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Original article

Recruitment, Promotion, and Retention of Women in Academic Medicine: How Institutions Are Addressing Gender Disparities

Phyllis L. Carr, MD^{a,*}, Christine Gunn, PhD^b, Anita Raj, PhD^c,
 Samantha Kaplan, MD, MPH^d, Karen M. Freund, MD, MPH^e

^a Massachusetts General Hospital, Women's Health, Boston, Massachusetts

^b Boston University School of Medicine, Department of Medicine, Women's Health Unit, Boston, Massachusetts

^c University of California, San Diego, La Jolla, California

^d Boston University School of Medicine, Boston, Massachusetts

^e Tufts Medical Center, Boston, Massachusetts

Article history: Received 16 November 2015; Received in revised form 18 November 2016; Accepted 21 November 2016

ABSTRACT

Objective: Greater numbers of women in medicine have not resulted in more women achieving senior positions. Programs supporting the recruitment, promotion, and retention of women in academic medicine could help to achieve greater advancement of more women to leadership positions. Qualitative research was conducted to understand such programs at 23 institutions and, using the social ecological model, examine how they operate at the individual, interpersonal, institutional, academic community, and policy levels.

Methods: Telephone interviews were conducted with faculty representatives ($n = 44$) of the Group on Women in Medicine and Science, Diversity and Inclusion, or senior leaders with knowledge on gender climate in 24 medical schools. Four trained interviewers conducted semistructured interviews that addressed faculty perceptions of gender equity and advancement, which were audiotaped and transcribed. The data were categorized into three content areas—recruitment, promotion, and retention—and coded a priori for each area based on their social ecological level of operation.

Findings: Participants from nearly 40% of the institutions reported no special programs for recruiting, promoting, or retaining women, largely describing such programming as unnecessary. Existing programs primarily targeted the individual and interpersonal levels simultaneously, via training, mentoring, and networking, or the institutional level, via search committee trainings, child and elder care, and spousal hiring programs. Lesser effort at the academic community and policy levels were described.

Conclusions: Our findings demonstrate that many U.S. medical schools have no programs supporting gender equity among medical faculty. Existing programs primarily target the individual or interpersonal level of the social ecological interaction. The academic community and broader policy environment require greater focus as levels with little attention to advancing women's careers. Universal multilevel efforts are needed to more effectively advance the careers of medical women faculty and support gender equity.

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Funding/Support: The project described was supported by Award Number R01GM08847 from the National Institute of General Medical Sciences and the Office on Research in Women's Health of the National Institutes of Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

* Correspondence to: Phyllis L. Carr, MD, Massachusetts General Hospital, Women's Health, Yawkey 4B, Boston, Massachusetts, 02114. Phone: 617-724-6700; fax: 617-724-6725.

E-mail address: pcarr1@partners.org (P.L. Carr).

For several decades, data have revealed that women in academic medicine do not advance in their careers in parity with men (Ash, Carr, Goldstein, & Friedman, 2004; Carr, Friedman, Moskowitz, & Kazis, 1993; Kaplan et al., 1996). An early national study that evaluated gender differences of academic pediatricians found that women were less likely than men to have the rank of full professor, were more often engaged in teaching and patient care, and were less academically productive (Kaplan et al., 1996). In 1995, the National Faculty Survey, conducted with

faculty across 24 U.S. medical schools, assessed gender differences in academic medicine including rank, compensation (Ash et al., 2004), family responsibilities (Carr et al., 1998), sexual harassment (Carr et al., 2000), productivity (Ash et al., 2004), and career satisfaction (Palepu, Carr, Friedman, Ash, & Moskowitz, 2000). The findings of this work documented that women were less likely to advance to senior positions or to have salaries commensurate with men (Ash et al., 2004). To address these gender disparities, some medical schools have developed programs to help advance the careers of women through recruitment, retention, and promotion. In this follow-up study funded by the National Institutes of Health, we conducted qualitative interviews with senior leaders from the institutions of the National Faculty Survey to better understand the programs they offer to support gender equity among their faculty and, guided by the social ecological model, to understand the level at which these programs operate.

