

Achieving XXcellence in Science- Overview

The problem: not enough progress for women scientists

Women in science, engineering, medicine and clinical research have advanced remarkably since the early 1960s. In medical schools alone, women's enrollment increased by a factor of five between 1960 and 1980, and today 45% of entering medical students are women. But, as noted by Sally Shaywitz, Professor of Pediatrics at Yale University and chair of the AXXS 02 steering committee, what has not changed is the small number of women at the ranks of senior faculty in medical schools—a trend that is duplicated in every scientific discipline. "The proportion of women faculty who are full professors hasn't changed in over fifteen years." According to an editor's note in *JAMA*, "Even if the rate of women attaining full professor rank continues to grow yearly, at least twenty-five years remain until the proportion of women at full professor rank is half that of men, despite near gender equity when entering medical school."

One part of the solution: leveraging women's careers via professional societies

Noting the important role that scientific societies play in their disciplines, the Office of Research on Women's Health at the National Institutes of Health, with support from the American Society of Cell Biology, the National Institute for Environmental Health, and women scientists at the NIH, led the initiative to launch "AXXS: Achieving XXcellence in Science".

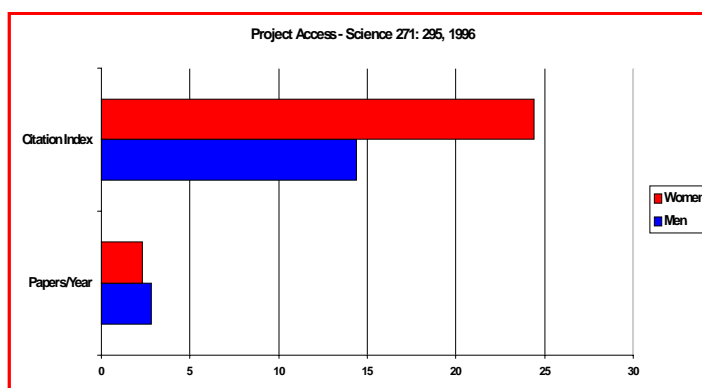
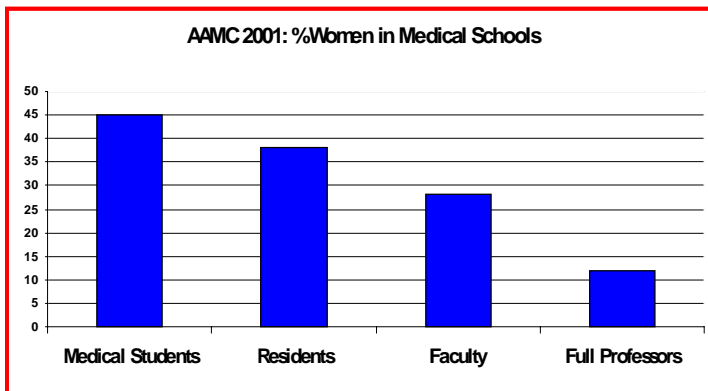
The goal of AXXS is to help clinical and scientific societies find ways to advance the careers of women scientists, by facilitating the exchange of information of

successful programs and strategies. With 93 organizations represented at the workshop for basic scientists in 1999, and 45 organizations at the workshop for clinical researchers in 2002, representatives discussed the impediments to advancement and promotion in scientific careers, and offered strategies and tactics to overcome them.

Across the disciplines, too few women are making it to the heights of their departments and leadership in their home institutions, despite their ample supply in the lower ranks. Working together, societies can deploy common and successful strategies to support women in all dimensions of career development, and to advance women's contributions to science.

What to do: Read on

This flier conveys recommendations from the AXXS meetings, and offers ideas for individuals in their professional societies—locally, regionally, and especially, nationally—for how to put *gender equality* on the agenda.



AXXS 99 and 02

What are the barriers that women in science must overcome?

- Limited recruiting
- Too few role models & mentors
- Dual roles: family & work
- Reentry into biomedical careers
- Sex discrimination, harassment, and gender insensitivity
- Neglect of the interests of minority women
- Too few initiatives on women's health
- Overcoming the status quo in culture and resources
- Male model of career success and male-dominated institutions
- Underutilization of professional societies
- General lack of awareness
- Women's self perception and the feeling of isolation



What, therefore, are the goals of AXXS?

1. Equity with male counterparts in leadership, opportunities, and rewards
2. High visibility and recognition
3. Mentoring as an integral part of career development and advancement
4. Varied and valued career options
5. Readily available networking, resources, and support
6. Professional advancement and skills building through scientific societies
7. Inner and outer empowerment

Basic research, clinical research

AXXS is about recognizing and understanding difference. At the two workshops, many of the barriers, goals, concerns and strategies of basic and clinical scientists were remarkably similar. However, differences in the conditions under which basic and clinical scientists work, and the different demands of the clinical setting vs. the basic research setting, indicate the need to customize the AXXS agenda to fit the needs of each society.

