


Peer mentoring for professional and personal growth in academic medicine

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ABSTRACT

Mentorship is a critical component of career development, particularly in academic medicine. Peer mentorship, which does not adhere to traditional hierarchies, is perhaps more accessible for underrepresented groups, including women and minorities. In this article, we review various models of peer mentorship, highlighting their respective advantages and disadvantages. Structured peer mentorship groups exist in different settings, such as those created under the auspices of formal career development programs, part of training grant programs, or through professional societies. Social media has further enabled the establishment of informal peer mentorship through participatory online groups, blogs, and forums that provide platforms for peer-to-peer advice and support. Such groups can evolve rapidly to address changing conditions, as demonstrated by physician listserv and Facebook groups related to the COVID-19 pandemic. Peer mentorship can also be found among colleagues brought together through a common location, interest, or goal, and typically these relationships are informal and fluid. Finally, we highlight here our experience with intentional formation of a small peer mentoring group that provides structure and a safe space for professional and social–emotional growth and support. In order to maximize impact and functionality, this model of peer mentorship requires commitment among peers and a more formalized process than many other peer mentoring models, accounting for group dynamics and the unique needs of members. When done successfully, the depth of these mentoring relationships can produce myriad benefits for individuals with careers in academic medicine including, but not limited to, those from underrepresented backgrounds.

INTRODUCTION

Mentorship can promote skill development, career advancement, and increased productivity.^{1–3} There is an inverse relationship between social or emotional support and burnout.⁴ The traditional mentorship structure of a senior mentor advising a less experienced mentee has long been a core component of academic medicine. However, the majority of faculty at US

medical schools report mentoring to be infrequent or inadequate.^{1,3} Of particular concern, underrepresented and/or subspecialized groups may lack access to appropriate mentorship that addresses their own specific needs and challenges.^{1,3} Although best practices that address deficiencies in traditional mentorship models are not well defined, other mentorship structures and models have emerged. Several formal mentorship programs with defined goals focus on underrepresented groups, and this can bolster engagement among these groups.^{5–8} Peer mentorship among individuals of a similar rank with mutual interests or goals is another approach and may allow for more comprehensive and enduring support without hierarchical structure. This paper describes multiple types of peer mentorship programs and strategies for adapting existing formats to flexible peer mentorship models in academic medicine.

EXISTING PEER MENTORSHIP MODELS

There are many types of mentorship beyond the traditional hierarchical model. Despite a substantial amount of literature on different mentoring models, effectiveness of peer mentorship for faculty members in academic institutions remains vastly understudied and underreported.^{1,9} Historically, women have had more difficulty than men in finding mentors, which is troubling as mentorship influences personal and professional development and academic productivity.¹⁰ This may be related to lower rates of promotion for women.^{1,11} In a pilot study of female faculty in academic medicine, facilitated peer mentoring resulted in improvements in faculty members' perceived mastery of academic skills and numbers of peer-reviewed publications, book chapters, abstracts, posters, and other academic activities.^{11,12} A similar program with both genders showed similar results, but with greater impact in women.¹³ In [table 1](#) and the following section, we share several more examples of peer mentoring groups, drawing from our own experiences and the scientific literature.

FORMAL PEER MENTORING PROGRAMS

The corporate world has employed formal leadership training as a strategy to optimize

