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Creating more effective mentors: Mentoring the mentor

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Abstract

Introduction—Given the diversity of those affected by HIV, increasing diversity in the HIV biomedical research workforce is imperative. A growing body of empirical and experimental evidence supports the importance of strong mentorship in the development and success of trainees and early career investigators in academic research settings, especially for mentees of diversity. Often missing from this discussion *is the need for robust mentoring training programs* to ensure that mentors are trained in best practices on the tools and techniques of mentoring. Recent experimental evidence shows improvement in mentor and mentee perceptions of mentor's competency after structured and formalized training on best practices in mentoring.

Methods—We developed a 2-day "Mentoring the Mentors" workshop at UCSF to train mid-level and senior HIV researchers from around the country (recruited mainly from Centers for AIDS Research (CFARs)) on best practices, tools and techniques of effective mentoring. The workshop content was designed using principles of Social Cognitive Career Theory (SCCT) and included training specific to working with early career investigators from underrepresented groups, including training on unconscious bias, microaggressions, and diversity supplements. The workshop has been held 3 times (September 2012, October 2013 and May 2015) with plans for annual training. Mentoring competency was measured using a validated tool before and after each workshop.

Results—Mentoring competency skills in six domains of mentoring -specifically effective communication, aligning expectations, assessing understanding, fostering independence, addressing diversity and promoting development - all improved as assessed by a validated measurement tool for participants pre- and-post the "Mentoring the Mentors" training workshops. Qualitative assessments indicated a greater awareness of the micro-insults and unconscious bias experienced by mentees of diversity and a commitment to improve awareness and mitigate these effects via the mentor-mentee relationship.

Discussion—Our "Mentoring the Mentors" workshop for HIV researchers/mentors offers a formal and structured curriculum on best practices, tools and techniques of effective mentoring, and methods to mitigate unconscious bias in the mentoring relationship and at the institutional level with mentees of diversity. We found quantitative and qualitative improvements in mentoring skills as assessed by self-report by participants after each workshop and plan additional programs with longitudinal longer-term assessments focused on objective mentee outcomes (grants, papers,

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academic retention). Mentoring training can improve mentoring skills and are likely to improve outcomes for optimally-mentored mentees.

INTRODUCTION

A growing body of empirical and experimental evidence supports the importance of strong mentorship in the development and success of trainees and early career investigators in academic research settings.[1–7] For example, an observational study found that institutions with strong mentoring programs demonstrated greater research productivity among early career faculty than institutions without such programs.[2] A comparative study examined time to promotion among faculty members in the Department of Medicine at a large research university pre- and post-establishment of a formal mentoring program and among mentored and non-mentored faculty matched for other characteristics.[8] Time to promotion was significantly decreased both in the era of the mentoring program (by 1.2 years) and among faculty members who were mentored (by 1.0 year). Moreover, recent surveys from academic medical centers showed that faculty satisfaction, not just productivity, improved with formal and informal mentoring.[9,10] These observational studies, among others, argue that a culture of formal mentoring enhances the success of academic faculty as measured by productivity, advancement, and job satisfaction. The fast-moving field of HIV/AIDS research is one in which mentoring may be particularly critical to the success of the next generation of clinical and translational researchers

Often missing from the discussions of the need for academic mentorship programs *is the need for robust mentoring training programs* to ensure that mentors are trained in best practices on the tools and techniques of mentoring.[6,11–13] A recently-published randomized controlled trial by Pfund et al. conducted at 16 academic health centers randomized mentors in the intervention arm to an 8-hour case-based curriculum focused on mentoring competencies, and compared mentor and mentee reports of mentors' competency skills post-training to those from an untrained control group.[6] Importantly, besides improvements in the mentors' perceptions of mentoring competency after receiving the training intervention, *mentees of trained mentors also reported improvements in the mentoring skills of their mentors, even though the mentees were blinded to mentor assignment.* Although this trial was limited in its ability to assess longer-term outcomes with more objective parameters of mentee success, such as manuscripts and grants, this study, among others,[14] suggests that *designated mentorship training may improve mentoring competencies in specific areas* such as maintaining effective communication, aligning expectations, assessing understanding, addressing diversity, fostering independence, and promoting professional development.[15]

