Original Article

The Leadership Continuum: A Framework for Organizational and Individual Assessment Relative to the Advancement of Women Physicians and Scientists

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Abstract

Background: In the United States, women have attained near gender equity at the entry stages in academic medicine; however, progress has been much slower at senior leadership levels. The paucity of women leaders inhibits the ability of academic medicine to adequately meet the needs of an increasingly diverse body of students, faculty, staff, and patients. Research indicates that until a critical mass of women with sustained success as leaders is achieved, it is unlikely that this deficit will be corrected.

Methods: To promote the attainment of a critical mass of women leaders, the authors integrate two approaches to advancing women—the concept of a leadership continuum and a framework of practical approaches for moving toward gender equity at all ranks.

Results: An institutional guide is presented that can be used to promote dialogue about gender equity, noting areas of success and opportunities for additional improvement as well as an assessment of progress. A corresponding checklist has been developed that women faculty can use as a reflection guide for their career planning and to assess their position and progress along the leadership continuum.

Conclusions: Proactive, ongoing use of these frameworks can promote reflective dialogue and provide direction and accountability for institutions working to advance women into leadership positions.

Introduction

AT THE END OF THE FIRST DECADE of the 21st century, the leadership status of women scientists, physicians, and dentists in academic health centers can best be portrayed as a glass half full.[1] The number of women in senior positions, although increasing, remains low, and progress is surprisingly slow.[1,2] For two decades, women have attained near gender parity in admissions to medical schools and entry into the professional workforce; however, the number of women in senior leadership is not proportional to women's rate of entry into the field. This paucity of women leaders emphasizes the failure of the pipeline model,[2,3] which posits that a supply of trained and capable women at entry level will eventually result in a proportional supply of women in senior leadership roles. The failure of the pipeline model can be attributed to a number of interacting factors, including outdated institutional policies; a lack of family-friendly policies; a dearth of successful, highly placed women mentors and role models; and the disproportionate burden for family responsibilities that is often borne by women.[4–6]

Although more women hold leadership roles than in the past, women are still consistently underrepresented in these positions.[7,8] The statistics related to gender equity in leadership provide an incomplete picture of the situation because the attainment of a leadership position does not automatically ensure long-term success for women leaders. Recent research demonstrates that women in leadership roles may be more vulnerable and less likely to achieve sustained leadership success than men with comparable professional experience.[7,9–12] The loss of women from these leadership roles represents a failure to obtain the critical mass needed to effect change,[13,14] the underuse of some of our best talent; and a contribution to the deficit of strong women mentors.[15,16] We contend that more attention should be focused on fostering the sustained success of women leaders.

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The existing organizational structure and norms of academic health centers were established more than 300 years ago by upper middle class, white Euro-American men. At that time, women were explicitly excluded. Fortunately, significant changes have occurred in the philosophy of medicine and medical education as it relates to women, but the underlying structure and established norms have been resistant to change. Although the stated values of an institution may be gender neutral, the embedded and traditional practices often reflect a different reality.[17–25] The system remains unable to adequately meet the needs of the increasingly diverse faculty, staff, students, and patients who populate today's academic health centers and Science, Technology, Engineering and Math (STEM fields. To successfully challenge and change the deep-rooted culture of medicine and science in a sustained way, considerable research indicates that a critical mass of enlightened women leaders, above the token 5%–15%, is necessary.[13,26–31] We propose that explicit interventions are needed to place and sustain women in leadership roles, given the failure of the pipeline model, the entrenched structures and norms, and the difficulties in establishing a critical mass of women in senior leadership positions.

The Hedwig van Ameringen Executive Leadership in Academic Medicine® (ELAM®) Program at Drexel University College of Medicine (www.drexelmed.edu/elam) was established with the explicit goal of increasing the number of women in senior leadership positions in academic health professions.[32] Since 1995, more than 600 women have participated in the ELAM program. By a variety of metrics, ELAM has been successful in meeting its primary goal.[8,15,33–35] Particularly illustrative is the number of medical school deans who are graduates of the program. Currently, women represent 11% of the deans at accredited U.S. medical schools (15 of 131); of those 15 individuals, 4 (27%) are graduates of the ELAM program (R. Richman, personal communication). The ELAM program is both theory and practice driven.[8] In this article, we describe a framework we have developed from our knowledge of the literature and experience with women's leadership development that can provide a useful guide for institutions implementing diversity initiatives to increase and sustain women in leadership roles. Additionally, we provide a reflective guide that women can use to identify proactive steps to shape their individual career paths.

