

Mentoring for Women and Underrepresented Minority Faculty and Students: Experience at Two Institutions of Higher Education

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Women and minority faculty and students are seriously underrepresented in university and academic healthcare institutions. The role of mentoring has been identified as one of the significant factors in addressing this underrepresentation.

We have described the mentoring efforts at two institutions of higher learning in assisting women and minority students and faculty in being accomplished in their academic pursuits.

One-hundred-thirty students and >50 women and minority faculty have participated in the mentoring programs described. The number of participants has increased dramatically over the years and continues to evolve positively. These programs appear to be quite successful in the short term. Further evaluation of measurable outcomes will be necessary to fully determine their true impact. The mentoring models for women and underrepresented minority faculty and students at Creighton University Health Sciences Schools and Wake Forest University School of Medicine will serve as a guide for other Health Sciences Schools.

Key words: mentoring ■ underrepresented minority faculty/students ■ women's health

© 2006. From the Creighton University Health Sciences—Multicultural & Community Affairs and Medical School (Kosoko-Lasaki), and School of Medicine (Sonnino), Omaha, NE; and Wake Forest University School of Medicine, Winston-Salem, NC (Voytko, professor of neurobiology and anatomy). Send correspondence and reprint requests for *J Natl Med Assoc.* 2006;98: 1449–1459 to: Dr. Omofolasade Kosoko-Lasaki, Associate Vice President Health Sciences—Multicultural and Community Affairs (HS-MACA, Associate Professor of Ophthalmology, Preventive Medicine & Public Health, Creighton University, 2500 California Plaza, Omaha, NE 68178; phone: (402) 280-2332; fax: (402) 280-4030; e-mail: skosoko@creighton.edu

INTRODUCTION

Many researchers have identified mentoring as an important element in promoting academic excellence for both faculty and students.¹⁻⁴ This is especially true among underrepresented groups in higher education.⁵⁻⁶ Mentoring is the process of providing younger and less-experienced individuals with support, counsel, friendship and constructive example

in order for them to succeed in their careers and life. The word “mentor” comes from Greek mythology⁷ and describes the principle of offering wisdom and support to someone with less experience. A good academic mentoring program has been proven to dramatically increase students’ scholastic performance and enhance their relationship with other students and instructors.^{2,5} The mentor is able to relive his/her youth, have fun, hone his/her own self-worth and be a positive influence on another individual’s life.

Mentoring has also been described beyond the formal educational setting.⁸ The developmental concept changes with the different ‘socialization’ phase(s) of human development. In the early stages of a mentoring relationship, the career development component may be more important. As the relationship matures, the mentees may be in need of a different kind of mentor, depending on their social needs at that phase of their career. Hence a mentor–mentee relationship may last anywhere from a few months to many years or an entire career. Having a mentor is a predictor of career satisfaction for faculty in academic medicine.⁹ However, women faculty are more likely than men to not have a mentor for a variety of reasons.^{10,11} Formal mentoring programs specifically for women junior faculty are not common. In an informal survey of 33 universities and medical schools listed in the top 50 from the 2005 *U.S. News and World Report*, we found that only 16 institutions had established mentoring programs for faculty at the institution-wide level. Of these 16, only six had mentoring programs that were specific for only women junior faculty. All but one of these mentoring programs for women junior faculty used the one-on-one mentoring relationship model and employed only senior women faculty as mentors. As women are more likely not to find mentors on their own,^{11,12} there clearly is a need in academic centers for more mentoring programs that focus specifically on women junior faculty.

The programs described in this report will give some insight into the practical mentoring experience provided for underrepresented faculty and students at two institu-

tions of higher education in the United States. We define underrepresented by gender and racial classifications.

Student Mentoring Experience at Creighton University

Founded in 1878, Creighton University (CU), an independent Jesuit, comprehensive university located in Omaha, NE, is nationally recognized as a high-quality teaching and research institution that offers undergraduate, graduate and professional degrees, including those in health professions (medicine, dentistry, pharmacy, occupational therapy, physical therapy and nursing). The CU schools of medicine, dentistry, and the Office of Health Sciences' Multicultural and Community Affairs have a long and proud history of helping economically and educationally disadvantaged students prepare for careers in the health professions through postbaccalaureate programs.

Since 2000, CU has been the recipient of several grants from the Department of Health and Human Services—Health Resources and Service Administration (HRSA) to help the development of pipeline programs in an attempt to increase future applicants in health professions programs. This increase would address some of the initiatives proposed in Healthy People 2010. The pipeline programs target students from the fourth grade through graduate school. One of the pipeline programs is the CU's Health Careers Opportunity Program (HCOP), Pipeline to Success Program (HRSA grant #D18HP01356-02-00), which is organized into four components: middle school, high school, college and

medical post baccalaureate. The objective of the program is to provide each participant formal and informal opportunities for counseling, mentoring and group support.

