

Looking Forward to Promotion

Characteristics of Participants in the Prospective Study of Promotion in Academia

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OBJECTIVES: To determine what clinician-educators consider important for promotion, and what support they find helpful and useful for success.

DESIGN: Cross-sectional study.

SETTING: Eighty academic medical centers in the United States.

PARTICIPANTS: One hundred eighty-three participants of the Prospective Study of Promotion in Academia comprising assistant professors in departments of medicine from 80 different medical schools in 35 states.

MEASUREMENTS: Differences between clinician-educators' and clinician-investigators' work activities, promotion preparedness, and faculty support needs.

RESULTS: One hundred seven (58%) of the faculty were clinician-educators (CEs), and 63 (34%) were clinician-investigators (CIs); the remaining 13 fit neither category. Participants had been in their faculty position for 4.7 years. Ninety-eight percent of CIs reported a publication expectation for promotion, and 75% of CEs also reported such an expectation. More CIs had career mentors available than CEs (68% vs 32%, $P < .001$). Seventy-nine percent of CIs indicated >10% protected scholarly work time, compared to only 35% of CEs ($P < .001$). Fifty-three percent of CIs as compared to 32% of CEs ($P < .01$) meet more often than yearly with their chief/chair for performance review, and more CIs have seen written promotion guidelines (72% vs 51%, $P < .01$). Clinician educators believed out of 11 job performance areas, research, written scholarship, and reputation were the 3 most important factors that would determine the success of their application for promotion. Both CEs and CIs sense that CIs are more likely get promoted (82% vs 79%).

CONCLUSIONS: Clinician educators are less familiar with promotion guidelines, meet less often with superiors for performance review, and have less protected time than CI colleagues. There is dissonance between CEs' beliefs and previously published data from promotion committee chairs in the importance given to specific aspects of job performance.

KEY WORDS: academic medical centers; mentors; medical faculty; cohort studies; socioeconomic factors; peer review.

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A brahamson reminisced about the days of medical education around the time of World War II when a "faculty member was a teacher who was expected to do some research. Today," he remorseful, "those two roles have been reversed."¹ The change occurred as federal agencies funded research in academic medical centers, prompting a reduced priority for teaching activities that might interfere with income-generating research. Because of the emphasis on research, promotion and tenure decisions have been based primarily upon academic productivity as measured by the number and quality of peer-reviewed publications in a faculty member's portfolio.²

However, in recent years market forces have prompted academic medical centers to hire more full-time clinician-educators (CEs) to meet their clinical service demands. In response to the rise in CE tracks, Levinson and Rubenstein have challenged the academic community toward more equitable promotion systems that recognize their particular skills and value. "Comparisons of the progress of the career development of clinician-educators and researchers are needed. We are concerned, however, that the implementation of these tracks has not solved the problem of appropriate recognition for clinician-educators."³ In reflecting upon his time as promotion committee chair at Johns Hopkins, McHugh said, "There is a major dilemma that must be struggled with by promotion committees in medical schools...with such diversity of talents among faculty, how can standards be defined that will encompass the several different excellences displayed by, for example, the biochemist, the gastrointestinal surgeon, the bedside teacher, and the gifted administrator?"⁴

Prior studies of both promotion and tenure committee chairs and department of medicine chairs have shown that teaching skills and clinical skills are thought to be the most important areas in which CEs must excel in order to be promoted to the rank of associate professor of medicine.^{5,6} In this study, we attempted to ascertain what clinician-educators themselves sensed was most critical to their promotion. Our secondary objective was to compare the perceptions of CEs and clinician-investigators (CIs) with respect to issues related to promotion, and the support systems that may afford each group the opportunity to succeed in their academic environment.

METHODS

Study Design

This current report is a cross-sectional analysis of the characteristics of faculty that have agreed to participate in the Prospective Study of Promotion in Academia (PSPA).

The PSPA study is a part-retrospective, part-prospective cohort study, designed to determine: 1) the rate at which clinical faculty in U.S. medical schools are promoted; 2) if CEs are promoted to associate professor at the same rate as CIs; and 3) the variables (demographics, job characteristics, prior training) associated with faster promotion for CEs. Traditionally, assistant professor medical school faculty are generally reviewed for promotion around their sixth year on the job, though this has never been documented in the literature. Therefore, in November 1999, we used the Association of American Medical Colleges (AAMC) faculty roster system database to identify a population of clinical faculty that entered the academic arena at the assistant professor level between June and December of 1995. This identified the study population up to 2 to 3 years before the primary endpoint, promotion to associate professor, would be reached, avoiding unnecessary prolongation of the study period. This design has allowed us to collect data about the current characteristics of the participants, thereby decreasing recall bias.

