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## Early Career Mentoring for Translational Researchers: Mentee Perspectives on Challenges and Issues

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### Abstract

**Background and purposes**—The education and training of early career biomedical translational researchers often involves formal mentoring by more experienced colleagues. This study investigated the nature of these mentoring relationships from the perspective of mentees. The objective was to understand the challenges and issues encountered by mentees in forming and maintaining productive mentoring relationships.

**Method**—Three focus groups (n=14) were conducted with early career researchers who had mentored career development awards. Thematic analysis identified, categorized, and illustrated the challenges and issues reported by mentees.

**Results**—The range of mentee challenges was reflected in five major categories: 1) network—finding appropriate mentors to meet various needs; 2) access—structuring schedules and opportunities to receive mentoring; 3) expectations—negotiating the mechanics of the mentoring

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Declarations of Interest

**Ethical approval** The protocol followed in this study was approved by the Institutional Review Boards of Portland State University and Oregon Health & Science University.

relationship and its purpose; 4) alignment—managing mentor-mentee mismatches regarding interests, priorities, and goals; and 5) skills and supports—developing the institutional supports to be successful.

**Conclusions**—Mentoring relationships created for academic training and career development contend with tasks common to many other relationships, namely recognizing compatibility, finding time, establishing patterns, agreeing to goals, and achieving aims. Identifying challenges faced by mentees can facilitate the development of appropriate trainings and supports to foster mentoring relationships in academic and career settings.

### Keywords

MENTORING RELATIONSHIPS; MENTEE PERSPECTIVES; RESEARCH TRAINING; CAREER DEVELOPMENT

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In the U. S., the National Institutes of Health (NIH) offer multiple funding mechanisms to promote the training and career development of new biomedical and translational researchers, including individual postdoctoral fellowships, institutional training grants, and individual early career development awards. In these mentored-scientist programs, trainees engage in research projects with individualized guidance from experienced researchers. The mentoring relationships may be multi-faceted, providing opportunities for instruction, professional socialization, and career networking. They also may include encouragement, advice, and personal support. The mentoring of junior colleagues has a long tradition in biomedical education, and its value is widely accepted.<sup>1</sup> Mentoring programs to meet the distinctive needs of biomedical researchers are routinely recommended.<sup>2</sup> In addition, NIH-sponsored trainees have credited their successes to supportive mentoring relationships.<sup>3</sup>

Systematic literature reviews highlight the perceived importance of mentoring in academic medicine, but little empirical evidence supports the value of mentoring in this setting.<sup>4,5</sup> Research from other workplace contexts indicates that some mentoring experiences are more supportive, productive, and longer-lasting than others, suggesting that not all mentoring is equally effective.<sup>6</sup> In biomedical fields, variability is seen in the prevalence of faculty mentoring<sup>7</sup> and in the formality of mentoring relationships.<sup>8</sup> Furthermore, mentoring in academic settings may be compromised by competing demands for time, limited institutional support, lack of training or preparation for the role, and lack of alignment between the goals of the mentor and protégé.<sup>9</sup>

Faculty mentors in academic medicine have identified several institutional supports for effective mentoring, and these include clear role expectations, protected time for mentoring, recognition and reward, and peer support.<sup>10,11</sup> Experienced research mentors in family medicine have noted the importance of both mentor commitment and protégé motivation in the mentoring relationship.<sup>12</sup> In another study, mentors in academic medicine recounted similar factors, while mentees highlighted difficulties finding appropriate mentors and developing productive relationships.<sup>13</sup> Whether a mentor is enlisted by a mentee or assigned through an institutional program, the effectiveness of mentoring is influenced by the mentee's understanding about how to establish a strong relationship and derive benefits from the partnership.<sup>14,15</sup> Thus, it is important to understand from the perspective of mentees

what issues arise and need to be addressed through training and institutional support. However, very little research has documented the needs and concerns of mentees in biomedical and translational research settings.

The objective of the present study was to identify the challenges and issues mentees face in their mentoring relationships. We conducted focus group interviews to understand the experiences of mentees participating in a translational research training program.