All the students enrolled in the program are either academically and/or financially disadvantaged, according to federal guidelines. The students are required to participate in ongoing support groups that meet informally each week, and meet formally every two months with mentors. These support groups are facilitated by members of the Student National Medical Association (SNMA) and Minority Health Science Students Association (MHSSA) as well as volunteer health sciences faculty and the associate vice president for Health Sciences' Multicultural and Community Affairs (HS-MACA).

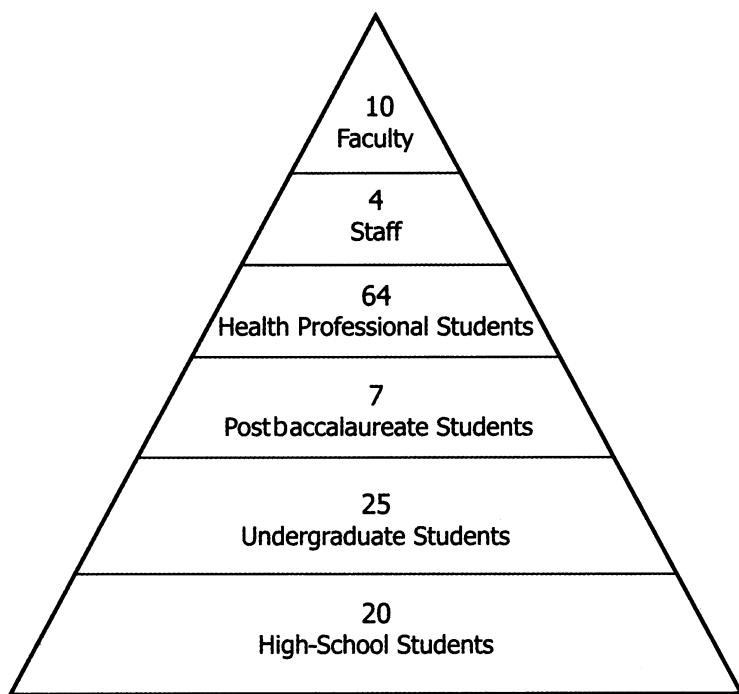
The support groups provide a forum for students to discuss academic and/or social concerns, build camaraderie and gain information about how to solve problems as they arise in higher education. The younger students are paired one on one with older, more-experienced students, in a random fashion. The mentor-mentee pair is introduced with an initial letter from the associate vice president. The senior student is encouraged to initiate the conversation with the junior individual, usually through telephone and/or e-mail discussions. The contact times are documented. Once every two months, the mentoring group meets at a pizza dinner, coordinated by the staff of HS-MACA, to discuss experiences shared by both mentors and mentees. This forum also serves as a practical guide for new mentors and mentees. The associate vice president for HS-MACA also has a four-hour open-door session every

Friday afternoon, specifically designed to meet with students, to address their concerns and provide individual support and mentoring as needed. In addition, CU's counseling and psychological services program provide psychoeducational testing, personal counseling, support groups and study/test-taking skills to all students.

Since the inception of the HS-MACA Mentoring Program in the year 2000, we have recruited approximately 130 participants (Figure 1), and the number continues to evolve positively. Ten faculty and four staff members volunteer to mentor the health professions students, who in turn provide mentoring for the medical postbaccalaureate students and some of the undergraduate students. The senior undergraduate students mentor the freshmen who in turn mentor the high-school students. Every year, we have an average of about 30 active participants in the program.

We developed a simple evaluation

Figure 1. A triangular model of HS-MACA's mentoring



form (Appendix 1) for the outcome measures of the student mentoring program. The evaluation forms were sent out by e-mail to 30 current participants, and the forms were also distributed during formal mentoring meetings. Follow-up phone calls were made to participants to increase the yield of responses. The pilot results show that 89% (17/19 responses) of students agree that the HS-MACA mentoring program is effective, and the students are pleased that they joined the program. However, 58% (11/19 responses) of the participants do not share personal information, while 79% (15/19 responses) consider their mentors "friends." All the mentees agree that the mentors have helped them to develop professionally. During informal conversations, the underrepresented minority (URM) students, faculty and staff have indicated an appreciation for the mentoring activities because they have "provided an avenue for interaction and camaraderie" amongst their peers. Medical students have indicated that the faculty mentors have provided guidance with the choice of residency programs, while the undergraduate students have help in filling out applications to the health professions schools.

