Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress

A virtual forum hosted by the NIH Office of Research on Women's Health

October 5, 2021

National Institutes of Health
Office of Research on Women's Health

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Overview

The National Institutes of Health (NIH) Office of Research on Women's Health (ORWH) hosted a forum titled "Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress" on October 5, 2021. The forum recognized the winning institutions and honorable mentions of the NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science. The forum was held in partnership with the American Association for the Advancement of Science's (AAAS) STEMM Equity Achievement (SEA) Change initiative and in collaboration with the National Academies of Sciences, Engineering, and Medicine's Committee on Women in Science, Engineering, and Medicine.

The forum served to further the NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science's goals of identifying best practices and promoting the sharing of lessons learned and evidence-based approaches that other institutions can translate and replicate. The purposes of the forum were to:

1. Present the winners' effective, evidence-based practices
2. Explore challenges and discuss ways to improve the existing career paradigm for women in biomedical and behavioral science.

The practices and strategies presented at this forum will help foster supportive and inclusive environments at academic and research institutions so that women faculty members can further their careers and institutions can remove barriers to implementing transformative change.

Background

The Need for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science

Women continue to be underrepresented at most institutions of higher education in the United States in the fields of biomedical science, behavioral science, and engineering. Currently, in the United States, women enter graduate studies in the life sciences at about the same rate as men. After earning degrees and entering careers in academia, however, women are underrepresented at the faculty level in biomedical sciences, particularly in mid- and senior-level positions. Similarly, women account for less than 20% of medical school deans and department chairs, despite constituting about half of medical school students.

NIH has a long-standing commitment to supporting a diverse biomedical workforce, including ORWH's 30 years of work to advance women in biomedical careers. The goal of these efforts is to foster more inclusive and equitable environments in academia and research institutions so women in biomedical and other STEMM careers, including women of color, reach their full potential. Advancing women into leadership roles in the sciences is critical to producing good science. Diversity in the scientific workplace generates more innovative solutions; diverse teams are more productive and produce more impactful research.

NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science

The NIH Working Group on Women in Biomedical Careers recommended the creation of the NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science. The NIH Working Group on Women in Biomedical Careers was created in 2007 in response to *Beyond Bias and Barriers: Fulfilling the*

Potential of Women in Academic Science and Engineering, a National Academies report that called for broad, innovative action to overcome institutional and environmental barriers to advancement at all career stages for women. The working group is co-chaired by the NIH Director and the ORWH Director, Janine Austin Clayton, M.D., FARVO, with a mandate to:

- Maximize the potential of women scientists and engineers
- Consider how programs and policies it has created give attention to the NIH intramural communities and the concerns of intramural women
- Consider the broader context of girls and women in science
- Provide special attention to issues of barriers, women scientists in underserved racial and ethnic groups, and mentoring

In 2018, the NIH Director, Dr. Francis Collins, charged the Working Group on Women in Biomedical Careers with producing outside-the-box ideas for advancing and promoting women faculty members. One idea was developed into a prize competition through the America COMPETES Reauthorization Act of 2010—which allows the use of prize competitions to increase agencies' ability to promote and harness innovation—to acknowledge institutions that have already enacted interventions to increase faculty diversity.

That prize competition was named the NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science, with a goal of recognizing institutions whose biomedical and behavioral science departments, centers, or divisions have achieved sustained improvement in gender diversity. The prize competition would:

- Highlight successful strategies that could be employed at academic communities struggling with creating an inclusive environment
- Include the identification of best practices, the sharing of lessons learned, and the delineation of evidence-based approaches that other institutions can translate and replicate
- Inform the development of a toolkit to guide other institutions or academic groups looking to increase gender diversity

Institutions entered submissions to NIH in April 2021 and entries were judged based on their initiative's impact, metrics, sustainability, scalability, and lessons learned. Understanding that there is no one-size-fits-all solution to enhancing diversity in academia and that ideas based on evidence are necessary to achieve systemic change, this prize recognized transformative approaches, systems, projects, programs, and processes that have enhanced and sustained gender diversity. All underrepresented groups face challenges. The intersection of the gender and race/ethnicity of women of color causes unique obstacles, and women of color are especially underrepresented as biomedical faculty members and in the leadership ranks. Although this competition focused on improving gender diversity broadly for all women, NIH is also interested in institutional approaches that address the underrepresentation of faculty members with intersecting identities.

Because this prize competition recognized achievement through approaches that had already been applied, such interventions had to have been implemented prior to the launch date of this prize competition. Each of the 10 winning institutions was awarded $50,000. The total prize purse for this competition was $500,000. Additional submissions were recognized as honorable mentions with non-monetary awards.

Winning participants and selected honorable mentions were invited to present their approaches at the ORWH-hosted "Forum on Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress." This forum allowed for a rich discussion of these institutions' challenges and solutions in their efforts to enhance gender diversity. The forum also featured speeches from AAAS leadership and panel discussions from AAAS SEA Change participants to share their experiences supporting gender equity and inclusion (Textbox 1).

Textbox 1: Partners and collaborators at the "Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress" forum

Two bodies partnered and collaborated with NIH to hold the "Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress" forum: AAAS SEA Change and the National Academies' Committee on Women in Science, Engineering, and Medicine.

AAAS SEA Change
SEA Change is a comprehensive institutional transformation initiative of AAAS. SEA Change uses an adaptation of the framework developed by Advance HE's Athena SWAN and Race Equality Charter (REC) initiatives in the U.K. SEA Change focuses on equity for all marginalized identities, including gender equity (like Athena SWAN) and racial equity (like REC) simultaneously, addressing issues related to women of color in science, technology, engineering, mathematics, and medicine (STEMM). As institutions expand their capacity to document the presence and experiences of—and thus better serve—people of all identities, SEA Change will expand its expectation for evidence-based assessment of the experiences of other marginalized people, which include people with disabilities, veterans, people in the LGBTQ+ community, and others.

The heart of SEA Change is a scaffolded, holistic self-assessment and reflection framework. Internal qualitative and quantitative self-assessment of policies, practices, programs, and culture across a broad range of categories using questions rooted in promising practices for diversity, equity, and inclusion (DEI) in higher education helps inform a 5-year action plan to address barriers to DEI. With the SEA Change Awards, colleges and universities are publicly recognized for their efforts—and eventually will be recognized for evidence of their progress—to advance DEI in STEMM.

The National Academies' Committee on Women in Science, Engineering, and Medicine
The mandate of the Committee on Women in Science, Engineering, and Medicine (CWSEM) is to coordinate, monitor, and advocate action to increase the participation, recognition, and leadership of women in science, engineering, and medicine—including women of color. The CWSEM serves as a resource for organizations and individuals seeking expert information and analysis about the status of gender equity in science, engineering, and medicine and as an institutional focal point in support of complementary activities across the National Academies of Sciences, Engineering, and Medicine.