## Methods

### Sample

The sample was comprised of early career researchers at Oregon Health & Science University participating in the Oregon Clinical & Translational Research Institute (OCTRI) Scholars program, which provides a variety of educational and practical supports. To be eligible for the Scholars program, individuals must have applied for or already obtained an externally-funded career development award. Following an IRB-approved protocol, all OCTRI Scholars with an active mentored career development award (n=72) were invited by email to participate in a focus group study investigating common challenges in mentoring relationships and strategies to overcome them. Interested mentees were referred to an online scheduling program to organize focus group meeting times. A total of 14 mentees participated in one of three focus groups (n=6, n=5, n=3) held from August–September, 2010. The sample was balanced by gender (50% female) and by terminal degree (50% MD, 43% PhD, 7% MD/PhD). Participants represented a number of Veterans Administration and NIH-sponsored career development mechanisms (CDA, K01, K08, K12, K23, K25, KL2) and a wide range of fields of research and clinical practice.\*

### Procedure

Each focus group was moderated by the same member of the research team and two other members of the team were present to provide operational support. Focus groups permit in-depth investigation of topics via the structured exchange of views and experiences. The group interaction fosters “sharing and comparing” to highlight connections between comments and encourage thorough coverage of a topic.<sup>16</sup> For a portion of the focus group, the moderator asked participants to reflect on mentoring relationships in the Scholars program, based on their own experience or what they had observed, and make a list of three typical challenges or obstacles encountered by mentors or mentees. Then participants were asked to share these challenges, which were written for the group to see. A discussion of the listed items ensued, with opportunities for additions and elaborations. Each focus group lasted approximately one hour and also addressed additional topics not reported here, such as description of an ideal mentoring relationship. Discussions among research team members following the first two focus groups noted a pattern of thematic repetition in participants’ identification and discussion of barriers and challenges. When the same themes were repeated in a third group, it was determined that thematic saturation had been achieved.

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\*The fields represented by study participants include: anesthesiology, audiology, cardiology, clinical child psychology, clinical nephrology, epidemiology, internal medicine, neurology, neurosurgery, oncology, otolaryngology, pediatric oncology, and surgery.

Each focus group was audio-taped and then transcribed for analysis with individual identifiers expunged.

## Analysis

A thematic analysis of the focus group data was conducted through content coding and construction of a conceptually clustered matrix.<sup>17</sup> The first step in the analysis was the development of an initial codebook. Four members of the research team independently reviewed each focus group transcript to identify comments indicating challenges or obstacles in mentoring relationships. The team met initially to discuss each identified passage to determine by consensus whether it qualified as a challenge or obstacle, i.e., a situation that hinders the mentoring relationship or the mentee's development from achieving its potential. Next, the team developed a coding scheme for labeling each challenge. The team then focused on clustering, a process by which the initially coded individual challenges were organized into larger, thematic categories. The next step in the analysis followed what Crabtree and Miller<sup>18</sup> called an “editing strategy,” where researchers refine thematic categories from the coded text and then search for segments of text to illustrate those themes. This step yielded category headings, sub-headings, and representative quotations from participants. In a process of client checking, this summary was shared with leaders of the Scholars mentoring program for feedback on terminology, clarity, interpretability, and relevance.

## Results

The thematic analysis yielded five major categories – network, access, expectations, alignment, skills and supports – representing the range of issues reported in the three focus groups. Each category was further distinguished by two to four sub-categories (italicized within text). Because the group rather than the participant is the unit of analysis in focus group research, there was strong support for the five major categories, as all were mentioned in each of the three mentee focus groups. Likewise, the majority of sub-categories were mentioned by each group.

## Network

Network issues entailed finding appropriate mentors and structuring one or more mentoring relationships to cover mentoring needs. One theme, mentioned by participants in all three focus groups, was the importance of *choosing a good mentor* and particularly finding the right mentor for career goals. As one mentee commented, “By the time you get that [grant] award, it's too late. You've already picked your mentor. Choose wisely.” However, *getting mentoring needs met* often is complicated because a mentor with a clear overlap regarding interests and goals may not exist. For example, another mentee stated, “There isn't someone that has the job I want. How to navigate getting from here to there is more challenging when you're not working with someone who can really provide a road map.” Some consequences of having a mentor not in the same field were described, “My mentor is in a field that is not directly related to mine. He can't provide those networking tools and that platform for growth that I think is really important that some mentors do—getting you recommended for

speaking engagements, getting you articles, making sure papers get sent your way. Those types of things I don't get.”