We recognize the importance of gender and ethnic similarities between the mentor and mentee, and we strive to achieve this relationship at CU, a predominant white Jesuit college in the midwest. Most of our faculty members are nonminority. However, they seem to understand and appreciate minority students' perspective and have volunteered to serve as mentors for these students.

Mentoring for Women and Minority Faculty at Creighton University School of Medicine

Mentoring programs for both women and minority faculty members have recently been implemented at CU School of Medicine (CU SOM). While the specific implementation for these two groups is different, the purpose and objectives are the same: to provide junior faculty members of underrepresented groups with ≥1 designated individuals who can assist them in learning the local rules, and provide them with the tools, connections and support system necessary to succeed in their academic career. The two programs will be described separately.

Mentoring Program for Minority Faculty

The CUSOM Center of Excellence (COE) is a program funded by the U.S. Department of Health and Human Services' Center of Excellence grant (#5D34HP01031) at CU, in 2003, to provide support and career opportunities to identified URM medical students and faculty. The Faculty Development Program is one of the major components of the COE. The program is staffed by the associate dean for academic and faculty affairs, who is also the director of faculty development for the COE and a program coordinator. The program, in its current structure, began in October 2004.

Each faculty member met at least once individually with the director. Junior faculty continues to meet with the director at least annually, while senior faculty do so as needed. Both junior faculty and mentors are asked to fill out a short (one-page) survey on areas of expertise/interest (both academic and extracurricular) that will assist in pairing faculty with compatible mentors. Faculty are then matched (or self-matched) with ≥1 mentors. If faculty members do not have a preference for a specific mentor, they are paired based on: a) academic interests, b) specialty, or c) shared personal interests. If possible, senior faculty members with similar backgrounds and ethnic origins are selected as mentors (in addition to mentors with more specific academic connections). The department chair is always included as one of the mentors, unless he/she delegates the specialty-specific mentoring role to another member of the department.

Faculty members are asked to sign an agreement to participate in the mentoring program. The agreement also reminds them of the benefits of participation in the program, including a comprehensive Faculty Development Seminar series and financial support for travel to professional development seminars. The only requirement is that the attendees give a presentation to all other URMs on their experience attending a conference and the knowledge gained. Indirectly, this also requires a honing of the participants' presentation and teaching skills, and therefore also serves a more direct purpose in giving junior faculty experience with giving presentations in front of peers.

In most cases, the mentors are asked to confirm in writing to the program coordinator or the director of

Table 1. Creighton University Health Sciences—Multicultural and Community Affairs, Faculty Mentoring Program: preliminary results after first two years

Parameter	Year 1	Year 2
Retention Rate		
1 year	3/3 (100%)	2/2 (100%)
5 years	7/12 (58%)	13/16 (81%) (projected)
Tenured	1	Pending
Promoted	3	Pending
Postdeparture advancement rate	33% (3)	100% (1)

faculty development their willingness to participate and to provide mentoring and support to their mentee(s). We encourage mentors to meet with their junior faculty ≥ 2 per year, ideally more often. Encounters between mentor and mentee are documented by either party and communicated to the program coordinator.

Both parties agree that after six months, and at any appropriate time thereafter, the mentoring relationship will be re-evaluated and, if not successful, new mentor assignments can be made without any implication of responsibility by either party. If the junior faculty member identifies a more suitable mentor, he/she notifies the program director of the newly established relationship.

Each mentoring relationship is formally evaluated after three years (at approximately the mid-portion of the tenure clock). Evaluation parameters include: number of encounters between mentor–mentee, number of successful nominations for professional society memberships and committees, local committees, quantity and quality of scholarly activity, progression towards promotion and/or tenure—as quantitated by the Mission-Based Management database at CU, as well as subjective parameters.

The COE grant also provides funding to cover protected time for scholarly activity for a small number of faculty members. The funds are specifically used to “buy” a percentage of the faculty member’s time by providing salary support that would otherwise require increased clinical time for the same revenue. These individuals are asked to prepare an annual update on their progress under the auspices of the grant.

During the past two years, URM faculty received financial support (100% of expenses) for attendance at eight national professional development programs. Evaluation of the programs by the attendees showed that the experience was highly valued by the faculty. It is too early to conclude whether these programs will have an objective impact on career advancement for any specific individual, but preliminary and anecdotal data (increased scholarly productivity and visibility on campus, etc.) suggest that the trend is positive.