The consensus study report *Promising Practices for Addressing the Underrepresentation of Women in Science, Engineering, and Medicine: Opening Doors* synthesizes existing research on policies, practices, programs, and other interventions for improving the recruitment, retention, and sustained advancement into leadership roles of women in these disciplines. This report makes actionable recommendations to

leverage change and drive swift, coordinated improvements to the systems of education, research, and employment to improve the representation of women in general and in leadership positions. Dr. Rita Colwell, chair of the study, presented some of the actionable items at the "Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress" forum.

Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress

The forum included opening and closing remarks as well as four panels (see the Forum Agenda). In total, 16 academic and research institutions, including the 10 prizewinners (Textbox 2), presented results about their efforts to increase gender diversity (Annex). Their presentations were divided into four panels: (1) Vision for Institutional Change; (2) Training for Inclusive, Equity-Minded Environments; (3) Reducing Barriers to Career Advancement; and (4) Effective Tools for Assessing and Monitoring Outcomes. Each of the following sections describes the overall purpose and provides overarching themes and lessons learned from the presentations and question-and-answer period for each of the panels.

Textbox 2: Winning Institutions and Honorable Mentions of the NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science

Prizewinning Programs and Institutions:
- WISELI: A Wise Approach to Gender Equity, Women in Science and Engineering Leadership Institute (WISELI), University of Wisconsin–Madison
- A Framework to Promote Gender Diversity & Equity, Rochester Institute of Technology
- Promoting Women of Diverse Creative Expertise, Worcester Polytechnic Institute
- No One Size Fits All: FOCUS's Mosaic of Initiatives, Perelman School of Medicine, University of Pennsylvania
- Participatory Approaches for Gender Equity: CWIMS, Center for Women in Medicine and Science, University of Minnesota Medical School
- Enhancing Faculty Gender Diversity at MD Anderson; Office of Faculty Diversity, Equity and Inclusion; University of Texas MD Anderson Cancer Center
- FIU ADVANCE; Office to Advance Women, Equity & Diversity; Florida International University
- Leveraging Evidence to Enhance Faculty Diversity, University of Houston
- Gender Diversity in Medicine, Columbia University Vagelos College of Physicians and Surgeons
- Achieving Gender Equity at Boston University, Trustees of Boston University, Boston University Medical Campus

Honorable Mentions:
- Intersectional Directions: Faculty Success @XULA, Xavier University of Louisiana
- Colorado Trails to Advance Gender Diversity, University of Colorado School of Medicine, Anschutz Medical Campus
- Women in Medicine and Science Program, Office of Faculty Affairs, Wake Forest School of Medicine
- University of Chicago: Using 3 R's to Elevate Women, Department of Medicine Women's Committee, University of Chicago

- Promoting Women Scientists during COVID and Beyond, Mass General Brigham, Harvard Medical School
- Eye of the Tiger: Women with a Will to Thrive, Alliance for Women in Medicine and Science (AWIMS), Southern Illinois University School of Medicine

Panel One: Vision for Institutional Change

Moderator: Shirley Malcom, Ph.D., AAAS SEA Change
Elizabeth Travis, Ph.D., FASTRO, University of Texas MD Anderson Cancer Center
Vidhya Prakash, M.D., Southern Illinois University School of Medicine
Anne Taylor, M.D., Columbia University Vagelos College of Physicians and Surgeons
Cathy Lebo, Ph.D., University of Florida

Panelists explored how a focus on advancing faculty gender diversity, equity, and inclusion (DEI) informed their institutions' visions for change. Panelists also discussed how their visions inspire and guide institutional change. The topics mentioned for advancing faculty gender DEI in this panel included promoting intentionality in change, adopting a systematic data-driven approach, and then using that approach to inform decisions on implementing programs.

Promoting intentionality in change: Visions for institutional change need to start from a recognition that the status quo has not resulted in change and that change does not happen on its own. The impetus for change could be high-level leadership or result from a grassroots movement among the faculty. Someone needs to be accountable for the results of advancing faculty gender DEI to promote change.

Specifically, the creation of an office with full-time staff members ("part-time does not work") was part of each panelist's change process.

Adopting a systematic data-driven approach: Panelists discussed the importance of systematic thinking. Systematic thinking means not just focusing on women or on minority groups but identifying all the important stakeholders—including men and outside agencies, such as search firms, that do human resources recruitment—and involving them in the development of a vision and the subsequent efforts for advancing faculty gender DEI. Keeping the different levels and stakeholders in a university unified and systematic in their visions for change can be challenging, but using data specific to certain stakeholders (e.g., department chairs) can help to establish the case for advancing faculty gender DEI and creating a shared vision. Further, recognizing the impact of intersectional identities among women faculty members can help to inform specific activities for change.

Panelists emphasized the importance of using data to inform visions of institutional change programs. Transparency is important for gaining buy-in to the vision, and sharing data demonstrates transparency and is useful for persuading scientists. Institutions used data to help set specific metrics and goals to measure the progress of the vision for institutional change. Goals and metrics included the number of women in leadership positions; salary/compensation equity; tracking of advancement, honors, and appointments; and measuring the processes of change (e.g., mentorship requests and enactments, reviewing search/appointment processes). Further, data can be used to assess determinants of faculty well-being, vitality, and satisfaction and then used to understand how these determinants affect faculty members who are women and/or from underrepresented racial and ethnic groups.

Use the systematic data-driven approach to inform decisions on implementing programs: Though developing a vision, goals, and metrics for institutional change is necessarily broad, the resulting programs did not focus on all areas of interest. For example, Columbia leadership chose to concentrate on the well-being, advancement, and success of groups that had traditionally not been in the mainstream pathways of career progress. At the Southern Illinois University School of Medicine, the data showed that Black, Latino, and women faculty members were particularly inequitably represented at higher levels of professorship. These data were classified by department and shared with department chairs; professional development and other interventions were targeted at faculty members languishing for 7 or more years at one rank. Other specific interventions include educating women faculty members about promotion and tenure, developing career and mentoring programs, increasing recognition of women faculty members with awards and lectures, establishing annual data collection and equity reviews, improvements in the organizational climate, and continuing assessment of salary equity.

Panel Two: Training for Inclusive, Equity-Minded Environments

Moderator: Jon Lorsch, Ph.D., Director, National Institute of General Medical Sciences
Elizabeth Dell, M.S., Rochester Institute of Technology
Caroline Simpson, Ph.D., Florida International University
Philip Kass, D.V.M., M.P.V.M., M.S., Ph.D.; University of California, Davis
Megan Bair-Merritt, M.D., Boston University Medical Campus

Panelists shared how their institutions use different approaches to designing evidence-based training aimed at creating more inclusive, equity-minded environments.

