ARTICLE

Ensuring the Success of Women Faculty at AMCs: Lessons Learned from the National Centers of Excellence in Women's Health

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ABSTRACT

Since the early 1970s, the numbers of women entering medical school and, subsequently, academic medicine have increased substantially. However, women faculty have not advanced at the expected rate to senior academic ranks or positions of leadership. In 1996, to counter this trend, the U.S. Department of Health and Human Services (DHHS) Office on Women's Health included women's leadership as a required component of the nationally funded Centers of Excellence in Women's Health to identify effective strategies and initiate model programs to advance women faculty in academic medicine.

The authors describe the experience of Centers at seven U.S. medical schools in initiating and sustaining leadership programs for women. The processes used for program formation, the current programmatic content, and program evaluation approaches are explained. Areas of success (e.g., obtaining support from the institution's leaders) and difficulties faced in maintaining an established program (such as institutional fiscal constraints and the diminishing time available to women to participate in mentoring and leadership activities) are reviewed. Strategies to overcome these and other difficulties (e.g., prioritize and tightly focus the program with the help of an advisory group) are proposed. The authors conclude by reviewing issues that programs for women in academic medicine will increasingly need to focus on (e.g., development of new kinds of skills; issues of recruitment and retention of faculty; and increasing faculty diversity).

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The current wisdom, particularly among high-technology industries, predicts that the winning companies will be those that can attract, develop, compensate, and retain the best talent—irrespective of gender or ethnicity. Such gender-neutral approaches are not yet widespread, however. Numerous reports describe the difficulties with attracting, retaining, and advancing women in male-dominated fields.[1–3] Literature is beginning to emerge on possible best practices in industry regarding the recruitment and retention of women and minorities, which may be useful for women in academic medicine.[4–6] Institutions of higher education are fostering initiatives in faculty development beyond technical and teaching skills development, for both men and women.[7,8] There is also increasing concern about the needs for career renewal and cultivation of academic careers for scientist professionals and faculty.[9–11]

For over two decades, the Association of American Medical Colleges (AAMC) has fostered efforts to advance women in medicine, through its Office on Women.[12] However, the proportion of women faculty who advance to senior faculty status or to leadership positions in medical schools has changed very little over the past 20 years, despite the substantial increase in the number of women entering medical school and joining medical school faculties.[13] In 1995, these data led the AAMC's Council of Deans to commission the Project Committee on Increasing the Number of

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For an article about a related topic, see page 39.

Women Leaders in Academic Medicine.[14] An implementation committee has subsequently been working to execute recommendations of the project committee. The AAMC also has initiated an annual benchmark survey of women in academic medicine; the results are published in its annual statistics report on the status of women faculty in medical schools.[12,13]

Additional efforts have recently been initiated to advance the leadership of women in academic health centers.[15] The Office on Women's Health in the U.S. Department of Health and Human Services has included women's leadership as one of the required components of the nationally funded Centers of Excellence in Women's Health (hereafter "Centers").[16]* The Centers were established in 1996 with the mandate to develop and evaluate a new model health care system that unites women's health research, medical training, clinical care, public health education, community outreach, and the promotion of women in academic medicine. Through leadership and mentoring activities, the Centers are to foster the recruitment, retention, and promotion of women in academic medical careers. The premise for establishing the Centers stems from research on women serving in public office in state legislatures that has demonstrated that as more women achieve positions of power, more attention is paid to the issues of women and children.[17]

In this report, we detail the experiences of seven diverse medical schools that have Centers and have developed strong programs to advance the success and leadership of women faculty. Data are reported from four private medical schools—MCP Hahnemann University (hereafter "MCP Hahnemann"), Wake Forest University ("Wake Forest"), University of Pennsylvania ("Penn"), and Boston University ("Boston")—and three public university medical schools—at Indiana University ("Indiana"), the University of Michigan ("Michigan"), and the University of California San Francisco ("California SF").

PROGRAM DEVELOPMENT

Initiatives to Advance Women Faculty

Each Center developed and implemented numerous initiatives to promote the leadership and advancement of women faculty at its respective institution. Table 1 reflects the scopes and types of efforts; not all were successes. Analysis of where these seven institutions have focused their attention for the most impact serves as a useful starting point for medical schools in deciding where to use scarce resources. Table 1 also reflects the various states of progression in leadership efforts across the Centers, identifying the categories of activities at the institutional level (faculty; policies and procedures) and at the regional and national levels, and indicating the degree to which each Center engaged in each activity, whether the activity is ongoing or a past effort, and whether the activity is considered a prominent or unique successful feature.

As the table indicates under "Institutional–Faculty," the majority of Centers conducted an initial needs assessment to identify the issues and concerns of the women faculty. As outgrowths of these studies, various activities directed specifically at women faculty or open for all faculty were initiated. These included group educational programs, faculty and/or student mentoring programs, and individual career counseling and assistance. Some were carried out in a formal way (e.g., workshops, seminars), and some in an informal way (e.g., breakfast and lunch meetings). The emphasis on each varied among the Centers, depending upon the institutional context and resources available.