Finally, HRSA recently proposed a new mentoring

model, where community is central to the faculty member’s activities. Community and service are deeply rooted in the Creighton tradition. Therefore, CU is already in great part implementing this proposed model, and is somewhat ahead of the pack with several policies and strategies already in place. Community service, which is at the center of the new model, is already tangibly valued at CU as evidenced by:

- a) Community service is specifically required for promotion in rank (and some faculty with little or no community activity have had difficulty being promoted).
- b) Community service activities, relevant to the mission of the SOM, are rewarded in the financial structure (under Mission-Based Management), by compensation to the departments (and therefore its faculty) in proportion to the extent of service provided.

Future plans for the mentoring program include polling all senior faculty members at CUSOM (not just URM), to assess their interest in becoming mentors. Those who respond affirmatively will receive the survey mentioned above, so they may be paired with the most suitable mentee. A faculty advisory committee has recently been formed, including primarily junior faculty, with a small number of mid-level faculty who will provide a direct venue for a dialogue between junior faculty (URM and non-URM) and administrators, and will advise the director of faculty development on their needs for career development.

The overall success of the program is being evaluated objectively on an annual basis by tracking and assessing the following parameters:

- rate of retention of faculty at one year and five years;
- number of faculty achieving tenure;
- number of faculty achieving promotion;
- advancement after departure from CUSOM (i.e., number of faculty who left for a higher-level

Table 2. Wake Forest University School of Medicine needs/skills assessment of junior/senior faculty members

Developing a promotion/tenure package	Communication skills
Developing a teaching portfolio	Presentation skills
Curriculum development	Computer skills
Curriculum evaluation	Goal-setting
Student/resident teaching	Time management
Peer evaluation	Negotiating skills
Grant review and research duties	Managing conflicts
Research design	
Research funding	
Budget writing	

- position (increase in rank/title such as division chief/department chair elsewhere);
- number of memberships in professional organizations;
- number of participants in local, regional and national committees

Preliminary data after the first 18 months since implementation of the program are summarized in Table 1. All URM faculty members in the program have remained at Creighton ≥ 1 year. The five-year retention rate for the first year of the mentoring program was 58%, as opposed to 20% prior to implementation of the program (the highest percentage of departures from CU (9%) occurred at the onset of the program, before most of the activities could be implemented). The projected five-year retention rate for the second year of the program (not completed at the time of this writing) is 88%.

Exit interviews were implemented only in the past year and, therefore, the actual reasons for faculty departure are only speculative. It is, however, known that ≥ 3 individuals resigned to accept a position with a higher rank or title (vertical move). This specific information will be tracked for all departing faculty in the future, as vertical moves should be perceived as “successful” faculty development, in that it could be inferred that our program has successfully prepared faculty for the next higher step in their careers.

Only one URM faculty member has resigned in the past two years, while six new URM faculty have been recruited, (with three receiving financial support through the COE grant for protected time), bringing the total number of full-time URM faculty and administrators in the SOM in 2005 to 23 (7.5% of the total faculty, up from 6.9% before implementation of the program).

Of the current URM faculty, 12 are junior (instructor or assistant professor), and 11 are senior faculty and/or administrators (associate professor or professor, and two individuals with senior administrative titles of associate dean and associate vice president). One senior administrator does not have a faculty appointment but actively serves as a mentor. Three individuals have been promoted, and one was tenured. Of the URM faculty, 13 are either tenured or on the tenure track. The proportion of tenured/tenure-track individuals has risen from 25% to 44% of URM faculty over the past three years, with more nontenure-track individuals planning to transfer to the tenure track over the next year.

These preliminary data suggest that even in its early stages, the COE Faculty Mentoring and Faculty Development Program at CU SOM is successfully assisting faculty in their career advancement.

Women Junior Faculty Mentoring Program through the Women in Medicine and Science Program at Creighton University School of Medicine

Creighton has a long history of excellence in medical education but a short track record of encouraging women and minorities to join the faculty. Senior women faculty were poorly represented in the SOM, with only two women professors in 2004, and no organized venue for women to network, share experiences and resolve common issues. Women in science started meeting periodically to informally discuss issues involving career and family. A need for mentoring was obvious but unspoken. The Women in Medicine and Science (WIMS) program was formally established in 2003, with a small grant