The Office of the Provost or a similar body within each university housed training efforts. Diversity, equity, and inclusion (DEI) training was also mandatory for at least some staff members. In some cases, training was mandatory for specific staff members, such as those involved in faculty search, promotion, and tenure committee processes. In other cases, trainings were mandated by provosts with a goal of at least 40% participation across their communities. Though mandates can result in backlash—involving deans and other leadership—over time, trainings will help to shift the culture. Involving leaders and having them send out training invitations and attend events is also important. Framing training programs as "leadership development opportunities" will help to attract those with ambitions to be department heads and deans.

Training topics fall into two broad categories:
1. *DEI-focused training*: DEI-focused training includes training on unconscious bias awareness, including use or adoption of the University of Michigan's Strategies and Tactics for Recruiting to Improve Diversity and Excellence (STRIDE) training. Other training topics include bystander training

to reduce bias, increase inclusion, and encourage faculty members to intervene when they witness exclusionary or biased behavior, as well as more general DEI education. Training topics may also be incorporated into job tools, including templates for job descriptions, interview questions, and evaluations.

2. *Faculty development*: In addition to training about DEI, change programs included training faculty members to be able to capitalize on available opportunities. Topics included in the trainings were faculty mentor programs and diversity mentor professorships and faculty development opportunities (e.g., programs aimed at multiple career stages, career coaching, and research-focused longitudinal workshops, including grant writing programs, such as the K to R program). Faculty development trainings are often an integral part of strategies to increase career advancement of women and people from underserved racial and ethnic groups.

Panelists also discussed the approaches to training. Having trainings informed or based, at least in part, on data helped to explain the need for training. Creative approaches to training, such as theater or theater workshops, can make the training more entertaining. Also discussed were having interactive workshops and using case studies based on actual events, which were successful approaches for training. However, international faculty members might not have the cultural background to understand the context of the skits or other materials in the training; programs need to recognize the microenvironments of individual labs and departments.

Panel Three: Reducing Barriers to Career Advancement

Moderator: Roger Glass, M.D., Ph.D., Director, Fogarty International Center, NIH
Stephanie Abbuhl, M.D., FACEP, Perelman School of Medicine, University of Pennsylvania

Chrys Demetry, Ph.D. (substituting for Susan Roberts, Ph.D.), Worcester Polytechnic Institute
Florastina Payton-Stewart, Ph.D., Xavier University of Louisiana
Marguerite Bonous-Hammarth, Ph.D.; University of California, Irvine

Panelists discussed institutional- and programmatic-level changes that reduce or remove barriers to the career advancement of women.

Reducing barriers to career advancement for women and other underrepresented groups required a "mosaic of initiatives," and specific activities included training and mentoring, performance reviews and promotion, recruiting, work and workplace programs, and community/environment building (Textbox 3).

Textbox 3: Examples of initiatives to reduce barriers to career advancement

Training and Mentoring: Career leadership training, training of mentors. (See also Panel Two.)

Performance Reviews and Promotion: New promotion and tenure practices, recognizing multiple forms of scholarship—including traditional measures of scientific impact and work involving policy, practice, application, and integration—and adopting a professional development model for reviewing faculty performance.

Recruiting: Diversity training for search committees, strategic recruitment, new search practices, revised evaluation methods, and reformatting search and hiring evaluation criteria.

Work and Workplace Programs: Policies for working part time, lactation programs, home workstations, and equitable call schedules for faculty members with clinical responsibilities.

Community/Environment Building: Climate studies, peer networks, personalized consultations with department heads, and "stop the clock" and other family-friendly policies.

With an array of possible and enacted initiatives, panelists discussed the need to track initiatives and use data to drive the initiatives and develop best practices. External funds might help these initiatives because they allow institutions to take risks and try new practices and pilot programs that otherwise might not be possible. External funding also lends credibility to diversity, equity, and inclusion (DEI) efforts and suggests that DEI issues are not peripheral.

The overall approach to reducing barriers to career advancement should have a thought-out structure and strategy. Panelists discussed their strategies, including (1) a three-pronged approach based on establishing an office in the faculty administration to monitor and coordinate DEI efforts, leadership training, and mentoring and peer networks, (2) a complementary top-down and bottom-up effort, and (3) focusing efforts on system-level structural changes and interventions targeting women and other underrepresented groups. Interventions must address administration, senior faculty members and leaders, tenure, grant activity, junior faculty members, and recruitment of new faculty members.

A final point of discussion was about increasing diversity without overburdening underrepresented groups. In some situations, members of underrepresented racial and ethnic groups serve a

disproportionate amount of time on recruitment committees, detracting from their other work. Some solutions to ensuring that efforts to reduce barriers to career advancement do not become barriers themselves included training all staff members—not just faculty members—to serve on recruitment committees and having senior leadership positions in each department dedicated to DEI. Institutions can recognize DEI efforts alongside research, teaching, and service in hiring and promotion decisions. In other words, DEI efforts need to be recognized as being of equal importance as other academic contributions.

Panel Four: Effective Tools for Assessing and Monitoring Outcomes

Moderator: Zach Thomas, M.Ed.; Director of Diversity, Equity, and Inclusion; National Academies of Sciences, Engineering, and Medicine
Tiffany Ana López, Ph.D., Vice Provost for Inclusive Excellence, Arizona State University
Christiane Spitzmuller, Ph.D., University of Houston
Jerica Berge, Ph.D., M.P.H., LMFT, CFLE, University of Minnesota Medical School
Molly Carnes, M.D., M.S., University of Wisconsin–Madison

Panelists shared how their institutions used tools to inform their approaches and to assess and effectively monitor outcomes. All the institutions had specific measures of successfully improving diversity, equity, and inclusion (DEI) outcomes. Measures included increasing the number of women and members of underrepresented racial and ethnic groups in leadership positions, such as deans and department chairs; increases in women, especially African American women and Hispanic women, among tenured and tenure-track faculty members; increases in named professorships held by women; increases in faculty diversity in general; and increases in recruiting women of color in general.

Existing institutional data (e.g., salary information and demographics of faculty members and students) should be the basis to inform efforts to increase DEI and to assess and monitor the outcomes. Most panelists discussed using specific data collection activities, such as surveys and focus groups, to supplement existing institutional data.