Getting started:

Here are suggestions for how to start programs in your society—even when no committee exists to address the under-representation of women in leadership positions.

Request a gender breakdown of society membership. When available, make data public to members. This is one of the most significant steps toward developing programs for women. If women comprise a significant proportion of the membership (particularly among the more junior members), it will alert the leadership that issues of interest to women should garner attention. The data also serve to highlight the disproportionality between membership and leadership, in officers, editorships, committees, and award winners.

Propose a census of future degree recipients in fields of interest to gauge the diversity of future membership. Such data further foregrounds the importance of shifting the society's agenda and priorities.

Request financial support for a meeting on women's scientific and career concerns at your society's annual meeting. Such a meeting provides awareness and can lead to actions taken by a cross section of members.

Action Ideas:

When you have momentum on issues related to women in science, you need action ideas. Scientists at the AXXS meetings generated numerous critical initiatives for professional societies, universities, or national coalitions.

In your professional organization:

Communications strategies.

AXXS participants agreed that a barrier for women's advancement was lack of awareness. So here are some action ideas for shining a spotlight on women in science.

- **Produce** a regular column on women's "success stories"—demystifying how process works
- **Develop** a web page highlighting accomplishments of women members, with reciprocal links to other useful sites
- **Write** a column on attaining personal and professional balance
- **Distribute** press releases about women's health, women scientists, and the progress of initiatives to improve women's careers in science
- **Notify** recipients' institutions and congressional representatives of honors and awards



Information Programs

- **Develop** trans-society networks for women—AXXS for the millennium
- **Produce** lists, databases, and directories featuring women and their expertise
- **Publish** a calendar detailing the nomination process for prestigious awards
- **Develop** topical listservs and group lists
- **Develop** strategies to get women onto committees and editorial board lists, pairing two women to run for one position
- **Identify** best practices—facilitate exchange of success stories to increase visibility of women

Funding for projects

As with all things, funding underscores values and purpose.

- **Establish** a funded lecture in order to bring speakers to national conferences to put women's health and women scientists high on the agenda.
- **Encourage** endowments for women's award lectures: this spurs competition, commitment, and an ongoing program associated with the annual award.

For more details on ideas for change and how to implement them, visit www4.od.nih.gov/axxa/default.htm

Effective Practices

Effective practices are programs, policies, or other initiatives within organizations that have been successful at advancing women in science. These programs offer preliminary designs for programs in your own organization.

Events: bring together scientists who share a common concern for advancing women's careers in their field—and keep such events on an annual calendar.

Identify a setting. The American Society for Cell Biology (ASCB)'s Women in Cell Biology and Education Committees established a regular, annual lunch at their annual meeting on "Career Issues Facing Cell Biologists." Participants sign up for the discussion topic they are interested in, and the two-hour round-table session is lead by one or more senior scientists per table. Such open-ended discussion provides support, discussion, and network opportunities; it also foments leadership.

Establish an agenda. Last year ASCB round-table topics ranged from industry, biotech, and patent law to university research and teaching and primary and high school science education. Career issues addressed included topics from job application strategies for research positions and university/industry collaborations to couples issues pertaining to careers and children and unique issues facing women in science.

Keep your event on the program. ASCB's Career Issues Roundtable began in 1995; in 2001, over 400 people attended the lunch. The list of discussion leaders now reads like a Who's Who in Cell Biology and includes many current and former officers of the Society.

Effective Practices

Journals: strategies for increasing the representation of women and minorities as editors, associate editors, consulting editors, and reviewers.

Collect information and disseminate it. The American Psychological Association's Committee on Women in Psychology (CWP) recognized the poor representation of women and other minority groups at APA journals. To improve this, CWP asked APA editors why they agree to serve as editors and assessed any gender differences in their reasons. At the same time, the APA Monitor (their newsletter) published an interview with a woman APA editor which examined the issues women face as editors, and encouraged women to serve in this capacity.

Hold editorial boards accountable—and help them. In addition, the APA's Publications and Communications Board now requires journal editors to report annually on the numbers of women and ethnic minorities serving as associate editors, consulting editors, and reviewers. To support editors' recruiting efforts, the P&C Board developed a database of abstracts of ethnic minority psychologists' papers as a resource for reviewers. In addition, an open call for reviewers, specifically encouraging members of underrepresented groups, runs regularly in APA journals.

Inform members. The P&C Board sponsors a "How to Publish Your Journal Article" session at APA annual conventions and regional meetings in order to build the publishing record and experience of women and ethnic minorities. Doing so will ultimately increase the proportion of these groups represented as reviewers and editors.



Working groups: Dedicating society resources through a working group or task force provides an avenue for research, deliberation, and communication about issues pertaining to women in science.