Successful mentoring requires skilled mentors

Mentorship matters and *mentoring mentors matters*. Despite a growing understanding that faculty can benefit from training on mentoring,[14,16] there are limited formal mentorship training programs for academic researchers in any field, including HIV research, in the U.S. or elsewhere that offer faculty the opportunity to develop skills and incorporate best practices. Mentoring training programs will allow for standardization of mentorship techniques, increase the validity of mentoring as an academic activity on par with research

or teaching, lead to curricula and guides on training mentors, and should fundamentally result in better outcomes for mentees in the area of scholarship and promotion and be cost-effective. However, although some forums for short-term training on mentorship skills exist, longitudinal mentoring programs with formal evaluation and long-term monitoring of both mentor and mentee outcomes and successes, assessed both by self-report and by objective parameters, especially for HIV researchers, are scarce and require development.

Effective mentoring of investigators from underrepresented groups is likely to require mentoring training programs geared towards enhancing specific skills

Given the diversity of those affected by HIV, increasing diversity in the HIV clinical and biomedical research workforce is imperative. The benefits of effective mentoring specifically for early career investigators from underrepresented backgrounds are well-documented.[17–26] Historically, there has been a disproportionately and dismally low percentage of racial and ethnic minority faculty members in U.S.-based academic institutions, with retention rates of minority faculty falling at higher levels of academic rank.[27,28] Minority recruitment and retention in HIV research has not been an exception. Moreover, there is evidence that scientists from underrepresented groups experience significantly lower success rates in obtaining funding from the National Institutes of Health (NIH),[15,29] despite controlling for possible confounders to this finding. For example, African American investigators were 10% less likely to be awarded R-level NIH research funding than white investigators even when controlling for educational background, country of origin, training, previous research awards, publication record, and employer/university characteristics.[29] These data launched an NIH initiative to increase representation of individuals from typically underrepresented groups in the biomedical research workforce[30], such as individuals from certain racial and ethnic groups, from disadvantaged backgrounds, or with disabilities.[31] The importance of increasing diversity among researchers underscore the need to train mentors to employ tailored and effective mentoring approaches that take into account the background, strengths, and needs of each mentee.

Potential barriers to NIH-funding success rates and academic progress of racial/ethnic minorities have been identified and include inadequate research training and development, personal barriers to research development, *inadequate mentoring*, institutional biases, and insufficient support of research topics or methods relevant to studying minority populations.[15] Other studies have shown that faculty members from underrepresented groups suffer from isolation, lack of support, low institutional expectations, frank racism, and a lack of mentorship.[32] A sophisticated analysis involving concept mapping identified deficient mentoring as the third most likely impairment to racial/ethnic minorities seeking and successfully competing for NIH research funding.[15] *As there is good evidence that trained mentors are more likely than untrained mentors to consider issues of diversity* and work more effectively with their mentees,[16] inadequate mentoring and inadequate training of mentors may be modifiable risk factors in the disparate patterns of academic progress observed for racial/ethnic minorities. Training to bring “unconscious bias” into conscious realization and to understand the impact of “microaggressions” on the day-to-day lives of diverse mentees can allow for a richer and more effective mentoring relationship between trained mentor and mentee. *Mentorship training programs geared specifically toward*

training mentors in the skills and practices that cultivate effective mentoring relationships with early career scholars from underrepresented groups could improve biomedical workforce diversity and the subsequent quality of research output.[33]

The time for greater diversity in the biomedical research workforce, in HIV and in all fields of medicine, is long past and urgent measures are needed to correct this glaring deficit. Recent editorials have argued passionately on the importance of enhancing diversity among physicians and researchers in order to attract more applicants of diversity to the medical and biomedical research workforce: "Diversity is a vital component of excellence in education, clinical care, and research at the nation's medical schools";[34] "All diversity, visual or not, holds value. It's not just a numbers game or an annual administrative experiment … It's a mindset that extends into the classroom and the hospital."[35] Other reports have emphasized that trainees from underrepresented groups benefit from the mentorship or even just the example of minority faculty members serving as formal or informal mentors.[36] A recent systematic review of minority faculty retention programs countrywide concluded that "for medical schools to be successful in retention and recruitment of minority medical school faculty, specific programs need to be in place."[37] The field of HIV research stands poised to benefit from formalized mentorship training programs to enhance both the pool of highly-trained mentors attuned to the needs of diverse mentees and the cadre of early career investigators of diversity mentored.

