

NIH Working Group on Women in Biomedical Careers

Recommendations to consider from:

The National Academies Report (page 1-3)

The NIH Office of Intramural Research Second Task Force on the Status
of Women Scientists (page 3-6)

Constituents and Community (page 6-9)

I. Recommendations from National Academies Report, *Beyond Bias*, for Research Funding Agencies and Federal Agencies

(C). **Federal funding agencies and foundations should ensure that their practices—including rules and regulations—support the full participation of women and do not reinforce a culture that fundamentally discriminates against women.**

All research funding agencies should:

1. *Provide workshops to minimize gender bias.* Federal funding agencies and foundations should work with scientific and professional societies to host mandatory national meetings that educate members of review panels, university department chairs, and agency program officers about methods that minimize the effects of gender bias in evaluation. The meetings should be held every 2 years for each major discipline and should include data and research presentations on subtle biases and discrimination, department climate surveys, and interactive discussions or role-modeling. Program effectiveness should be evaluated on an ongoing basis.
2. *Collect, store, and publish composite information* on demographics, field, award type and budget request, review score, and funding outcome for all funding applications.
3. *Make it possible to use grant monies for dependent care expenses* necessary to engage in offsite or after-hours research-related activities or to attend work-related conferences and meetings.
4. *Create additional funding mechanisms* to provide for interim technical or administrative support during a leave of absence related to caregiving.
5. *Establish policies for extending grant support* for researchers who take a leave of absence due to caregiving responsibilities.
6. *Expand support for research* on the efficacy of organizational programs designed to reduce gender bias, and for research on bias, prejudice, and stereotype threat, and the role of leadership in achieving gender equity.

(D). **Federal agencies should lay out clear guidelines, leverage their resources, and rigorously enforce existing laws to increase the science and engineering talent developed in this country.**

1. Even without additional resources, federal agencies should *move immediately to enforce the federal anti-discrimination laws* at universities and other higher education institutions through regular compliance reviews and prompt and thorough investigation of discrimination complaints. (Applicable laws include Title VI, Title VII, and Title IX of the Civil

Rights Act; Executive Order 11246; the Equal Protection clause of the Constitution; the Equal Pay Act; the Pregnancy Discrimination Act; and the Family Medical Leave Act.) Federal enforcement agencies should ensure that the range of their enforcement efforts covers the full scope of activities involving science and engineering that are governed by the anti-discrimination laws. If violations are found, the full range of remedies for violation of the anti-discrimination laws should be sought.

2. Federal enforcement efforts should *evaluate whether universities have engaged in any of the types of discrimination* banned under the anti-discrimination laws, including: intentional discrimination, sexual harassment, retaliation, disparate impact discrimination, and failure to maintain required policies and procedures.

3. Federal compliance review efforts should *encompass a sufficiently broad number and range of institutions* of higher education to secure a substantial change in policies and practices nationwide. Types of institutions that should be included in compliance reviews include 2-year and 4-year institutions; institutions of undergraduate education; institutions that grant graduate degrees; state universities; private colleges; and educational enterprises, including national laboratories and independent research institutes, which may not be affiliated with universities.

4. Federal enforcement agencies, including the Equal Employment Opportunity Commission, the Department of Justice, the Department of Labor, the Department of Education, and individual federal granting agencies' Offices of Civil Rights should *encourage and provide technical assistance* on how to achieve diversity in university programs and employment. Possible activities include providing technical assistance to educational institutions to help them to comply with the anti-discrimination laws, creating a clearinghouse for dissemination of strategies that have been proven effective, and providing awards and recognition for model university programs.

II. Recommendations from the NIH Office of Intramural Research Second Task Force on the Status of NIH Intramural Women Scientists

1 – Actions for Members of the Task Force

- Establish a support group for female tenure-track investigators (TTIs) comprising female NIH senior investigators that would also provide networking opportunities. Set up interactions/workshops with women who have been successful in combining family and a career in science
- Promote inclusion of women speakers in NIH-sponsored meetings and symposia
- Establish a “Take a TTI woman to lunch” program

2 – Actions for Scientific Directors

- Establish a committee/mentoring panel for each TTI consisting of up to three senior investigators, who may come from the TTI's IC (different lab or branch) or another IC, all working in the same scientific area – this would help ensure that none of the TTIs end up 'in trouble' and would provide strong networking support and collaboration opportunities. For women TTIs, one recommendation would be to include a recently tenured woman scientist.
- Establish an annual or biannual survey of all the TTIs to monitor problems and hopefully improvements
- Arrange for TTIs to meet annually and individually with their SDs
- Arrange for availability of yearly mentoring training, that could fulfill the performance plan element on mentoring, so that supervisors are better equipped to help their TTIs
- Establish mechanisms to assist in hiring a qualified spouse.
- Look into establishment of relationships with local universities and the Naval Hospital
- Ensure that search committees have several female senior investigators and tenure-track investigators as members. Arrange for female candidates to meet with other women scientists.
- Arrange for automatic stop-the-clock for any pregnant TTI.