Considerable additional efforts are indicated in the table under "Institutional–Policies and Procedures." These efforts have been directed at the development of practices that have direct impact on the advancement and promotion of women faculty. Centers have compiled women faculty status reports, developed resources for preparation of educational materials for promotion and tenure, and heightened awareness among department chairs to the professional development needs of faculty. Several formal and informal policies and procedures have been implemented among the various Centers. Examples include maternity leave policies, policies to "stop the tenure clock," policies for part-time faculty status without penalty in promotion, dual recruitment of two-career couples, faculty exit interviews, and mechanisms to ensure representation of women faculty on appropriate institutional committees. Moreover, several Centers have leveraged funds to offer various opportunities and to create additional programs for the development of women faculty, including travel awards to professional seminars, grants for research on women's health issues, and development of programs to address gender-related issues. Although not all of these initiatives can be attributed directly to a school's designation as a Center institution, increasing awareness of women faculty issues was certainly heightened through the awards to establish the Centers and the subsequent activities of the Centers.

The last section of Table 1, which concerns regional and national-level programs, shows that two of the seven Centers have sponsored regional professional development opportunities for women faculty. Six of the seven have sponsored

*These Centers of Excellence in Women's Health should not be confused with the four National Centers of Leadership in Academic Medicine, also created by the Office of Women's Health and also established at specific U.S. medical schools. For more about those centers, see the article in this issue by Saralyn Mark, MD, and colleagues.

Table 1

Activity Analysis in Women's Leadership Programs in Seven U.S. Medical Schools, 1996–1999*

Type of Activity	MCP Hahnemann U.	U. of Michigan	Wake Forest U.	U. of California SF	U. of Pennsylvania	Indiana U.	Boston U.
Institutional—faculty							
Needs assessment—focus groups, surveys	Major, past	Moderate	Major, past	Moderate	Major	None	Major, past (research)
Group educational programs							
External faculty and workshops	Moderate, past	**Major**	Major	Moderate	**Major**	Moderate	Major
Receptions honoring women	None	Major	Minor, past	Moderate	Minor	Moderate	Major
Internal faculty and workshops	Moderate, past	**Major**	Moderate	Moderate	Moderate	Moderate	Moderate
Informal networking, information meetings	None	Moderate	Moderate	Moderate	Major	Moderate	Moderate
P and T information sessions†	Minor (moderate, past)	Moderate	Moderate	Moderate	Minor	Moderate	None
Mentoring program for faculty							
Identification process	Major	Minor	Major	Major	Major	Moderate	Major
Training and support	Moderate	None	Major	Minor	Moderate	Moderate	**Major**
Surveys	Moderate	None	Major	Minor	Major	Moderate	Major
Mentor awards, recognition	Considering	Minor	Major	Considering	Major	Considering	Minor
Mentoring program for students	Minor	None	Moderate	**Major**	Minor	Moderate	Moderate
Individual meetings for faculty							
Career counseling	Minor (moderate, past)	Moderate	Moderate	**Major**	Minor	Minor	Major
Preparing a P&T dossier†	Moderate, past	Moderate	Moderate	**Major**	Minor	Minor	Major
Resource referrals	Moderate	Moderate	Major	Moderate	Minor	Minor	Moderate
Information provision	Moderate	Major	Major	**Major**	Minor	Minor	Moderate
Institutional—policies and procedures							
Data acquisition, studies, reports							
Women faculty status, audit, report card	Moderate	**Major**	Major	**Major**	Major	Moderate	Minor
Salary equity study	Moderate, past	Minor, past	Minor	**Major**	**Major**	Minor	None
Internal faculty climate survey	Moderate, past	Moderate, past	Moderate, past	Moderate, past	Major	Considering	None
Outside institutional review	None	Major, past	Minor	Considering	**Major**	None	None

Continued on next page

Table 1 (Continued)

Type of Activity	MCP Hahnemann U.	U. of Michigan	Wake Forest U.	U. of California SF	U. of Pennsylvania	Indiana U.	Boston U.
Institutional—policies and procedures (continued)							
Support, training for P&T committee(s)†	Major, past	Moderate	Major	Moderate	None	None	None
Faculty professional development conference with chairs	**Major, past**	None	Moderate	Moderate	Minor	None	None
Resource information—preparation							
Directory of women faculty	None	Major	Moderate	Moderate	None	None	Minor
Guidelines for P&T†	Moderate (major, past)	Moderate	**Moderate (major, past)**	Moderate	Moderate	Moderate	Minor
Handbooks for resources	**Major, past**	Moderate	Major	**Major**	None	Minor	None
Mentoring guide	Major	None	Major	None	Moderate	Considering	None
Search committee handbook	None	None	Moderate	Considering	None	None	Minor
Resource information—dissemination							
Paper materials	**Major**	Moderate	**Major**	**Major**	Moderate	None	Minor
Web page materials	**Major**	Moderate	None	Major	None	None	Minor
Policy development and dissemination‡							
New tracks	Minor, formal pol. (past)	Moderate, formal pol.	None	Major, formal pol. (past)	Moderate, formal pol.	None	Minor
Maternity/dependent care leave	Major, formal pol. (past)	Major, formal pol.	Minor formal pol. (past)	Major, formal pol. (past)	Minor, formal pol.	Minor, formal pol.	Major
Sexual harassment	Major, formal pol. (past)	Minor, formal pol.	Minor, formal pol.	Major, formal pol. (past)	Major, formal pol.	Minor, formal pol.	Major
Tenure clock stoppage	Moderate, formal pol. (past)	Major, pol.	None	Major, formal pol. (past)	Moderate, formal pol.	Minor, formal pol.	NA
Formal representation on committees	Minor, past	Minor	Major, formal pol.	**Major**	Minor, formal pol.	Moderate, formal pol.	Moderate
Assistance for recruitment of two-career couples	None	**Major, formal pol.**	Moderate, formal pol.	**Major, past**	Minor	None	Moderate
Women faculty leadership plan	Moderate	Moderate, formal pol.	Moderate, formal pol.	**Major**	Minor, formal pol. (past)	None	Major
Incentives for recruitment of senior women faculty	None	**Major, formal pol.**	Moderate, formal pol.	None	Minor	None	None
Exit interviews	None	Minor, past	Major, formal pol.	**Major**	Major, formal pol. (Dept. of Med.)	Considering	None
Support for women's development							
Research grants/fellowships to faculty on women's health	None	None	**Major**	None	**Major—5 grants**	None	**Major**
Awards/reception for advancement and promotion	None	Moderate	None	None	None	None	Major, past