Short-term outcomes of mentorship training programs encouraging; longer-term assessments necessary

There is a dearth of empirical data on the relative efficacy of mentor training methods. While graduate and health profession programs often provide some content related to overall teaching skills and pedagogy, most MD or PhD researchers are expected to eventually perform mentoring activities without any formal training in the area. Often, these mentors perform the role *ad hoc* or may mimic (intentionally or not) mentors they have interacted with in their own careers; the results are predictably mixed in terms of effectiveness and mentee-reported satisfaction with the mentoring relationship.[26,38,39] Some programs, such as those developed by Pfund et al at the University of Wisconsin-Madison, have been highly effective, particularly those designed to systematically provide training in mentoring which are theory-based and reinforce standard approaches that can be tailored to individual needs.[16,40] However, few training programs to date are specifically centered on fostering investigators from diverse backgrounds, despite a call from the public health perspective for such trainings[41] especially in HIV research.[26,42] Furthermore, the evaluation of mentor training programs that do exist is limited mainly to pre- and post-program surveys assessing self-reported improvement in mentoring skills. Longitudinal studies focused on objective mentee outcomes such as retention in academics, success in promotions, number of grants and manuscripts, and other parameters of academic success should eventually be funded and conducted.

HIV is a field that would greatly benefit from more mentors trained in fostering diversity

The field of HIV/AIDS research is one in which mentoring may be particularly critical to the success of the next generation of clinical and translational researchers. Given the

increasingly non-homogeneous face of the HIV epidemic in the United States in terms of racial, ethnic, sexual orientation and sociodemographic diversity, many have called for greater diversity among HIV-focused researchers, clinicians and leaders.[26,42–47] As further evidence for this principle, a recent analysis demonstrated that scientific research conducted with collaborative teams consisting of individuals from disparate racial/ethnic groups is likely to increase the impact of the research conducted.[33] Despite this compelling reason to foster diversity in the biomedical research workforce, fewer than one third of medical schools nationwide have designated programs to recruit and retain faculty members from underrepresented groups,[48] despite evidence that *intensive* minority faculty development programs increase faculty diversity.[28]

Conceptual basis of the HIV "Mentoring the Mentors" workshops

We describe here the development of an annual intensive 2-day mentoring training program for mid-level and senior HIV researchers nationwide to learn effective tools and techniques of mentoring and leadership, with a focus on understanding and working with mentees of diversity. Our mentor training approach is consonant with Social Cognitive Career Theory (SCCT)[49,50] an adaptation of Social Cognitive Theory (SCT),[51] which applies the constructs of self-efficacy to professional choice-making, skill-development, and decision-making about career paths (short-term and long-term). In this approach, self-efficacy and outcome expectations interact to promote or deter activity, which can dictate level of productivity and success. For example, self-efficacy for writing an R01 grant application can be bolstered by the mentor encouraging a mentee to take grant-writing classes and having work supportively yet critically reviewed. Outcome expectations can be informed through review of previous applications, discussions with program officers, and a solid understanding of the state of the science and gaps in scientific knowledge. Under SCCT, self-efficacy is strengthened and expectations of positive outcomes for career goals are formed by personal experiences of success, exposure to and mentoring by successful role models, positive reinforcement, and positive affective experiences during activities related to career goals. Bakken and others have applied SCCT to the career development of physician-scientists[52] and other academicians,[53,54] with a special focus on the challenges facing women and minority scientists in research careers.[52,53,55]

SCCT has special application to the fostering of trainees from underrepresented groups since past experiences and current interactions with their training environment can negatively influence self-efficacy and the decision to enter academic medicine.[53] SCCT informs training programs to take into consideration diversity among trainees and to incorporate differences in backgrounds into development programs and when providing mentorship. In the case of the content designed for the "Mentoring the Mentors" training programs, the pre-workshops surveys identified that HIV mentors felt a particular knowledge gap in how to work effectively with early career scholars of diversity (Figure 1). We developed content and activity modalities using SCCT[12,56] on how to specifically improve the mentors' self-efficacy in addressing the needs of their mentees from diverse backgrounds. This included didactic content on diversity supplements, other NIH-specific programs designed to increase diversity in the HIV biomedical research workforce, and talks on unconscious bias, microaggressions and case examples of each. Interactive content to improve the mentor

trainees' self-awareness and self-efficacy around addressing the needs of their diverse mentees included mandating each mentor to take implicit bias association surveys[57] before the workshop to understand their own unconscious biases, participate in role plays around a scenario of microaggression towards a mentee, and work with small groups of their peers to brainstorm on ways to improve their self-efficacy in working with diverse mentees. Mentoring competency scores around "addressing diversity" improved significantly for our mentors following each workshop as a result of this SCCT-informed programming (Figure 1).