The social ecological model posits that multiple levels—individual, interpersonal, institutional, academic community, and policy—influence and affect individuals and groups in terms of their behavior, treatment, and opportunity, and thus improvement of these areas requires intervention across these five levels (Bronfenbrenner, 1979, 1994). This model provides a structure to consider the levels at which gender equity-focused programs in academic medicine may operate: individual, interpersonal, institutional, academic community and policy (McLeroy, Steckler, & Bibeau, 1988). This study seeks to understand the multilevel programmatic approaches being undertaken by U.S. medical schools to increase the recruitment, promotion, and retention of women faculty, because multilevel approaches may more effectively advance the careers of women. Organizing programs by their level of focus and impact can help our understanding of whether and how institutions allocate program efforts to improve gender equity among faculty. We assessed whether programs targeted a broad range of social influences, or predominately focused on individual factors and identified gaps in such efforts.

Methods

In 2011 and 2012, trained interviewers from our research team conducted audiotaped semistructured telephone interviews with 44 faculty members from the 24 previously selected medical schools of the National Faculty Survey. The medical schools were randomly chosen in 1995 from the 106 continental institutions with a minimum of 200 faculty, 50 women and 10 minority faculty. The resulting cohort was diverse in terms of Association of American Medical Colleges (AAMC) geographic region (Northeast, Southern, Midwest and West), size, and public/private status. The faculty members interviewed were selected from institutional representatives of the AAMC Group on Women in Medicine and Science (GWIMS), or the Group on Diversity and Inclusion (GDI). If the designated AAMC representative was unavailable, we elicited the name of a senior leader with sufficient institutional memory and knowledge of the gender climate to interview. The qualitative interview guide was developed through a review of the literature and results of the prior National Faculty Survey and focused on factors related to the recruitment, promotion, and retention of women and minority faculty, including institutional climate and programs. Current analyses focus on participants' responses to the question: "What, if any, programs facilitate your institution's ability to recruit, promote, or retain female faculty?" Programs were

defined as any services or groups in place that were implemented and perceived to benefit women faculty in recruitment, promotion, or retention, and this interview question included probes regarding details of programs within each of these three areas. Written informed consent was obtained from the participants before the interview. Subsequent to completion of interviews, we provided participating institutions with information on various programs they might consider implementing as a means of better supporting their women and minority faculty.

All audiotaped data were professionally transcribed for analysis, and all transcriptions were coded by two trained researchers. As noted, current analyses focused on data from the program question and probes. All described programs were coded using a set of a priori codes of the levels of the social ecological model—individual, interpersonal, institution, academic community and policy (McLeroy et al., 1988). We combined levels 1 (individual) and 2 (interpersonal) because most of the programs in these categories addressed both individual and interpersonal contexts. For programs that did not fit into one level, we noted this and included them in all relevant levels. This was only the case in the individual/interpersonal programs. We added a code for when interviewees stated that there were no programs for women at their institution.

HyperRESEARCH 3.0 (HyperResearch 3.0., 2013) was used to categorize and sort the coded data for analysis. Quotes are identified by a study-specific institutional identification. Multiple respondents contributed data for each institution, and responses were aggregated to the level of the institution. Identified programs specified by interviewees from each institution were also identified and categorized by social ecological level. This study was approved by the Institutional Review Boards of Boston University School of Medicine and Tufts Health Sciences Campus; Tufts IRB reviewed on behalf of Massachusetts General Hospital through the Master Common Reciprocal Agreement.

The study was funded by the National Institute of General Medical Science and the Office of the Director, National Institutes of Health. Neither of these organizations were involved in the design, conduct, or reporting of the study.

Results

The final sample was composed of 44 individuals representing 23 schools; one institution declined participation. We interviewed 22 GWIMS and 20 GDI representatives and 2 senior faculty who were identified and approached for participation by referral sampling. The 22 GWIMS representatives were all women, with 18 professors and 4 associate professors. Eighteen of the GWIMS participants identified as Caucasian, 2 as Asian and 2 as African American. The GDI informants were half men and half women, with 13 professors, 6 associate professors, and 1 assistant professor. Four self-identified as Caucasian, 2 as Asian, 10 as African American, and 4 as Hispanic. All of these participating faculty were in senior leadership, including associate deans or deans, chairs, a deputy provost, a vice chancellor, and five faculty who explicitly described their active role in the promotion and tenure committee at their institution.

