

## AAIM Perspectives

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# Career-Focused Mentoring for Early-Career Clinician Educators in Academic General Internal Medicine



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## INTRODUCTION

Clinician educators (CE) serve vital roles in academic medicine by providing clinical care, applying educational theory to practice, training future physicians, producing scholarship, serving as administrators, and consulting with other professionals.<sup>1</sup> Clinician educators in general internal medicine work in outpatient and inpatient settings, some as hospitalists. Despite their essential contributions, clinician educators face challenges in developing academic careers and advancing in rank. They may have limited knowledge and skills in curriculum development and research methods<sup>2</sup> or in pedagogy and medical education theory.<sup>3</sup>

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Most clinician educator effort is spent balancing competing demands of clinical productivity and teaching, which limits time for fulfilling scholarship expectations.<sup>2,4</sup> This article describes the value of a mentoring program aimed at ameliorating such challenges for early-career clinician educators.

Most mentoring programs in professional settings match experienced people in the organization with early-career colleagues to help them develop the skills and knowledge they need for professional growth and advancement. Mentoring has been recognized as a successful strategy for supporting clinician educator careers in academic divisions/departments of medicine and pediatrics.<sup>5-8</sup> However, in a national survey of 266 academic hospitalists, less than one-half (42%) had mentors; lack of mentorship was negatively associated with publication output and national meeting presentations.<sup>9</sup> Overall, nontenure-track assistant professors are less likely to have mentors than tenure-track faculty.<sup>10</sup> Compounding the problem of inadequate access to mentorship is the question of how to effectively mentor clinician educators. Although mentoring practices and career milestones are relatively well defined for research-intensive faculty,<sup>11,12</sup> these approaches do not fully generalize to clinician educators, who have

substantially different workflows, responsibilities, goals, challenges, and priorities.

This article describes an approach in an academic general internal medicine division to ensure more equitable access to mentors by establishing a semi-structured faculty career mentoring program (CMP), and empower faculty participants in the CMP—via scheduled mentoring discussions, individual development plans (IDPs), and professional development programming—to become more proactive managers of their academic careers and productive scholars. The objective of this article is to report on a model program with the intent of proving an example for structured early-career mentoring for nontenure-track faculty. We describe CMP development, present evaluation results from the pilot year (including pre/post changes in career management self-efficacy and satisfaction with mentoring received), and compare the cohort's academic productivity over multiple years preceding and following the program. The goal in sharing findings is to offer evidence for the value of a relatively low-intensity, career-focused mentoring initiative for clinician educators and to provide a model for other programs seeking to foster the professional development and academic advancement of their faculty.

## METHODS

### Setting and Participants

The Division of General Internal Medicine in the Department of Medicine at the University of Minnesota Medical School primarily comprises faculty who devote 50% or more effort to direct patient care. Most are involved in clinical teaching, including the inpatient teaching service or precepting residents in clinics. Several are course or clerkship directors or residency program leaders. The division formed an academic hospitalist program in 2010. By 2016, the faculty had doubled from 29-58, with a threefold increase in hospitalists (from 12-35). Most faculty scholarship is related to medical education, quality improvement, or applied clinical research.

Historically, mentorship in the division had been informal and unsystematic, with a dominant focus on faculty member development as clinicians, educators, and leaders in these areas. Less attention had been paid

to building scholarship portfolios and helping them prepare for promotion. Beginning in 2013-2014, we pursued a more programmatic approach to mentoring in response to rapid division expansion at the assistant professor level, and more explicit and rigorous medical school expectations for faculty scholarship in nontenure tracks. These realities compelled us to begin systematically mentoring early-career faculty to not only become outstanding care providers and educators, but also to develop and refine their scholarly interests to help them progress toward meeting institutional promotion benchmarks. The program's long-term goals are to foster satisfying careers for clinician educator faculty, resulting in higher rates of retention and academic advancement.

CMP began in 2013 with 8 mentors (associate or full professors) and 30 mentees (assistant professors). Four mentors were male, four female; mean duration on faculty was 12 years. Six were medical doctors (MDs; 3 with additional master degrees) and 2 had doctor of philosophy (PhD) degrees. Three mentors were tenured; the other 5 were promoted on nontenure clinician scholar or teaching tracks. Of the 30 mentees, 16 (57%) were men and 13 (43%) were women. Mean duration on the faculty was 3.5 years. Nineteen held MD degrees, 6 held MD plus master degrees, 3 held PhD degrees, and 1 held an MD/PhD degree. All held nontenure-track appointments; 8 (26%) did not know their track.

