Results of a Formal Mentorship Program for Internal Medicine Residents: Can We Facilitate Genuine Mentorship?

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Abstract

Background Mentorship programs are perceived as valuable, yet little is known about the effect of program design on mentoring effectiveness.

Intervention We developed a program focused on mentoring relationship quality and evaluated how subsequent relationships compared to preexisting informal pairings.

Methods Faculty members were invited by e-mail to participate in a new mentoring program. Participants were asked to complete a biography, subsequently provided to second- and third-year internal medicine residents. Residents were instructed to contact available mentors, and ultimately designate a formal mentor. All faculty and residents were provided a half-day workshop training, written guidelines, and e-mails. Reminders were e-mailed and announced in conferences approximately monthly. Residents were surveyed at the end of the academic year.

Results Thirty-seven faculty members completed the biography, and 70% (26 of 37) of residents responded to the survey. Of the resident respondents, 77% (20 of 26) chose a formal mentor. Of the remainder, most had a previous informal mentor. Overall, 96% (25 of 26) of the residents had identified a mentor of some kind compared to 50% (13 of 26) before the intervention ($P < .001$), and 70% (14 of 20) who chose formal mentors identified them as actual mentors. Similar numbers of residents described their mentors as invested in the mentorship, and there was no statistical difference in the number of times mentors and mentees met.

Conclusions Facilitated selection of formal mentors produced relationships similar to preexisting informal ones. This model may increase the prevalence of mentorship without decreasing quality.

Editor's Note: The online version of this article contains guidelines for mentors.

Introduction

Mentorship improves personal development, research productivity, and career satisfaction.[1–4] Because of these benefits, there is interest in creating formal mentoring programs within residencies.

Optimal methods of developing mentoring relationships are not known. Despite attempts in business, military, and academic environments to formalize mentorship, it remains unclear if mentor-mentee "chemistry" can be fostered through formal programs. Research on formal mentoring relationships comes primarily from surveys of program participants and shows equivalent or less beneficial outcomes compared to informal mentorship.[5,6] Recent reviews[3,6,7] have highlighted aspects of mentoring programs associated with success. Mentee participation in the pairing process and direction of the relationship are critical components.[2,3,5,7–10] Additionally, adequate training of mentors is important and often overlooked.[3,11,12]

We designed a mentorship program in an internal medicine residency program that emphasized mentoring relationship quality. We surveyed residents to assess mentorship received and compare it with previous informal mentoring relationships.

Methods

The Walter Reed National Military Medical Center (WRNMMC) internal medicine residency program

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TABLE 1 **Questions Answered by Perspective Mentors for Residents to Use in Mentor Selection**

What is your name?
What is your sex?
What is your military service (if any)?
What is your specialty?
How long do you expect to remain in the area?
How many residents would you be willing to mentor?
Please give a brief biography of your medical training and experience; please give information about your family and hobbies as well.
Have you had any operational experience in the medical field? If so, what?
Is having a mentee of the same military service important to you?
Is having a mentee of the same sex important to you?
Have you been active in the research arena (eg, successfully navigating the IRB process, publishing original research, QI projects, book chapters)? Please give a basic description.
What are your special areas of interest either within or outside of the medical field?

Abbreviations: IRB, Institutional Review Board; QI, quality improvement.

established a formal mentorship program in June 2012.

No mentorship program had been in place previously. We conducted an unfunded workshop consisting of a didactic description of the role of mentorship, 2 mentor-mentee pairs discussing their relationships, and an interactive panel discussion. Slides were provided for those unable to attend. A subsequent workshop addressed work-life balance. During the next 6 months additional e-mails were sent to residents and faculty that included business and science articles, blogs from the Harvard Business Review, and video clips about mentorship.

After the workshop, all faculty were asked by e-mail to be mentors. Faculty members who volunteered completed an online biography (TABLE 1). These biographies were provided to all residents at the beginning of the 2012–2013 academic year. Second- and third-year residents were asked to select a mentor and establish contact within 1 month. Residents were encouraged to search until they had established a good match. Reminders were provided verbally in conferences and by e-mail approximately monthly from an associate program director (J.D.H.). Residents were asked about progress establishing mentoring relationships during biannual residency program feedback. Interns were encouraged to participate but were not expected to declare a formal mentor until their second year.

Mentors were provided guidelines/checklist (provided as online supplemental material), which recommended meeting every 3 months and included a list of general discussion topics. Mentors were instructed to work with their mentees to determine topics to address.

In July 2013, the authors (B.M.C. and J.D.H.) developed an anonymous electronic survey, which was sent to all residents from the previous academic year. The survey addressed demographics, participation, prevalence of informal mentors, perceived degree of investment by mentors, perception of whether formal mentors became actual mentors, and topics discussed. Formal mentors were defined as those selected from listed faculty. Informal mentors were those established preintervention. The definitions of "actual" and "invested" mentors were not elaborated in the survey and left for residents to determine.