Travel/tuition awards to external programs (AAMC, ELAM, OWH)	Moderate (moderate, past)	**Moderate**	Major	**Major**	Moderate	Major	None
Substantial school/university funds to address gender-related issues	**Major, past**	**Major**	**Major**	**Major**	**Major**	None	None
Women's advancement committee	Moderate	None	Moderate	Moderate	Major	Moderate, past	None
Departmental women liaison officers	None	None	Moderate	None	Moderate	None	None
Development and implementation of regional and national-level programs							
Regional educational programs	None	None	None	Moderate	None	None	Moderate
National leadership development program (ELAM)	**Major**	Fellows	Fellows	Fellows	None	Fellows	None

*Levels of efforts of specific Centers of Excellence in Women's Health and/or of their associated medical schools shown in this table are indicated as major, moderate, minor, or none. **Boldfaced** word indicates a prominent and/or unique feature of the Center. "NA" means not applicable. All efforts are ongoing, except those listed as "past."

†Promotion and tenure.

‡"Formal pol." means that a formal policy and/or procedure is in place.

the attendance of women faculty at national programs such as the AAMC Junior and Senior Women in Medicine Professional Development Seminars and the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women.

Resource Information and Dissemination

Almost all of the Centers directed considerable attention to development, compilation, or acquisition of information to provide to faculty. These have included guidebooks on mentoring, promotions, and tenure procedures; gender-neutral search processes; and strategic career planning (Table 1). Most Centers have compiled institutional information on their institutions' promotion and tenure policies, faculty tracks, maternity leave policies, and sexual harassment policies. Some Centers have also established clearinghouses of resources on leadership topics and courses.

Four of the Centers have established Web sites, and some have used these for dissemination of information to as many faculty as possible (MCP Hahnemann, Michigan). At present, most of these sites are more "information-rich" than "interactive-rich." These efforts and the sophistication of the Web Sites will undoubtedly improve in order to reach the maximum number of faculty, who are increasingly widely dispersed.

Resources for Initiating a Women's Leadership Program

Table 2 provides a selected list of publications, Web sites, and professional development opportunities, in addition to those found in this article's reference list, that may be helpful for health professions schools that are now establishing women's leadership programs, as well as for schools with established programs that would like to compare their programs with others.

Evaluation

Program evaluation identifies the positive and negative components of each Center and allows evolution of successful leadership programs in academic medicine. Systematic evaluations identify components that are successful and should be continued, and those that are ineffective and should be discontinued or require change. This analysis enables scarce resources to be focused for optimum impact. It is critical that evaluation strategies be ongoing and interactive, with structures that permit timely responses to needed changes.

The Centers have found that effective evaluation needs to be developed and implemented at the initiation of new programs to ensure that mechanisms are in place to collect the data needed. Evaluation plans also should be coordinated