Programs had minimal access to data scientists, but most had a full-time data scientist. The metrics the schools employed ranged across recruitment, applicants and applicant pools, training, midcareer and dual-career issues, the effects of the campus child care center on faculty absenteeism, the percentage of faculty members who were women, salaries, and retention. Selection of metrics needs to be deliberate and thoughtful (i.e., what gets measured gets managed).

Collecting and analyzing data is not enough but should be used in a cyclical manner to inform decisions and refine programs. For example, the University of Minnesota Medical School collected data that showed women do not often receive invitations to give prestigious lectures. After the school created a mechanism to invite women to give lectures and receive honoraria, analysts then tracked progress and success. Panelists also discussed data visualization, including toolkit materials and dashboards housing aggregated student and faculty data. Making data public—to administrators, faculty members, and students—makes efforts to increase diversity transparent and helps to hold the university accountable. Producing data that speak to the faculty yields a sense of what the community wants and helps leaders do their jobs better. Data focusing on intersectionality can be particularly informative—although it is possible that there are too few women of color on faculties to reach statistical significance, but universities could pool their data with other universities.

Conclusion

Several cross-cutting themes emerged during the "Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress" forum. Many of these themes were reemphasized and elaborated on during closing remarks by Dr. Colwell (see the Forum Agenda).

1. Leadership: University leaders can be essential to supporting efforts to increase faculty gender diversity, equity, and inclusion (DEI) and may need to be the ones to start the process. However, buy-in from high-level university leadership is not sufficient to enact meaningful change. Efforts to foster faculty gender DEI require dedicated resources—e.g., full-time dedicated staff members with the authority and budget to implement a broad array of programs. In the words of Dr. Colwell, DEI programs should not be "one man away" from nonexistence and need structural permanence so that they can survive a university leadership change.

2. Intentionality: Change does not "just happen" but requires deliberate and thoughtful action to fix the system (not the women). Programs must target specific barriers, bias, discrimination, and harassment issues for women at different stages of their careers and of different intersecting identities. Weighting of the different interests and needs should inform an overall vision and strategy for change.

3. Engagement: DEI work must be part and parcel of the scientific enterprise. Fostering gender DEI is a "change process" that requires time and course correction. The change process should engage women (especially women of color), administrators, leaders, allies, and other stakeholders

throughout. Ensuring that trainings and other forums for implementing change hold people's interest—e.g., using theater and other creative means—and initiating dialogues among faculty members and others can help create an environment of common purpose.

4. Data: Across panels and speakers, use of data to inform approaches to fostering gender DEI was a common theme. Data informed approaches, improved transparency, garnered buy-in and built community with scientists and others, measured success over time, and informed changes to programs and policies over time. Though existing institutional data can be useful, many universities and research institutes used additional data and committed the resources to gather, analyze, present, and disseminate even more data.

Panel I: Vision for Institutional Change

Enhancing Faculty Gender Diversity at MD Anderson

The University of Texas MD Anderson Cancer Center
Office of Faculty Diversity, Equity and Inclusion

Executive Summary

In 2006, MD Anderson Cancer Center officially institutionalized the Office of Women Faculty Programs (WFP), to be led by a full-time associate vice president reporting directly to the Chief Academic Officer, an executive position charged with advancing women faculty in the institution. This office was a response to two decades of volunteer efforts to change the trajectory of women faculty with modest progress. The slow rate of progress was not acceptable. Establishment of this office with resources—including full-time staff, space, and funding—was the intervention, and it signaled the institution's intentional and strategic commitment to accelerate the recruitment, retention, and advancement of women faculty at MD Anderson and women faculty in academic science and medicine overall. Operationalizing this intervention involved understanding the challenges and obstacles faced by women faculty at MD Anderson, devising and implementing solutions, and tracking outcomes. We established this office with clear expectations of sustained impact on the advancement and the enhancement of women faculty. As such, we created several key philosophies and guiding principles. Most importantly, we were intentional in all we did, and we insisted that everything we did be data driven.

This intervention has had a consistent and sustained impact on increasing the number of women faculty leaders at MD Anderson and increasing the visibility of women in academic science and medicine. Women faculty have a clear presence in the institution and have key roles in decision-making and strategy-setting. Today, 34% of top leadership positions at MD Anderson are held by women; the only leadership position without a woman is President. Additionally, the percentage of women in all faculty ranks significantly increased to about 50% in three ranks and one-third of professors. Over 50% of our faculty and women department chairs are women of color. All of these are higher than the national average. Additionally, recognitions awarded to

women significantly increased. Many factors contributed to WFP's successes, but we primarily attribute our deliberate inclusion of men, partnering with others (internally and externally), and using a combination of approaches to achieving our goals.

The office is no longer an intervention; it is a credible and dynamic part of the organization, with strong local and national influence. Our key approaches are now an integral part of MD Anderson's culture, and the Office expanded in 2016 to include minority faculty, now called the Office of Faculty Diversity, Equity and Inclusion. We are well positioned to continue our mission to be the model for cancer centers and academic medicine and science in the effective recruitment, retention, and advancement of a diverse faculty of women by creating an institutional culture where women physicians and scientists choose to be.

Gender Diversity in Medicine
Columbia University Vagelos College of Physicians and Surgeons

Executive Summary
The gender demographics of faculties of medicine have changed dramatically in the past two decades, as women now make up 41% of medical faculty nationally, but 49% of approximately 2,150 full-time faculty at the Columbia University Vagelos College of Physicians and Surgeons (VP&S).

Women and men enter academic medicine in almost equal numbers, but as both groups advance in academic rank, men outnumber women, significantly at the full professor rank and in award of tenure (over 75% men). Male preponderance in advanced rank also correlates with a disparity in leadership roles, with women much less likely to achieve roles such as department chair, center/institute director or dean. Nationally, gender-based salary inequities persist at all ranks and specialties. Although first-generation biases against women are not commonly observed, subtler, second-generation biases persist, including:

1. Workplace policies and processes that may disadvantage women to a greater extent than men
2. Organizational climate that tolerates harassment and other damaging behaviors more frequently directed at women
3. Unequal access to high quality mentorship with a resultant knowledge gap for women and URM faculty on how to achieve success.
4. Fewer sponsorship opportunities, slowing the advancement of women.

Faculty well-being and success have been shown to be strongly influenced by practices, policies, and procedures organized into six key determinant concepts:

1. Organizational governance and transparency
2. Work/life support

3. Mentoring, recognition by colleagues, peer support, and networks
4. Professional development and advancement opportunities
5. Institutional mission and meaning in work
6. Workplace values, culture, climate, and professionalism.