Two Approaches to Achieve Gender Equity in Women's Leadership

The Leadership Continuum Model developed by the ELAM program conceptualizes the process most women go through as they advance to increasingly responsible leadership roles.[11] This new model of leadership development is complemented by a model for advancing women that includes four approaches.[36,37] Both models take into account the differences between early and senior stages of career progression. We summarize the models and provide frameworks that combine the models for adaptation and use by individual institutions.

The Leadership Continuum Model

One approach to advancing and sustaining the success of women is the leadership continuum, a repeating or looping cycle of four phases that pertain to an individual's transition into increasing responsible leadership positions (Fig. 1).[11] The first two cycles predominate in early career to midcareer stages (postdoctoral, instructor, assistant professor, and the early years in associate professor ranks) and are particularly important in terms of placing women in their first leadership roles. The initial cycle is preparing for leadership. This phase recognizes that disciplinary expertise and credibility are not sufficient grounding for these types of roles. Women preparing for leadership positions also must equip themselves with leadership and management skills, increase their visibility, develop a trust-based community of peers, and learn to value relational skills. The second phase, or cycle, is transitioning into leadership. This phase involves both psychological preparation and a career campaign. From a psychological perspective, women must become comfortable with power if they are to leverage policies, resources, and connections successfully to effect change, especially deep-seated organizational or cultural change. They must also develop the practical skills required for a career campaign, including interviewing for positions, performing due diligence to determine if a position is a good fit, negotiating for the resources necessary for success, and transitioning out of the former position and into the new position.

The third and fourth phases of the leadership continuum are most relevant in the mid-to-late career stages (in the later years as associate professor and full professor). The third phase is sustaining success in the leadership position. In this phase, the female leader must garner sufficient and appropriate support to ensure sustained success in the leadership position; yet our observation is that women often neglect this stage, in part because some women have difficulty negotiating for support and resources.[38,39] The fourth and final phase is transitioning again from one leadership position to another. Transitioning smoothly from one leadership role to the next is part of the typical process in leadership life and is an important skill to develop. The leadership continuum is not a linear process, and the phases may overlap and may repeat throughout an individual's career.
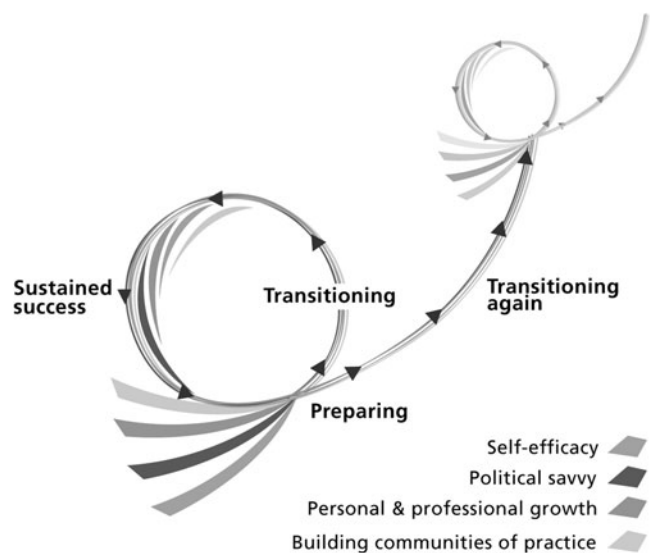

FIG. 1. Leadership Continuum Model. (© 2009 Association of American Medical Colleges. All rights reserved. Reproduced with permission.[11])

Institution-Based Framework for Advancing Women

A practical, institution-based framework for women traversing the leadership continuum has been described by Ely and Meyerson[36] and adapted for academic health centers.[37] The framework includes four distinct approaches.

The first and most commonly used approach, equipping the woman, is based on the assumption that women lack certain skills that men have. As with any deficit in skill or knowledge base, schools may address this through training and mentoring initiatives, which may include professional development programs, strategic career planning, and mini-MBA courses on finances.[40–43] Within professional development programs, equipping the woman often includes strategies to increase women's self-efficacy and self-confidence in aspiring to leadership positions.[44–46] The second institutional approach, creating equal opportunity through policies and procedures, involves developing policies that address barriers to advancement that disproportionately affect women. Examples of policies that work to create equal opportunity include stop-the-clock tenure tracks for childbirth and adoption and providing onsite day care.[47] Unfortunately, recent research has found that beyond maternity and paternity leave and benefits for part-time faculty, such equalizing policies are not widespread in academic health centers; this situation poses a particular problem with recruitment and retention of Generation X faculty.[5,33,34,48–50] These first two approaches, equipping the woman and creating equal opportunity, are the strategies academic health centers most commonly use, and they tend to be most useful for fostering women's success through the junior academic ranks rather than supporting them at levels of senior leadership.