Figure 1 highlights the types of gender equity programs available at participating medical institutions, by social ecological level. As indicated in Figure 1, the focus of individual- and interpersonal-level programs was faculty training and social support. At the institutional level, more diverse efforts were provided, including family considerations (e.g., child care,

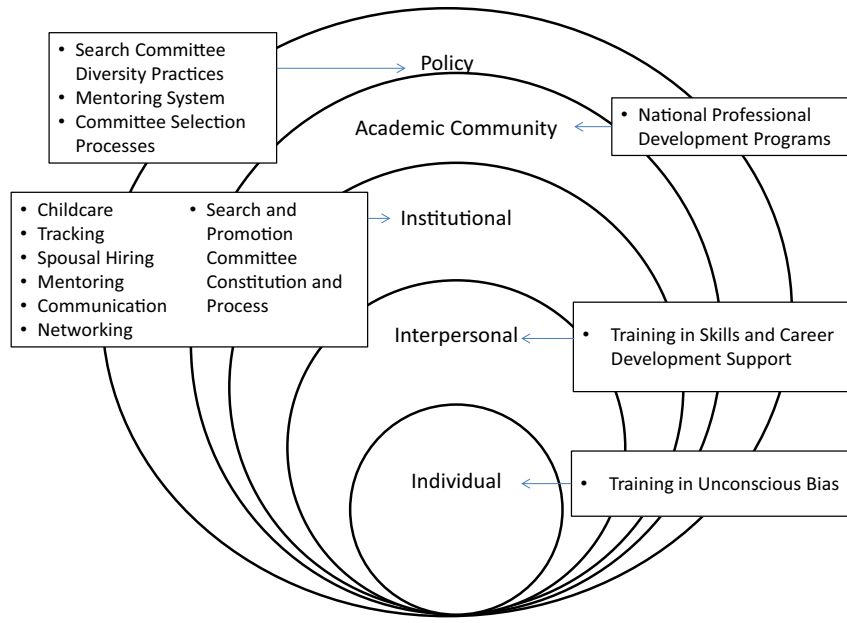


Figure 1. Programs in recruitment, promotion, and retention at the social level.

spousal hiring) and formal professional support structures (e.g., mentoring programs, networking opportunities). The academic community level was addressed by national on-site faculty development programs such as those offered by the AAMC or the Executive Leadership in Academic Medicine through Drexel University. Approaches at the policy level included diversity and inclusion policies. Table 1 documents that reported gender equity programs varied greatly by institution, with 8 of the 23 institutions reporting no programs to support the recruitment, retention, or promotion of women faculty. In addition, reporting by the key informants indicates lack of consistency in senior leadership understanding of programming; for five institutions, respondents gave conflicting responses as to whether or not programming existed. Table 1 shows the plans of each institution, indicated by a unique number, what gender equity programs were available at each level as reported by at least one of the key informants.

No Programs

As noted, eight institutions indicated having no programs to address gender inequities for their faculty. Many interviews provided no reason for the lack of programs. Where a reason was provided, the most common rationale for the lack of programs was that gender equity concerns were not a problem at their institution:

I don't think that there is any issue about recruiting women faculty. We do that. It's not a problem... I'm not aware that we have more of a retention problem for women than we do for men. (Institution 24)

Lack of mission, interest or resources at the institution were also noted:

In terms of the...intention to really have a diverse pool is more lip service than anything and that goes for gender as well. (Institution 14)

Lack of interest. That wasn't a goal of the school. It wasn't part of its mission. (Institution 26)

Well, my group's not doing so well, and I'm a woman, but it's like, it's kind of glazed over. (Institution 20)

Some described gender inequities as attributable to lack of clarity regarding academic responsibilities, although why this might be different for women relative to men was not indicated.

We make the wrong hires in the first place. There is a lack of understanding of what an academic job is. (Institution 23)

Individual- and Interpersonal-Level Programs

Programs that specifically targeted the individual level of the social ecological model included training of search and promotion committee members. Programs targeting both individual and interpersonal levels addressed behavior, knowledge, attitudes, and skills of women faculty and include mentoring, networking, training workshops, courses, and communication.