Study Participants

In November 1999, the AAMC database contained 90,101 active, full-time faculty members. Of those faculty members, 609 had medical doctorate degrees, held primary appointments in departments of medicine, and had been appointed assistant professor between June 1995 and December 1995.

An invitation to become a study participant, which described the study's intention of following the subjects prospectively and contacting them at regular intervals, was mailed with a baseline questionnaire to these faculty in February of 2000. Three separate solicitations were made, separated by 4 weeks in between. One hundred twenty-nine of the questionnaires (21.3%) were returned to us without forwarding addresses, labeled "Return to Sender." Inquiry into one quarter of these faculty indicated that they had already changed jobs; we suspect the majority of "return to sender" invitees had changed jobs as well. Two hundred eighty-two faculty (46%) did not respond to repeated invitations; we assume these chose not to participate. One hundred eighty-three faculty agreed to enroll in the study (participation rate = enrollees/[invitees - return to senders] = 38%).

The AAMC provided aggregate data on the enrollees as well as for those who chose not to participate. There was no significant difference between enrollees and nonparticipants in age, years since graduation, and the proportion in a tenure track. More enrollees than nonparticipants were female (35% vs 26%, $P = .03$). Fewer enrollees than nonparticipants were of a nonwhite minority group (20% vs 37%, $P = .002$).

Questionnaire Development

For this study, a 5-page, 59-item questionnaire was developed composed of 4 main sections. The first section

collected demographic data, including characteristics such as age, race, and educational background. The second section queried about the participant's job description (such as the percent of time spent in various activities), salary, the amount and type of research performed, and the characteristics of their designated track (such as the ability to achieve tenure). The third section asked the participant to indicate the importance they believed 11 different performance areas of their job (e.g., teaching, clinical work, research) would have in deciding their ability to be promoted to the rank of associate professor. This question was similar to one posed to medical school promotion committee chairpersons in 1996.⁵ In that study, promotion committee chairpersons were asked to indicate the importance of the same 11 aspects of a clinician-educator's performance when considering a clinician-educator for promotion to the rank of associate professor. The rankings from each study were derived from Likert scales that indicated the importance given to each aspect of performance. We converted these Likert scales into a rank list in order to demonstrate the disparity between the 2 groups. The final section sought to learn whether 12 different job supports were available to the faculty and if so, did they use them, or if not, would they use them if they were available. The stems (or descriptions) used on the questionnaire for these supports were listed as follows: secretarial support, library support for literature search and retrieval, seminars on writing and applying for grants, "work in progress" conferences to present research and alert to opportunities, senior faculty mentor to help direct career, senior faculty mentor to help with research and grant writing, senior faculty mentor to review teaching and provide feedback, statistical support for grant applications and research, medical editor-type review of manuscripts prior to submission for publication, faculty development program, more than 10% protected time for scholarly work, and grant application office assisting with notification, formatting, and copying.

The questionnaire was pilot tested on a group of faculty members. They found it to have face validity, and could complete it within 10 minutes. Feedback from the pilot test was used to increase the clarity of the instrument.

We marked the questionnaire as confidential and ensured participants that their responses would be reported in aggregate to preserve their confidentiality. We assumed consent by completion of the questionnaire. The questionnaires were numbered in order to track those who chose not to participate.

Analysis

For bivariate analyses, we divided the sample into 2 cohorts: the CEs and the CIs. These terms, particularly "clinician-educator," are utilized in such diverse ways by different university systems across the United States (as demonstrated by Jones and Gold⁷) that we found it necessary to develop a standardized approach to

determining into which category the participants would fall. We utilized 3 different criteria to derive and divide the 2 groups. First, we gave the participants operational definitions for clinician-educator and clinician-researcher (adapted loosely from categories proposed by Levinson et al.⁸) and asked them to indicate into which category they fell. The questionnaire stated that a CI spends "more than 50% time in research, <50% time in direct patient care without learners, minimal teaching or administrative duties, and supports more than 50% of his or her base salary with grants." CEs, on the other hand, spend "more than 50% time in teaching activities, such as developing curricula, organizing conferences, administering a clerkship or residency, supervising and teaching medical residents and students, and less than 50% time in direct patient care without learners; research is usually related, but not limited, to education." Using these definitions, 72 physicians described themselves as CEs and 56 faculty members considered themselves CIs. Participants also were given the option of categorizing themselves as "Clinician" or "Other." Those choosing these latter 2 groups ($N = 52$) were assigned independently by the authors to CE or CI a priori based upon the amount of research time (30% cut point) and clinical work in the presence of a learner (15% cut point) in which they were involved. These cut points were chosen after analyzing the frequency distributions of responses, as suggested in a paper by Zakowski et al.⁹ In 9 cases in which the 2 investigators independently disagreed on the assignments, discussions about the discrepancies and the rationales were undertaken in order to arrive at consensus about the categorizations of these physicians. Thirteen participants did not choose a category, did not provide work time information, and/or could not be categorized by the investigators.