The Office of Academic Affairs in VP&S at the Columbia University Irving Medical Center has focused on addressing factors negatively impacting the success of women, within the context of addressing the needs of all faculty. We have used faculty-driven, multidimensional approaches that are organized based on a framework of the determinants demonstrated to support overall faculty well-being, vitality, and satisfaction. Within this framework, we have intentionally addressed the unique challenges faced by women and faculty from underrepresented groups.

Specific actions to address these needs have included changes to governance and policies, with increased transparency around academic advancement, faculty searches, recruitment, and honors; facilitation of mentorship programs with attention to the unique needs of women; mechanisms for faculty recognition; enhanced work–life support; regular review of gender and diversity metrics; salary equity surveys with adjustments; and development of a robust portfolio of programs to support faculty work and advancement, including all women or all diverse faculty cohorts to promote networking and support.

We track key metrics including numbers of women and men by various categories, but most importantly, by the inclusion of women in organizational leadership, honors, awards, key decision-making committees and academic advancement as evidence of progress made toward gender equity.

Eye of the Tiger: Women with a Will to Thrive
Southern Illinois University School of Medicine
Honorable Mention

Executive Summary

Although women achieved a major milestone in surpassing male enrollees in medical schools in 2017, they continue to lag behind their male colleagues in career advancement and elevation to leadership positions. Further, women of color experience bias, lack of career advancement, and isolation to a higher degree.

Located in Springfield, Illinois, Southern Illinois University (SIU) School of Medicine is a public community-based institution. Its faculty consists of more than 330 individuals, including faculty in the SIU Carbondale main campus.

With humble beginnings as a grassroots organization in the Department of Internal Medicine, SIU Medicine's Alliance for Women in Medicine and Science (AWIMS) was established in 2018. AWIMS consists of a director, an executive committee, and an advisory board comprising key stakeholders from around the institution. The five initiatives of AWIMS are research, education, mindfulness and wellness, community engagement, and mentorship and career advancement.

AWIMS has hosted an annual Women in Medicine and Science professional development conference since 2018. Featuring renowned national speakers, the conference provides faculty with essential tools to develop as leaders.

AWIMS was the recipient of a grant from the American Medical Association's Joan F. Giambalvo Fund for the Advancement of Women. Through this grant, AWIMS started the Research Initiative to Sponsor and Empower Women in Medicine and Science (RISE WIMS) program, which links junior to mid-career faculty with a research coach, AWIMS mentor, and research support staff. Faculty have the tools to take a project from conception to publication or presentation.

AWIMS partnered with other institutional organizations to lead a promotion and tenure working group. As a result of the efforts of this working group, there was a clear uptrend of promotion of women to the level of associate professor and full professor, with the highest number of women professors promoted in 2020 in the history of the institution. A pilot of a simplified process is underway for the 2021–2022 promotion cycle. Next steps are to work toward recruiting a more diverse pool of faculty in terms of gender and race.

In the midst of the dual pandemics of COVID-19 and racism and oppression, AWIMS stepped up its role as an ally. AWIMS supports the SIU School of Medicine's White Coats for Black Lives chapter, organizes monthly town halls dedicated to open dialogue about racism with institutional partners, and has dedicated its journal club sessions to articles pertaining to racism and injustice. AWIMS also has representation on the institution's anti-racism task force.

Just like the eye of the tiger, AWIMS is rising up to the challenge of enormous rivals—gender bias, career stagnancy, and lack of mentorship, which have only been compounded by the dual pandemics of COVID-19 and oppression. We are truly an alliance in every sense of the term, moving the gender equity needle together.

Panel II: Training for Inclusive, Equity-Minded Environments

A Framework to Promote Gender Diversity & Equity
Rochester Institute of Technology (RIT)

Executive Summary

The Rochester Institute of Technology (RIT) has developed a multipronged approach to supporting faculty gender diversity in the biomedical and behavioral science fields. At RIT, faculty working in these fields span multiple disciplines and departments, ranging from biomedical engineering to chemistry to computer science to many others. Approaches include both university-wide, college-based and network-based efforts and programs. Efforts specifically target faculty in the areas of biomedical and behavioral science fields and/or include broader, university-wide efforts that support diversity, equity, and inclusion. The common feature of the approaches is the utilization of a framework supportive of promoting gender diversity. (See Figure 3.1.) This framework includes four frames: creating opportunities, changing the culture, valuing difference, and providing targeted support.
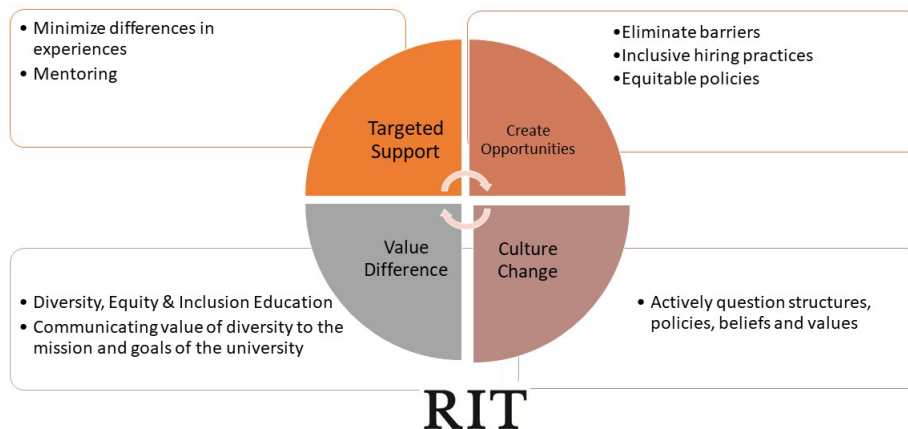

Figure 3.1: Framework for Promoting Gender Equity at RIT

The implementation of this framework is accomplished utilizing both top-down and bottom-up approaches. A bottom-up approach builds trust and communication related to a project's mission and promotes the establishment of sustainable change. A top-down approach has a systemwide strategic view. They are integral to lasting changes that support the framework that promotes gender equity.

At RIT, many of the bottom-up approaches have started as grassroots efforts by faculty. Over time, they may be funded by external grants or institutional commitments. As these efforts are

established, they result in structures that are part of the fabric of the university and become more aligned with the top-down structures that guide university strategy and systematic change. Efforts at RIT that most closely support gender equity in biomedical and behavioral sciences are AdvanceRIT and Personalized Healthcare Technology (PHT180). AdvanceRIT is a university wide effort with programmatic efforts aimed at culture change in support of gender diversity, inclusion, and equity at the institutional level and supporting the retention, recruitment, and advancement of women faculty at RIT. PHT180 is a healthcare research network. AdvanceRIT is a precursor that prepares PHT180 affiliated faculty and leadership to be more receptive to gender equity in the field of biomedical and behavioral science.