Search and promotion committee training

A number of institutions required training on bias and policies for members of committees charged with recruitment and promotion. Promotion committee training focused on understanding policies that ensure the equitable treatment of women. Search committees focused on unconscious bias training for the recruitment of diverse candidates. They targeted the individual faculty on these committees with the goal of training faculty and increasing the likelihood of attracting a more diverse faculty. This also targeted the interpersonal interactions between candidates for recruitment and members of the search committee.

For all senior level positions, not only have we done diversity training, we actually ask people to explore their innate biases...It's eye opening for a lot of people. (Institution 33)

We've educated the promotions committee...that faculty should not be unfairly disadvantaged if they choose to take that time [maternity leave] and use of the stop-the-clock. (Institution 43)

"Stop-the-clock" refers to an extension of the time to tenure of one year for the birth of a child and which could be used twice in a career.

Mentoring and networking

Mentoring targeted several levels within the model, and was described as a cornerstone for recruiting, retaining, and promoting women faculty. Encouraging strong networks for women

faculty was more informal than mentoring, but was described as equally essential to retain faculty.

[The Women in Medicine committee] is starting...a mentoring program for mid-level women faculty...it [will] be a plus for recruitment as well. (Institution 24)

Women really benefit from mentoring...having mentoring networks that are deep and rich...that's been my strategy. (Institution 21)

[The Women in Medicine committee] set up a mentoring program...it makes it easier to get mentors in their

Table 1
Overview of Programmatic Foci by Institution

Institution Number and General Gender Comment*	Programmatic Focus			
	Individual/Interpersonal	Institutional	Academic Community	Policy
12 "Programs are gender neutral...it's not like there's any special programs"	Mentorship program Search committee training	Mentorship program Search committee training		
14	Women in Medicine program	Women in Medicine program	ELAM program funding	ELAM program funding
16 "There are no programs that are directly geared toward making sure that women are successful"	Women's Leadership Group Leadership training Mentorship program Women in Science program	Onsite childcare program Spousal hiring program Associate provost position	American Medical Women's Association Chapter Association of University Women ELAM program funding	
20 "Not that it's only for women, but trying to additionally add in things for women"	Women in Medicine program	Women in Medicine program Onsite childcare program	ELAM program funding	
22	Women in Medicine program	Women in Medicine program Onsite childcare program Salary equity program	ELAM program funding	ELAM program funding Women on all major search committees Salary equity program
23 "Everyone should have extended time to tenure because of difficulty getting funded"	Search committee training	Search committee training Extended time to tenure Salary equity		
24 "There is no problem recruiting women."	Mentorship program	Mentorship program Women in Medicine program		
28	Mentorship program Women in Medicine program	Mentorship program	AAMC early and midcareer program funding	AAMC early and midcareer program funding
29	Women in Medicine program	Women in Medicine program Onsite childcare program Professional development day		Representation of women on all major search committees
33	Mentorship program Internal ELAM program	Mentorship program Internal ELAM program	ELAM program funding	ELAM program funding
34 "I don't think they target women... it's open to everybody."	Women in Medicine program	Women in Medicine program Dean's fund for recruitment and retention	ELAM program funding	ELAM program funding
33 "Develop what we have Leadership Program."	Women in Medicine program	Women in Medicine program Dean's fund for recruitment and retention		
42 "Women may need resources that male faculty may be more likely to have."	Women in Research group Search committee training Mentorship program	Women in Research group Search committee training Extended time to tenure Grants to go to meetings Onsite childcare facility Mentorship program Fund pilot program		
43		Onsite childcare program Fund to attend meetings Post-childbearing professional development leave program Extended time to tenure		Disseminate literature about unconscious bias
44	Mentorship program Women in Medicine group	Mentorship program Women in Medicine program Assistant Dean for Faculty Development	AAMC early and midcareer program funding	

Abbreviations: AAMC, Association of America Medical Colleges; ELAM, Executive Leadership in Academic Medicine; GWIMS, Group on Women in Medicine and Science.
Note: Nine institutions did not have programs to support the recruitment, retention and promotion of women, and are not included here.

* Gender comment—many institutions made ambivalent comments regarding their gender programs.

departments early on in their careers. [It] is making a tremendous difference in retention of female faculty, but certainly for promotion. (Institution 22)

First of all, it's helping them meet each other outside of their departments...these [lunch seminars] get people to meet each other and talk together. (Institution 23)

Formal communication about promotion

A number of schools described efforts to decrease the mystery around promotion by offering workshops and courses with an eye toward promoting women. Having different formats for transferring information on promotion was emphasized to make the process more transparent. This occurred in several formats, including newsletters and websites. The advantage of written forms of communication is that they can be available to faculty at their convenience.