3 – Actions for Women Scientist Advisors (WSAs)

- Promote the new seminar series established by the WSAs that will highlight intramural women senior investigators as speakers, and will be followed by a discussion with female TTIs on topics such as balancing career/family issues. This will establish ongoing communication between tenure-track women and WSAs.
- Run focus groups of tenure-track and tenured investigators to determine what the factors are that contribute to a female-supportive environment

4 – NIH-Wide Actions - Changing the Work Culture

- Develop a document that details clearly work hours and leave policies and provides a list of possible flexibilities that could be given to every TTI along with all senior investigators, lab/branch chiefs and AOs – i.e., change the 'work culture' to be as flexible as possible.
- Ensure that all new TTIs know about the possibility of stop-the-clock (for periods from a few months to up to one year) and part-time work
<http://www1.od.nih.gov/oir/sourcebook/irp-policy/tenure-track.htm#advantages>

- Allow flexible work schedule options
- Emphasize and encourage telecommuting, especially when children are sick. The PI should be given all of the technology (laptop, blackberry, VPN account, etc) to facilitate this
- Counsel newly selected female tenure track candidates on negotiating pay and resources to ensure equity
- Assemble a packet containing all the information on work schedules, stop-the-clock, telecommuting, etc. and provide, from the Office of Intramural Research, to each new TTI upon arrival
- Develop, in collaboration with the Office of Research on Women's Health, funding opportunities to support re-entry into research after a partial or full absence due to family or personal needs, or re-training for those who have been engaged in non-research positions

5 – Training for Tenure-track Investigators

Design and provide self-promotion/managing up/assertiveness classes for TTIs

6 – Childcare Policies

- Provide excellent quality child-care opportunities that can accommodate the children of all staff, including postdoctoral fellows
- Work on a mechanism whereby a pregnant TTI would have priority at private childcare facilities
- Examine the possibility of using modular space units for expanded infant daycare on campus (on the site for the future new Childcare facility)
- Develop mechanisms to ensure proper child-care facilities at scientific conferences and workshops to alleviate some of the difficulties associated with professional travel

7 – Policies and Processes for Postdoctoral Fellows

- Foster mentoring at the postdoctoral level
- Develop, in collaboration with the Office of Research on Women's Health, funding opportunities to support re-entry of postdocs into research after a partial or full absence due to family or personal needs

- Launch a "postdoc retention initiative" aimed at facilitating the retention of female postdocs in the PI career path. This initiative would be located within the NIH Office of Intramural Training and Education and supported by an advisory committee that includes both postdocs and PIs. The focus will be on:
 - introducing female postdocs to PIs who have successfully combined career and family
 - providing postdocs with information regarding childcare resources and career options
 - establishing small work groups in which postdocs can discuss considerations and concerns regarding career path choices
 - creating opportunities for networking with former postdocs, TTIs and senior investigators
 - providing grant writing courses, courses to enhance negotiation skills, and other types of training

- The advisory committee should follow up on the findings of the survey, to determine whether the trend of female postdocs leaving the PI career path continues and to determine the reasons for the difference between male and female postdocs when it comes to confidence in the ability to succeed as a tenure-track investigator. In addition, the committee could examine whether this trend begins at earlier stages of career development (i.e. the undergraduate or even high school level) and determine ways to address this issue as needed.

8 – Recruitment Strategies

- Ensure that there is no gender discrepancy with regard to recruitment or retention in TTI or tenured positions.
- Set as a goal that 50% of our tenure-track scientists will be women
- Ensure that search committees are actively searching for women, and minority candidates

III. Recommendations from Constituents and Community

1. Provide financial support and protected time for mentoring

The lack of effective mentoring is one of the major barriers for women to succeed in the sciences. There is a pressing need for teaching, advising, and mentoring junior staff and faculty, but significant barrier exists in that there are insufficient numbers of senior women biomedical faculty to meet these needs. Furthermore, there are no NIH or similar awards to our knowledge that compensate senior women in their mentoring roles that need to be substantial, in-depth, and sustained. One strategy to address this problem might be the creation of a pilot study of partial or full salary awards for women in senior biomedical faculty positions to mentor younger staff and faculty. These awards would allow the senior faculty to be compensated for their work, to “buy out” some of their

clinical and research time, and would ensure that more senior faculty are involved in mentoring, at a more meaningful and sustained level. These senior faculty mentors would also participate in complementary activities such as serving on search committees, promotion committees, policy reviews, etc..

--Hannah A. Valentine, MD, MRCP, FACC, Senior Associate Dean, Stanford University in a letter to Elias Zerhouni, MD

NIH should enlarge and promote special mechanisms already in place to increase the number and support of women scientists, especially mentoring programs such as the K24 mechanism.

-- Coordinating Committee on Research on Women's Health

2. NIH reviews should be gender blind or appear to facilitate gender equity in awards

Unfortunately, the first round of the Pioneer awards and the new CTSA awards are examples that send a wrong message to the extramural community regarding NIH's sensitivity to women as scientists. The subsequent rounds of the Pioneer award and the new Pathways to Independence awards are great examples of how small changes in language and outreach can make a significant difference.