Table 2

Selected List of Resources for Initiating a Women's Leadership Program

Resource	Contact Information
General publications and Web sites	
Enhancing the Environment for Women in Academic Medicine: Resources and Pathways (AAMC, 1996)	⟨http://www.aamc.org/about/progemph/wommed/wimguide/⟩
Increasing Women's Leadership in Academic Medicine	*Academic Medicine*. 1996;71:799–810 ⟨http://www.aamc.org/about/progemph/wommed/iwlam⟩
AAMC Women in Medicine Program	⟨http://www.aamc.org/about/progemph/wommed⟩
Harvard Medical School Faculty Development and Diversity Program	⟨http://www.hms.harvard.edu/fdd⟩
National Centers of Excellence in Women's Health leadership initiatives	Page S. Morahan: ⟨page.morahan@drexel.edu⟩ Mary Lou Voytko: ⟨mlvoytko@wfubmc.edu⟩ Stephanie Abbuhl:⟨abbuhl@mail.med.upenn.edu⟩ Jayne Thorson: ⟨jthorson@umich.edu⟩ Lynda J. Means: ⟨lmeans@iupui.edu⟩ Carolyn Cotsonas: ⟨carolyn.cotsonas@bmc.org⟩ Diane W. Wara: ⟨wara@itsa.ucsf.edu⟩
Mentoring programs in academic medicine	
Stanford University School of Medicine Faculty Mentoring Program Annual Report (1997–1998)	⟨http://www.med.stanford.edu/school/facultymentoring/⟩
University of Arkansas for Medical Sciences College of Medicine Guide to Faculty Mentoring	⟨doyleleel@exchange.uams.edu⟩ ⟨cooperglendaj@exchange.uams.edu⟩
Virginia Commonwealth University School of Medicine Faculty Mentoring Guide (1997)	Medical College of Virginia Campus, P.O. Box 980565, Richmond, VA 23298-0565; $2, including postage
Boston University School of Medicine Leadership Development/Mentoring	⟨Carolyn.Cotsonas@bmc.org⟩
Wake Forest University School of Medicine Mentoring Program	⟨mlvoytko@wfubmc.edu⟩
National Center of Leadership in Academic Medicine Mentoring Programs	MCP Hahnemann University School of Medicine: ⟨http://www.mcphu.edu/COL⟩ University of California San Diego School of Medicine: http://medschool.ucsd.edu/olr/NCLAM/VIP.html East Carolina University School of Medicine: pololi@brody.med.edu Meharry Medical College: ⟨simsst15@ccvax.mmc.edu⟩
Professional development programs for women in academic medicine	
AAMC Professional Development Seminars for Junior and Senior Women in Medicine	⟨http://www.aamc.org/about/progremph/wommed/edrlist/women.htm#hca⟩
Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women	⟨http://www.mcphu.edu/ELAM⟩

in a manner that encourages the collection of subsets of comparable outcomes measurements so that cross-project comparisons can be made. Most of the Centers are using aspects of the AAMC-designed annual report card on the status of women as one subset of data that can provide such useful cross comparisons.[12,14] In retrospect, the Centers could have benefited from additional collaborative evaluation processes, to better learn from each other and avoid replicating errors and at the same time enhancing program components that appear to be successful.

Table 3 presents evaluation approaches that have been used by one or more of the seven Centers to measure the effectiveness of their leadership programs. This comprehensive list can be viewed as a menu of measurement tools that schools can use in analyzing the services required, in monitoring program implementation, and in assessing program usefulness and quality.

ASSESSMENT OF WHAT WORKED AND WHAT DID NOT

What's Been Successful—Four Major Themes

Obtaining support from the academic leadership of the institution. This has been essential for the success of the majority of the initiatives. All of the institutions have had some degree of leadership commitment in order to place the issue(s) of women faculty's success on the institutional list of priorities. Sometimes this has come with substantial in-

Table 3

Qualitative and Quantitative Evaluation Measures and Approaches Used in the Women's Leadership Programs of Centers for Excellence in Women's Health

Measure(s)	Approaches
Junior and senior faculty satisfaction	Surveys, group discussions, individual interviews
Utilization and helpfulness of planned programs	Database of number developed
	Number and percent of attendees and repeat attendees by gender, rank, and department
	Pre- and post-program surveys of knowledge level
Utilization and helpfulness of training and resource materials and tools	Database of number developed
	Number and percent of users and repeat users by gender, rank, department
	Number of external requests
Salary equity	Report on salary by gender, rank, track, and department
	Report number of offers reviewed for salary equity
Distribution of faculty by gender, rank, and track (much of this is included in the AAMC survey on the status of women)	Number and percent per department
	Number and percent of on committees and types of committees
	Number and percent committees and committee types with women chairs
	Number and percent serving in administrative roles (division chiefs, chairs, dean's office positions)
Distribution of grants by gender, rank, and track	Number and percent serving as primary investigators
Professional development opportunities	Number and percent by gender attending leadership/development events internally and externally
Promotion rates by gender, rank, and track	Number and percent of candidates each year
	Number and percent of candidates promoted each year
	Percent increase in women faculty who are promoted
Scholarship	Number and percent by gender of authors and first authors on chapters, peer-reviewed papers
Recruitment and retention by gender, rank, and track per department	Report on number and percent recruited
	Report on number and percent leaving
	Report on time at the institution
	Report on hiring pattern
	Report on diversity of candidate pool
	Report on number of positions open
	Report on number of advertisements in regular and alternative sources
	Report on types of recruiting strategies used for women candidates
Honors and awards	Number and percent by gender receiving institutional and national awards
	Number and percent by gender serving on major institutional and national committees, delivering named lectures
Policies and procedures	Successful development and implementation
	Level of usage

stitutional resources (Penn, California SF, Michigan, Wake Forest, and initially for MCP Hahnemann).

The process of achieving institutional commitment generally began with a proposal to the dean, together with an analysis of the status of women faculty.[12,14] This usually sobering "report card" conveyed the message of a long-standing problem, similar to the problem revealed by the data gathered at the Massachusetts Institute of Technology.[3] Thus, successful programs involved both bottom-up strategies (data analysis of the status of women, often done by a committee of women faculty) and top-down strategies (visible commitment from senior leadership) that included evaluation.