We began to offer workshops twice a year for faculty to learn what they need to do to get promoted. [It] has resulted in more women being adequately prepared and successfully nominated for promotion. (Institution 23)

We had a newsletter...for work-life balance and...what happens when you get looked over for promotion, how do you handle that? How do you keep good working relationships with colleagues...what are women-specific issues that people need to be aware of? (Institution 34)

Institutional-Level Programs

Programs that addressed the institutional setting where social relationships occur were designed to impact the climate. Key informants highlighted the importance of search committee training, tracking women faculty applicants and hires, establishing child and elder care, spousal hiring programs, and mentoring programs.

Search and promotion committees

Some institutions explicitly instruct search committees on identifying a diverse candidate pool. The composition of promotion committees was also an important component both in having women on the committee and having them represent all of the academic pathways (research, clinical and clinician scholar).

And I know right now that the promotions committee has a group of women at every rank to understand the barriers, the process and help these women... become ambassadors to other [women]. (Institution 16)

(Having) women on all major search committees...helped with the recruitment of women faculty...It keeps everybody's attention on [gender] as a factor in decision-making when hiring. (Institution 22)

Whenever there's a search committee for high level searches...chairs or associate deans, the [Women in Medicine Committee] always has representation...[The dean] configured search committees with at least 30% and ideally 50% women. (Institution 29)

Tracking

A number of key informants indicated that they track institutional progress in terms of the number of women applying and succeeding in being recruited:

Since we have to publish and record the number of applications...female and minority applications...the number of female applications have been progressively increasing. (Institution 18)

Child and elder care

Childcare was seen as an important recruiting factor that highlighted the family-friendly nature of institutions. At some institutions this was extended to elder care.

Childcare is a big recruitment attraction, having childcare on site...We have adult care for people with elderly parents...that's also a major recruitment attraction. (Institution 34)

The university has actually taken a major step...we are now constructing two daycare centers...I think it will make us more attractive to women. (Institution 16)

Spousal hiring

Spousal hiring programs were also an institutional means to attract faculty both in cities and in more rural areas.

It's an organization that works across all the academic institutions through [the region] to help identify positions for the spouse of the lead candidate. (Institution 22)

Programs to promote women

The ability to develop and promote women was important for faculty retention, and several institutions addressed this in different ways:

The dean has allocated funds...to assist with recruitment and retention of women...We have a women's scholars program...our dean gives dollars to that program to develop [the faculty] we have. (Institution 35)

We are into our fourth year now of a program that emulates ELAM [Executive Leadership in Academic Medicine], but is done intramurally...It's highly competitive...for early and mid-career women who go through a yearlong program. (Institution 33)

Formal support mechanisms

Having advocates and strong support within the institution was viewed as important for retention. Some institutions had formal positions or mechanisms within the administration to carry out this function.

Our [institution] has a new program...a post-child-bearing professional development leave program...for women research faculty...it relieves them of their non-research responsibilities for up to three months. (Institution 43)

Our assistant dean for faculty development has put a lot of effort into recognition for women, being that liaison for our dean...that's really helped a lot to keep it on [the dean's] radar. (Institution 44)

There's a special assistant, whose major focus is on trying to enhance the stature and...inclusion of women in the university. (Institution 16)

Academic Community

Programs that address relationships among institutions, and informal academic networks that were shared amongst institutions were at the academic community level. These programs were designed to impact gender climate broadly in

academic medicine, and to advocate for gender climate change. A number of institutions offered extramural courses to assist women with career advancement, which was considered a community-building aspect of programs.

The dean funds at least one woman to go to [each of] the AAMC Women's Leadership Workshops...for both early and mid-career faculty. (Institution 29)

There is a development and support program for women...led by the associate dean for faculty affairs...hooking up participants with...groups like ELAM and...GWIMS. (Institution 41)

There are relationships the university maintains with the Association of University Women, and the National Science Foundation, in order to try to help [retain women]. (Institution 16)

Policy

Local, state, and national laws, policies, and programs including legislation on gender equity were described at the policy level of the social ecological model.