The third approach is increasing the visibility of women and valuing women's relational skills. Two issues are embedded in this approach. First, women and the work they do must be actively promoted and visible. It is imperative that women wishing to advance in academic health centers be on the dean's radar. Many internal and external leadership programs aim to foster the individual woman's visibility.[8] Another way to increase the visibility of women's accomplishments is to track and publish data on women in leadership positions.[49] The second issue is that the relational skills that women often bring to the table must be recognized as an expertise that has value. Programs may provide diversity training, so that deans and other administrators learn to look for and recognize the accomplishments of women and minorities.[43] Finally, we contend that the direct actions of women themselves to increase the visibility of women and appreciation for their skills should not be underestimated, although at the same time we must acknowledge the gender-based risks in self-promotion.[21,51–53] As women faculty advance and assume leadership positions in faculty senates and faculty affairs departments and as department chairs, they can be a force for change, increasing the visibility and value of women's behind-the-scenes relational skills in mentoring, building collaborative bridges, and improving infrastructure to optimize unit function.

The fourth and most challenging approach is assessing and changing the culture.[10] We agree with Ely and Meyerson[36] that the first three approaches (equipping the woman, creating equal opportunity, and increasing visibility and value) are necessary but not sufficient for the advancement of women.

Culture change is the linchpin. It is also the most difficult and intransigent of the challenges facing a transition to increased gender equity and women's sustained leadership.[36] As conceptualized by Ely et al.,[54] small and incremental changes are the best way to move forward. Systemic barriers to women's progress are identified and small incremental changes are made through assessment, critique, revision, and experimentation to promote gender equity and improve organizational effectiveness.

Others have advanced alternate theories on how best to promote and effect lasting culture change. Carnes et al.,[55] for example, have suggested that the "stages of change model," a mainstay of behavioral health interventions, be applied to organizations seeking change relative to ingrained, discriminatory traditions and practices. Appreciative inquiry was used to value gender diversity in the Avon Mexico corporation[56] and to value relationship-centered care at Indiana University.[57] The positive deviance approach has been used to change behaviors that are entrenched in organizations or communities that are very challenging to modify,[58,59] and culture change for gender equity certainly involves such behaviors. These approaches, together with the approach suggested by Ely et al.,[54] involve considering culture change as a complex adaptive challenge and include emergent participatory design and incremental experimentation.[60] We believe that regardless of the mechanism through which change occurs, actions that increase the critical mass of women in sustained leadership positions will move us toward a culture that fully values the contributions of women at all levels.

Integrated Framework for Advancing Women

[T]he glass ceiling remains. . . . the women's movement used radical rhetoric and legal action to drive out overt discrimination, but most of the barriers that persist today are insidious. . . . gender discrimination now is so deeply embedded in organizational life as to be virtually indiscernible. Even the women who feel its impact are often hard-pressed to know what hit them.[61]

We have developed an integrated framework combining the leadership continuum and institutionally based approaches for women's advancement (Table 1). In our experience, most institutions focus their efforts in the two blocks shown in gray in Table 1. One of these blocks combines the preparing and transitioning cycles of the continuum with the equipping the woman approach. The second block represents the intersection between the sustaining success and transitioning again cycles of the continuum and the create equal opportunities approach, that is, policies and procedures. In our experience, these two blocks are most often associated with development of junior to midcareer faculty. As individuals and organizations become more knowledgeable, skilled, and strategically oriented and recognize that initiatives are needed to sustain women at midcareer and beyond, initiatives in the other blocks will likely increase.