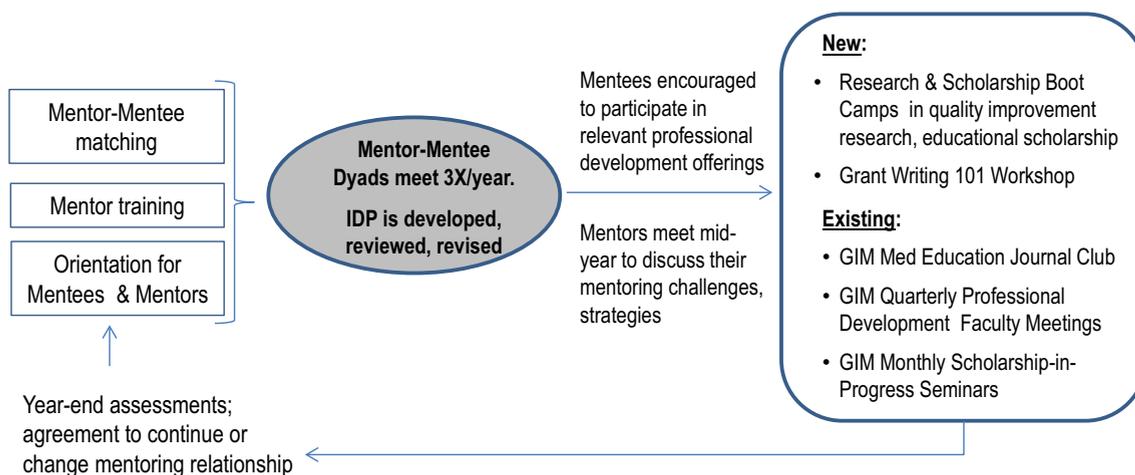
At the conclusion of the first year, 23 mentees completed a follow-up survey (77% response rate) with results included in the analyses. At 3 years after program launch, we assessed the scholarly activity of the full mentee cohort for comparison with pre-CMP values.

### Program Description

Key components of the CMP are presented in the [Figure](#). The program is anchored in traditional mentor-mentee dyads and IDP usage, augmented by professional development programming focused on skill building in clinician educator scholarship. Intra-institutional grant funding was secured for program development. A committee of General Internal Medicine faculty and staff created the program, designed its evaluation plan, and continue to oversee and refine its implementation.

## PERSPECTIVES VIEWPOINTS

- Semi-structured career mentorship programs for clinician educator faculty in general internal medicine can have desirable short-term outcomes, including gains in self-efficacy for career management.
- Individualized Development Plans help to focus new faculty and foster productive mentor-mentee communication.
- Mentees gained satisfaction with and appreciation of mentoring through program participation.
- Mentees increased scholarly output through program participation.



**Figure** Structure and activities in the General Internal Medicine faculty career mentoring program (pilot year).

Given the division's high junior-to-senior faculty ratio and wide variation in faculty work roles, it was impractical to match all mentees with a mentor whose academic interests fully aligned. Instead, the mentoring committee assigned initial pairings based on existing relationships and preferences, shared interests (when possible), and 'mentoring load' considerations. Dyads were encouraged to meet at least 3 times annually. IDP templates were provided to encourage mentee self-reflection and planning and to guide mentoring discussions. IDPs prompted mentees to articulate goals, self-assess work values and skills, define scholarly interests, and identify professional challenges and support needs.

Prior to program implementation, mentors participated in a 90-minute training session led by one of the program's co-directors to clarify their roles: providing feedback, helping mentees align activities with goals and promotion criteria, being a sounding board for ideas and challenges, serving as a role model, and brokering access to resources. They also completed exercises in mentoring best practices educators such as establishing trust, aligning relationship expectations, and applying a "high challenge plus high support" approach. Mentors were given a bibliography on mentoring in academic medicine and a faculty mentoring book.<sup>13</sup>

Mentors and mentees participated in an orientation to outline the CMP structure and expectations. Time was allocated for mentors to initiate group discussions with their mentees. Mentees were encouraged to participate in professional development programs during the first year, including scholarship "boot camps" in medical education and quality improvement, and a workshop on grant proposal writing. Mentors met mid-program to share perceptions of mentoring strategies and effectiveness and to discuss mentorship challenges.