Search committee training

Search committee training was a policy at a number of institutions that used academic community resources through the AAMC and other academic programs.

In order to come on faculty, we do national searches...and we take those very seriously...the person who is at [our institution] may very well not be the person we hire. (Institution 20)

In contrast, state regulations and laws were viewed as potentially limiting the ability of institutions to attract diverse candidates for recruitment:

Part of the challenge that happened to us was [the state regulation]...the 'civil rights amendment' changed our state constitution to not allow us to use race or gender in making decisions on admissions, promotion, etc....It had a pretty chilling effect as far as our recruitment efforts, which had been robust, we pared back our outreach efforts...we were unsure what we could do under the guise of this [regulation]. (Institution 43)

Notably, policies related to family leave or support were not discussed by any of the interviewees.

Discussion

To better understand the programs academic medical centers offer to support gender equity among their faculty, we conducted a qualitative analysis from the framework of the ecological model to provide both a conceptual model that would not merely numerate programs, but consider the context for the various approaches to addressing gender equity in academic medicine. Using the social ecological model, we found that the most common strategies for faculty advancement targeted the individual and interpersonal levels simultaneously, via training, mentoring, and networking, or the institutional level, via search committee training, child and elder care, and spousal hiring programs. Programs at the academic community level such as ELAM and the AAMC early and midcareer faculty development programs were less common; such programs have been shown

to be effective in advancing the careers of women (Helitzer et al., 2014). These findings suggest that there is a missed opportunity for national, regional, and interinstitutional efforts to support gender equity in academic medicine and, without such efforts, institutions may not be held accountable for not having programs to support their women faculty. A lack of accountability may explain why a large number of institutions included in this study were reported to have no programs dedicated specifically to addressing gender equity among faculty.

The number of institutions with no formal programs for the recruitment, promotion, or retention of women is concerning. Previous work with GWIMS and GDI informants focused on the gender climate for women at academic medical institutions and revealed significant disparities and a lack of progress for women faculty (Carr, Gunn, Kaplan, Raj, & Freund, 2015). Current findings indicate that the primary reason for the lack of programming is the perceived lack of need for such programs, a belief unsupported by current national figures on gender differences in salary and senior positioning among academic medical faculty (Freund et al., 2016). Some participants even blamed women as being unprepared in their understanding of expectations of faculty, relative to their male counterparts. Noteworthy is that these views were held by senior faculty designated or known to support women and minorities at their institution. Implementing programs to advance the careers of women at such institutions requires either senior champions to promote culture change or externally imposed policies, such as specific requirements by medical school accreditation boards (Gunn et al., 2014). Also noteworthy was the limited discussion by the participants on family leave or stop-the-clock policies as methods to address gender equity. This may be due in part to the limited number of academic medical centers with tenure for all faculty.

This is not a problem limited to the United States; it is a problem in many countries. An international workshop at Oxford in February 2014, entitled "Accelerating women's advancement and leadership in academic medicine," was convened to explore issues of gender inequity and discrimination, productivity, work-life balance, professional development, leadership skills, mentoring and role models, as well as culture and climate (University of Oxford Medical Sciences Division, 2014). In a 2014 European Research Area survey, research organizations were asked if they had "gender equity plans," which were defined as a consistent set of measures and actions aimed at achieving equity by gender. Only 36% of the groups had gender equity plans in 2013 which included work-life balance, flexible career trajectories and recruitment and promotion measures (European Research Area, 2016). Although solutions may need to be tailored to specific institutions, it is also important to be aware of global efforts toward gender inequity.

For those institutions where programming does exist, some approaches were seen more commonly across institutions and have enormous promise. Mentoring was one of the most commonly profiled programs and addresses multiple levels of the social ecological model. Mentoring is commonly an unfunded mandate for academic faculty, and rarely do policies prioritize mentoring of female faculty. Given the ongoing gender disparities in salary, time to promotion, and senior leadership positions among academic medical faculty (Freund et al., 2016), mentoring for women in these key areas is particularly important. At the academic community levels, certain national leadership programs, such as the Hedwig van Ameringen ELAM program, show particular promise for women, providing mentoring, training, and networking (Dannels et al., 2008).