DESCRIPTION OF UCSF "MENTORING THE MENTORS" TRAINING PROGRAMS

Through funding previously provided by a National Institute of Mental Health (NIMH)/ NIH-sponsored R24 (R24MH094274) at the University of California, San Francisco (UCSF), we developed an annual "Mentoring the Mentors" workshop. Three workshops were held at UCSF, the first in September 2012,[12] the second in October 2013,[56] and the third in May 2015, with each drawing approximately 35 HIV faculty from approximately 15 institutions across the U.S.. The first workshop yielded qualitative data showing improvement in mentoring capability and self-efficacy scores, along with an improved understanding of the issues facing ESIs of diversity in academia.[12] The second and third workshops yielded data showing improvement in a series of self-reported mentoring competencies following the training,[56] especially around awareness of issues relevant to mentees of diversity. Our "Mentoring the Mentors" training program focused on fostering ESIs of diversity is the first of its kind reported in the literature and holds promise for expanding the pool of expert and peer mentors well trained to provide robust academic mentorship in the field of HIV research and beyond.

Curriculum of "Mentoring the Mentors" Workshops

The development and implementation of the first "Mentoring the Mentors" training for HIV researchers held in September 2012 at UCSF has been described.[12] Briefly, after recruiting through multiple national Centers for AIDS Research (CFAR) programs and the eight CFAR Networks of Integrated Clinical Systems (CNICs) sites, we eventually accepted 26 faculty participants from 16 universities into our first training program. Of note, the initial applicant pool was much larger, but we restricted participation to allow for more personalized training and to encourage interactive discussion. The main selection criteria for trainees to participate in the workshops was academic rank at the mid-level (advanced Assistant Professor; Associate Professor) or senior (Full Professor) level and having an active role in mentoring early stage investigators at the time of the training. Table 1 summarizes qualitative data showing the more personalized training and to encourage interactive discussion. The main selection criteria for trainees to participate in the workshops was academic rank at the mid-level (advanced Assistant Professor; Associate Professor) or senior (Full Professor) level and having an active role in mentoring early stage investigators at the time of the training. Table 1 summarizes qualitative data showing the participants' self-described strengths as mentors, areas for improvement, and lessons learned from the mentoring workshop that could be applied to each mentor's personal action plan over the coming year.

Each 2-day workshop (Table 2) focuses on a series of topics designed to enhance general mentoring techniques, (e.g., communication strategies, use of individual development plans, setting goals and expectations for the mentor-mentee relationship, time management, life-work balance, mentor and mentee evaluation tools, how to give and receive feedback, etc.). Topics specifically related to diversity (e.g., unconscious bias, microaggressions, description of diversity supplements to NIH sponsored grants and other foundation grants geared towards minority applicants, resiliency, self-awareness, etc.) are also addressed, all via didactic presentations, break-out sessions, role-playing and small-group brainstorming sessions.

Toward the end of the training curriculum, we conduct a Mentor Consultation Clinic (Figure 2), in which participants break into groups of 5–6 and provide input on a current mentoring challenge identified by one of the mentors. In this exercise, participants are instructed to apply the workshop's training content (e.g., active listening, awareness of bias) to a specific mentoring situation before offering advice and recommendations. Table 3 outlines the steps and structure of the Mentor Consultation Clinic.