## Program Evaluation

The University of Minnesota institutional review board reviewed the evaluation protocol and determined that the project was exempt. First-year assessments focused on: 1) the program's success in creating and engaging mentorship dyads; 2) pre-post changes in mentee self-efficacy in career management, job satisfaction, job burnout,<sup>14</sup> and mentoring satisfaction; and 3) mentee and mentor perceptions of CMP value. Participants completed surveys at baseline and at the end of 1 year. Data comparing the 1 year to the baseline were analyzed for the 23 mentees who completed both surveys. Statistical comparisons ( $R = 3.2.4$ ) used paired *t* tests assuming the Welch approximation for unequal variances educators for continuous data and proportion tests for binary data.

We then assessed changes in mentee scholarly productivity (peer-reviewed publications, national presentations, and principal investigator/co-investigator status on a grant) by comparing these outcomes for the 2 years before the CMP was implemented plus its pilot year (time 1) and again 3 years after the CMP pilot year (time 2). Data were obtained by reviewing faculty curriculum vitae and Manifold profiles (a database that provides publication-driven analytics for all faculty in our medical school). We aggregated the data for each metric, calculated the mean number of each outcome per faculty member, and used paired *t* tests to assess the statistical significance of differences in individual productivity between the 2 time periods.

## RESULTS

### Dyad Engagement

The proportion of assistant professors reporting having at least one formal mentor in the previous 12 months increased from 26% (6 of 23) at baseline to 100% ( $P < .001$ ). Sixteen (70%) met at least twice annually with assigned mentors; 2 (9%) were matched but opted out of

**Table 1** Changes in Assistant Professors' Career Management Self-Efficacy 1 Year into the Career Mentoring Program

Survey Item	n*	Baseline Mean (SD)	Post Mean (SD)	Mean Difference (95% CI)	P Value <sup>†</sup>
Career management self-efficacy <sup>‡</sup>					
I have well-defined annual goals and clear plans for achieving them	22	2.64 (0.73)	3.55 (0.96)	0.91 (0.48-1.34)	<.001
I understand the research, teaching, and service expectations necessary for my promotion	22	3.27 (1.03)	4.18 (0.85)	0.91 (0.44-1.38)	.001
I have a clear picture of where I want to be in my academic career in 5 to 7 years	22	2.86 (0.83)	3.77 (0.75)	0.91 (0.44-1.38)	.001
I have a clearly identified, well-focused content area for my research/scholarship activities	22	2.86 (0.94)	3.73 (0.83)	0.86 (0.42-1.30)	.001
I have colleagues with whom I discuss my professional goals, progress and ideas	22	3.50 (1.14)	4.09 (0.87)	0.59 (0.12-1.06)	.016
I am involved in professional organizations relevant to my area of interest	22	3.45 (1.06)	3.95 (0.72)	0.50 (-0.06-1.06)	.077
I seek out the resources that I need to be successful in my work	22	3.91 (0.68)	4.32 (0.65)	0.41 (0.03-0.79)	.036
I am pleased with how my professional identity is emerging	22	3.45 (0.91)	3.77 (0.87)	0.32 (-0.12-0.76)	.148
I feel my career is on track	22	3.36 (0.66)	3.73 (0.88)	0.36 (0.04-0.69)	.029
I am motivated to make scholarly contributions to my field	22	3.95 (0.84)	4.23 (0.61)	0.27 (-0.12-0.66)	.162
I am motivated to advance in rank	22	3.73 (1.16)	3.82 (1.18)	0.09 (-0.45-0.64)	.732

\*All 23 mentees did not respond to all survey items, so n may be <23.

<sup>†</sup>t Test for mean difference using paired data.

<sup>‡</sup>Scored on a 1-5 Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

meeting. A few mentors met with their mentees as a group to foster near-peer relationships. IDP usage increased significantly from 10% at baseline to 70% ( $P < .001$ ). Survey responses about the value of the IDP value were mixed. Some found IDPs cumbersome, citing the time taken to complete it as a barrier. Others found it beneficial, commenting that it helped align activities and goals.

## Mentee Outcomes

**Career Management Self-Efficacy.** After 1 year, mentee scores were significantly greater on 7 of 11 career management self-efficacy items (Table 1), including having "well-defined annual goals and clear plans for achieving them," "colleagues with whom I discuss my professional goals, progress, and ideas," and "a clearly identified, well-focused content area for my research/scholarship activities."

