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Mentorship in an Academic Medical Center

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Effective mentorship has been shown to be essential for faculty career success in a wide array of academic disciplines, including medicine.¹⁻³ Faculty members who are engaged in effective mentoring relationships are more likely to remain at academic health centers and advance in rank more rapidly.⁴⁻⁸ Furthermore, effective mentorship is associated with greater career satisfaction and better career performance, including improved teaching of residents and medical students and increased quality of patient care.^{5,7} Nevertheless, there are multiple challenges to ensuring that all faculty members receive needed mentorship in academic health centers.

These challenges include the significantly smaller proportion of senior faculty who are best qualified to mentor faculty members at an earlier career stage. Time is at a premium for all faculty at academic health centers, limiting the capacity to have sufficient length and numbers of effective mentorship meetings. Academic reward and support may be lacking for the faculty members who devote the time required to develop effective mentorship relationships, limiting the sustainability of mentorship. Academic health centers comprise a wide array of disciplines, making the number

and the expertise of senior faculty further barriers to establishing mentorship for all faculty members. In addition, faculty members may not understand the value of an effective mentorship relationship and therefore not seek or accept opportunities to be mentored.

Despite the recognition of these challenges, the degree to which they limit effective mentorship in academic health centers is not well defined. It is possible that despite these challenges, many are successful in identifying mentors. It also is unknown whether gender and academic track are factors that are associated with success in establishing mentorship relationships.

We conducted a survey of all members of the faculty at the rank of assistant or associate professor in the tenure and clinical tracks at Ohio State University College of Medicine to determine mentorship prevalence. The results demonstrate a “mentorship gap” between total faculty numbers and faculty who report the existence of a mentorship relationship. They also reflect significant trends in the differences among academic tracks, departments, rank, and gender in successfully establishing mentorship relations. These results from a single large academic health center may reflect the challenges to ensuring faculty mentorship at a wide array of academic health centers and indicate the need to establish structured mentorship programs.

MATERIALS AND METHODS

We designed a survey to capture the number of faculty members who have at least 1 mentor, how they identified a mentor, the frequency of mentorship meetings, and the gender of their mentor or mentors. Academic track, rank, department, and gender of faculty

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respondents also were collected to determine associations between these variables and the prevalence of mentorship. The survey was designed using SurveyMonkey software provided by Ohio State University Center for Clinical and Translational Science Bioinformatics Core (Award Number Grant 8UL1TR000090-05 from the National Center For Advancing Translational Sciences). The survey and data collection were approved by the Biomedical Sciences Institutional Review Board of Ohio State University.

All regular track faculty members of Ohio State University College of Medicine at the rank of assistant or associate professor were asked to complete the survey. A modification of the survey methods of Dillman et al^{9,10} was used to optimize the response rate. By using college of medicine e-mail address records, regular faculty members received an e-mail with a link to the survey. According to the methods of Dillman et al,^{9,10} the specific goals of the survey and the need for the faculty members to respond were outlined in the e-mail. Follow-up requests to complete the survey were sent 3 and 6 weeks after the initial request. All responses were stored on a secure server maintained by the Center for Clinical and Translational Science.

Statistical Analysis

After completion of the survey period, responses were provided to the investigators in an Excel spreadsheet (Microsoft Corp, Redmond, Wash) and housed on a secure web server. Data were imported into STATA SE version 10.0 (StataCorp LP, College Station, Tex). Data are shown as the average \pm 1 standard deviation. The

chi-square test was used to test for significant differences in the proportion of faculty with mentorship relationships and differences in mentorship characteristics between faculty groups. Stepwise logistic regression modeling was used to identify the odds ratios for having a mentor for faculty in the different departments.

The final model included all those departments for which there was a significant difference in the odds of having a mentor if the faculty member was in that department compared with not being in the department.

RESULTS

Survey requests were sent to a total of 576 faculty members. A total of 289 responses were received at the end of the survey period, giving a 50% response rate.

Table 1 shows a summary of the responses and statistical differences between groups. Overall, 51% of assistant and associate professors indicated that they had established a mentorship relationship with at

least 1 faculty member. However, a significantly ($P = .0001$) smaller proportion of faculty members in the clinical track had identified mentors compared with tenure track faculty members.

The proportion of women who had identified 1 or more mentor did not differ from the number of men. However, significantly ($P = .009$) more women identified at least 1 woman as a mentor than did men.

The survey provided insight into the manner in which faculty members identified mentors and the frequency of mentorship meetings. A majority of faculty members established mentorship through self-identification of mentors rather than through programmatic or planned mentorship assignments. Although 51% of

PERSPECTIVES VIEWPOINTS

- At our large academic medical center, which may be representative of other such centers, only approximately 50% of faculty at the rank of Assistant or Associate Professor had identified a mentor.
- Faculty members in clinical tracks had a lower prevalence of mentorship compared to tenure track faculty.
- These findings support the creation of programs that can assure appropriate mentorship of a greater proportion of faculty at Academic Medical Centers. The data suggest that special emphasis may be required for clinical track faculty and faculty at the rank of Associate Professor.

Table 1 Prevalence and Characteristics of Mentorship Relationships

Faculty with Mentors	Gender and Mentors	Woman as Mentor	Selection of Mentor	Frequency of Meeting	Faculty Rank (All Tracks)
Total 51%	Women with mentor 52%	Women 53%	Assigned 11%	Annually 23%	Assistant Professors 53%
Clinical 37%	Men with mentor 53%	Men 29%	Self-identified 89%	Quarterly 26%	Associate Professors 37%
Tenure 69%				Monthly 21%	
$P = .0001$		$P = .009$		Weekly 23%	
				Daily 2%	$P = .003$

faculty members met with their mentor or mentors on a weekly or monthly basis, 23% met with their mentors only once a year.