The second and third "Mentoring the Mentors" Workshops for HIV Researchers were held in October 2013 and May 2015, respectively, with a paper describing the implementation and findings from the second workshop subsequently published.[56] Briefly, after recruiting through national CFAR programs and HIV-related research networks, we accepted *a total* of 67 mid- and senior-level investigators from a wide range of universities and research institutions across the US for these two workshops. Attendees represented multiple disciplines in HIV research, including medicine (42%), social and behavioral sciences (21%), public health (13%), epidemiology (10%), and nursing (8%). About half (51%) were at the full Professor level, 37% at the Associate Professor level, and 11% were at the senior Assistant Professor level. The majority (66%) reported currently serving as primary mentor for mainly 1–3 mentees, with 33% mentoring 4 or more mentees. We administered the validated Mentoring Competency Assessment tool (MCA)[15] before participants arrived and again 1–2 weeks after the workshops were completed. Based on a >95% evaluation completion rate, we were able to document statistically significant increases in attendees' self-ratings of mentoring skills, including skills related to communication, fostering independence, and, importantly for this report, addressing diversity in the mentoring relationship.

Figure 1 shows attendees' pre-workshop means (in green) and post-workshop means (red) for the mentoring competencies assessed by the MCA. As a reference, MCA scores from a normative sample of senior mentors drawn from a national Clinical and Translational Science Award (CTSA) sample are shown in blue.[15] Of note is that the normative group in blue included more senior faculty (i.e., more full professors with extensive mentoring histories than our group), which likely accounts for their higher scores compared to our mentors at baseline (in red). However, after our workshop, our mentors' scores (in green) surpassed their own baseline scores (in red; all p values <.0001) and almost all of those of the more senior comparison group (in blue).

DISCUSSION

The urgent need for training programs to inculcate best practices of effective mentoring for HIV research mentors is evident, especially for mentors working with mentees from underrepresented groups. We have instituted an annual “Mentoring the Mentors” workshop at UCSF to train mid-level and senior HIV researchers from across the country on tools and techniques of successful mentoring. We have demonstrated that our program can result in increased confidence across a range of mentoring competencies, including competency in addressing topics related to diversity in the context of the mentoring relationship.

While these scores on a validated measure of mentoring competency[15] are an important indicator of the impact of this program, more comprehensive evaluation over the long-term is needed.[58] This includes documenting whether changes in perceived mentoring competency results in improved quality of mentoring and improved outcomes for both mentors and mentees. Such metrics include number of mentees, frequency and quality of mentor-mentee contact, routine use of specific mentoring tools such as the Individual Development Plan (IDP), mentee productivity (e.g., published papers, funded grants), and mentor-mentee satisfaction with the mentoring relationship. Eventually, it will be important to document whether intensive mentor training such as the program described in this paper or others[11] results in an increase in the likelihood that mentees will remain in academic research careers. Improvements in self-efficacy around research skills have been reported in early stage learners with designated training programs,[59,60] but the impact of mentorship training on mentee self-efficacy has not been assessed. This is particularly important for researchers from underrepresented backgrounds, in which attrition at each step of the pipeline is disproportionately higher than for non-minority academic researchers.[27,28] Thus, documenting immediate perceived improvements in mentoring competency is important, but insufficient to fully evaluate the impact of mentor training. Although self-reported improvements in mentoring practices are likely to improve long-term mentee outcomes, these studies are yet to be conducted, require investment, and the authors are actively seeking funding for a longitudinal program with a robust monitoring and evaluation component.

The “Entering Mentoring” Curriculum developed by the University of Wisconsin Mentoring Program, like ours, employs Social Cognitive Career Theory in its approach and aims to address the same six research mentoring competencies: (1) maintaining effective communication; (2) aligning expectations; (3) assessing understanding; (4) addressing diversity; (5) fostering independence; and (6) promoting professional development. The University of Wisconsin program is focused mainly on case-based learning for each of the 6 objectives and the set curriculum is typically implemented in four 2-hour sessions, led by two trained facilitators. The curriculum of the HIV researcher “Mentoring the Mentors” workshops is, by contrast, delivered over two 8-hour days and, although case-based learning is also emphasized, our curriculum is delivered mainly through rotating didactic sessions, small group exercises, group discussions, peer-to-peer advice sessions, and role playing sessions. Our curriculum is, by design, more fluid and less systematically delivered than the University of Wisconsin program as the mentors in our programs were all mid-level and senior HIV researchers with typically long histories of mentoring experience. We aimed to

maximize the expertise of the group in our programming with a peer-based approach while simultaneously teaching some core principles around the individual development plan, unconscious bias, self-awareness, leadership styles, feedback, etc.. The fluidity of our curriculum to allow for the infusion of trainee experience contrasts with the University of Wisconsin's program, but allowed for differences in the level of trainees in each of the programs to be accommodated.