Needs assessment, data acquisition, and evaluation. In order to maximize credibility, the Centers have generally found it important to initiate comprehensive assessment, data acquisition, and evaluation processes simultaneously with the development of the leadership programs.[18] Needs assessment has been conducted in some institutions by surveys carried out by the faculty (Penn, Hahnemann, Wake Forest, Indiana, and Michigan), focus groups of faculty (junior, senior, chairs, etc.) (MCP Hahnemann), individual in-

terviews with selected women faculty and with key administrators (Penn, California SF, and MCP Hahnemann), and/or formalized exit interviews (Wake Forest, Penn, and California SF). Some schools conducted comprehensive salary equity studies (California SF, Indiana, and Michigan). At the Center at Penn, a needs assessment, conducted by a respected external consultant, identified cultural and structural strengths of the institutional that can be leveraged for future faculty recruitment, and disclosed weaknesses that need to be addressed to enhance the general environment, especially for the retention of women faculty. Information from the various sources has then been used to (1) heighten awareness of department chairs and administrators about the diverse developmental needs of faculty, (2) design the specific development programs, and (3) guide policy decisions.

Comprehensive evaluation involves a multifaceted approach, which might include (1) satisfaction of those served (e.g., feedback questionnaires), (2) usefulness of the service (e.g., tracking of degree of use of resource materials or participation in faculty development events), and (3) outcomes (e.g., trends in periodic reports on the status of women). When funds were available, an external consultant conducted evaluation through pre- and post-intervention survey, individual interviews, and analysis of program materials and participant information (MCP Hahnemann).

Adapting faculty development efforts to institutional contexts. The seven schools have demonstrated a spectrum of faculty development strategies. There has been evolution in each program to meet the challenges of unique institutional contexts, such as limited clinical release time for attending workshops and the wide geographic dispersion of faculty. Some schools have focused predominantly on one strategy, whereas others have used several strategies simultaneously.

Some schools have found greatest success with one or two large on- or off-campus faculty development events scheduled months in advance, using key chairs and administrators and outside experts as faculty (Penn, Indiana, Michigan, and Wake Forest). This has provided a single day to focus on the issues of women faculty, with individual invitations and reminders to chairs to encourage faculty to attend. Workshops have often focused on skill-building in communication, managing multiple priorities and deadlines, conflict management, and strategic career planning for promotion.

A second strategy has been to have more informal monthly faculty development sessions with internal faculty (Michigan, Wake Forest, Indiana, Boston, Penn, and California SF). This has provided a forum for women faculty at all levels to meet, network, and brainstorm about issues relevant to women in academic medicine. The Boston Center arranged tables with specific topics (e.g., management skills, collaborative research, negotiation skills, and developing professional networks). Two senior faculty facilitated each group and provided the Center leaders with reports of the discussions, including needs expressed by the faculty. A related method (used at Penn) has been to organize monthly seminars focused on presentation of a research project by a faculty member on a women's health topic.

A third strategy has been to offer more intensive faculty development in management and finance, through sessions or internal leadership institute (Wake Forest, MCP Hahnemann, and Boston).[19] At least a fourth of the participants in these in-depth internal faculty development initiatives were women faculty and administrators. A variation of this approach has been the development of the national Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) program for women, at MCP Hahnemann.[15] This program continues the heritage of the Medical College of Pennsylvania (the first medical school that admitted women) for the advancement of women in medicine. The program accepts annually about 40 senior women faculty from U.S. and Canadian medical and dental schools, who are nominated by their deans.

A fourth strategy has been to conduct faculty development workshops to educate academic governance committees, such as promotion and tenure committees, about how to evaluate scholarship in educational, clinical services, and professional outreach efforts.[20–24] Such efforts are important at the institutional level, because the scholarship of women faculty is often directed in these areas as well as in research in traditional professional disciplines.

A fifth strategy has been mentoring programs.[5,7,10,25] No one model of mentoring fits all institutions. The programs vary considerably, depending upon the needs and environmental contexts of the institutions. Many professional development strategies described above can be defined as group or network mentoring, especially where the groups are ongoing. One-on-one mentoring programs have been initiated recently, involving formal pairing by a central group (Boston, Penn, and Wake Forest) or junior-faculty–initiated selection of mentors (MCP Hahnemann). The committed duration of the mentoring relationship varies from the time needed for a single meeting (Boston) to a year or more (MCP Hahnemann, Penn, and Wake Forest). Although the Boston program requires only a one-hour meeting, most mentoring pairs scheduled future meetings beyond the initial obligation.

