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THE MENTORSHIP GAP IN AN ACADEMIC MEDICAL CENTER: A NEEDS ASSESSMENT FOR STRUCTURED MENTORSHIP PROGRAMS

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INTRODUCTION

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 medical 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 assuring that all members of a faculty receive needed mentorship in academic medical 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 members of academic medical center faculties 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 do devote the time required to develop effective mentorship relationships limiting the sustainability of mentorship. Academic medical centers comprise a wide array of disciplines making not only the number but the expertise of senior faculty a further barrier to establishing mentorship for all faculty members. In addition, faculty members may not understand the value of an effective mentorship relation 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 medical centers is not well defined. It is possible that despite these challenges, many are successful in identifying mentors. It is also unknown whether gender or 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 of The Ohio State University College of Medicine to determine mentorship prevalence. The results demonstrate a “mentorship gap” between total faculty numbers and those who report the existence of a mentorship relationship. They also reflect significant trends in the differences between academic tracks, departments, rank and gender in successfully establishing mentorship relations. These results from a single large academic medical center may reflect the challenges to assuring

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mentorship of faculty at a wide array of academic medical centers and indicate the need to establish structured mentorship programs.

METHODS

We designed a survey to capture the number of faculty members who have at least one mentor, the manner in which they identified a mentor, the frequency of mentorship meetings and the gender of their mentor or mentors. Faculty respondents' academic track, rank, department, and gender were also collected to determine associations between these variables and the prevalence of mentorship. The survey was designed using SurveyMonkey (SurveyMonkey.com, LLC, Palo Alto, California, USA) software provided by The Ohio State University Center for Clinical and Translational Science Bioinformatics Core (Award Number Grant 8UL1TR000090-05 from the National Center For Advancing Translational Sciences). These survey and data collection were approved by the Biomedical Sciences Institutional Review Board of The Ohio State University.

All regular track faculty members of The Ohio State University College of Medicine at the rank of Assistant or Associate Professor were asked to complete the survey. A modification of Dillman's survey methods was used to optimize the response rate. Using College of Medicine records of email addresses, the regular faculty members at the above ranks received an email with a link to the survey. According to Dillman's methods, the specific goals of the survey and the need for the faculty members to respond were outlined in the email (9, 10). Follow up requests to complete the survey were sent 3 and 6 weeks following 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 Excel 2007, Microsoft Corporation, Redmond, Washington) and housed on a secure web server. Data were imported into STATA SE version 10.0 (Stata Corporation, College Station, Texas). Data are shown as the average plus or minus one 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 to not being in the department.

RESULTS

Survey requests were sent to a total of 576 faculty members. Two hundred eighty-nine responses were received at the end of the survey period giving a 50% response rate.

A summary of the responses and statistical differences between groups are shown in Table I. Overall 51% of Assistant and Associate Professors indicated that they had established a mentorship relationship with at least one faculty member. However, a significantly ($p = 0.0001$) smaller proportion of faculty members in the clinical track had identified mentors as compared to tenure track faculty members.

The proportion of women who had identified one or more mentor did not differ from the number of men. However, significantly ($p = 0.009$) more women identified at least one 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 large majority of faculty members established mentorship through self-identification of mentors rather than through programmatic or planned mentorship assignments. Although 51% of 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 as compared to 37% of Associate Professors ($p = 0.003$) in all tracks.

Non-clinical 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 five departments that significantly differed or showed a significant trend to a difference from all other departments in the odds ratio of having a mentor. These departments and the odds ratio of having a mentor if in that department as compared to not being in that department are shown in Table II.

DISCUSSION

Effective mentorship is perhaps the most important factor in assuring faculty career success and satisfaction in academic medicine (1, 2, 4, 5, 7, 8). However, the current climate in academic medical centers provides significant challenges to assuring 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 medical 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 medical centers.

Although the proportion of faculty with mentors was less than 100% in all subsets, those in the non-tenure Clinical Track were found to have the lowest prevalence of mentorship. A variety of factors may contribute to this disparity. Often newly appointed Tenure Track faculty members 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 owing to the wider scope of potential mentors and restricted time available for the pursuit of mentorship. This 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 as compared to 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. This of course is not the case.

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 medical centers, women in general achieve senior ranks in lower proportion compared to 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 to an equal or slightly greater frequency compared to men (11). Interestingly, our data show that significantly more women have identified at least one woman as a mentor as compared to men. Prior studies have not shown a significant association between career outcomes and gender of the mentor and mentoree (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 medical 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 assigned. Many feel 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 mentorship 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 may result in an ineffective or unsustainable mentorship relationship. Whether such self determined mentorship relationships are indeed more effective than assigned mentorship must be further evaluated in future studies.

Limitations

This study is limited in that it did not assess the satisfaction of the mentorees with their mentorship relationships. It did not assess the desire of those who did not have a mentor to establish a mentorship relationship. The survey was not a probability sample and therefore whether the findings generalize to those 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 medical center surveyed in this study. The percentage is consistent with reports ten years prior to the current survey and suggests that a variety of factors may impede the establishment of effective mentorship. Faculty in a non-tenure clinical track as well as those in departments in which there are high clinical demands appear to have the lowest prevalence of mentorship. Associate professors have a significantly lower prevalence of mentorship compared to Assistant Professors.

These findings must be followed by a broader survey of academic medical centers and identification of the specific factors that are barriers to establishing mentorship relationships. The findings support the need for establishing programs in academic medical centers that assure faculty mentoring as has been described in recent reports (4, 15). Such programs should assure mentorship of faculty with extensive clinical responsibilities and mid career faculty whose mentorship needs do not diminish with promotion.

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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%	Monthly 21%	Associate Professors 37%
Tenure 69%				Weekly 23%	
p = 0.0001		p = 0.009		Daily 2%	p = 0.003

Table 2

Odds Ratios for Having a Mentor

Department	Odds Ratio	95% Confidence Interval	P value
Family Medicine	0.13	0.03, 0.60	0.009
Pathology	0.37	0.16, 0.87	0.02
Heath and Rehabilitation	0.39	0.14, 1.09	0.07
Anesthesiology	0.32	0.10, 1.1	0.06
Pediatrics	0.65	0.40, 1.1	0.09