Table 1 Examples of peer mentoring models

Type of peer mentoring group	Examples	Strengths	Weaknesses
Formal mentoring programs	<ul style="list-style-type: none"> ▶ Association of American Medical Colleges <ul style="list-style-type: none"> – Leadership and Management Foundations for Academic Medicine and Science – Minority Faculty Leadership Development Seminar – Mid-Career Minority Faculty Leadership Seminar – Mid-Career Women Faculty Leadership Development Seminar – Graduate Medical Education Leadership Development Certificate Program – Leading Information Technology in Academic Medicine Program ▶ Executive Leadership in Academic Medicine (ELAM) ▶ Brandeis C-Change Mentoring Leadership Institute, Early Career Women Faculty Leadership Development Seminar ▶ Many programs at individual institutions (eg, Mayo Clinic and Emory University) 	<ul style="list-style-type: none"> ▶ Multiple mentees ▶ Opportunities for networking and sharing knowledge between or within institutions ▶ Can include small groups and longer-term follow-up ▶ Can target underserved populations 	<ul style="list-style-type: none"> ▶ May not be very individualized ▶ Travel and time commitment ▶ May not continue after formal program
Programs within professional organizations	<ul style="list-style-type: none"> ▶ Endocrine Society <ul style="list-style-type: none"> – Women in Endocrinology – Future Leaders in Endocrinology ▶ American Diabetes Association Women's Interprofessional Network ▶ American Heart Association Women's Leadership Council ▶ American College of Rheumatology <ul style="list-style-type: none"> – CARMA—Creating Adult Rheumatology Mentorship in Academia – AMIGO—The ACR/CARRA Mentoring Interest Group for Pediatric Rheumatologists ▶ American College of Gastroenterology <ul style="list-style-type: none"> – Young Physician Leadership Scholars ▶ American Gastroenterology Association <ul style="list-style-type: none"> – Future Leaders Program – FORWARD minority program – Women's Leadership conference ▶ American Thoracic Society <ul style="list-style-type: none"> – New Faculty Boot Camp ▶ American Academy of Neurology <ul style="list-style-type: none"> – Emerging Leaders – Diversity Leadership – Women Leading Neurology ▶ The American Society of Bone and Mineral Research <ul style="list-style-type: none"> – Women in Bone and Mineral Research Committee 	<ul style="list-style-type: none"> ▶ Meet leaders in the field ▶ Gain a national reputation ▶ National representation ▶ Well placed for sponsorship ▶ Well positioned at national meeting ▶ Resources for awards ▶ Can target underserved populations 	<ul style="list-style-type: none"> ▶ Large, less individualized ▶ May be difficult to approach more personal topics
Programs for trainees	<ul style="list-style-type: none"> ▶ <i>In-person</i> <ul style="list-style-type: none"> – Endocrine Society Early Career Forum – American Diabetes Association Focus on Fellow – Endocrine Fellow Foundation Research Forum – American Gastroenterology Association ▶ <i>Online</i> <ul style="list-style-type: none"> – American College of Rheumatology – American Association Study of Liver Disease ▶ <i>Hybrid</i> <ul style="list-style-type: none"> – American Academy of Pediatrics Section on Trainees – Society of General Internal Medicine Student-Resident-Fellow Forum – Androgen Excess–Polycystic Ovary Syndrome 	<ul style="list-style-type: none"> ▶ Multiple points of alignment: professional type, stage in training, supported by organization ▶ Inclusive 	<ul style="list-style-type: none"> ▶ May require application ▶ May not persist once training complete ▶ Large group ▶ Limited time with more senior members ▶ Level of commitment of members varies
Grant based	<ul style="list-style-type: none"> ▶ KL2 and K12 training grants ▶ NIDDK K trainee program ▶ Doris Duke Clinical Scientist Development Award 	<ul style="list-style-type: none"> ▶ More personalized ▶ Opportunities for networking and sharing knowledge ▶ Inclusive 	<ul style="list-style-type: none"> ▶ Limitation to grant recipients ▶ Similar career stage

Continued

Table 1 Continued

Type of peer mentoring group	Examples	Strengths	Weaknesses
Social media	<ul style="list-style-type: none"> ▶ Closed Facebook groups <ul style="list-style-type: none"> – Physician Mom’s Group – Academic Research Moms ▶ Twitter ▶ Reddit ▶ Doximity ▶ KevinMD ▶ LinkedIn ▶ Professional listservs 	<ul style="list-style-type: none"> ▶ Geographic diversity ▶ Free ▶ Accessible ▶ Learn from others ▶ Shared experiences ▶ Easily solicit advice 	<ul style="list-style-type: none"> ▶ No formal mentoring although arrangements can be made ▶ Often less personal ▶ Potential negative comments
Ad hoc peer mentoring relationships	<ul style="list-style-type: none"> ▶ Colleagues within a division or department ▶ Interest groups within professional groups 	<ul style="list-style-type: none"> ▶ Something in common that brings individuals together 	<ul style="list-style-type: none"> ▶ Can be exclusive ▶ No defined expectations ▶ Narrow perspectives
Committed purposeful academic peer mentoring	<ul style="list-style-type: none"> ▶ Every Other Thursday (EOT) ▶ ASPIRE: Accountability and Safe-space to Promote, Inspire, Recharge, and Empower ▶ IMeRGE: Internal Medicine Research Group at Emory ▶ SWIMS: Supporting Women in the Medical Sciences 	<ul style="list-style-type: none"> ▶ Small group ▶ Confidentiality ground rules promote open discussion ▶ Varied backgrounds bring diversity ▶ Customizable to group needs 	<ul style="list-style-type: none"> ▶ Small size can limit diversity ▶ Perception of exclusivity ▶ No formal 1:1 mentoring ▶ Time commitment ▶ Limited to local members