Based on this integrated approach to women's advancement, we have considered many of the possible interventions that organizations—universities, professional societies, healthcare systems—are using to advance women, and we have fit these interventions into the integrated model (Table 2). The authors have used this resource in workshops with professional societies and academic health centers. We hope that organizations will use this reflective guide to assess their

TABLE 1. INTEGRATED FRAMEWORK: THE LEADERSHIP CONTINUUM
AND INSTITUTIONALLY BASED APPROACHES TO WOMEN'S ADVANCEMENT

Directions: Think of those actions or activities you or your institution take to actively advance women and fill in the appropriate boxes

	Leadership continuum cycle	
The four approaches to advancing women	*Preparing and transitioning*	*Sustaining success and transitioning again*
Equip the woman		
Create equal opportunities		
Value relational skills and increase visibility		
Assess and revise work culture		

progress as well as what actions they could take in the future. Compatible with the visible organizational audit approach that is widely used in organizational change efforts, the guide highlights the current status, so that accomplishments can be celebrated and opportunities for further improvement can be identified.[62–65]

The reflective guide in Table 3[11,36] is related to the integrated approach illustrated in Tables 1 and 2 but is designed specifically for use by individuals. Women can use the guide to reflect on their careers and determine what actions they have already taken and what actions they may want to consider taking to advance their careers. We have primarily used the resource in strategic career planning workshops with groups of senior women academics. We believe it can be useful for any faculty member and that the resource is best used in a setting where counseling is readily available.

We have found these resources to be particularly useful as a starting point for reflective dialogue and for development of

TABLE 2a. INTEGRATED FRAMEWORK: THE LEADERSHIP CONTINUUM AND INSTITUTIONALLY BASED APPROACHES
FOR WOMEN'S ADVANCEMENT: COMMON INITIATIVES APPLICABLE FOR ALL STAGES OF LEADERSHIP CONTINUUM

Four approaches to advancing women	Leadership continuum cycle Applicable for all career stages
Equip the woman	Inform faculty of standards and status of candidacy for promotion
	Inform faculty of development opportunities
Create equal opportunities	Annual published report card on status of women, including salary and promotion equity and tracking women in leadership positions
	Plan for addressing any inequities identified
	Formal funded women's issues/advancement office
	Chairs and division chiefs held accountable for professional development of faculty and for providing time for related activities
	Comment period required for all policies before implementation as a check against unintended consequences for affected groups
Value relational skills and increase visibility	Mentoring plan active in every department
	Mentoring awards
	Mentoring and advising measured and valued in promotion decisions
	Awards and publicity honoring women's achievements (local, regional, national)
	Networking events supported by school funds
Assess and revise work culture	Leaders have strategy, implementation plan, and accountability for building a gender-inclusive institution
	Culture change process led by leader in highly visible and sustained manner
	Leaders champion changes in promotion standards to include those involving relational skills (e.g., advising, mentoring, and coordination) and collaborative scholarship (e.g., middle authors in journals, co-PIs on grants)
	Rewards and incentives for results vs. face time
	External advisory committee monitors progress

The activities listed in Tables 2a, 2b, and 2c were obtained from workshops and consultations conducted by the authors across the United States plus a wide variety of articles that focus on women faculty, family-friendly policies, and professional development activities that have appeared in, for example, *Academic Medicine*, *Journal of Dental Education*, *Harvard Business Review*, and www.catalyst.org

PIs, principal investigator.

Table 2b. Integrated Framework: The Leadership Continuum and Institutionally Based Approaches for Women's Advancement: Common Initiatives Applicable for Preparing and Transitioning Stages of Leadership Continuum

Four approaches to advancing women	Leadership continuum cycle Preparing and transitioning
Equip the woman	Internal programs (e.g., skill-based training in negotiation, strategic career planning)
	External national programs (e.g., AAMC Early-WIM, professional society leadership programs)
	Mentors assigned to all new hires
Create equal opportunities	Family-friendly work policies (e.g., family leave, dual-career recruitment)
	Flexible promotion policies (e.g., academic track flexibility, stop-the-clock tenure track, full-time professional effort with part-time employment)
	Harassment and discrimination education and reporting
	Day care center, sick child care, emergency child care
	Eldercare assistance
	Funded opportunities for external leadership development
Value relational skills and increase visibility	School-sponsored reception for new women faculty
	Gender equity in internal publications, invitations for internal lectureships, photographs in institutional publicity
Assess and revise work culture	Compensation of department chairs linked to recruitment and retention of diverse faculty

AAMC, Association of American Medical Colleges; WIM, Women in Medicine.