FIU ADVANCE
Florida International University

Executive Summary

FIU ADVANCE, overseen by the Office to Advance Women, Equity & Diversity (AWED), is aimed at developing innovative organizational change strategies and institutional structures, processes, and climate to build an affirming and fair workplace for women and underrepresented groups at FIU and produce comprehensive change in science, technology, engineering, and mathematics (STEM) and the social and behavioral science (SBS) departments at the university. It is funded by a 5-year, $3.3 million grant from the National Science Foundation (2016–2021). Three main objectives guide FIU ADVANCE's efforts to accomplish this goal: (1) Attract, recruit, retain, and promote women STEM faculty, particularly underrepresented minority (URM) women; (2) educate faculty about gender and ethnic biases and microclimates that affect the advancement of women; and (3) move faculty from insight to action to promote gender equity using the Bystander Leadership Program, an evidence-based intervention program. To reach these objectives, many programs are designed and woven together at three levels:

1. Faculty Professional Development Programs
   - Bystander Leadership Program: This is our signature program, a one-day workshop for faculty to reduce gender and racial bias and increase inclusion. It is also being conducted as an evidence-based research project. See the 3-minute video at https://go.fiu.edu/bystander.
   - *Strategies and Tactics for Recruiting to Improve Diversity and Excellence* (STRIDE) Workshops: All faculty search committee members are required to attend once every 3 years.
   - Search Committee Diversity Advocates: One member of each faculty search committee attends additional training focused on best practices to recruit diverse and excellent candidates.

- Faculty Mentor Program: This pairs junior and mid-career faculty with senior faculty to set goals or develop a career plan; it also offers workshops on special topics—e.g., grant writing and summer planning.
- Salary Equity Program: AWED contributes (limited) funding to colleges to correct salary inequities based on gender, race, and/or compression.

2. College and Departmental Level Programs
- Diversity & Inclusion (D&I) Plan Development: This occurs at both the college level and the departmental level.
- Equity Advisor Program: A senior faculty member works with college leadership on faculty recruitment and D&I plans.
- Chairs' Leadership Workshops: These are led by the Vice Provost for Faculty Leadership and Success, to develop materials for chairs concerning best practices for evaluating faculty, tenure, and promotion procedures.
- Diversity Mentor Professor Program: This helps the recruitment of funded senior STEM faculty with a clear record of mentoring women and minorities in STEM fields.

3. University Level
- Policy development in collaboration with policy leaders.
- Microclimate Project: Examination of the norms and climate within departments, with special attention to working with international faculty on equity and inclusion issues.
- AWED Theater: This produces original plays based on our research that are presented as interactive theater to other universities or organizations.

Outcomes include (2016–2021):
1. Increased awareness of gender / ethnicity bias.
2. The share of tenure-track STEM faculty who are women increased from 11% to 20%.
3. The share of tenure-track STEM faculty who are women of color increased from 1.5% to 2.5%.
4. All ranks: Women faculty overall increased from 38% to 43%.
All ranks: Hispanic faculty overall increased from 16% to 21%.

Achieving Gender Equity at Boston University
Trustees of Boston University, Boston University Medical Campus

Executive Summary

Retaining women in science, technology, engineering, mathematics, and medicine (STEMM) and fostering their career growth requires a comprehensive, data-informed approach grounded in opportunities for professional development and mentorship. This application comes from Boston University and is led by the Boston University School of Medicine (BUSM), in partnership with STEM departments on the Boston University Charles River Campus (CRC). Collectively, we are committed to promoting gender equity among our faculty. We are well equipped to lead in this area, given BUSM's history as the first U.S. institution to offer medical education to women and to graduate a Black woman physician. Our university-wide approach to gender equity is informed by literature highlighting the importance of faculty development opportunities and strong mentoring for women's career advancement, BU-specific needs assessments—which indicated that these opportunities were viewed by women as important to mitigate inequities—and our institutional data.

Since 2016, three offices across BUSM and the CRC have implemented a three-pronged approach: (1) faculty development programs that provide women with opportunities to build new skills, form peer networks, and receive career mentoring; (2) research-focused longitudinal workshops to enhance extramural funding success; and (3) career coaching. All components seek to support a diverse group of women STEMM faculty members throughout their career trajectories. Our data demonstrate that this approach has substantively improved gender equity across our primary outcome metrics of increased rates of promotion for women, more women at higher faculty ranks, and diversified leadership. Specific evidence of the approach's impact includes the fact that prior to our intervention, an average of 39% of faculty promoted from associate professor to professor at BUSM were women (2011–2015) and this proportion increased between 2016 and 2020 to an average of 60%. The proportion of women professors also increased between 2016 and 2020 as compared with between 2011 and 2015 (annual average of 31%, up from an average of 26%), with this post-intervention proportion being higher than the national average.

On the CRC, we demonstrate an increase in the proportion of STEM women associate professors between 2016 and 2020 as compared to between 2011 and 2015 (an average of 32%, up from an average of 22%). The average proportion of key leadership roles held by women similarly has increased in the post-intervention years (an average of 37%, compared with 29%). Additional data from each component provide supportive evidence that faculty believed the programming was instrumental in developing the leadership and research skills, mentoring and networking required for career advancement. Our approach has been developed to allow for generalizability and adaptability in diverse settings, and we have disseminated our findings nationally.

No One Size Fits All: FOCUS's Mosaic of Initiatives
University of Pennsylvania Perelman School of Medicine

Executive Summary

The Perelman School of Medicine (PSOM) leads a multifaceted approach to gender diversity and advancement of women faculty through a dean-funded program created in 1994, FOCUS on Health & Leadership for Women (FOCUS). The Executive Director is a dean-appointed leadership position, and a FOCUS budget supports a small but vital portion of dedicated time of multidisciplinary faculty and staff. FOCUS has augmented these funds with grants from NIH, foundations, and philanthropic organizations to multiply the investment. Since its inception, FOCUS has obtained $5.1 million in extramural funding.

The dual mission of FOCUS is to (1) support the advancement and leadership of women in academic medicine and (2) promote education and research in women's health and careers. FOCUS uses both a top-down approach (working with leadership on institutional policies, procedures, searches, and salaries) and a bottom-up approach (faculty initiatives—e.g., leadership training, mentoring, and community building). FOCUS's philosophy is that when both approaches are actively engaged and sustained, true culture change occurs.