## Mentoring Satisfaction, Job Satisfaction, Burnout.

Improvements were also seen in mentee overall satisfaction with mentoring received (past 24 months),

satisfaction with career mentoring in 2 specific areas (work-life balance, overcoming professional challenges), understanding of mentee roles, and perceived importance of mentoring for career development and retention (Table 2). Ratings for job satisfaction and burnout did not significantly change over the first year.

**Scholarship.** For productivity data analyzed in aggregate, the cohort demonstrated statistically significant increases from time 1 (2 years pre-CMP launch plus launch year) to time 2 (3 years post-CMP launch year) for 2 metrics: mean number of peer-reviewed publications per faculty member, and mean number of grants as principal or co-investigator per faculty member (Table 3).

## Perceptions of the Mentoring Program

Most mentees (74%) and all mentors (100%) agreed or strongly agreed that CMP was a positive addition to the division. Participants were moderately satisfied with CMP-specific events (mentor training,

**Table 2** Changes in Assistant Professors' Mentoring Satisfaction, Mentoring Attitudes, Job Satisfaction, and Burnout 1 Year into the Career Mentoring Program

Survey Item	N*	Baseline Mean (SD)	Post Mean (SD)	Mean Difference (95% CI)	P Value <sup>†</sup>
Overall satisfaction with mentoring received (past 12 months) <sup>‡</sup>	22	3.32 (1.21)	4.14 (0.77)	0.82 (0.37-1.26)	.001
Satisfaction with mentoring received in specific career development areas (past 12 months) <sup>‡</sup>	15	2.60 (0.91)	3.53 (1.46)	0.93 (0.22-1.64)	.014
Overcoming professional challenges balancing work and personal life	13	2.92 (1.19)	3.69 (1.49)	0.77 (0.11-1.43)	.026
Long-term career planning	16	2.88 (1.02)	3.50 (1.51)	0.63 (-0.26 to 1.51)	.155
Developing a professional network, within and outside the university	15	2.53 (0.99)	3.00 (1.41)	0.47 (-0.47 to 1.40)	.301
Setting annual goals	17	3.29 (1.05)	3.41 (1.50)	0.12 (-0.51 to 0.74)	.696
Documenting professional activities achievements	15	3.13 (1.19)	3.40 (1.45)	0.27 (-0.50 to 1.03)	.469
Preparing for promotion	13	2.92 (1.32)	3.15 (1.57)	0.23 (-0.59 to 1.05)	.553
Becoming integrated into division and broader university community	15	3.20 (0.94)	3.20 (1.70)	0.00 (-0.86 to 0.86)	1.000
I understand my roles and responsibilities as a mentee	21	3.10 (1.04)	3.76 (1.04)	0.67 (0.10-1.23)	.023
Mentoring is important to my career development as a faculty member	22	4.27 (0.94)	4.73 (0.55)	0.45 (0.13-0.78)	.009
Mentoring is important for faculty retention at the University.	22	4.32 (0.72)	4.86 (0.35)	0.55 (0.25-0.84)	.001
Job satisfaction, burnout					
Overall, I am satisfied with my current job <sup>§</sup>	22	4.27 (0.77)	4.32 (0.57)	0.05 (-0.24 to 0.33)	.747
Burnout measure <sup>  </sup>	22	1.68 (0.72)	1.77 (0.69)	0.09 (-0.14 to 0.32)	.427

\*All 23 mentees did not respond to all survey items, so n may be <23.

<sup>†</sup>t Test for mean difference using paired data.

<sup>‡</sup>Scored on a 1-5 Likert scale (1 = not at all satisfied, 2 = slightly satisfied, 3 = somewhat satisfied, 4 = moderately satisfied, 5 = very satisfied).

<sup>§</sup>Scored on a 1-5 Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

<sup>||</sup>Scored on a 1-5 Likert scale (1 = enjoy work, no symptoms, 2 = occasional stress, no burnout, 3 = burning out with ≥1 symptom, 4 = constant symptoms, 5 = completely burnout, need help).

orientation, professional development offerings); 25% of mentees attended the 2 scholarship boot camps. When asked to specify ways the program helped them (among 8 options), mentees most commonly chose 4 outcomes: "My professional goals are more well-defined," "I have greater interest in continuing my career in academic medicine," "I gained new knowledge and skills," and "I identified areas that I need to increase knowledge and skills." Mentor predominant perceived benefits included "I enjoyed contributing to the professional growth and success of my mentees" (89%) and "I developed or strengthened project collaborations with my mentees" (67%). Representative responses from mentors and mentees to open-ended survey questions about the CMP are presented by theme in [Table 4](#).

