so that potential mentors, faculty members, and leadership can understand their mentees' experiences and needs. Specifically, with respect to gender equity, allyship training can help trainees identify situations in which gender inequity manifests in professional relationships and develop tangible strategies to mitigate these influences.

Professional development training

Professional development training can be an effective way to boost the careers of women physician-scientist trainees. While institutions across the country now routinely implement career development programs for faculty early in their first academic position, we have the opportunity to include these trainings and sessions much earlier at the pre- and postdoctoral stages. Career and professional development trainings can equip women to deal with situations such as negotiating pay and protected research time, navigating challenging power dynamics with mentors, and developing work–life integration skills as they progress into residency and fellowship. While having these sessions at the faculty level is beneficial, there is added value in providing professional development to trainees early on so they can develop appropriate skills well before they encounter the situations described above.[21] Evidence suggests that in addition to promoting a sense of solidarity and camaraderie among women trainees and faculty, these sessions are also associated with increased networking, research involvement, and likelihood to satisfactorily navigate professional issues.[22] Further, reports from national professional development programs show that women participants acknowledge that they gain skills or improve existing skills in negotiating and leadership over the course of such sessions.[23-25] With the momentum to appoint more women to departmental leadership positions, which have been identified as core facilitators for professional progress, implementing early sessions for women might be beneficial in the long term.[26] Practically, for women who are physician-scientists in training,

specific discussions centered around professional development can be beneficial during monthly workshops in a panel format or in small sessions led by a designated committee. Additionally, having local women in medicine committees serve as faculty facilitators for these sessions may also contribute to a beneficial learning environment.

Childcare and family-friendly policies

With long training times in predoctoral education, which often spans the better part of a decade, physician-scientist trainees are at high risk for experiencing issues related to balancing family and career.[4] Many physician-scientist trainees delay family planning (pregnancy and parenting), and aspiring physician-scientists must consider this delay when making their career decisions.

While childcare is often subsidized for residents, fellows, and faculty, it is infrequently subsidized for students. Physician-scientist training programs, medical schools, and graduate programs can all play a role in helping to fund or identify childcare options. For example, if local childcare centers have lengthy waitlists, schools can help their students find centers that do not have waitlists or establish relationships with local childcare centers to reserve a designated number of spots for students. In the short term, institutions can provide “get well” rooms that students (as well as residents and fellows) can use; these rooms allow ill children to be cared for on-site during the workday when they are unable to go to childcare centers. Having these emergency childcare services readily available can provide critical resources for students who are unable to find childcare services on short notice.

At a higher level, the policies set by both physician-scientist training programs and mentors for physician-scientists can create a more family-friendly environment. Funding during maternal and paternal leave is critical for physician-scientists who are in training and members of the NIH-funded Medical Scientist Training Programs (MSTPs) and about to be parents for the first time. Notably, for trainees with training grants (T grants) or fellowship grants (F grants), the NIH has policies in place to continue stipend disbursement during the 8-week parental leave allotted by policy and applicable to either parent for any child. However, if trainees are funded through other mechanisms, these policies are not necessarily in place. MSTPs can create local guidelines to ensure funding is not interrupted during parental leave. For mentors with trainees who have children, a family-friendly environment can be created by scheduling lab meetings and other conferences during times when parents are not dropping off or picking up their children from childcare and enabling work from home or virtual meetings. In sum, adopting these strategies can create a more equitable environment for women physician-scientist trainees, who often take on the majority of childcare and family management tasks.

Additional policies for funding bodies

Strong leadership at the national level, for example by the NIH, National Science Foundation, and National Academies of Sciences, Engineering, and Medicine, can drive equitable change in how funding bodies view, support, and discuss gender equity and work–life integration in academic medicine. Given that national organizations play a key role in funding opportunities for trainees, it is incumbent on these institutions to track data

on gender equity at the trainee level. Knowing these statistics is critical to finding more targeted interventions for recruiting and retaining women and underrepresented groups in the academic pipeline. While many institutions may track these data for their alumni, it is critical to collect these data in an integrated way, and the NIH is in the unique position to do so and then to make these important data available. For physician-scientists specifically, there are few data, other than those from surveys by the Association of American Medical Colleges,[27] that address training outcomes, career trajectories, and potential points of attrition.

The missions and policies, budgets, and funded grants of federal agencies significantly affect which aspects of academic medicine receive priority. Additional funding mechanisms are urgently needed for institutions to recruit and retain individuals from underrepresented groups. As an example, the NIH recently announced a funding opportunity for the Faculty Institutional Recruitment for Sustainable Transformation (FIRST) program. Geared for faculty who show a strong commitment to promoting diversity and inclusivity, this funding mechanism prioritizes individuals who are actively engaged in efforts to increase diversity, are mentoring underrepresented students, and are involved in volunteer outreach activities. Funding opportunities like the FIRST program are critical because the diverse faculty members provide more mentoring opportunities for trainees at the institutions that recruited them. This ripple effect allows trainees to find mentors with whom they identify, which is critical to enhancing and promoting gender and racial diversity in academic medicine at both the faculty and trainee levels.