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The HS-MACA mentoring program is effective.	SA.....	A....	N....	D....	SD....
2. I am generally pleased with the mentoring program at HS-MACA and am glad I joined.	SA.....	A....	N....	D....	SD....
3. I am in regular contact with my mentor.	SA.....	A....	N....	D....	SD....
4. My mentor shares valuable information with me.	SA.....	A....	N....	D....	SD....
5. My mentor helps me make contact with people that might be valuable to me.	SA....	A....	N....	D....	SD....
6. I respect my mentor's knowledge in his/her field.	SA....	A....	N....	D....	SD....
7. I consider my mentor a friend.	SA....	A....	N....	D....	SD....
8. I exchange confidences with my mentor.	SA....	A....	N....	D...	SD....
9. I share personal problems with my mentor.	SA....	A....	N....	D....	SD....
10. My mentor helps me prepare for advancement.	SA....	A....	N....	D....	SD....
11. My mentor assists me with my professional development.	SA....	A....	N....	D....	SD....
Additional Comments:					

from the dean's office that provided financial support and guidance to the program. This support is ongoing and has increased to >\$30,000 per year. The program has grown remarkably in its first two years, resulting in increased visibility on campus, greater attendance at programs and some initial national-level presentations and abstract publications. The two components that have been most active throughout, dictated by the needs of the membership, have been programs on professional development and a mentoring program.

The mentoring program started as an informal network of women faculty, where the senior members provided guidance to those more junior. Its purpose is to facilitate the overall professional development and career advancement of all women faculty and, specifically, to assist all women faculty in reaching the milestones necessary to advance in rank. The goals of the WIMS mentoring program are therefore to increase the number of women at senior faculty ranks and in leadership positions, and to foster the retention of women faculty. While this includes a specific goal of increasing the numbers of women at the full professor rank, particular emphasis is placed on faculty at the junior (entry-level) professional ranks. In the two years since the inception of WIMS, it has evolved into a formal mentoring and recognition program.

Women faculty at the rank of associate professor or professor, were asked to volunteer for the mentoring program and to fill out a short survey that included professional information, research and/or clinical interests, passions, personal information that may be relevant to the mentoring program and any other information they choose to share. New recruits and junior faculty are asked to fill out a similar survey, emphasizing the characteristics they would like in their mentor as well as any names of potential mentors with whom they may already be familiar at CU SOM. The surveys are resent periodically to all women faculty for updating. It is emphasized that each member of the faculty should

have a formal mentor within her own department (department chair or other senior member) who will hopefully guide her through the specialty-specific career requirements and hurdles. A woman mentor is considered an additional individual who can assist in navigating the gender scene and provide guidance on career moves related to family, gender-specific and similar issues. The senior leadership of WIMS with the associate dean for academic and faculty affairs collaborate to pair the most compatible mentor from among the senior faculty who volunteered with each junior or new faculty member. At this time, there is no central oversight of the mentoring relationship, and its progress is left to the discretion of each pair of individuals. More-central oversight with outcomes assessment is planned for the future.

Women Junior Faculty Mentoring Program of the Women's Health Center of Excellence for Research, Leadership, Education at Wake Forest University SOM

Until 1999, the only formal mentoring program for faculty at Wake Forest University SOM was one that was devoted to assisting physicians to be successful in research. To participate in this mentoring program, the faculty had to devote >50% of their effort toward research endeavors. Although addressing a need, this mentoring program had a limited audience with only one specific mentoring objective: creating physician-scientists. Recognizing the need for a broader mentoring agenda, the Leadership Program of the Women's Health Center of Excellence for Research, Leadership, Education (WHCOE) developed a mentoring program for women at the junior faculty ranks in 2000.

The WHCOE Women Junior Faculty Mentoring Program has the mission of promoting and facilitating the overall professional development and career advance-

Table 3. Wake Forest University SOM Women's Health Center of Excellence For Research, Leadership, Education Women Junior Faculty Mentoring Program

2000 Initial Participants		Total					
Junior faculty		25					
Senior faculty		33					
2006 Current Participants		MD	PhD	MD/PhD	DDS	DVM	Total
Junior faculty		24	11	1		36	
Senior faculty		19	30	1	1	2 53	
Promotion of Junior Faculty							
Associate professor		9					
Left institution		17					
Withdrew (found own mentor)		6					

ment of women at the entry-level professional ranks. In contrast to the physician research mentoring program, the WHCOE Women Junior Faculty Mentoring Program offers a global mentoring experience. One of the objectives of the program is to link women junior faculty (instructor or assistant professor) with women and men senior faculty (associate and full professor) in one-on-one mentoring relationships, with the understanding that additional mentors also may be needed. The long-term goals of the program are to increase the number of women promoted to senior faculty ranks and leadership

positions, and to foster the retention of women faculty. In recognition of the importance of increasing and advancing women faculty, the program is entirely funded through generous support from Senior Vice President and Dean of the SOM, Dr. William Applegate.