Although mentoring and training programs like ELAM are important to support women in leadership by reaching faculty directly, efforts to address institutions through programs like the ADVANCE grants of the National Science Foundation are also needed. ADVANCE, through its Institutional Transformation and Catalyst awards, is focusing on institution wide change to promote the careers of women (National Science Foundation, n.d.). This approach is incredibly important, because efforts to increase the representation of women in senior-level positions have too often been at the departmental or specialty level (Benzil et al., 2008; Morton, Bristol, Atherton, Schwab, & Sonnad, 2008).

Although this study offers insights, it is limited by inclusion of 23 institutions for the range of programs and policies. We do, however, have institutions in each of the four geographic regions of the AAMC, balanced for public/private status and representative of nearly 20% of all medical schools. These interviews do not express the breadth or consensus of the entire faculty, because junior faculty were not included in our sample. However, by including GWIMS and GDI representatives, the study offers the perspectives of senior leaders with rich institutional knowledge. Nonetheless, even these faculty may not know the breadth of programs available at their institution. Thus, this study should be interpreted as what junior faculty would likely hear from senior faculty working on or aware of disparity issues at their institution. Our work also did not include examination of the impact of programs or outcomes, which is a critical piece in evaluating best practices for the advancement of women faculty. For example, although stop-the-clock policies have been proposed to benefit advancement of women, one recent evaluation of gender-neutral policies found a 20% increase in tenure decisions for men, with a 20% reduction in women obtaining tenure at the same institutions (Antecol, Bedard, & Sherans, 2016). Future studies should assess the impact of these efforts on career outcomes and can build on their metrics to develop other programs (Helitzer et al., 2014; Kubiak, Guidot, Trimm, Kamen, & Roman, 2012).

Implications for Practice and/or Policy

Evaluating the programs using the social ecological model for the level of impact provides a new lens for evaluating a multifaceted approach of current interventions, which can help guide future policies. Evidence of the utility of this framework to understand gender equity issues such as gender-based violence against women is well-documented (Heise, 1998; WHO and MRC, 2014), and interventions addressing such violence as multiple levels appear to be more effective relative to those operating only at the individual level (WHO and MRC, 2014). We found fewer programs at the academic community and policy levels. Programs at these levels could provide a national standard from which medical schools could then assess their progress.

There is a need for greater oversight and consensus on the necessity and impact of programs to support the advancement of women in academic medicine. Many institutions lack programs for the development of women faculty and there is no guiding framework to assist medical schools in creating a climate that attracts and retains female faculty. Policies emanating from such institutions as the AAMC that include metrics and standards for the development and evaluation of programs and institutional culture could enhance the recruitment, promotion, and retention of women in academic medicine.

Acknowledgments

The authors thank Carolyn Luk, BA, Tufts Medical Center, for administrative work on the project, Subash Pathak, MS, Fred Hutchinson Cancer Research Center, for assistance with analyses, and Sharon Tennstedt, PhD, Heather Cochran, Julie Barenholtz, and Olga Dain, New England Research Institutes (NERI), for survey data collection.

Ethical approval: This study was approved by the Institutional Review Boards of Boston University School of Medicine (Protocol # 1.769575) on 04/24/2009 through 04/01/2015 and Tufts Health Sciences Campus (IRB # 10372) on 05/15/2012 through 5/14/2015; Tufts IRB reviewed on behalf of Massachusetts General Hospital through the Master Common Reciprocal Agreement approved on 10/01/2013.

Author Certification: Phyllis L. Carr, MD, had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Author Descriptions

Phyllis L. Carr, MD, is on the Faculty of Medicine at Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts

Christine Gunn, PhD, is a Research Assistant Professor of Medicine at the Boston University Schools of Medicine and Public Health, Boston, Massachusetts

Anita Raj, PhD, is a Professor of Medicine and Global Public Health at the University of California, San Diego

Samantha Kaplan, MD, MPH, is an Assistant Professor and Assistant Dean for Diversity, at Boston University School of Medicine, Boston, Massachusetts

Karen M. Freund, MD, MPH, is a Professor and Vice Chair of Medicine at Tufts University School of Medicine, and faculty member in the Institute for Clinical Research and Health Policy Studies at Tufts Medical Center, Boston, Massachusetts