For the continuous variables, we examined frequency distributions and descriptive statistics (means, standard deviations, frequencies, etc.) for evidence of skewness, outliers, and non-normality. Categorical variables were recoded based on sparseness in certain categories. Bivariate analyses included *t* tests, analysis of variance, and Pearson's *r* as appropriate to the level of measurement. The Institutional Review Board of the University of Kansas School of Medicine in Wichita approved the study.

RESULTS

Of the 183 subjects who enrolled to participate in the Prospective Study of Promotion in Academia, 107 (58%) were classified as CE and 63 (34%) were classified as CI by either their self-selection or by the criteria used by the investigators. Thirteen participants (7%) were unable to be placed into these categories.

Characteristics of the Faculty Population Studied

Thirty-five percent of the participants were female and 20% were from a minority ethnic group (Table 1). Their average age was 40 years (SD, 3.9 years). Eighty-three

percent of the participants were from university-based programs; the remainder were from community-based programs (4%), Veteran Affairs hospitals (4%), city/county hospitals (3%), and "other" (6%). Fifty-five percent of the participants were ranked in the top 25% of their medical school class, and 31% were members of Alpha Omega Alpha during medical school. Seventy-four percent completed a subspecialty fellowship. Eighty-nine percent of the participants were currently married and 85% had at least 1 child. Participants worked an average of 58 hours per week (SD, 12), and only 5 worked less than 40 hours per week. The mode for the ranges of salary was \$110,000 to \$129,000 per year with 28% of participants choosing this response. There was no significant difference between CEs and CIs in any of the above variables.

Clinician-educators spent 68% (range 16%–100%; SD, 20%) of their work time in total patient care (including precepting medical learners in the clinic, functioning as attending physicians with medical learners in the hospital, and performing patient care without learners), compared to 33% (0%–90%; SD, 20%) for CIs ($P < .001$). Research activities comprised 8% (0%–35%; SD, 9%) of the CEs' time, as compared to CIs, who spent 55% (10%–100%; SD, 23%) of their time in research endeavors ($P < .001$).

Forty-seven percent of CEs participated in research during medical school, whereas 73% of the CIs did so ($P = .001$), and more CIs participated in a post-residency training program than did CEs (95% vs 72%; $P < .001$).

Preparing for Promotion

More CIs were eligible for tenure in their promotion track than were CEs (59% vs 36%; $P = .005$). Forty-nine percent of the CEs were in a "clinical" track; however, 75% of the CEs reported they were expected to produce research publications for promotion. Seventy-two percent of the CIs had actually seen written promotion guidelines for their job compared to only 51% of CEs ($P = .009$). Likewise, CIs met more regularly with their chair or chief to discuss promotion than did CEs.

Importance of Specific Aspects of an Educator's Performance in Promotion Decisions

The CE respondents believe that clinical research, written scholarship, and reputation are the most important factors determining their likelihood of successful promotion. As shown in Table 2, the clinician-educators' impressions are vastly different from those of the U.S. medical school promotion committee chairs that were studied in 1996.

Supportive Resources: Availability, Use, and Utility

Table 3 shows 12 types of supportive resources that may be available to help academic faculty with their productivity or their professional growth and development. Only 25% of CEs indicated that research mentors were

Table 1. Characteristics of Participants in the Prospective Study of Promotion in Academia, 2000

Characteristics of Subjects	Total Participants (N = 183)	Clinician-educators (N = 107)	Clinician-investigators (N = 63)
Demographic variables, freq. (%)			
Age ≤38 y	66 (37)	45 (43)	14 (23)*
Female	64 (35)	32 (30)	27 (43)
Minority race	37 (20)	15 (14)	19 (30) [†]
Percent work time, mean ± SD			
Patient care without learners	27 ± 25	31 ± 22	14 ± 15*
Percent research	24 ± 27	8 ± 9	55 ± 22*
Attending medical learners in hospital	17 ± 16	22 ± 16	11 ± 11*
Precepting medical learners in clinic	12 ± 13	15 ± 13	8 ± 11 [†]
Administrative duties	12 ± 13	13 ± 13	8 ± 9 [†]
Curriculum development	5 ± 7	7 ± 9	3 ± 4*
Professional background and training, freq. (%)			
Participated in research during medical school	107 (59)	50 (47)	46 (73)*
Post-residency training (fellowship/other vs none)	145 (80)	76 (72)	60 (95)*
Preparing for promotion, freq. (%)			
In a "clinical" track [‡]	64 (36)	51 (49)	6 (10)*
Track eligible for tenure	75 (44)	37 (36)	35 (59) [†]
Expectation of research publications for promotion	145 (79)	79 (75)	59 (98)*
How often meet with chair/chief to discuss promotion			
More than yearly	69 (38)	34 (32)	32 (53) [†]
Every 1–2 y	70 (39)	49 (46)	18 (30) [†]
Never	41 (23)	24 (22)	11 (18)
Aware of chair/chief's expectations for promotion	119 (67)	67 (63)	46 (77)
Have seen written promotion guidelines	102 (56)	55 (51)	44 (72) [†]

Thirteen respondents were unable to be characterized as clinician-educator or clinician-investigator, as discussed in the text.