Before launching the WHCOE Women's Mentoring Program, a fields of interest assessment form was developed for mentors and a needs assessment form was developed for mentees. These forms contain an identical broad list of topics (Table 2) for which the junior faculty indicate the degree to which they either need or desire

Appendix 2. Wake Forest University WHCOE mentoring program mentoring relationship queries

Mentees

1. Are you meeting with your mentor?
 - a. How often are you meeting?
 - b. Is this frequently enough?
 - c. Can we help facilitate the process?
2. Do you feel that you have benefited from your mentoring relationship?
 - a. If yes, in what way?
 - b. If no, why?
 - c. Can we help with anything in particular?
3. What topics have you discussed with your mentor?
4. What do you like about your mentoring relationship? What do you not like?
5. How satisfied are you with the mentoring program in general?
6. What do you like about the mentoring program?
7. What changes would you suggest for the mentoring program?

Mentors

1. Are you meeting with your mentee?
 - a. How often are you meeting?
 - b. Is this frequently enough?
 - c. Can we help facilitate the process?
2. Do you feel that you have benefited from your mentoring relationship?
 - a. If yes, in what way?
 - b. If no, why?
 - c. Can we help with anything in particular?
 - d. Is the relationship requiring too much of your time?
3. Do you feel that your mentee has benefited from your mentoring relationship?
 - a. If yes, in what way?
 - b. If no, why?
4. What topics have you discussed with your mentee?
5. What do you like about your mentoring relationship? What do you not like?
6. How satisfied are you with the mentoring program in general?
7. What do you like about the mentoring program?
8. What changes would you suggest for the mentoring program?

mentoring and for which the senior faculty indicate the degree to which they feel comfortable mentoring. The topics cover aspects of promotion considerations, teaching, research and personal skills important for career development. In addition, the junior faculty are asked their percent level of effort distribution in research, teaching and clinical areas as well as their desired level of research involvement (i.e., >75%, 75–50%, <50% effort) and the specific areas of research interest. The information contained in these forms is then used to form the mentor–mentee pairs. The mentoring pair signs a Mentoring Relationship Agreement Certificate in which the areas of mentoring focus are outlined and the frequency of meetings is indicated. These certificates are filed in the mentoring program office. The director of the mentoring program and members of a Mentoring Program Committee conduct program oversight.

To assist the participants in their relationships, a *Mentoring Reference Manual* was developed for the mentors and a *Guide for Mentees* was developed for the mentees. The manual for mentors contains information on mentoring and mentoring resources, while the guide for mentees contains information on responsibilities of mentees. In addition to these resources, a mentoring resource section was developed in the WHCOE Library, which contains numerous books and articles on mentoring.

To initiate the program in 2000, letters of introduction and invitations to join the program were sent to all women junior faculty and to all senior faculty. The program was met with overwhelming enthusiasm and resulted in 25 women junior faculty and 33 men and women senior faculty initially joining the program. Invitation letters are continually sent to all new women junior faculty and to all new men and women senior faculty as they enter the institution to capture new individuals.

Over the course of the WHCOE Women's Mentoring Program, 49 women junior faculty have participated (33 MDs, 15 PhDs and one MD/PhD). Initial and current participant information can be found in Table 3. Several of the senior faculty have ≥ 1 mentee (each mentor is limited to only two mentees at any one time). Databases have been created to keep records of all program participants including when they join or leave the program, names of their mentee(s) or mentor, reasons for leaving the program, etc.

To augment their experience, various activities and events have been held for the program participants. Mentors and mentees have been invited to luncheons together and separately to discuss their mentoring relationships and experiences. Book discussions have been held with the junior faculty in which a senior faculty member condenses information from a book on a pertinent professional development topic and holds a roundtable discussion of the book content, or all participants read and discuss a book. Prominent outside speakers have been brought in to discuss aspects of mentoring,

and panel discussions have taken place to present varying views of mentoring. Moreover, social hours have been held at the homes of senior faculty to provide a comfortable atmosphere for informal networking among participants. There are many additional types of activities that are being considered for implementation in the program. These include expansion into other types of mentoring such as peer mentoring and group mentoring, an online mentoring program, training workshops for mentors, and monthly learning lunches that would include meetings with deans or chairs or talks by experts in various skill areas.

To informally evaluate the value and health of the mentoring relationships, we developed a series of questions (Appendix 2) and contacted mentors and mentees in 2002 to discuss their relationship. Approximately, 40% of the mentees and mentors participated in these conversations. Overall, the program participants were very satisfied with their relationships. Most mentees felt that they were benefiting from their relationship, especially in terms of career counseling, receiving constructive feedback, and receiving emotional support for both personal and career issues. Several mentees also indicated that they were receiving mentoring from a senior faculty other than their mentor. Mentors also were positive in their feedback about their relationships. Most mentors believed that their mentee had benefited from their relationship and felt they had been particularly helpful to their mentee in regards to helping her determine her career goals and providing feedback. Mentors did not feel that the mentoring relationship was requiring too much of their time and felt strongly that their mentee really did need a mentor. Both mentors and mentees felt that the frequency of their meetings together and the time involved were appropriate. The most frequent topics of discussion during these mentoring meetings revolved around research, promotion and teaching. Positive comments about the program from mentees included the ability to connect with other professional women and the good advice being provided by their mentor. Positive comments about the program from mentors included the ability to meet and help other faculty. Suggestions to improve the program in general included greater frequency of scheduled meetings of program participants and social networking events for participants.