## DISCUSSION

The need for targeted mentoring to support clinician educator professional development and advancement in academic medicine is well documented.<sup>15</sup> However, strategies for fulfilling this need, including adaptations across different institutional contexts, are still being explored.<sup>2,16</sup> CMP offers a practical model for initiating a structured program for clinician educators, creating new and leveraging existing mentoring relationships with a relatively low investment of resources.

Congruent with the program's intended emphasis and use of IDPs, we observed favorable increases in several career management self-efficacy items. We were encouraged by these positive trends, especially given the newness of CMP and differing levels of engagement among faculty members across activities.

**Table 3** Growth in Assistant Professors' Scholarly Activity from Before to After Implementation of the Career Mentoring Program (Launch Year = 2013)

Scholarship Metric	Time 1 2011-2013		Cohort Total (n = 29)	Time 2 2014-2016		Paired <i>t</i> Test	<i>P</i> Value
	Cohort Total (n = 29)	Mean (SD) per Mentee		Mean (SD) per Mentee			
Peer-reviewed publications	38	1.3 (2.1)	104	3.5 (5.2)	3.194	.003	
National presentations	31	1.0 (1.6)	62	2.1 (3.6)	1.707	.099	
Principal Investigator or Co-Investigator on grant	59	2.0 (4.1)	101	3.4 (5.5)	2.379	.024	

SD = standard deviation.

**Table 4** Narrative Survey Comments from Participants in the Career Mentoring Program

Mentee Comments	Mentor Comments
<p>Theme A: Mentoring Relationship</p> <p><u>Positives:</u>            "My mentor is a friend, valuable to me as genuine input for my career path."            "My mentor was available, respectful, engaged, and supportive."            "I appreciated her support, insight, candor."</p> <p><u>Negatives:</u>            "Having a mentor assigned that was not an ideal match clouded my perception of the program."            "I had no substantive contact with my mentor."            "I needed a better matched mentor in the way of interests, teaching experiences."</p> <p>Theme B: Time</p> <p><u>Positives:</u>            "My mentor was available, respectful, engaged, and supportive."            "Good opportunity to talk with experienced mentor."            "Provided accountability."            "Helped me focus my attention on career goals."</p> <p><u>Negatives:</u>            "Time. There are so many demands on my and my mentor's time; impossible to actually follow up on goals."            "I just have too much on my plate."            "No time to attend events, so couldn't . . . having protected faculty development time during the workday is important."</p> <p>Theme C: Resources and Tools</p> <p><u>Positives:</u>            "My mentor's guidance has been invaluable. It helped me take my data off the ground . . . navigate promotion maze . . . make a road map for career growth."            "Filling out the IDP was helpful."            "Specific task lists and tracking my various activities was beneficial."            "This provided a set of tools to help organize my strategy, clarify congruence between my activities and my goals."</p> <p><u>Negatives:</u>            "The IDP seemed to be busy work of little value." "The shared drive is difficult to navigate; so many folders, takes time and effort to navigate."            "I don't actually recall ever using the shared drive." "I was unaware of the shared drive resources."</p>	<p>Theme A: Mentoring Relationship</p> <p><u>Positives:</u>            "I enjoyed my mentees; they are interesting, engaging people, meeting with them is fun."            "I get a sense of professional fulfillment in helping a junior colleague develop ideas."            "I enjoy the culture of mentoring."</p> <p><u>Negatives:</u>            "Not sure how to make it work when there is a forced pairing."            "We did not have a great deal of shared interests, goals."            "May want to allow people to choose a mentor based on existing relationships or interests."</p> <p>Theme B: Time</p> <p><u>Positives:</u>            "I valued the timely completion of assigned tasks, and shared responsibility for meetings and follow-up."            "Our meetings led to career planning, discussing work/life balance, providing focus to their current efforts."            "We made some short and long-term goals."</p> <p><u>Negatives:</u>            "Time [is a barrier] for both myself and my mentees."            "Busy schedules for all; I struggled."            "We need more time to meet, more time to devote to academic pursuits."            "I simply needed to spend more time with them."</p> <p>Theme C: Resources and Tools</p> <p><u>Positives:</u>            "The IDP provides a formal task with clear expectations around which to frame our conversation."            "The IDP is helpful but some content areas are more helpful than others."            "The IDP helps in getting to know people better."</p> <p><u>Negatives:</u>            "The online resources could have been better utilized by myself and other mentors."            "I am not a big user of the shared drive . . . direct e-mail contact is much more natural for me." "Shorten the IDP form into something that can be done over lunch."            "Additional guidance would be helpful, more feedback from mentoring experts." "Additional training, such as a workshop."</p>

IDP = individual development plan.