There is reason to suggest that a parallel focus on training and empowering mentees to get the most out of their mentoring relationships can work synergistically with mentor training to optimize outcomes.[58] Many of the skills and topics addressed in our "Mentoring the Mentors" workshops are relevant from the mentee perspective as well. For example, a separate session with mentees on communication within the mentoring relationship has the potential to amplify the impact of such training with mentors alone. Giving both mentors and mentees the tools to align expectations, formalize and document goals, establish boundaries, and communicate concerns is an approach that should be explored in efforts to provide optimal mentoring to early career investigators in HIV research and other fields.

Similarly, mentor training should be accompanied by cultural shifts in institutional approaches to mentoring. Among participants in our "Mentoring the Mentors" workshops, there was a high degree of variability in the value placed on mentoring by their home research institutions. These ranged from one extreme in which universities protected faculty time for mentoring, offered mentoring awards, and counted mentoring as valuable as classroom teaching in promotion decisions. On the other extreme, some participants reported that their institutions implicitly or explicitly discouraged faculty from devoting much time to mentoring by not acknowledging such efforts in promotion and tenure decisions and not allowing relief from clinical, administrative, or teaching activities to allow time for mentoring. Given the empirical evidence of the importance of quality mentoring on a range of outcomes, structural factors must be addressed to encourage and empower researchers to devote time and effort to mentoring early career investigators.

In summary, mentor training is an important element in a comprehensive approach to optimize outcomes for early career investigators, and may be particularly influential in countering the challenges faced by scholars from underrepresented backgrounds. We describe here a model for an intensive "Mentoring the Mentors" training program designed to incorporate best practices in mentoring for HIV researchers and plan longitudinal studies and supplemental mentee training programs to ultimately change mentoring practices and improve outcomes.

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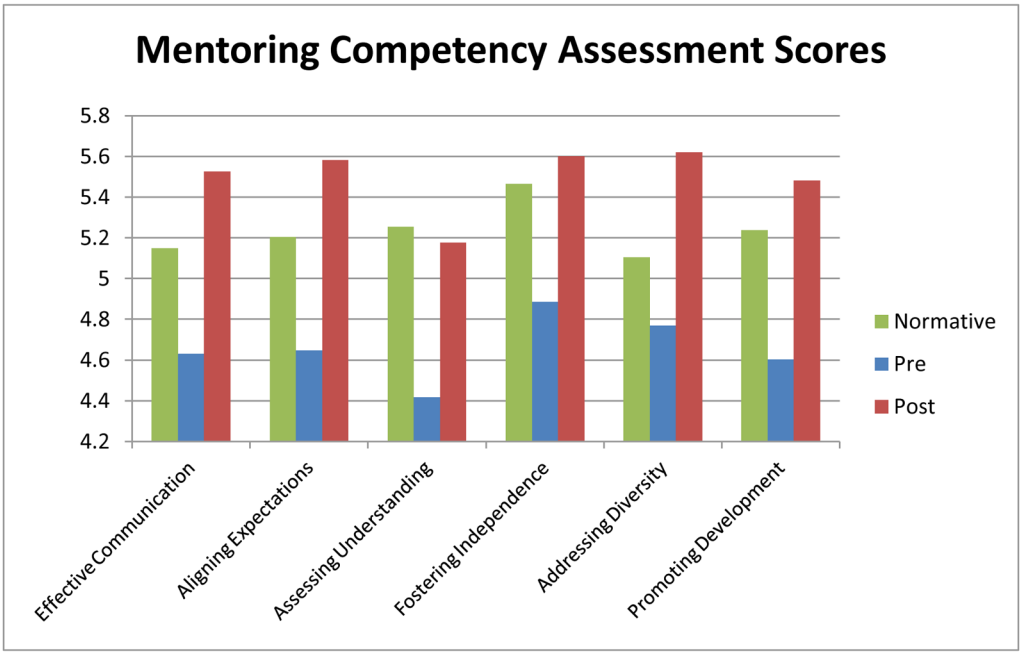

Figure 1.
Mentoring competency scores pre-and-post the UCSF mentoring training workshop and compared to nationwide CTSI faculty sample (green); N=67