Because the perfect match with a mentor is rather unlikely, participants in all three focus groups noted the value of a *team approach* to mentoring, i.e., enlisting more than one mentor. Summarizing a general view on mentoring teams, one participant stated, “I think having good mentors (is important) but having more than one is useful because you can get multiple perspectives.” One mentee explained his strategy, “I have a primary mentor and four secondary mentors. Part of the reason is that none of them really work in exactly the same area I do. They overlap different parts of the work I'm doing and what my area is. Hopefully I'm getting sufficient subject matter knowledge and also other general mentoring through that.” Given their focus on translational research, several mentees specifically described having two mentors to bridge the scientific and clinical aspects of their work:

I have two mentors. I think they each bring different things to the table. One is a more clinical research mentor... I take care of patients and also am involved in research, so having someone that has those skills to help me navigate that in my world of research has been really important. That person can't necessarily provide the skills, connections, or training that I would need to be a successful laboratory scientist. I've had to supplement that with another person who enlarges my repertoire. That person has really been my primary mentor.

Despite the advantages of a team of mentors, certain drawbacks were noted. For example, mentees may need to cope with distinct mentoring styles: “The problem is the mentors are individuals. They have different qualities and ways they mentor. I'm not sure...how consistently mentoring is done.” Similarly, mentees may face competing expectations among members of their mentoring team: “In having different mentors there is receiving conflicting advice from them...it's like being the child between Mom and Dad. You can't win. That was really hard.”

## Access

Once mentors are identified, mentees must negotiate the basic parameters of the relationship. One common theme for mentees was obtaining access to mentors, specifically in defining the amount, timing, and content of interaction. Mentees in all three groups discussed *scheduling issues*. For example, a mentee stated, “Finding time to get together, my schedule, their schedule, you're talking about very busy schedules. There's not a lot of overlap. That's been a challenge.” Occasionally, mentees referenced mentors who were not responsive to attempts for contact or did not provide requested feedback. A particular area of concern discussed in two of three focus groups was mentees *not wanting to be a burden* for their mentors. As one mentee noted, “My relationship with all of my mentors is just trying not to be a burden for them. It's a repeated pattern I have. ‘I know you're busy. I'm not going to bother you.’ Things have to reach a threshold before I'll ask for help.” A related issue concerns a lack of clarity on the mentee's part as to what is appropriate in situations involving the mentor, as depicted by the angst in the following comment: “It's hard in a group setting to figure out whose agenda you're supposed to be following.... I have found myself feeling kind of stupid, not knowing how much time I'm allowed to take up, or can I ask this dumb question in front of everyone else...”

## Expectations

An area that generated discussion in each focus group was the challenge of defining roles and expectations in the mentoring relationship. Mentees discussed multiple issues associated with *vague or implicit expectations*. Sometimes the confusion centered on the relationship itself, as in the case of a mentee who said, “I was really looking for much more communication in terms of how the relationship operated. [The mentor] never clearly spelled out what he was looking for. Perhaps that would have helped. It didn't fit with what I thought it was going to be.” Other times the issue involved a lack of specific direction on how to make progress, or a lack of evaluative feedback needed to judge progress. For example, a mentee noted, “The standards are kind of vague. The standard is like ‘get funding.’ That's clear but it's how to navigate getting from here to there is more challenging.” Another mentee explained, “I feel sometimes that I'm missing the yardstick to measure me in terms of progress, not daily, weekly progress, not yearly progress but something in between.”