Application and Implementation of Strategies

Easily implementable strategies in training programs include structured multiple-role mentoring and allyship training as these generally require only modest funding, can be enacted at monthly workshops through subcommittee organizations, and are largely student driven. However, research indicates that allyship training alone does not stimulate cultural change and mitigate unconscious biases.[28] Instead, the key to improving the effects of such training is to include it as a component of larger reform rather than as a sole strategy. In training programs, bridging allyship with broader changes, such as multiple-role mentoring; implementing childcare and family-friendly policies; and equipping women trainees with targeted professional development initiatives may help to further stimulate changes in institutional or programmatic culture. Buy-in from training program directors and administrators who can pair with students can drive implementation of the initiative and create the necessary structural components. While most of the strategies can be created at no cost, funding from NIH training grants or institutional commitments from schools of medicine can further solidify the drive to change culture. However, because these initiatives can be time and personnel intensive, prioritizing which strategies to implement may be institution specific.

Conclusion

The challenges to women physician-scientists are not new, and some strategies, such as the National Science Foundation’s ADVANCE initiative (which addresses organizational

change for gender equity in STEM [science, technology, engineering, and math] academic professions), for addressing institutional transformation for the advancement of women have existed for many decades. However, recent trends further illuminate the holes in the support system for academic families, including those physician-scientists with research and clinical responsibilities. The academic and clinical communities make substantial investments in the training of future physician-scientists. Institutions have come far in teaching trainees how to manage their diverse responsibilities by laying out protected time for research in contracts of new hires and creating grants focused on physician-scientist training. While great strides have been made in tackling the research and clinical components in training, it is imperative to equip the next generation of physician-scientists with tools and a support network to prioritize equity and integrate career and family. With these strategies, we can proactively create a system that is poised to handle the unforeseen stressors that arise and to maintain a diverse and essential physician-scientist workforce. These strategies would equip trainees to thrive and would maximize the return on the enormous investment that the academic community has in the current and future generations of scientists in academic medicine.

Acknowledgments:

This work was supported by the National Institute of General Medical Sciences of the National Institutes of Health.

Funding/Support:

This work was funded in part by National Institutes of Health award number T32GM008208 to S.G.-C. and N.C.

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Table 1

Strategies for Achieving Gender Equity and Work–Life Integration in Physician-Scientist Training, With Definitions, Examples, and Considerations

Strategy	Definition	Examples and considerations
Multiple-role mentoring	Multiple mentors to address different needs and aspects of the mentee's career, including clinical, research, and family and personal life. This mentoring concept moves beyond the traditional dyadic mentoring relationship.	• This model can be effective for physician-scientists, given the long training timelines. • Use of multiple mentors cultivates a balance of clinical and research responsibilities. • Mentoring maps, which show strategic advancement along a defined mentoring roadmap toward attainment of individual trainee goals, can support multiple-role mentoring. • Effort from both training programs and trainees is required to implement this model: Programs must create lists of engaged mentors willing to advise on academic and personal matters, and trainees must recognize their individual needs and proactively address them with different mentors.
Allyship	The awareness of unconscious biases, followed by actions to address inequities in everyday interactions. Allyship is typically defined as an action (e.g., speaking up in support of women), which can be used in training and discussion.	• Implementation typically involves training, in which physician-scientist trainees could participate during a monthly workshop. Training is most effective with both small- and large-group discussions. • Mentors, faculty, and leadership can also participate in effective open-access curricula, such as the Women in Medicine Curriculum[29] to promote the understanding of gender bias in medicine. • The National Research Mentoring Network, which advocates for the use of culturally aware mentorship,[30] is an effective resource, to strengthen mentor–mentee relationships.
Professional development training	Early implementation of training sessions related to professional matters outside of primary clinical or research training, such as the following: • Leadership development • Job and salary negotiation • Power dynamics with mentors • Communicating as a manager • Work–life management skills	• Implementation may include monthly workshops or case-based sessions in large- or small-group settings to enhance trainee and faculty interactions and foster open discussion.
Childcare and other family-friendly policies	Revising local childcare and family-friendly policies within training programs, schools of medicine, and—at the federal level—through the NIH that address the fulfillment of grant and stipend requirements during child or family leave for trainees with training or fellowship grants	• Examples include revising policies to ensure continued stipend support during both maternal and paternal leave and ensuring at least 8 to 12 weeks of leave, consistent with recommendations from the American Academy of Pediatrics.[31] • Programs can work to facilitate cost-effective childcare options, often associated with academic medical centers, for trainees.
Additional policies for funding bodies (e.g., the NIH, NSF, and private foundations)	Policies to ensure equitable access to funding and to promote institutional commitments to diverse work environments in academic medical centers and training programs	• Funding agencies should continue to track demographic data on applications and dispersed grants to trainees to identify disparities. These data enable the implementation of policies to achieve equity. • Funding agencies should provide institutional funding supplements to support gender and racial diversity in training programs.

Abbreviations: NIH, National Institutes of Health; NSF, National Science Foundation.