Define a problem. At the recommendation of American Psychological Association (APA's) Committee on Women in Psychology, APA established the Task Force on Women in Academe. The Task Force was charged with evaluating issues associated with recruitment, retention, and promotion of women psychologists in their academic careers.

Publish and post your report. The Task Force released its report—"Women in Academe: Two Steps Forward, One Step Back"—in 2000. The complete report is available at the APA Women's Programs Office website: www.apa.org/pi/wpo. The report outlined a profile of women psychologists; obstacles to success in academe such as both process and effects of discrimination and the complexities of self-presentation; and challenges to balancing teaching, service, research and leadership.

Bring results to the attention of leaders. Recommendations addressed equity in compensation, ensuring accountability, enhancing the environment for women as teachers, researchers, and leaders, and ethnic minority issues. Recommendations were addressed to institutional presidents, provosts, deans, and chairs, as well as to APA as a professional society.

Handbooks: create formal tools for guiding women at all stages of their career.

Target an audience. Young women starting a surgical residency program may have neither the time nor the access to get answers to questions regarding personal and practical topics unique to women entering this field. The **Association of Women's Surgeons** published a "Pocket Mentor" to aid early career women and men.

Produce, fund, and disseminate advice. A pocket sized manual first written by Joyce Major, MD, FACS, in 1994 and recently updated by Danielle Walsh, MD, a current resident at Harvard, provides short, informal chapters on topics like Learning to be a Surgeon, Surgical Politics, and Directing Your Future. Corporate sponsorship provided funding to distribute the Pocket Mentor to surgical interns.

Effective Practices

Awards: By creating and sustaining an awards program, societies telegraph their values, and provide opportunities and incentives to women in the organization.

Establish an award. A critical priority of APA's Committee on Women in Psychology is to increase visibility of women as researchers and scholars, and to increase the visibility of women's issues in research. In addition to regularly nominating women for other awards in the APA, the CWP established the annual CWP Leadership Awards. The awards recognize both "Distinguished" and "Emerging" leaders in scholarship, research, service, and public interest.

Nominate women for awards: At your annual society meeting each year, have a meeting of an informal network of women to discuss potential award nominees for the following year. Identify the best candidates, then coordinate tasks for the nomination package.

AXXS 2002 Participants

- American Academy of Family Physicians
- American Academy of Otolaryngology – Head and Neck Surgery
- American Academy of Physical Medicine and Rehabilitation
- American Association of Immunologists
- American Federation for Medical Research
- American Geriatrics Society
- American Medical Women
- American Neurological Association
- American Psychiatric Association
- American Psychological Association
- American Society for Biochemistry and Molecular Biology
- American Society for Bone and Mineral Research
- American Society for Clinical Investigation
- American Society for Investigative Pathology .
- American Society for Microbiology
- American Society of Hematology
- American Society of Human Genetics
- American Society of Transplantation
- Association for Women in Science
- Association of Academic Physiatrists
- Association of American Medical Colleges
- Association of Professors of Medicine
- Association of Women Surgeons
- Burroughs Wellcome Fund
- Columbia-Presbyterian Medical Center
- Endocrine Society
- Food and Drug Administration, Center for Food Safety and Applied Nutrition Office of Women's Health
- Graduate Women In Science
- Howard Hughes Medical Institute
- Institute for Quantitative Biomedical Research
- Institute of Medicine
- Institute on Gender and Health
- Intramural Program on Research on Women's Health
- Janssen Pharmaceuticals

National Institutes of Health

- Center for Population Research
- Center for Scientific Review, Behavioral and Bio-behavioral Processes Integrated Review Group
- Department of Transfusion Medicine, Clinical Center
- Fogarty International Center
- National Eye Institute Lab. of Sensori Motor Research
- National Heart, Lung, and Blood Institute
- National Human Genome Research Institute
- National Institute on Aging
- National Institute of Allergy and Infectious Diseases HIV Vaccine Development
- National Institute for Biomedical Imaging and Bioengineering
- National Institute of Child Health and Human Development
- National Institute on Deafness and Other Communication Disorders
- National Institute of General Medical Sciences
- National Institute of Mental Health Division of Services & Intervention Research Mood and Anxiety Disorder Program
- Office of Dietary Supplements
- Office of Research on Women
- Office of Research on Women's Health
- Office of the Director

- National Medical Association
- National Science Foundation
- New Jersey Developmental Disabilities Council
- New York Weill Cornell Medical Center
- New York-Presbyterian Hospital
- Ruth Jackson Orthopedic Society
- Society for Neuroscience
- Society for Pediatric Research
- Society for Women's Health Research
- Society of Critical Care Medicine
- Society of Teachers of Family Medicine
- The American Dental Education Association
- United States Public Health Service
- Wound Healing Society