At Penn, a new medical-school–wide mentoring program pairs every junior faculty member with a senior faculty member; they are required to meet at least twice a year. The chairs must identify the mentor in the initial letter of appointment, and provide the dean with a report and an evaluation documenting the implementation and effectiveness of the program. The Boston and Wake Forest mentoring

programs are cross-disciplinary, matching junior faculty with senior mentors across the medical center campuses. The MCP Hahnemann program is split into a preceptoring program (primarily informational) for first-year junior faculty, followed by a mentoring program (more intense) for junior faculty as they prepare for promotion.[25] At Michigan, questions related to mentoring (provided or received by chairs or faculty) are part of annual faculty performance evaluations. At the California SF Center, focused mentoring programs targeted at the preparation of a faculty member's "package" for mid-career evaluation or promotion to associate professor have been found to bring added value. Several programs provide individual counseling in the area of promotion and tenure (MCP Hahnemann, California SF, Indiana, Michigan). Pre-program surveys at MCP Hahnemann and Penn of junior faculty revealed a broad array of professional development needs similar to those found by the Boston Center, and disclosed a considerable lack of knowledge of the academic promotion process.

Leveraging resources and support. Achieving the support of senior leadership has been invaluable to the initial development and credibility of the programs. Whether this support will translate into sustainability remains to be seen. Leadership support not only enabled the programs to develop, but also sent the message to the entire faculty and all the chairs that the program is important and should be taken seriously. Some institutions have leveraged this support by including information about the support in memos that include the phrase "program X, fully funded by a special grant from the dean" (Penn, Michigan) or by otherwise making it clear in written and verbal communications that the program has support and commitment from the highest levels.

Most of the Centers have found that their designation as a National Center of Excellence in Women's Health has been a powerful tool in leveraging additional funding and support from other agencies or units internal and external to their institutions. Centers have worked closely with their schools' faculty affairs or faculty development offices in establishing new initiatives or enhancing existing programs (MCP Hahnemann, Michigan, Wake Forest, California SF). Medical school deans' offices have augmented Centers' funds to develop formal faculty mentoring programs (Penn), support external speakers (California SF, Michigan), develop skill-building workshops (California SF, MCP Hahnemann, Michigan, and Penn), and sponsor informal social events (Indiana, Michigan, and California SF). At Wake Forest, the school funded four initiatives, with the leadership initiative of the Center being funded to start a formalized and structured mentoring program for junior women faculty and to recruit a senior physician/scientist in women's health.

Beyond the medical school level, university and/or hospital resources have contributed to the success of several efforts. These include development of a sexual harassment leadership training program and campus climate surveys (Indiana, MCP Hahnemann, California SF, and Penn), initiation of a faculty development seminar series (California SF, MCP Hahnemann, and Michigan), a management leadership program (Wake Forest, Boston, and MCP Hahnemann), and support for junior faculty women's participation in national professional development programs (Michigan, Wake Forest, MCP Hahnemann, California SF, and Indiana). The California SF Center has been successful in obtaining endowment funds to support some of these professional development fellowships, while the Center at Michigan has obtained funding from university alumnae and other campus resources.

The recognition that accompanies designation as a Center was critical in obtaining external funding at several institutions for special initiatives. Additional support for the ELAM program was secured from the Jessie Ball duPont Fund, the Connelly Foundation, the Josiah Macy Jr. Foundation, Wyeth-Ayerst Pharmaceutical, and Colgate-Palmolive companies. Partial endowment of the ELAM program was given by a private donor. Additional support from the DHHS Office on Women's Health was garnered by the Centers for junior faculty community outreach projects and leadership development projects, and for junior faculty mentoring (MCP Hahnemann). At the Boston Center, 13 applications were received from 12 departments of the medical center for the single junior faculty investigator award. A number of excellent proposals were forwarded to the development office for the pursuit of private funding, and all unsuccessful applicants were offered mentoring advice regarding proposal development and writing. For the Center at financially distressed MCP Hahnemann University, external funds were essential for continuation of a degree of faculty development in the junior faculty mentoring effort. These examples show the potential created by leveraging even a modest amount of additional funding; the funded project can support both the service and career development objectives of the Center, and the funding process itself can generate a platform for further fundraising.

In addition to valuable financial support to augment funding directly for the Centers, institutions have leveraged their designations as Centers for moves to other space (MCP Hahnemann, Indiana, and Wake Forest), and to have greater influence in strategic planning and business development processes (Boston, Indiana).

What's Been Less Successful—Two Major Themes

The initiation of a program for women in academic medicine frequently follows climate surveys and data gathering that suggest a need to address a plethora of complex, long-stand-

ing issues.[3,26–28] Institutions tend to attempt to respond to all of the issues, which leads to the two major difficulties noted below.

Focus on too large a menu of short-term, resource-driven issues. With limited institutional resources, it is unrealistic to develop broad-based programs that include students, postdoctoral fellows, and residents as well as faculty. Programmatic goals may include mentoring of all women students and junior faculty, salary, and promotion equity studies, and on-site as well as off-site leadership development programs. It is unusual to identify programs that are inclusive of women at all stages of their careers, and yet have adequately focused goals congruent with the available resources and carefully planned timelines to assure productivity. Most programs focus initially on short-term, resource-driven issues rather than on long-term strategic solutions that are institutionalized.