FOCUS's initiatives fall into five categories: (1) collecting and monitoring data, (2) leadership training, (3) building a trusting and supportive community, (4) policies and procedures, and (5) research. Given FOCUS's long history, we narrowed our timeline to 2008–2020. This time frame begins just before the schoolwide NIH Transforming Academic Culture (TAC) Trial, one of 14 NIH R01s given in 2009 to accelerate progress in women's careers in medicine and science. FOCUS's leadership were co–principal investigators (Abbuhl/Grisso) on the 4-year cluster-randomized intervention trial to advance junior women in clinical and basic science departments. This ambitious trial galvanized leadership and faculty and heralded a more robust era of gender equity initiatives targeting leadership training, professional development, longitudinal cohorts, family-friendly policies, promotion, recruitment, searches, salaries, mentoring, community building, and others. The dual approach that merges programmatic and research efforts is central to the FOCUS mission.

The proportion of women faculty increased from 31% (2008) to 43% (2020); women "standing faculty" increased by 56%, and the increase for men was 3%. Underrepresented minority (URM) women associate professors increased by 350%, and URM men increased by 93%. Overall, URM women faculty increased by 147%, and men increased by 58%. URM women faculty remain a priority, constituting only 8.6% of all women faculty.

FOCUS has been recognized by the Association of American Medical Colleges (AAMC), receiving the AAMC Women in Medicine & Science Leadership Award in 2004 (organizational level) and in 2012 (individual to Dr. Abbuhl). FOCUS's work has been shared at National Institutes of Health,

Association of American Medical Colleges, American Medical Women's Association, Academy for Women in Academic Emergency Medicine, American Academy of Emergency Medicine, the Health Research Alliance, the Melanoma Society, National Clinician Scholars Program, and numerous National Grand Rounds webinars. *Forbes* ranked Penn the #2 best employer for women, with specific mention of FOCUS.

Promoting Women of Diverse Creative Expertise
Worcester Polytechnic Institute

Executive Summary

Worcester Polytechnic Institute (WPI) occupies a distinctive niche as a medium-sized doctoral institution that combines a unique project-based undergraduate curriculum with a growing research enterprise. In 2016, *The Wall Street Journal* rated WPI first in the nation for "Schools that Do the Best in Combining Scholarly Research with Classroom Instruction." WPI has made recent progress in recruiting and retaining early-career women faculty in the STEM fields, including the biomedical and behavioral sciences. However, its promotion system systematically disadvantages women from associate-to-full promotion. Data analysis indicates that the sources of these gender equity problems are attributable to implicit biases and a "foggy climate," a research-based metaphor for ambiguity in promotion processes, valuing different types of work, and work distribution that disadvantages women.

These problems were addressed through a collection of approaches: (1) changing WPI's associate-to-full promotion policy for tenured faculty to welcome Boyer's multiple forms of scholarship and clarifying the new promotion criteria and processes to reduce the "foggy climate"; (2) institutionalizing an associate professor mentoring system (based on career development plans and mentoring teams) campus-wide to guide mid-career faculty toward promotion; (3) providing a series of mini-grants to support individual associate female faculty needs to achieve promotion to full professor; and (4) institutionalizing a new department head "annual review conversation" that moved away from evaluative procedure and toward promoting understanding, recognition, and reward for diverse activities that individual faculty value. These approaches were highly successful in enabling our female faculty to be promoted from associate to full professor. In the 4 years before these activities were implemented (2014–2017), 13 men and 5 women were promoted to full professor (28% women). In the 4 years after these activities were institutionalized (2018–2021), 19 men and 19 women were promoted to full professor (50% women). These approaches, along with other institutional activities, have enabled significant overall increases in gender diversity. In 2017, tenured faculty consisted of 28% women. In 2021, our tenured faculty comprise 31% women. At the assistant rank, the percentage of women has increased from 35% to 45% over that period, and the percentage of women at the rank of full has increased from 18% to 24%. Although outside the scope of this award, we are also working diligently to support non-tenure-track female faculty in their pursuit of career advancement and stability.

Intersectional Directions: Faculty Success @XULA

Xavier University of Louisiana
Honorable Mention

Executive Summary

Xavier University of Louisiana (XULA) is a historically Black and Catholic university founded in 1925. Its purpose is to promote a more just and humane society by preparing its students to assume roles of leadership and service in a global society. The university has two colleges, the College of Arts and Sciences (CAS) and the College of Pharmacy (COP) and awards bachelor's degrees, master's degrees, the Doctor of Education, and the Doctor of Pharmacy. Xavier's student body is 75% African American.

XULA's work in diversifying its faculty, especially in biomedical disciplines, was enhanced when the university received a National Science Foundation ADVANCE grant in 2017. This grant, XULA STrIDES, is rooted in intersectionality theory. Xavier continues to address the pre-2017 hiring, attrition, and demographic data highlighting difficulties retaining women faculty, particularly Black or African American women in the biomedical fields. Through pipeline and climate initiatives, XULA has transformed institutional policies that directly contribute to the retention and advancement of women in the biomedical faculty pipeline, particularly women of color.

XULA employed three approaches to address faculty gender diversity:

- A Faculty Administrative Fellow for Diversity, who is now the Associate Provost for Faculty Affairs, to coordinate a climate study and monitor and coordinate diversity efforts;
- Evidence-based training for search committees, leaders, and faculty given by national experts; and
- Strengthened on-campus mentoring and peer networks.

This work has resulted in changes to policies and hiring procedures on XULA's campus to support recruitment and retention of biomedical faculty. Data show that these changes have made a difference in faculty diversity, retention, and success. For example, for biomedical faculty, between 2016 and 2020, the proportion of women tenure-track faculty increased from 42% to 44%. Between 2016 and 2020, XULA had a total of 19 female tenure-track biomedical science faculty. The fact that XULA's percentage of women tenure-track faculty in 2020 is not higher than 44% is attributed to the success and retention of these women, seeing as five of the 19 faculty members were tenured, four of whom are women of color.

Building and Leveraging Evidence to Enhance Faculty Gender Diversity
University of Houston

Executive Summary

The University of Houston (UH) entered the NIH Prize for Enhancing Faculty Gender Diversity in Biomedical and Behavioral Science to seek recognition for our substantial and sustained investments to increase the representation of women, especially women of color, among our tenured and tenure-track (T/TT) faculty.

	Fall 2014	Fall 2020	% Increase
Total	981	1,064	8%
Men	687	693	1%
Women	294	371	26%
Black Women	12	25	108%
Hispanic Women	29	42	45%
Black Men	24	28	17%
Hispanic Men	36	46	27.8%
Underrepresented Minority Faculty	101	141	39.6%

As data in the above table highlights, UH has made exceptional progress in recruiting, developing, and retaining women, especially women of color, faculty over the past six years through work in the following key domains: strengthening evidence-based recruitment and retention initiatives, creating lasting infrastructure, and eliminating barriers preventing women and faculty of color from transitioning into leadership positions.