The WHCOE mentoring program is now in its sixth year and while we have been tracking the program participants and conducting informal evaluations of the mentoring relationships, it is now time for more formal yearly evaluations of the mentoring relationships to take place and the effectiveness of the program in general to be evaluated. For the yearly evaluations of the mentoring relationships, we have developed a survey for mentors and mentees (Appendices 3 and 4). Once a year, this survey will be sent to the program participants for feedback. To evaluate the effectiveness of our mentoring

Appendix 3. Wake Forest University mentoring program evaluation mentee assessment form

Circle the response that best identifies your feeling toward the question. The key is as follows:

1-strongly agree 2-agree 3-neutral 4-disagree 5-strongly disagree

1. I have benefited from the mentoring relationship	1	2	3	4	5
2. My mentor is readily available	1	2	3	4	5
3. My mentor and I are congruent on our goals for my professional development	1	2	3	4	5
4. My mentor has involved me in committees within the institution	1	2	3	4	5
5. My mentor understands that I have a life outside of the institution and helps me to integrate my responsibilities	1	2	3	4	5
6. My mentor has involved me in professional activities outside of the institution	1	2	3	4	5
7. Besides my official mentor, I am receiving help from another senior faculty member	1	2	3	4	5
8. I found the mentee guide to be helpful	1	2	3	4	5
9. I have used the mentoring/leadership resources located in the library of the Women's Center of Excellence	1	2	3	4	5

Circle the response that best indicates how helpful your mentor has been in the following areas?

1-not at all helpful 2-somewhat helpful 3-helpful 4-very helpful 5-not applicable

10. Helping me determine my career goals	1	2	3	4	5
11. Encouraging development of my own research ideas	1	2	3	4	5
12. Providing me with constructive feedback	1	2	3	4	5
13. Developing my leadership skills	1	2	3	4	5
14. Identifying a balance between my career and personal goals	1	2	3	4	5
15. Providing emotional support around work-related issues	1	2	3	4	5
16. Providing emotional support around personal issues	1	2	3	4	5
17. Being a role model for me	1	2	3	4	5
18. Assisting me in developing a promotions package	1	2	3	4	5
19. Referring me to others as needed	1	2	3	4	5
20. Time management	1	2	3	4	5
21. Conflict resolution	1	2	3	4	5
22. Grant writing	1	2	3	4	5
23. Paper writing	1	2	3	4	5
24. Career counseling	1	2	3	4	5
25. Presentation skills	1	2	3	4	5
26. Patient care issues	1	2	3	4	5
27. Ethical issues	1	2	3	4	5
28. Approximately how often do you meet with your mentor? (circle one) Weekly monthly quarterly almost never					
29. The frequency of meetings was: (circle one) Not at all appropriate Not very appropriate Appropriate Very appropriate					
30. The time commitment involved in the meetings was: (circle one) Not at all appropriate Not very appropriate Appropriate Very appropriate					
31. What topics have you discussed with your mentor? (check all that apply) research____ promotion____ teaching____ space____ research funding____ personal issues____ allocation of time between patient care and research____ other (please specify) _____					

The best thing about my mentoring relationship has been/is:

I would suggest the following changes/modifications to my mentoring relationship:

On a scale of 1-10, how satisfied are you with the mentoring program?

The things that I like about the program are:

I would suggest the following changes/modifications to the mentoring program:

Your name _____ Date _____

Your mentor's name _____

Appendix 4. Wake Forest University mentoring program evaluation mentor assessment form

Circle the response that best identifies your feeling toward the question. The key is as follows:

1-strongly agree	2-agree	3-neutral	4-disagree	5-strongly disagree
1. I believe that my mentee has benefited from our relationship	1	2	3	4 5
2. I have personally benefited from the relationship	1	2	3	4 5
3. The relationship requires too much of my time	1	2	3	4 5
4. My mentee doesn't really need a mentor	1	2	3	4 5
5. I have referred my mentee to other faculty for help in a specific area	1	2	3	4 5
6. I have the support of my department/division chair for my mentoring activities	1	2	3	4 5
7. I found the mentor guide to be helpful	1	2	3	4 5
8. I have used the mentoring/leadership resources located in the library of the Women's Center of Excellence	1	2	3	4 5