Significant differences in the prevalence of mentorship by faculty rank were noted. Fifty-three percent of assistant professors had identified mentors compared with 37% of associate professors ($P = .003$) in all tracks.

Nonclinical departments that also have smaller faculty numbers and almost exclusively tenure track faculty tended to have a higher prevalence of mentorship. Forward selection stepwise logistic regression modeling identified 5 departments that significantly differed or showed a significant trend of a difference from all other departments in the odds ratio of having a mentor. These departments and the odds ratios of having a mentor in that department compared with not having a mentor in that department are shown in **Table 2**.

DISCUSSION

Effective mentorship is perhaps the most important factor in ensuring faculty career success and satisfaction in academic medicine.^{1,2,4,5,7,8} However, the current climate in academic health centers provides significant challenges to ensuring effective mentorship relations for all members of the faculty. An unpublished survey performed in 2003 that included Harvard-affiliated medical centers reported that approximately 50% of all faculty had identified a mentor.¹¹ Therefore, the data from a single large academic health center in the current report show that there has been little change in the prevalence of mentorship. More important, among those who had established mentorship, a significant proportion reported meeting with their mentor only once a year. Therefore, the proportion of faculty members with truly effective mentorship relationships is less than 50%. The findings of previous surveys and this study are indicative of the ongoing challenges in establishing effective mentorship for all members of the faculty of academic health centers.

Although the proportion of faculty with mentors was less than 100% in all subsets, those in the nontenure clinical track were found to have the lowest prevalence of mentorship. A variety of factors may contribute to this disparity. Newly appointed tenure track faculty

members often have specific academic and scientific career objectives and well-defined disciplines that narrow the range of potential mentors and facilitate the establishment of effective mentorship relationships. The recruitment of these faculty members may in fact include the expectation that a specific senior faculty member will assume a mentorship role. In contrast, clinical track faculty members have diverse domains of scholarship and extensive clinical commitments that impede identification of a mentor because of the wider scope of potential mentors and restricted time available for the pursuit of mentorship. This assessment is supported by the observation that the departments with the lowest odds ratios for the mentorship of their faculty are among those with the highest clinical demands.

The observation that associate professors have a lower prevalence of mentorship is consistent with recently noted trends in career satisfaction in faculty at this rank.¹² Surveys report that associate professors have decreased career satisfaction in virtually all domains compared with assistant and full professors. It has been speculated that institutions emphasize early career development but fail to deliver the same level of support to mid-career faculty who have their own specific challenges requiring equal if not greater career support and guidance. As a result, many associate professors encounter career stagnation and often require long periods of time to achieve promotion to professor, if at all. The lower prevalence of mentorship in this faculty rank may contribute to their lack of career satisfaction and their failure to advance in rank. It is possible that there is an incorrect assumption that mentorship is no longer required once a faculty member has achieved a rank that connotes career independence.

It is important that men and women faculty members were found to establish mentorship in equal proportions. Despite the increasing number of women faculty appointed to academic health centers, women in general achieve senior ranks in lower proportion compared with men at equivalent career stages.¹¹ Accordingly, effective mentorship plays an even greater role in the career development and advancement of women. Similar to our findings, some surveys have found that women have established mentorship relations of an equal or slightly greater frequency compared with men.¹¹ Of note, our data show that significantly more women have identified at least 1 woman as a mentor compared with men. Prior studies have not shown a significant association between career outcomes and gender of the mentor and mentee.¹³ However, future investigations will be required to determine whether mentorship of a woman faculty member by a woman is more effective in facilitating career advancement in the academic health center.

The majority of faculty members who had established a mentorship relationship did so through their own efforts to identify a mentor rather than having one

Table 2 Odds Ratios for Having a Mentor

Department	Odds	95% Confidence		P Value
	Ratio	Interval		
Family Medicine	0.13	0.03-0.60		.009
Pathology	0.37	0.16-0.87		.02
Health and Rehabilitation	0.39	0.14-1.09		.07
Anesthesiology	0.32	0.10-1.1		.06
Pediatrics	0.65	0.40-1.1		.09

assigned. Many think that truly effective mentorship requires careful consideration of a variety of factors in selecting a mentor, including personality qualities, career goals, and professional expertise of the mentor.^{1,14} Establishing a mentoring relationship based on these considerations may not be readily achieved by simple mentor assignments. Assigned rather than “volitional” mentorship relations may include senior faculty who are not fully committed to the mentorship process. This determination may result in an ineffective or unsustainable mentorship relationship. Whether such self-determined mentoring relationships are indeed more effective than assigned mentorship must be further evaluated in future studies.

Study Limitations

This study is limited in that it did not assess the satisfaction of the mentees with their mentorship relationships. It did not assess the desire of individuals who did not have a mentor to establish a relationship. The survey was not a probability sample, and therefore whether the findings generalize to faculty who did not respond to the survey cannot be ascertained.

CONCLUSIONS

Despite the recognized importance of mentorship in the advancement of careers in academic medicine, the average prevalence of mentorship is approximately 50% in the large academic health center surveyed in this study. The percentage is consistent with reports 10 years before the current survey and suggests that a variety of factors may impede the establishment of effective mentorship. Faculty in a nontenure clinical track and individuals in departments in which there are high clinical demands seem to have the lowest prevalence of mentorship. Associate professors have a significantly lower prevalence of mentorship compared with assistant professors.

These findings must be followed by a broader survey of academic health centers and identification of the specific factors that are barriers to establishing mentorship relationships. The findings support the need for establishing programs in academic health centers that ensure faculty mentoring as has been

described in recent reports.^{4,15} Such programs should ensure mentorship of faculty with extensive clinical responsibilities and mid-career faculty whose mentorship needs do not diminish with promotion.

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