In 2014, UH was awarded a National Science Foundation (NSF) ADVANCE Institutional Transformation (IT) grant. The goal of our IT grant was to create an academic environment where each and every student will have access to role models who share their lived experience and who can serve as credible and culturally sensitive mentors and instructors. Demonstrating substantial institutional commitment to increasing the representation of women, especially women of color, UH President and Provost served as active and engaged principal investigators on our ADVANCE grant. Utilizing the grant resources received from NSF, along with supplemental institutional support, we implemented targeted, data-science and network-building oriented recruitment initiatives, as well as mandatory diversity search committee training and wraparound support for faculty recruitment, including a faculty recruitment toolkit, a designated dual-career function, a backup-care program, and guaranteed access to childcare spots at the university's childcare center. We invested in creating an Office for Faculty Recruitment, Retention, Equity, and Diversity and an Office for Faculty Development and Engagement. We built partnerships across campus, including with the UH Faculty Senate,

allowing us to progress policy changes in support of women faculty (including stop-the-clock policies for COVID-19 and a supportive parental leave policy). All initiatives were driven by rigorous social science research. We endeavored to advance the national discourse on gender diversity in the academy by disseminating our work through journals, conference proceedings, and individual consultations with peer institutions.

Our success has been so substantial that *The Chronicle of Higher Education* ran a feature article about our work, entitled "Diversity Without Dollars," in 2020. Over a six-year period, we increased our T/TT women faculty members by 26%, our Black women by 108%, and our Hispanic women by 45%. We have also had a 20% increase in women faculty members in STEM disciplines and a 38% increase for underrepresented minority women in STEM. Note that for the purpose of this application, we define "women of color" and "underrepresented women" as Hispanic or Black women. We recognize that other groups face significant challenges as well but focus on Hispanic and Black women, given that Hispanic and Black students constitute the majority of underrepresented students on our campus.

Center for Women in Medicine and Science
University of Minnesota

Executive Summary
The University of Minnesota (UMN) Medical School's Center for Women in Medicine and Science (CWIMS) is an emerging leader in innovative and fast-paced institutional gender equity reform at the UMN Medical School. CWIMS utilizes a Community-based Participatory Research (CBPR) framework, which is a state-of-the-art and evidence-based framework to advance their mission and vision.

Mission Statement: CWIMS supports and facilitates leadership and development opportunities to achieve gender equity, diversity, and inclusion.

Vision Statement: CWIMS creates supportive institutional collaborations and infrastructures to ensure gender equity now and in the future.

CWIMS was developed in the fall of 2018. Since then, CWIMS has used their approach to develop four action groups: (1) Recruitment and Retention; (2) Salary, Resource, and Leadership Equity; (3) Mentoring; and (4) Strategic Communications and Collaborations, which develop and carry out all our gender equity initiatives.

Overall, the CWIMS action groups work to:
- Advance policies and collaborations that support the recruitment and retention of a thriving, diverse faculty community.
- Build mentoring resources, networks, and role modeling opportunities for both new and established faculty.

- Systematically address and ensure the equitable distribution of salary, resources, and strategic leadership opportunities across the faculty.
- Strategically communicate and collaborate across the university system, locally, regionally, and nationally to disseminate best practices regarding gender equity in academic medicine and science.
- Support collaborative action initiatives to ensure safety, equity, and dignity in the workplace for all.
- Create and track metrics that ensure progress is being made in decreasing gender disparities in academic medicine.
- Carry out pioneering research on gender equity and women's health issues.

Our CBPR framework emphasizes a simultaneous bottom-up and top-down approach to engaging stakeholders in the work. Thus, CWIMS includes medical school faculty, department heads, Deans, Provosts, and national stakeholders in their work.

Also consistent with CBPR, all of the CWIMS initiatives include metrics to track our success and impact. In the first 2.5 years of the CWIMS, much has been accomplished, from a salary equity study, to creating an electronic gender equity metrics dashboard to track our progress, to a Distinguished Visiting Scholar mechanism for funding and prioritizing presentations by women faculty to grant funding for projects such as closing the gap on disparities between men and women in achieving promotion and tenure, to name a few. These outputs and outcomes are just the beginning of our gender equity–focused work that will be highly effective and sustainable given our CBPR approach.

WISELI: A Wise Approach to Gender Equity
University of Wisconsin–Madison

Executive Summary

The Women in Science and Engineering Leadership Institute (WISELI) was established in 2002 as the cornerstone of a 5-year National Science Foundation ADVANCE Institutional Transformation award to the University of Wisconsin–Madison (UW Madison). WISELI has advanced gender equity in the biological and physical sciences (BIO-PHY) by using UW Madison as a "living laboratory" to study gender equity, diversity, and campus climate; implement evidence-based interventions; and measure success. We present the establishment of WISELI as a research center as our primary intervention and highlight the approaches and initiatives WISELI has developed, sustained, scaled up, and disseminated to other institutions nationally and internationally. WISELI has consistently taken a systems approach, with multilevel interventions that address institutional, interpersonal, and internalized barriers to the advancement of women and members of other groups underrepresented in BIO-PHY.

A key element of several WISELI initiatives is educating faculty about the impact of unconscious (i.e., implicit) bias on individual judgments and institutional processes and, most importantly,

providing evidence-based strategies for minimizing the influence of such bias. These interventions include *Searching for Excellence and Diversity: A Workshop for Faculty Search Committees*, *Breaking the Bias Habit* workshops, and the *Bias Reduction in Internal Medicine (BRIM) Initiative*, all of which were tested in controlled studies and found to be effective pro-diversity interventions.

WISELI's *Study of Faculty Worklife*, a longitudinal study of workplace climate for UW Madison faculty with six waves since 2003, is a critical aspect of WISELI as an intervention. This survey tracks the effectiveness of WISELI's efforts over time. It demonstrates that the gap in climate experienced by men and women faculty is declining and shows improved climate in departments whose faculty have participated in WISELI initiatives when compared to departments whose faculty have not participated.

We report below on the effectiveness of WISELI initiatives; their adaptation to other contexts, such as tenure, promotion, and awards; and their adoption by other institutions. We provide evidence that since 2001, WISELI has been a major contributor to the increased number and percentage of women on the UW Madison faculty in BIO-PHY (Table 1); increased number of women in leadership; improved women's tenure outcomes; and improved climate for women faculty.

Table 1: Number and Percentage of Women Faculty in BIO-PHY at UW Madison Baseline to Present					
All Faculty		**Women**		**Women of Color**	
Year	N	N	%	N	%
2001	1,198	187	15.61%	22	1.84%
2020	1,286	365	28.38%	90	7.00%

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