change initiatives because they present a complex and often sensitive topic in a neutral format. Because the tools are research and theory based, they are acceptable within an academic milieu. Also, they clearly articulate the relationship between institutional actions and the development of an individual's career. We emphasize that these tables are not intended to be all inclusive; rather they are designed to serve as guides for administrators as they conduct periodic audits of

organizational strategies for aiding the advancement of women and as personal guides for individuals in managing their own careers. For example, an institution's Women in Medicine or Faculty Affairs office could do an annual assessment of the institution, measured against some of the commonly employed strategies detailed in Table 2. Alternatively, an individual faculty member could use the guide in Table 3 to assist in the management of her own career by reminding

Table 2c. Integrated Framework: The Leadership Continuum and Institutionally Based Approaches for Women's Advancement: Common Initiatives Applicable for Sustaining Success and Transitioning Again Stages of Leadership Continuum

Four approaches to advancing women	Leadership continuum cycle Sustaining success and transitioning again
Equip the woman	Internal advanced skill-based training (e.g., conflict resolution, finances, organizational dynamics)
	External leadership development programs (e.g., AAMC Mid-WIM, ELAM, HERS)
Create equal opportunities	Eldercare assistance
	Day care center, sick child care, emergency child care
	Flexible work policies (e.g., part-time to full-time or phased retirement)
	Funded opportunities for external leadership development and coaching
	Mandatory representation of women in final candidate lists for all positions
	Substantial representation of women required on major committees
	Gender equity in leadership and grand rounds/conference/symposium roles
Value relational skills and increase visibility	Awards and publicity honoring women's achievements
	Reception for women promoted to senior positions
	Support for senior women's networking events
	Women nominate women for positions and awards
	Senior women work to ensure the success of every woman leader
Assess and revise work culture	Senior women's group advises leader on policies and practice
	Executive coaching routinely offered to new leader recruits
	Compensation of department chairs linked to development and retention of internal pool of diverse faculty available for leadership responsibilities
	Awards for best practices among schools, departments, societies

ELAM, Executive Leadership in Academic Medicine Program; HERS, Higher Education Resource Services (multiple programs for women in higher education administration).

TABLE 3a. REFLECTIVE CHECKLIST FOR STRATEGIC CAREER ADVANCEMENT FOR INDIVIDUAL FOR EARLY-TO-MIDCAREER LEVELS

Equip yourself with management and leadership skills
   Identify your career goals
   Have a strategic plan for academic promotion
   Master your primary discipline
   Build local and regional professional reputation
   Attend internal professional development programs
   Apply for internal or external professional and leadership development programs
   Identify mentor(s) and personal advisory board
   Attend receptions, social events, and networking events
   Build and maintain a network in your discipline
   Develop strategies to maintain a healthy worklife balance
   Develop flexibility to adapt to inevitable changes
Create equal opportunities
   Be knowledgeable about the published institutional standards for promotion
   Keep your CV and other related materials in the proper format and up to date
   Be knowledgeable about the environment, both the resources (funding, people, space) provided to faculty and the
      written/unwritten expectations for productivity
   Be knowledgeable about women in medicine and science (WIMS), faculty affairs, and human resources offices
   Be familiar with sexual harassment, family leave, dual-career recruitment, and family-friendly work policies
   Be knowledgeable about routes into leadership positions, negotiation, and exit strategies
Value relational skills and increase visibility
   Develop a plan for visibility
   Practice graceful self-promotion
   Publicize achievements and awards
   Promote and publicize other women's achievements
   Develop a local support group
Assess and revise work culture
   Participate in WIMS group initiatives
   Participate in surveys and focus groups that assess faculty satisfaction and organizational culture

CV, curriculum vitae.

herself to ask such questions as: Do I know the promotion criteria for my faculty track?

Conclusions, Implications, and Recommendations

Advancement initiatives for women that focus on junior faculty levels and on the first three approaches to advancing women are known to be inadequate.[66] Integration of the leadership continuum and an institutionally based model detailing the four approaches for advancement of women can assist both individuals and organizations in moving beyond the first three approaches. The ongoing lack of women in senior leadership positions suggests (1) that more attention to retaining midlevel to senior level women is warranted and (2) that initiatives leading to changes in organizational culture (the fourth approach) are necessary for all phases of career development.[5,39,67–69]

When considering the integrated model of the leadership continuum and the institutionally based four approaches for the advancement of women, we call attention to several additional cascading factors that make it challenging to increase and sustain women in senior leadership. These factors are not explicitly recognized in the reflective guides we have developed, but those interested in increasing gender diversity within their institutions must be aware of them. Foremost, we must appreciate the complexity of the issues and the dangers of applying simplistic solutions.[21–23]