Lack of sustainable effort over the long run. During these times of dramatic change in academic medicine, the most pervasive difficulty is *sustaining* programs for women in academic medicine. Two components are necessary for sustainability—some degree of fiscal stability and consistent participation in the program by women faculty. With the fiscal constraints facing nearly all schools, the financial priorities of the leadership often change and may no longer include adequate fiscal support of programs for women in academic medicine. Furthermore, with the increasing clinical demands placed on faculty, it is difficult to maintain the initial programmatic commitments made by junior and senior women faculty. The current medical center environment of intensive clinical, educational, research, and administrative responsibilities, as well as the additional demands of balancing work and family for many women faculty, leads to inconsistent participation. Diminished financial support and inconsistent participation significantly limit sustainability.

Difficulties and Strategies Useful in Addressing Them

While none of the strategies described below completely resolved the difficulties involved, they did enable progress in program implementation.

An overly ambitious program that cannot be maintained either fiscally or with adequate faculty time commitment. Strategies to consider to counter these major impediments are (1) to prioritize and tightly focus the program with the help of an advisory group; (2) to institutionalize each success in order to reduce annual costs (e.g., use a database to review salaries and promotions); (3) to identify successful programs that reach large numbers of women and focus on them; (4) to use paper and/or Web-based mentoring and information dissemination; and (5) to work toward endowing programmatic components, such as participation in ELAM.

Inadequate time to mentor or be mentored after a program has been established. Potential strategies to counter this limitation are (1) to include mentoring activities on individuals' curricula vitae; (2) to revise promotion and tenure guidelines to require or reward mentoring (institutionalization of mentoring); and (3) to develop methods to recognize mentoring (e.g., mentoring awards).

Limited attendance at faculty development opportunities. This has been a problem, to at least some degree, for all Centers. Various strategies have been developed: (1) to focus on disseminating information primarily through Web sites or extensive mailings, (2) to develop electronic interactive group communication and networking, (3) to routinely offer continuing medical education (CME) credits without charge, since documented CME credits are now linked to hospital credentialing policies as well as professional licensure, (4) to thoughtfully select times and location at which the programs are offered, including the possibility of repeated programs at different times or in different venues, and (5) to make videotapes of programs available for later use.

Concern of some women faculty that being identified as part of a women's initiative will stereotype them and be counterproductive to their careers. Although the fear remains that participation in a "women's initiative" may result in a negative personal label or stigma leading to diminished opportunity for leadership positions, this seems to be only a modest fear at most institutions. Nevertheless, the mission statement of all women's programs in academic medicine should state firmly that many issues, such as salary and promotion equity, affect both men and women, and that addressing them will result in an improved institutional climate for all faculty and students. A survey conducted within the John Hopkins Department of Medicine demonstrated that women felt excluded from mentoring and advancement. Subsequently, the department chair, along with his executive committee and women's leadership group, institutionalized mentoring and thereby changed the climate for all faculty members.[26] While targeted at faculty women, many Center programs have been advertised and available for all faculty to attend.

Outcomes

There has been insufficient time for most of the programs to demonstrate outcomes in terms of increased numbers of women faculty in senior positions, or in key leadership positions such as department chairs, division chiefs, and school-wide committee chairs. Nevertheless, a number of essential *procedural* outcomes have resulted.

In each school, an annual report card on the status of women has now been institutionalized. Thus, trend data are

being accumulated as routine organizational procedure. These data, together with wide publication internally, are already proving useful. Use of the report card during the major downsizing associated with reorganization after bankruptcy at MCP Hahnemann University demonstrated that women faculty were not adversely affected relative to male faculty.[29] While it is, of course, impossible to conclude that the presence of the women's advancement effort ensured equity in faculty hiring, retention, and promotion, the presence of the initiative certainly increased awareness of women faculty during the downsizing decisions.

Most schools have experienced the loss of at least one senior faculty woman, at least in part through the Center leadership programs. These faculty members recognized their interests in and skills for administration and leadership, and they accepted leadership positions in other institutions. While this pattern might be considered a loss for individual schools, we believe that it is a true gain for academic medicine as a whole.

A number of Centers have documented substantial increases in the numbers of women in senior faculty ranks. For example, at Michigan, the number of senior women faculty increased from 60 to 104 (58%) during 1994–1999, compared with a change from 489 to 542 (11%) in the number of senior men faculty. Similarly, the number of tenured women faculty increased from 51 to 77 (66% increase), compared with a change from 454 to 475 (5% increase) in the number of men. Nevertheless, as demonstrated by the data above, women remain severely underrepresented in the senior faculty ranks and administrative positions in all U.S. medical schools.

Most of the Centers also experienced a number of "firsts" unique to their institutions. Examples include the first woman earning tenure in a given clinical department, and the first minority receiving tenure. Administrative firsts included women serving as associate dean, department chair, or associate department chair of a clinical department, as division chiefs, or as chairs or members of key committees.

Anecdotally, several Centers have reported that leadership programs fostered a sense of community among faculty women, which proved pivotal in their retention. Definitive studies in this area are needed, including surveys of faculty and exit interviews.

Issues Vital for Success

Center leaders have identified several vital issues that are crucial to the long-term success of women's leadership efforts.