This list is not intended to be comprehensive; it reflects a selection of experiences from our SWIMS group and a limited internet search.

performance; this approach has more recently been adapted to academic medicine and includes components of peer mentorship. Leadership training in academic medicine typically supports training in the skills needed for academic success. Sponsors of these types of programs range from individual institutions to national organizations. The Association of American Medical Colleges (AAMC) offers career-specific and general leadership skills programs for faculty in all stages of their careers, and categorize their offerings by career stage and skills to be gained (table 1).¹⁴ The AAMC seminars foster peer mentoring by bringing participants together from across the country with similar career goals or demographic attributes, to encourage development of national academic peer networks. Similarly, Brandeis University offers a year-long program for mid-career academic medicine faculty where participants engage in facilitated peer group mentoring, with a goal of “energizing faculty for success, career advancement and leadership.”¹⁵ This program is funded by the National Institutes of Health (NIH, U01GM132367) to assess the efficacy of this peer mentoring model. In 1995, the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) program was established to provide intensive 1-year leadership training with extensive coaching, networking, and traditional and peer mentoring opportunities tailored to the needs of women faculty. ELAM is aimed at expanding the national pool of qualified women candidates for leadership in academic medicine and the program achieves this goal.^{16–18} One of the key aspects of ELAM is the development of an individual Institutional Action Plan in coordination with the Dean of the ELAM participant’s institution, as well as small-group regional peer learning communities facilitated by an ELAM graduate to allow support and interaction with female peers in the same geographical region during the year-long program and beyond.

Several institutions have developed and described their local formal peer mentorship programs, most often to aid junior faculty in the transition from trainee to faculty member. For example, the University of Alabama at Birmingham has a program where new internal medicine faculty can be matched with faculty who are within several years of their rank.^{11 19} Similar programs have been described at the Mayo Clinic and Emory University.^{12 20 21} Benefits of these programs include local expertise and opportunities for frequent in-person interactions. After a 1-year formal peer mentorship program for women at the Mayo Clinic, participants reported a higher satisfaction with their job and increased abilities across multiple aspects of manuscript writing; at 4 years, 43% were still working with their original peer mentor groups.^{12 21}

PROGRAMS WITHIN PROFESSIONAL ORGANIZATIONS

Expansion of a peer mentoring network to a regional and national level can also take place via engagement with national professional associations. In response to a critical need for increased representation of women and minorities in scientific and clinical leadership, multiple organizations such as the American Academy of Neurology, American Gastroenterology Association, American Society of Bone and Mineral Research, Endocrine Society, American Diabetes Association (ADA), and American Heart Association each have formal Women’s Leadership groups and/or diversity programs. These organizations can create a “home” for individuals across their career trajectory at larger national meetings, promote networking, recognize outstanding abstracts by women and/or minorities, and establish awards for mentorship. One of the high-impact functions of many of these groups is sponsorship: nomination of women for awards, leadership opportunities,

scientific plenaries, reviews, and visiting professorships. Professional organization-based groups often also share resources for formal career development training and mentoring. Practically, for academic promotion, these organizations can also provide the opportunity for development of national recognition and academic relationships beyond one's home institution.