Although other mentoring programs have assessed changes in participant self-efficacy for preparing for career advancement,<sup>17</sup> those programs featured more intensive cohorts, with up to 2 years of participant engagement in monthly peer mentoring groups and year-long didactic curricula. Our results suggest that even a modestly intensive, semi-structured mentorship program for early-career clinician educators can yield desirable short-term effects. The 2 self-efficacy items with the smallest changes assessed respondent motivation to make scholarly contributions and to advance in rank. We attribute it, and the stability of mean scores for job satisfaction and burnout, to the early career stage of faculty in this cohort: most were recent hires, presumably focused on earlier developmental tasks. Additionally, baseline scores for these 4 items were relatively high, likely demonstrating a ceiling effect.

Academic outcomes data indicated an increase in the cohort's scholarly activity in the immediate years following the initiation of CMP compared with baseline, consistent with the institution's scholarship goals. While we cannot attribute all of the observed scholarly activity increases to the mentoring program alone, several CMP activities were directed toward creating and disseminating scholarship, particularly in areas such as medical education and quality improvement. Given the time inherent in undertaking academic projects, these early successes may augur even greater future faculty productivity.

As scholarship activity increases, so do the difficulties managing competing demands and risk for burnout. Burnout in academics has been associated with more time spent on less meaningful activities.<sup>17</sup> For clinician educators with demanding clinical practices, mentorship that helps them better align their scholarship with other meaningful aspects of their work (e.g., personal drive to improve a specific area of patient care or a passion for innovative teaching methods) may be critical to burnout prevention. CMP emphasized attention to this type of alignment. For example, IDP templates encouraged reflection and mentoring discussions about personal values, examination of time spent in different work roles, and creation of annual goals that match mentee visions for the long-term impact they want to make in health care and medical education. At the end of 1 year, mentees reported greater satisfaction with mentoring received in "overcoming professional challenges" and "balancing work and personal life" than at baseline. Whether it mitigates their long-term risk for burnout will need further study.

By the end of the first year of CMP, mentees had more positive perceptions of the value of faculty mentoring. This change is an early indicator of the program's merit, presumably signaling progress toward establishing a robust mentoring culture within the division. CMP created connections between early career and senior faculty that did not previously exist, tripling

the proportion of assistant professors who were engaged with mentors. This change is noteworthy, given barriers to informal, spontaneous mentoring (e.g., geographic dispersion of offices and clinical sites, disparate work schedules). As noted in the qualitative responses, not all initial mentoring dyads were good matches. Ideally, mentor-mentee pairings are grounded in common professional experiences and academic interests. We anticipate closer alignment of mentor-mentee scholarship interests as more faculty are promoted, expanding our mentor pool.

CMP has evolved since the inaugural year. Two program adaptations warrant mention. We streamlined the IDP template, deleting some items and revising others. Revisions were designed to capture information required for annual faculty performance reviews so that completed IDPs now serve multiple purposes, minimizing burden. Beginning in 2015-2016, IDPs were adopted by all department of medicine divisions. Also, because mentors requested more opportunities to discuss their experiences, a mentor development seminar series for the department was initiated.

This study is limited in its being a single-division investigation. We lacked a control group, because the program was implemented to benefit all assistant professors. Thus, we cannot rule out that some of our outcomes were at least partially influenced by maturation of the faculty over time. Future work should include assessment of longer-term outcomes such as academic promotion and faculty retention. We have also begun qualitative work to more deeply discern best mentoring practices for clinician educators, key milestones and trajectories for clinician educator career success, and changes in clinician educator mentoring needs and relationships over time.

In conclusion, the results suggest that a semi-structured CMP can have desirable outcomes for clinician educator faculty, including increased self-efficacy for career management, more positive mentoring attitudes, and greater scholarly productivity. Division-level oversight helps ensure access to mentors, who play facilitative roles helping clinician educators align their interests/activities with institutional expectations for advancement.

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