- *Obtain tangible, long-term, consistent, support from the highest levels of leadership.* Informational studies (e.g., salary equity, analysis of gender by rank) will not yield positive change unless consistent, long-term commitments for change are made by the institutional leadership, preferably *prior* to the studies.[3,26–28] The support does not necessarily need to be large, but it does need to be consistent. Initial informational studies provide the rationale for program development by documenting the need for action; subsequent studies serve as invaluable monitors and checkpoints to assess the interventions and to ensure that improvements are sustained.
- *Obtain and maintain a broad base of support.* There is an extraordinary amount yet to accomplish; thus, it is *essential* to prioritize by function and/or faculty group. Should emphasis be placed on policy development, faculty development workshops, or promotion and tenure changes? Should mentoring be provided for all faculty groups, women faculty only, or clinical junior faculty? Our experience has led us to conclude that a broad-based group, rather than an administrator or faculty development leader, is necessary to prioritize these difficult decisions. When necessary, it may be better to err on the side of inclusiveness even if less depth can be accomplished.
- *Address the inevitable tension among priorities.* Although all goals cannot be accomplished simultaneously, the majority of the Centers have found it best to attend to the multiple constituencies (junior and senior faculty), to implement change in appointment and promotion policy that affects junior faculty, and to enhance access to leadership positions for senior faculty. This approach, targeted at both the junior and senior levels of the career path, is more likely to ensure sustainable active participation by a cross-section of women faculty.
- *Prepare for major changes in plans as the environmental context changes.* The authors encourage those initiating programs to continually scan the environment for changes that may affect the womens' faculty advancement effort, to constantly engage the formal and informal leadership, to educate and enroll new leadership, and to be ready and flexible for necessary change, while maintaining the "vital core mission."
- *Use change to your advantage, as change brings opportunity.* The increased emphasis on clinical practice and income in most academic medical centers has created new opportunities for clinician leaders, many of whom are women. Increased turnover of medical school leadership also can provide opportunities for new types of leadership.
- *Plan for ten times more effort in implementation than in program design.* Our experience suggests that great effort, personnel time, and fiscal resources are required for the successful implementation and evaluation of faculty development programs. Often, this resource-intensive effort is not anticipated during the design phase.[30] One es-

sential activity often underestimated is the need to publicize and communicate, constantly; this means numerous formal and informal one-on-one meetings, department and school meetings, publication in various internal venues, etc. By institutionalizing positive outcomes, future investment can be minimized.

- *Communicate successes widely*. Broad dissemination of successes within each institution serves two important functions. First, it encourages continued efforts through this tangible recognition mechanism. Second, and perhaps more important, it serves as a continual reminder that increasing women's leadership is an institutional priority.
- *Don't firmly commit to what may not be possible*. For example, initiating a mentoring program for all junior faculty is an enormous undertaking. The majority of the mentoring programs within the Centers have been focused in some manner or targeted to particular faculty groups.
- *Determine why women join and why they leave your institution*. Although not yet an institutionalized practice, several Centers have found that exit interviews provided unanticipated information regarding the campus climate and unrecognized impediments to success.

FUTURE DIRECTIONS FOR TOMORROW'S PROGRAMS

In this rapidly changing environment, it is difficult to predict tomorrow. Nevertheless, we see several trends, as well as new initiatives that are needed.

For example, we believe that medical schools must soon address the issues of dependent care, both child care and elder care; this burden falls primarily to women, just at the stage of their careers when they are becoming leaders.

Several management and leadership competencies are receiving increasing attention, such as fiscal management, strategic and systems thinking, and organizational change. We predict that these skills will become increasingly important for faculty to obtain. The challenge is not only to provide the development opportunities, but to broaden the academic reward and recognition system to value acquisition of these skills and their use in administrative scholarship. This needs to be addressed at both local institutional and national disciplinary levels.

There is clearly a trend toward self-sufficiency and entrepreneurship in faculty development programs. Creative management to provide services to the greatest number of faculty, perhaps through Web-based systems, may become predominant. There are also increasing efforts to endow components of programs. Finally, systems need to be developed to demonstrate that these faculty development programs add value, providing a positive "return on investment" in regard to tangible and intangible measures.

There is a great need for comparative studies among medical schools of the costs of recruitment of faculty versus costs for development and retention of faculty. Such studies would persuade beleaguered academic health centers that development of women (and men) faculty is imperative, and less costly than constant recruitment from the outside. Numerous recent studies from industry and health care organizations emphasize this fact. As the "war for talent" increases with the retirement of the baby boomer faculty population, this issue will become even more urgent.[31–34]

Finally, women's leadership programs inevitably will be affected by, and will affect, the trend toward increased faculty diversity. As institutions make progress for women faculty in appointment, promotion, retention, and leadership opportunities, there is a concomitant positive change in institutional climate for all faculty, regardless of gender or ethnicity.[4,17,26,33] For example, in our experience, family-friendly policies such as extension of the "tenure clock" have attracted not only women faculty but also younger men faculty who have parenting as a high priority.

The challenge remains how best to meet the specific needs of the different faculty groups.[6] The future for advancement of women in medical schools may involve a unified, integrated faculty affairs effort, with interacting organizational units addressing specific needs and issues. Such culture change will help academic health centers with their teaching missions, because the centers will model a more balanced and tolerant ethos for students and patients. This will enable academic health centers to evolve into more just systems that are more responsive to the needs of all their constituents.[35]

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