PROGRAMS FOR TRAINEES

Many formal peer mentorship opportunities exist specifically for trainees through professional organizations, both online and/or in-person (table 1). In-person trainee meetings, such as those offered by the Endocrine Society, American Thoracic Society, American College of Gastroenterology and ADA, are often associated with scientific meetings, providing opportunities for attendees to meet and network with peers at similar career stages from different institutions. Small group workshops allow attendees to discuss specific career issues with peers with unique perspectives, facilitated by more experienced mentors. Programs such as that offered by the Androgen Excess and Polycystic Ovary Syndrome trainee program have an in-person component at annual meetings and then a virtual component quarterly.²² Online forums for trainees, such as the one offered by the American College of Rheumatology, facilitate more expedient interactions for advice needed in real time, with a lower cost than in-person meetings.

TRAINING GRANT-BASED PEER MENTORSHIP

Many training grants, both foundation-based and NIH-based programs such as the K12 and KL2 programs, include peer-based training sessions and formal peer mentorship

programs. The importance of these programs, in particular local KL2 programs, in developing lasting peer relationships was well described by Dr. Lovinsky-Desir at Columbia University.²³ Similarly, the Building Interdisciplinary Research Careers in Women's Health and Women's Reproductive Health Research K12 Career Development grant programs provide both opportunities for local and national peer mentorship. Unique strengths of these programs are also their interdisciplinary nature and diverse faculty. The NIH National Institute of Diabetes and Digestive and Kidney Disease also has a multiple-day in-person meeting for K awardees. The Doris Duke Foundation Clinical Scientist Development award includes an annual multiple-day conference with ample opportunities for peer mentorship. The cross-disciplinary nature of grant-based peer mentorship can be particularly conducive to fostering collaborations and enriched networks for scientific innovation, promotion, and collaboration.

SOCIAL MEDIA PEER SUPPORT

Social media has greatly changed how peer interactions occur. There are two main types of media-based interactions, those that are more interactive and those that are more informative, as listed in table 2. The benefits of members-only interactive groups such as Facebook-based Physician Mom's Group (PMG)²⁴ or groups on KevinMD²⁵ include the opportunity to solicit and give specific advice. However, the value of this format becomes limited in larger, more heterogeneous groups. For example, PMG now boasts over 71,000 members but no longer meets the needs of some physicians who feel that it has become too large and impersonal.²⁶ Additional PMG subgroups based on geographic

Table 2 Ground rules for establishing an EOT small peer mentorship group

Suggested rule	Reason	SWIMS	Every Other Thursday
Define a commonality	Important to help align group around common theme and needs	Clinical/translational female researchers, academic faculty at same institution	Female, academic faculty at different institutions
Define role: professional and/or personal	Defining scope of discussion allows members to explore topics that may not be covered in other types of mentoring	Professional and personal	Professional and personal
Regular meetings	If too frequent, poor participation; too few, does not build rapport or continuity	Every 3 weeks	Every 2 weeks
Meet in a private space	Privacy for medical or personal conversations	Rotate to personal homes, private area in restaurant, Zoom during COVID-19	Rotate to personal homes
Good communication	Multimodal communication fosters connections and a sense of "ongoing conversation"	In-person, text group, email, closed Facebook group, Microsoft Teams, Twitter, video conferencing	In-person, phone
7–9 members	Diversity of perspective, but not too many that opportunities for personal relationships are diluted	9 members	8 or fewer members
Limit talking time	Allows for all members to speak and keeps meeting on task	120 min divided by the number of members present	State the amount of time needed at the beginning of each meeting depending on the issue
Define roles for each meeting	Allows for one individual to be in charge of a task, to avoid conflict, to share responsibilities	Host	Host and facilitator
Define behavior expectations	Allows for more honest discussion and creates "safe" environment	Confidentiality Respect Honesty Commitment Avoid "Gossip"	Confidentiality Respect Honesty Commitment

location, practice specialty, or secondary interests (eg, hobbies, member medical conditions such as autoimmune disease) allow for more focused discussions within smaller groups. Many of these subgroups have extended online interactions to in-person or virtual meetings, which allow for further development of peer mentorship and the main PMG group now has annual in-person meetings.²⁴ On-line platforms such as KevinMD,²⁵ Doximity, or online journals such as *Emergency Medicine Monthly* provide timely essays on a wide range of topics on which readers can comment, though there is no formal engagement process.