Publication of the study was approved by the WRNMMC Institutional Review Board.

Analysis was completed in Microsoft Excel. Means were compared using 2-sided Student *t* test with unequal variances. Proportions were compared using 2-sided Z-test.

Results

Thirty-seven faculty members completed the biography and became formal mentors, and 26 of 37 (70%) second- and third-year residents responded to the survey. Demographics of survey respondents were similar to program characteristics (TABLE 2).

Thirteen of 26 (50%) residents reported having an informal mentor, which was considered the preintervention prevalence of mentorship. Twenty of 26 (77%) respondents chose a program mentor, with 9 (35%) respondents

TABLE 2 **Demographics of Postgraduate Year (PGY)–2 and PGY-3 Resident Survey Respondents Compared to Their Program Demographics**[a]

	Respondents	Residency
Total	26	37
Sex, %		
Female	42	40
Service, %		
Army	58	60
Navy	38	40
No response	3.8	0
Class, %		
PGY-2	38	49
PGY-3	62	51

[a] There were no statistically significant differences for any measure.

deciding to have both formal and informal mentors. Five residents did not choose a formal mentor. Of this group, 3 had an informal mentor, 1 found a mentor through outside channels, and 1 did not respond to this question. At the time of the survey, 25 of 26 (96%) respondents reported having a mentor ($P < .001$ for comparison with preintervention; FIGURE).

Eighty percent (16 of 20) of residents with formal mentors felt they were invested (answered "yes, strongly" or "yes") compared to 85% (11 of 13) of residents with informal mentors ($P = .74$). Residents met an average of 2.5 ± 1.6 times with formal mentors and 5.1 ± 4.3 times with informal mentors ($P = .13$). Seventy percent (14 of 20) of residents with formal mentors indicated that their formal mentor became an actual mentor.

The most common topics discussed with formal mentors were academics (not defined in the survey but used in our program to mean study skills), career goals, research, work-life balance, duty assignments, military promotion, board preparation, and fellowship applications. Residents wanted more time to discuss time management, fellowship applications, and board preparation.

Discussion

Our findings demonstrate that formal mentoring programs can be successful. The number of residents who reported having a mentor nearly doubled postintervention, and residents noted similar levels of investment and meeting frequency with formal and informal mentors.

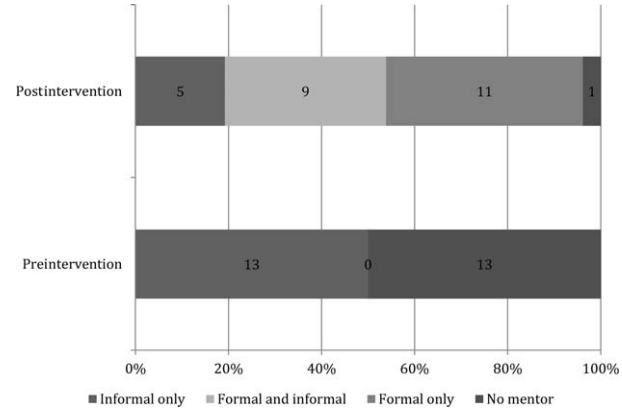

FIGURE **Pre- and Postintervention Mentorship of Second- and Third-Year Residents**

These results are similar to previous publications in business and medicine. Allen et al[7] reviewed mentorship programs in business and found that mentee input in the match, high-quality training, and voluntary mentors resulted in superior quality.[7] The value of mentee participation in mentor matching has been replicated in medical education.[8,9] Training has been advocated for, but not systematically studied, as part of residency programs.[3,11,12]

Review of this research informed the approach taken in our program, which used training, voluntary mentors, and substantial resident investment to establish matches. We anticipated that some residents would not participate or be unable to find a match. All but 1 respondent identified a mentor by study end, although the rate of participation may have been less in nonresponders.

There are limitations to our study. It likely is underpowered to detect significant differences in mentorship quality, and it is uncertain which measures of mentorship quality are best, with some advocating for outcome-based assessment.[13,14] The survey instrument used in this assessment was not piloted or assessed for comprehension, and respondents may have interpreted the questions differently than intended. All residents and many mentors are active duty military officers, which may limit generalizability.

The comparison data reflect a year after project implementation, and mentorship relationships may have developed through the passage of time alone. It is also unclear what formal program aspects resulted in perceived impacts. Heightened awareness brought by the workshop, e-mails, and announcements could have created increased desire for mentorship participation.

The program is currently in its third year, with annual cycles of biography updates and mentor selections, and the number of mentors has increased to 49. Future directions

include increased training, assessing faculty perspectives, and determining the effects on mentorship behaviors of graduates.

Conclusion

Facilitated selection of formal mentors, mentee investment in matching process, and brief training initiatives led to increased mentoring relationships. These relationships were similar in quality to naturally developed informal relationships. Our model may allow programs to increase mentorship prevalence without decreasing quality.

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