Women tend to experience more harmful events in their careers, tend to be affected differently by them, and tend to feel their impact for a longer period than do men, even with similar events.[70–73] Recent research indicates that women are more likely than men to find themselves in high-risk glass cliff leadership positions.[9] The possible reasons are complex; a woman may be more likely than a similarly credentialed man to be offered such a leadership position and to accept it because she perceives it as the only viable entrée into leadership available to her. She may do less due diligence in determining whether the position is the right fit (possibly because her informational networks are more limited). She may negotiate poorly. Finally, she may experience greater precariousness in an already risky position than a man would.[9,38] The net result is that women, who tend to be differentially affected by harmful workplace events, have less opportunity to recover from crises they experience while serving in these positions[12,74] and may have fewer opportunities to move on to similar leadership positions after a crisis in an earlier leadership position. Women who have observed or experienced the pitfalls we have described may choose career paths that offer them more control and that they perceive as less risky.[10] Such career paths include leadership roles in smaller organizations with fewer competing missions than academic health centers (e.g., chief executive of a foundation or disciplinary society) or consultant and entrepreneurial roles. This outcome may be satisfactory for the individual, but it represents a significant loss of talent and diversity for the academic institutions that these women leaders leave. The framework presented here does not explicitly include the simultaneity of gender, race, and class that complicates all organizational change initiatives.[75] Finally, although we anticipate that the framework will be useful for medical, dental, and basic science academic entities, cultural

Table 3b. Checklist for Strategic Career Advancement for Individual

For midcareer to senior career levels

Equip yourself with management and leadership skills
 Analyze your strategic career plan; adjust as necessary to be true to your career passions and values
 Attend internal professional development programs targeted at senior women faculty
 Continue to build/maintain regional and national professional reputation and networks
 Apply for institutional nomination to external leadership programs
 Participate in networking events and study groups for senior women faculty
 Obtain professional assistance, e.g., executive coach, when needed for a new role
 Investigate potential leadership areas of interest
 Select leadership positions that have a close organizational fit between your skills and the organization's needs, expectations for success, and organizational climate
 Be knowledgeable about leadership transitions
Value relational skills and increase visibility
 Practice graceful promotion of self and other women
 Strategically create visibility for yourself and other women in your discipline or in other areas necessary for your career plans
 Nominate women for positions and awards
 Maintain networks with other senior women
 Mitigate isolation through conscious attention, trusted independent confidants, communities of practice
 Build and maintain relationships/visibility when transitioning from one leadership position to another
Create equal opportunities
 Strategically plan appointment to internal leadership committees and be an active member
 Continue to work with WIMS, faculty affairs, and human resources offices
 Work on initiatives to change promotion criteria so that relational skills count toward promotion
 Work on initiatives to develop policies to value collaborative scholarship
 Work on initiatives to change rewards and incentives to value results vs. face time
 Work to increase flexible work policies
Assess and revise work culture
 Provide comment on new policies to reveal unintended consequences for affected groups
 Work behind the scenes to ensure sustained success of senior women leaders
 Participate in organizational initiatives to assess employee satisfaction, organizational culture, and equity
 Advocate gender equity in all committees, speakers, searches, and so on
 Participate in national initiatives to advance women

differences also exist among these disciplines that must be considered in any gender culture change endeavor.

For academic health centers, the combined consequences of these cascading factors are clear: diminution of the small talent pool of highly trained women leaders for our institutions and a concomitant loss of visible role models for junior women faculty.[45,76–78] In turn, these losses make it difficult for women faculty to achieve the critical mass that is necessary to effect the organizational culture change necessary to effectively meet the needs of the health professions and research workforce of the 21st century.

Although we must recognize the cultural and organizational factors working against inclusiveness and women's advancement, we must also remember that the glass is half full. Tables 1, 2, and 3 point to numerous initiatives that can help to sustain the success of women in senior leadership positions, which we believe will in turn change the organizational culture for the better. Proactive, thoughtful, and ongoing use of these guides can provide direction and accountability for an institution's efforts toward recognizing and capitalizing on the expertise of all its faculty members.

Acknowledgments

Disclosure Statement

No competing financial interests exist, and no sponsors were involved in the preparation of this article.

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