Some of the most recent examples of peer mentorship in academic medicine evolved to share information during the 2020 COVID-19 pandemic. Topics discussed in these listservs (eg, emergency medicine physicians) and Facebook healthcare provider groups have been wide-ranging, including practical advice (eg, setting up screening tents), tips for providing medical care, advocacy for governmental support, addressing the emotional burden on healthcare providers, coordinating research protocols, and assay development. Groups with strict rules, such as banning political comments, are more focused. The use of social media forums may increase over time following a dramatic shift to even more virtual communication stimulated by the COVID-19 pandemic.

AD HOC PEER MENTORING RELATIONSHIPS

One of the most organic and personalized ways to form a professional support group is among colleagues that share a common environment, timeline, or professional interest. Examples include trainees or faculty at a given institution and individuals who share a research or clinical interest. Whether the organic mechanism uniting peer groups is geographical location or academic focus, these informal partnerships or small groups serve as an important resource to navigate personal or professional challenges and provide social support. While many will benefit from these ad hoc peer mentoring groups, their inherent lack of structure may leave some individuals with unmet expectations and exclude others altogether. This is, after all, the model of the “good ol’ boys club” that leaves little space for those underrepresented in medicine. Those who do not find themselves in one or more of these convenience groups may be forced to rely on other, often less personal, peer mentoring models.

COMMITTED PURPOSEFUL SMALL-GROUP ACADEMIC PEER MENTORING

In the 1970s, a small group of women decided to combat the stress and isolation commonly felt among women scientists by creating a platform for professional problem solving, outlined in the book, *Every Other Thursday*.²⁷ Each member was encouraged to present a problem, professional or personal, that would benefit from the support and advice of peers. Individuals benefited from group support by hearing others’ opinions and learning lessons from their experiences. The group benefited from an inclusive culture, promoting the success and fulfillment of peers, and supporting each other during challenges. The *Every Other Thursday* (EOT) approach is still applicable to academic medicine today. When setting up such a group, the book outlines important recommendations (table 2), including

limiting membership to eight individuals who can support others in a safe, confidential space where each individual can be present and focused on listening. The members do not need to share an academic discipline or research interest; however, they need to be committed to the group by attending consistently. These “rules” are important for the success of a group, as a satisfaction survey of a less-structured approach to peer mentorship among women in emergency medicine identified that meetings with less defined structures could devolve into negativity.²⁸

The EOT small-group model has been replicated by many, with some groups publishing their structure and outcomes. Female faculty at Columbia University Irving Medical Center created a group with similar themes: Accountability and Safe-space to Promote, Inspire, Recharge, and Empower (ASPIRE).²³ A mixed-gender group at Emory University, the Internal Medicine Research Group at Emory (IMeRGE), described that their peer mentorship group included meetings and also had a defined curricula, involved senior faculty advice events, and was coordinated formally through their department.²⁰ The authors of this manuscript have also formed our own group, Supporting Women In the Medical Sciences (SWIMS). Similarities and differences between our group and EOT are outlined in table 2. Despite having diverse backgrounds, there are essential commonalities among SWIMS members: ambitious women engaged in academic research, seeking to further career goals while integrating personal needs and commitments. Members of the group have a variety of academic roles; however, an overlap in interests and professional career trajectory lend valuable insights into the systems, challenges, and opportunities we all encounter. The group includes individuals in varying stages of career development, relationships and family evolution, which brings a richness of life experience to the conversations. Varying professional and personal strengths emerge in the types of advice and insights we gain from each other with examples listed in table 3. Sometimes a consensus emerges from the group, and at other times a blended solution evolves from the mix of perspectives.

REFLECTIONS ON OUR EOT GROUP

A common theme in the experiences of SWIMS members is the importance of this group as a “safe space” where there is freedom to set aside ego and self-consciousness. Because the group has agreed to ground rules of confidentiality and support, a more open and accepting exchange of ideas and advice is possible. This culture of support has allowed the group to easily incorporate two new members over the past 2 years and has maintained long-distance supportive ties to a member who moved to a new institution.