Mentees from all three groups raised a range of *questions about roles and responsibilities*. In some cases, for example, mentees expressed uncertainty about what was an issue to ask a mentor versus something to be learned on their own. In other cases, the mentee might have different ideas regarding accountability than the mentor. One mentee expressed a desire for greater oversight by his mentors: “My success is important to them, yes, but I feel like I'm holding myself more accountable than they are holding me in large measure. I don't hear them saying ‘come into my office next month, we're going to go over this.’ I wish they would. It would take some of the heat off me to do that myself.”

All focus groups also included discussion of *changing expectations over time* as mentoring relationships evolve with the professional growth of the mentee. A mentee noted, “I think sometimes the things you need really early in your career development are not the same things as you need later. In my case the data I was working with changed also, so I had different needs from these different mentors based on what I was doing at the time.”

## Alignment

Mentees in all groups addressed issues related to the alignment of mentor and mentee on interests, priorities, and goals. Sometimes a *mismatch* occurred because the mentor had an alternative perspective or frame of reference. For example, a mentee stated,

“I think the most challenging part is in working with people who would maybe impose deadlines or have some standards and they don't exactly understand your area of science because it's completely different. It's sort of viewing and evaluating productivity through a lens that is not applicable in a different setting. Clinical science is very different from basic science. It's tough to cross-mentor in that way if you don't work in the other field.”

Other times a mismatch was due to contrasting aims for the mentoring relationship, as reflected in the following comment:

“I think also finding the right balance between having some shared interests between the mentor, but also having individual research. The first mentor I had, in

terms of the lab work I did, was working with a similar mechanism and disease, but I found that our goals in that relationship were quite different. It was more a collaboration for him. He was asking me for stuff I was working on. I was looking for someone who was going to guide my research and say this is a good line to investigate.”

Another issue, identified as important by mentees in two groups, centered on the *mentor's interest and engagement* in a mentee's project. As one mentee acknowledged, “Another challenge is consistency of (mentor) interest, waxing and waning. You are the bright shining object today but tomorrow someone or something else is.” Although only mentioned in one focus group, issues of *competition and/or conflict* were troublesome for mentees. An example was being asked to do too much of a mentor's work or being pulled away to do outside projects. For example, a mentee explained, “... if I fight too hard for something, it will affect my mentor at his institution... He has other things he needs from me aside just what I'm doing on my project and what he is doing on my project. He has other needs for my time aside from this. They have their own interests that aren't always directly aligned with yours.”

### Skills and supports

The final category focused on individual competencies and the institutional know-how that mentees considered necessary to facilitate their transition to independent researchers. In the absence of other formal training or institutional assistance, some mentees expressed an expectation that mentoring might include support in developing these competencies. Difficulties with *time management* were mentioned in all three focus groups, reflecting a range of issues such as finding time for research and writing, balancing competing demands, and addressing multiple levels of goals. Discussing meetings with her mentor, a mentee acknowledged, “I know at that meeting I'm going to set my short term goals, my medium term goals, and occasionally we're going to talk about the big picture kinds of goals. What I struggle with is knowing how much I'm supposed to internalize all of those things and manage my own self and goals entirely. I'm not actually very good at that.”

Mentees in two groups noted their challenges in navigating the steps involved with *becoming a principal investigator*, such as developing a budget, negotiating for time and salary and resources, hiring staff, preparing IRB applications, and setting up a laboratory. They recognized the value of institutional and administrative support for these basic tasks as well as preparing grant applications. One mentee asked, “...where is the person that can sit down and tell me which forms I have to fill out for this grant, which pieces of paper, and how many pages? I often wanted something as simple as that.”

A related refrain heard in two groups addressed time spent *dealing with bureaucracy* to secure the resources needed to carry out their research. As explained by a mentee:

“I think the biggest challenge for a clinical K award is not mentor relationships, at least not in my experience, but rather the relationship with your department and whether they're supportive. They often say they're supportive but they don't know what they're getting into, they don't know the resources required [e.g., administrative support]. Those are things



departments need to provide and K awards do not. My chairman has gone through a tremendously traumatic education of his own, I suspect, coming to terms with what my K is costing him.”