Photo used with permission from the participants. Clockwise from left: Michael Saag and Director of CFAR, University of Alabama, Birmingham (UAB) receives advice from peers during the Mentor Consultation Clinic; Jonathan Fuchs, Associate Professor of Medicine, UCSF; Becky White, Assistant Professor of Medicine, University of North Carolina (UNC); Monica Gandhi, Professor of Medicine, UCSF; Richard Haubrich, Professor of Medicine, University of California, San Diego (UCSD)

Figure 2.
Participants at the first Workshop (September 2012, UCSF) during the Mentor Consultation Clinic

Table 1

Mentoring the Mentors Workshop (September 2012, UCSF) Learning Points

Strengths as a mentor	Areas for improvement	Learning Points & Action Plans
Interpersonal Attributes Good listening skills Patient, compassionate, generous, supportive style Open-minded, non-judgmental Caring, passionate, and advocate for mentees	**Communication** Unclear expectations Lack of comfort with difficult conversations Not consistent with clear, constructive feedback	**Structured Mentoring** Establish criteria for selecting mentees Use available tools (e.g., IDPs) Improve follow-up from meetings Identify each mentee's needs & expectations Monitor and document progress Consistent, standing mentoring meetings Monitor health of each mentoring relationship
Skills, Knowledge, and Resources Good at settings goals and expectations Content expertise Available time and resources for mentoring Strong mentoring and research experience Strong networks and collaborations Grant-writing and reviewing experience Available data/opportunities for authorship Awareness of available resources & collaborators Experience with issues of diversity	**Organization** Unstructured mentoring (e.g. frequency of meetings) Not good at setting & monitoring goals, timelines, productivity Lack of timeliness of feedback to mentees	**Networking** Establish networks of mentors Explore/Implement team mentoring
	Setting Limits/Boundaries No deliberate selection of mentees Lack of emotional balance/distance in mentoring Poor balance of time mentoring & other responsibilities Failure to limit number of mentees Difficult to balance patience with accountability ("tough love")	**Institutional/Structural Challenges** Acknowledge institutional challenges Develop mentoring seminar Structured approach to training mentors Identify and access resources to support/fund mentors and mentees (internal and external) Encourage home institution to take a formal approach to support/fund mentoring
	Diversity-related Issues Limited awareness of unconscious bias Poor facility in discussing diversity-related issues (e.g., micro-insults, discrimination) Limited diversity among mentees	**Diversity-related Issues** Continue to increase awareness of issues faced by mentees from diverse backgrounds Increase awareness and mitigate micro-insults experienced by underrepresented mentees

Table 2

Training Curriculum for “Mentoring the Mentors” Workshops

Topic	Curriculum elements
Communication	Active listening, Having difficult conversations, Giving feedback (positive and negative), Setting and aligning expectations, Understanding different communication styles
Leadership Skills and Emotional Intelligence	Types of leadership, Emotional intelligence, Mindfulness in mentoring
Diversity in the Mentoring Relationship	Disparities in academic research, Unconscious bias, Microaggressions and discriminations, Mentoring across differences
Professional Skills	Time management, Teaching writing skills to mentees, Public speaking/presentation skills
Life-Work Balance	Life-work balance and self-care, priority management matrix
Mentoring Roles	Defining categories of mentoring roles, clarifying the role of the lead mentor, stressing interdisciplinary and team mentorship
Mentoring Resources and Tools	Individual development plans (IDPs), Rewards and challenges of mentoring, NIH grant mechanisms (e.g., F, T32, K, and diversity supplements), Tools and structure for effective mentoring sessions, Distance mentoring , Team mentoring, Developing an IDP for mentoring skills (M-IDP)
Professional Ethics	Boundaries in the mentor-mentee relationship, Authorship issues, Managing professional disputes, Responsible Conduct of Research (RCR) training opportunities for mentees, research misconduct
Integrating and Applying Mentoring Skills	Mentor consultation clinic, Developing a network of mentoring support

Table 3

Steps for Mentor Consultation Clinic

1. **Identify a mentor who will share a current challenge**
2. **Mentor describes the challenge (5 minutes)**
3. **Group asks questions to elicit more information (e.g., what has been tried so far?) (15 minutes)** **a.** Don’t jump on offering recommendations **b.** Focus on both structural and interpersonal
4. **Group offers recommendations (10 minutes)** **a.** Focus on both structural and interpersonal
5. **Finish with a clear plan of what happens next (5 minutes)**