SWIMS members also note a particular benefit to having designated time for reflection and an opportunity to step back and identify areas of need where peer advice is beneficial. A summary of topics discussed, achievements, and reflections on our peer mentoring experience are in table 3. All members of the group have struggled from time to time with some element of “impostor syndrome.” Feedback from an intelligent, accomplished group of peers puts these doubts into a fresh light. Our peers’ perspectives are ample proof that these feelings are not consistent with the level of

Table 3 Qualitative themes emerging from the experiences of SWIMS members

Category	Individual topics
Personal topics	<ul style="list-style-type: none"> ▶ Family and relationship challenges ▶ Financial decisions ▶ Managing work and personal priorities ▶ Balancing health needs and professional priorities
Professional topics	<ul style="list-style-type: none"> ▶ Managing personnel and laboratories ▶ Mentoring challenges ▶ Collaboration and authorship issues ▶ "Big picture" career goals ▶ Forum to explore new science ideas ▶ "When to say no" to new tasks and responsibilities ▶ Personalized career advice ▶ Enhancing productivity and organization ▶ Negotiating ▶ Difficult conversations ▶ Social media training and use ▶ Improving networking at conferences ▶ Grantsmanship ▶ Balancing of multiple projects and competing professional obligations
Unique experience that SWIMS provides	<ul style="list-style-type: none"> ▶ Comfortable mentoring experience ▶ Receptive to feedback because you can be more vulnerable ▶ Learn from the advice given to others on common issues
Successes of members	<ul style="list-style-type: none"> ▶ Foundation and professional society national awards ▶ Published manuscript and manuscript awards ▶ Numerous invitations for national and international seminars ▶ Leadership roles within the academic institution and in professional organizations ▶ Promotions: 2 Assistant Professor, 4 Associate Professor, 1 Professor ▶ NIH Grants: R01 (2), R03 (2), K12 (2), K23 (3), K24 ▶ Research center grants ▶ Foundation Grants: JDRF (3), Doris Duke Foundation (3), Veterans Affairs, Helmsley Charitable Trust
Collaborations	<ul style="list-style-type: none"> ▶ Foundation and university pilot grants ▶ Numerous collaborative manuscripts

success we can so easily recognize in others, but sometimes struggle to honor in our own lives.

OPTIMIZING AN EOT GROUP FOR 2020

Much has changed in the five decades since the original EOT group was formed. Academic medicine has a greater percentage of women, minorities and individuals in dual-professional relationships. Junior and mid-level faculty members are also often members of the "sandwich generation," caring both for aging parents and young children. An EOT group can provide much-needed support, balance, and advice. To facilitate ongoing support and advice-sharing between in-person meetings, SWIMS has adopted a flexible, diversified, and multi-dimensional model of communication internal to our group that incorporates platforms such as group texting, a closed Facebook group, and frequent email communication. The COVID-19 pandemic began during our second SWIMS anniversary celebration and we swiftly transitioned to virtual meetings to maintain momentum until in-person meetings could resume, underlining the utility of adjusting strategies as the situation demands.

CONCLUSIONS

Mentorship has been critical to advancement in academic medicine throughout history; however, the academic environment and its members have changed greatly since the time of Socrates and Aristotle. While there remains an important place for formalized, establishment-based hierarchical mentorship and support, peer mentorship is

increasingly recognized as having unique strengths, particularly in fostering success of underrepresented groups. Further, peer mentoring has evolved from solely in-person meetings to include electronic and social media platforms that transcend institutional, financial, and geographic barriers. Here, we describe multiple types of peer mentorship available for those in academic medicine, each with different strengths and weaknesses. In an era of increasing technological connections, we advocate for the unique benefits of developing intentional small group peer mentorship in the EOT model. These groups offer a customized, personal approach, allowing for discussion of confidential and sensitive topics in a supportive environment. This approach can be beneficial to anyone but are particularly advantageous to individuals underrepresented in academic medicine. We hope to have shed light on the benefits of a customized, purposeful, smaller peer mentorship group. We acknowledge that there is not a one-size-fits-all mentorship model, and perhaps it is a combination of a few different types over the course of one's career trajectory that will ultimately meet the needs of each individual.

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