## Discussion

An important component in the training of early career translational researchers is the mentoring they receive from more experienced clinicians and investigators.<sup>1</sup> Positive and productive mentoring experiences are a function of both mentor and mentee contributions to the relationship. Information about the challenges faced by mentors and mentees is needed for institutions to more effectively provide program structures and individual coaching to ensure successful mentoring. The current focus group study offers greater breadth and depth regarding the issues experienced by mentees than identified in previous research. The results categorize a comprehensive range of concerns expressed by mentees. Furthermore, the research provides a nuanced understanding of the issues through the sharing of detailed examples. Although the focus groups revealed generally positive mentoring experiences, the analysis here specifically calls out the types of challenges that mentees can face. Five major categories emerged from the data with a high level of agreement across the three groups as to the importance of each. In addition, the majority of sub-categories were mentioned in each of three mentee focus groups.

The findings of the current study elaborate on themes reported by Straus and colleagues, who noted that mentees often have difficulty finding appropriate mentors and developing supportive relationships.<sup>13</sup> The network theme addresses the importance of identifying and selecting mentors, particularly those with expertise in appropriate areas. Mentees frequently resort to assembling a team of multiple mentors to get their mentoring needs met, but this approach can cause difficulties with respect to coordination and also management of conflicting advice. The issue of alignment also highlighted the potential for mismatch between mentor and mentee on additional dimensions such as interests and goals. Challenges involved in establishing the mentoring relationship were apparent with issues of negotiating access to the mentor despite busy schedules and clarifying expectations about individual roles and responsibilities within the mentoring dyad. Several of these concerns reflected a need for clear communication and standard guidelines for mentoring.

In general, the findings highlight that mentoring relationships created for academic training and career development are “real” relationships in that they contend with tasks common to many other relationships, namely recognizing compatibility, finding time, establishing patterns, agreeing to goals, and achieving aims.<sup>19</sup> Although mentoring relationships may offer rewards and benefits, these typically are not gained without the effort that goes into developing a solid relationship. Furthermore, mentoring relationship development must negotiate the establishment of mutual and reciprocal interaction despite the inherent difference in power and experience between mentor and mentee.<sup>20</sup>

Although research on workplace mentoring has investigated relationship comfort and the role of mentors in providing emotional support focused on personal adjustment,<sup>21,22,23</sup> the mentees in these focus groups primarily addressed mentoring functions relating to career-



oriented topics. Given the focus group methodology, participants may not have felt comfortable delving into interpersonal aspects of their mentoring relationships and may have considered career-oriented issues more appropriate to discuss in the group forum. As another potential limitation, the small size of the third focus group might have generated less discussion. However, each group generated transcripts of roughly the same length, with the smaller group yielding a valuable depth of detail if not as much breadth of perspectives. Furthermore, as noted previously, the third group raised themes presented in the earlier groups, suggesting saturation of topics across the groups. Another potential limitation of the study pertains to the ability to apply the results beyond the program and institution in which the mentoring took place. In addition, the self-selection of participants to engage in the focus groups makes them less representative of mentees in general. Participants may have been more interested in mentoring topics or more willing to discuss particularly challenging or successful mentoring experiences. However, the aim in this qualitative research is not to generalize probabilistically from a representative sample but to generate knowledge and insights with high transferability to similar populations in similar settings. Because our sample included participants from a variety of medical specializations with career development awards in a research-intensive medical school, high transferability would suggest the findings are relevant for early career researchers in other large medical research institutions.

With the identification of mentee challenges and issues comes the possibility of adopting a problem-solving approach that develops strategies and supports to resolve them. Programs responsible for fostering positive mentoring relationships for translational research trainees can take many practical steps to address these issues. For example, new mentees can be informed of typical challenges and provided with strategies for how to overcome them.<sup>15</sup> Mentors also can be trained on how to avoid or constructively address these situations. In fact, mentors have called for opportunities to exchange advice and solutions derived through experience.<sup>11</sup> As attention to mentoring grows, the lessons of successful mentors and mentoring programs are being shared in the literature.<sup>24</sup> Continued progress in the mentoring of new researchers can be made by systematic research revealing best practices for fostering positive relationships. Studies focusing on the most salient challenges of mentees and identifying their effective strategies for working with mentors hold promise for enhancing the education and training of medical researchers.

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