- NIH needs to educate program directors and reviewers about unconscious bias. Review criteria should be constructed before the decisions are made to avoid unintentional discrimination.
- NIH should consider allowing diversity to raise the score of an application.

--Advisory Committee on Research on Women's Health

3. NIH should carefully scrutinize language in all NIH publications, but especially requests for grants and contracts, study section directives, and other directives

- Gender-neutral or female-friendly (such as 'she or he' instead of 'he or she') pronouns should be used in all publications.
- Age-biased words should be removed because they discriminate against women who follow a non-traditional career path – rather than 'young' investigators, use 'early' investigators.
- For study sections, add a statement about discrimination on the basis of sex or ethnicity, just as there is a statement about conflict of interest.

-- Advisory Committee and Coordinating Committee on Research on Women's Health

4. Provide support for an institutional efforts to expand the recruitment and retention of women and underrepresented minorities in academic medicine, analogous to the NSF ADVANCE program.

In accordance with the recommendations of the NAS report, Stanford University president, provost and dean of the School of Medicine have provided leadership in changing the culture and structure of our institution to recruit, retain and advance the careers of women, including minority women. Phil Pizzo, dean of the School of Medicine has demonstrated commitment and leadership in addressing many of the issues of the faculty career advancement and diversity raised in the NAS report. Specifically, in Nov. 2004, he appointed me as senior associate dean to lead the efforts of a centralized organization, the Office of Diversity and leadership, charged with the responsibility for implementation of a novel plan to expand faculty career development and diversity. This plan is directly responsive to the recommendations of the NAS report in that its key elements include school-wide discussions of climate issues; novel approaches to education of faculty and trainees on unconscious bias; expanded efforts to recruit women and minorities through extensive reform of our faculty search process; provides faculty with opportunity for flexibility across the life course of their careers by addressing, and revising where necessary, our policies and practices around issues of timelines for promotion and tenure.

We encourage you to consider providing support for development of a coordinated effort to address the issues raised in *Beyond Bias and Barriers*, rather analogous to the NSF ADVANCE program, with the goal of institutional transformation to expand the recruitment and retention of women and underrepresented minorities in academic medicine. Given our commitment and work already in this area, I should welcome the opportunity for Stanford School of Medicine to serve as a testing center for implementing the recommendations of the NAS report.

--Hannah A. Valentine, MD, MRCP, FACC, Senior Associate Dean, Stanford University in a letter to Elias Zerhouni, MD

I am hopeful that enough momentum is with us now to get attention and hopefully NIH research dollars analogous to the NSF ADVANCE Institutional Transformation Program. ... Dr. Alving may be interested in having a workshop on gender and leadership. It would be great if this resulted in an RFA from NIH to study the issues of the environment in which research training occurs and in which research is done. This would open the way for research on gender equity.

--Molly Carnes, M.D., Co-Director, Women in Science & Engineering Leadership Institute, University of Wisconsin-Madison in a letter to Vivian W. Pinn, M.D.

5. Develop non-traditional metrics to measure the career success of women

Having been in academics for about 20 years now, and having seen a number (a large number) of women graduate students and post-docs leave science before even starting a career, I agree that it is not the (early) pipeline that is a problem. However, I disagree that the problem is in enabling women to succeed in the current system. It is my impression that the problem is that women are being asked to succeed in this system, and decide that they do not want it in its current format. The metrics of success that women

are being driven towards are those metrics designed by men in a man's world. They may not be appropriate or desirable for many women.

The focus of most discussions meant to support women in science is on how well women are doing in competing for the traditional metrics of success. As examples, in the article in the Extramural Nexus, the statement is made describing the "disproportionate difficulty women have as Principal Investigators of large grants..." Similarly, the statement is made that "it is somewhat encouraging to note that, since 1993, R01 awards with women as Principal Investigators have been slightly larger in size than awards to men". The article ends with asking for comments regarding "the status of women in leadership positions in biomedical and other scientific fields".

Women need to be given a number of career paths for them to stay in science, not only those paths involving large Center grants and leadership roles which typically require a level of infrastructure and formal organizational constraints that women may not want given family consideration. Women could contribute a significant portion of the scientific advancement in this country without specifically taking on traditional roles, and this need to be made available, supported, and acknowledged as a successful careers.

By focusing on how many women succeed up the (male-defined) promotion ladder, have Center grants, Chair committees, etc. the impression is reinforced that a woman saying in science needs to pursue these goals. (In other words, while women should be enabled, without bias, to pursue these goals as desired, these metrics should not be portrayed as the only yardstick of success.)

Therefore, discussions which focus on mentoring women to succeed by the traditional metrics of success may discourage, no encourage, more women to stay in the science fields.

This is my impression, and may suffer from a "sampling error". I don't know how many surveys have gone back to question women who leave the field after the post-doc stage (as those in labs are already pre-selected to a certain extent). In any case, these issues are perhaps something to consider in your upcoming deliberations.

--Deborah Burstein, PhD, Associate Professor of Radiology and Health Sciences and Technology, Beth Israel Deaconess Medical Center in a letter to Elias Zerhouni, MD