Circle the response that best indicates how helpful you have been for your mentee in the following areas? (either by providing needed assistance or by referring appropriately)

1-not at all helpful	2-somewhat helpful	3-helpful	4-very helpful	5-not applicable
9. Helping her determine her career goals	1	2	3	4 5
10. Encouraging development of her own research ideas	1	2	3	4 5
11. Providing her with constructive feedback	1	2	3	4 5
12. Developing her leadership skills	1	2	3	4 5
13. Identifying a balance between her career and personal goals	1	2	3	4 5
14. Providing emotional support around work-related issues	1	2	3	4 5
15. Providing emotional support around personal issues	1	2	3	4 5
16. Being a role model for her	1	2	3	4 5
17. Assisting her in developing a promotions package	1	2	3	4 5
18. Time management	1	2	3	4 5
19. Conflict resolution	1	2	3	4 5
20. Grant writing	1	2	3	4 5
21. Paper writing	1	2	3	4 5
22. Career counseling	1	2	3	4 5
23. Presentation skills	1	2	3	4 5
24. Patient care issues	1	2	3	4 5
25. Ethical issues	1	2	3	4 5
26. Approximately how often do you meet with your mentee? (circle one) Weekly monthly quarterly almost never				
27. The frequency of meetings was (circle one) Not at all appropriate Not very appropriate Appropriate Very appropriate				
28. What topics have you discussed with your mentee? (check all that apply) research____ promotion____ teaching____ space____ research funding____ personal issues____ allocation of time between patient care and research____ other (please specify) _____				

The best thing about my mentoring relationship has been/is:

I would suggest the following changes/modifications to my mentoring relationship:

On a scale of 1-10, how satisfied are you with the mentoring program?

The things that I like about the program are:

I would suggest the following changes/modifications to the mentoring program:

Your name _____ Date _____

Your mentee's name _____

program, we are developing an instrument and identifying the outcome measures that will be most useful in our evaluation of the program.

Lessons Learned from the Women's Health Center of Excellence for Research, Leadership, Education Women Junior Faculty Mentoring Program

One of the most challenging aspects of the WHCOE mentoring program has been the inability to continue to offer and expand various support activities, maintain engagement of the participants, and closely monitor the relationships and the progress of the junior faculty. These challenges have been primarily due to limited staff support available for the program. Recently, these difficulties have been addressed with the hiring of a mentoring program coordinator, who has now taken over the daily operations management of the program. The program coordinator meets individually with each woman junior faculty member who is interested in joining the program to introduce her to all facets of it. This individual outreach provides a level of comfort and security to the woman faculty member and ensures that she is aware of who she can turn to with any concerns or questions about her mentoring relationship or of the program in general. The program coordinator maintains close contact with the entire group of women junior faculty in the program, especially during their decision-making of who their mentor will be. After the mentor has been chosen, the program coordinator contacts the mentoring pairs every six months to assess how the relationship is working. The addition of the program coordinator has allowed the mentoring program to expand in number of participants and has significantly increased monitoring capabilities of the relationships to ensure successful and productive mentoring.

We have found that the queries on the mentee needs assessment form related to percent distribution of effort and desired level of research involvement have served another unforeseen useful purpose. With these added research-related questions, we have been able to identify junior faculty who note that they primarily want mentoring in research but indicate that they actually have little research effort. This mismatch alerts us to the need for counseling the faculty member on her realistic goals given her effort distribution and advising her to meet with her chair to discuss this issue.

Although the primary goal of the WHCOE mentoring program is to facilitate the advancement of our women faculty, it has proven itself also to be a valuable tool for the recruitment of women faculty. Faculty associated with the WHCOE, including the WHCOE director, director of the WHCOE mentoring program and

other members of either the mentoring program committee or the Leadership Program of the WHCOE offer to meet with all women faculty candidates during their interviews to inform them about the mentoring and leadership programs of the WHCOE. Many of these women candidates have expressed that the existence of these programs at the institution is seen as a significant benefit for joining the faculty and several women have joined the mentoring program as mentees upon their admission to our faculty.

CONCLUSION

It is evident that specific mentoring is required at all levels of academia to ensure the success of women and minorities in their careers. The faculty and student mentoring programs at CU and Wake Forest are examples of how these schools are working to assist these underrepresented groups in being successful and to enhance the diversity within their respective institutions. Ongoing vigilance and attention to the needs of each individual are key to the long-term success of these programs. With the experience gained in these programs, it should be possible in the future to define some general guidelines that may be applicable for all schools in their efforts to increase diversity within their ranks.

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