* $P < .001$.

[†] $P < .05$.

[‡] Some tracks label faculty who are not primarily researchers with "Clinical" in the title, such as "Clinical Assistant Professor."

available for them, compared to 64% of CIs ($P < .001$). Eighty-seven percent of the CEs reporting that research mentors were not available said that if they were available they would use them. Likewise, only 37% of the CEs had

more than 10% protected scholarly time compared to 79% of the CIs ($P < .001$).

DISCUSSION

This article describes a cohort of assistant professors at departments of medicine within academic institutions as they near the time in which they will be considered for promotion. Just as the job characteristics of CEs and CIs are very different, so appear to be the resources and opportunities to prepare themselves for promotion. Unlike previous research that asked medical school promotion committee chairs and department of medicine chairs about the promotion of CEs,^{5,6} this is the first national study to explore the opinions and views of academic faculty themselves about issues related to their promotion. While the entire cohort of this study will be followed prospectively to see when promotion to associate professor occurs, the findings presented in this article raise concerns that the CEs will be less comely candidates for promotion, particularly when compared to their CI counterparts.

The clinician-educators' infrequent meetings with division chiefs and their unfamiliarity with promotion guidelines and expectations are signs of peril for their coming attempts to achieve promotion. Fortunately, the aforementioned impediments are amenable to change provided that CEs take charge and responsibility for their ultimate success in the academic promotion system.¹⁰

Table 2. Importance of Specific Aspects of Clinician-educators' Performance in Promotion Decisions, Comparing the Clinician-educators in 2000 to Promotion Committee Chairs' Responses from 1996⁵—Organized by Their Ranking*

Specific Aspects of a Clinician-educator's Performance	Clinician Educators (N = 107)	Promotion Committee Chairs, 1996 (N = 115)
Clinical research	1	10
Written scholarship	2	8
Reputation	3	5
Teaching skills	4	1
Curriculum development	5	6
Personal qualities	6	9
Coordinating programs	7	4
Education research	8	11
Mentoring	9	3
Coordinating service	10	7
Clinical skills	11	2

* Both sets of importance rankings were derived from scores given to items using Likert Scales.

Table 3. Faculty Support Resources and Their Availability and Utility Among Clinician-investigators (N = 63) and Clinician-educators (N = 107)

Types of Faculty Support	Available, n (%)	P Value	Available and Use it, n (%)	P Value	Not Available but Would Use It, n (%)	P Value
Secretarial support						
CI	46 (73)	.78	42 (93)	.75	17 (94)	.19
CE	76 (71)		72 (95)		30 (100)	
Library support						
CI	39 (70)	.27	31 (84)	.83	20 (87)	.43
CE	75 (70)		64 (85)		28 (93)	
Grant seminars						
CI	41 (65)	.47	13 (33)	.87	16 (78)	.88
CE	63 (59)		20 (32)		32 (74)	
Senior career mentors						
CI	43 (68)	<.001	37 (93)	.53	19 (100)	.19
CE	34 (32)		30 (88)		66 (92)	
Senior research mentors						
CI	39 (64)	<.001	36 (92)	.10	20 (95)	.37
CE	26 (25)		17 (67)		70 (87)	
Senior teaching mentors						
CI	11 (18)	.71	10 (100)	.33	37 (80)	.11
CE	22 (21)		20 (91)		75 (90)	
Work-in-progress seminars						
CI	46 (73)	.002	39 (89)	.001	12 (75)	.56
CE	52 (49)		31 (60)		35 (67)	
Statistical support						
CI	35 (56)	.87	27 (79)	.14	23 (85)	.62
CE	57 (54)		37 (65)		41 (89)	
Manuscript reviews						
CI	14 (23)	.86	10 (77)	.95	37 (80)	.95
CE	25 (24)		19 (76)		64 (80)	
Faculty development program						
CI	29 (46)	.97	15 (56)	.48	23 (74)	.07
CE	49 (47)		30 (64)		49 (89)	
>10% Protected scholarly time						
CI	48 (79)	<.001	45 (100)	.02	12 (100)	.55
CE	37 (37)		33 (89)		66 (97)	
Grant office						
CI	30 (48)	.35	27 (96)	<.001	32 (100)	.01
CE	41 (40)		20 (51)		49 (83)	

CE, clinician-educator; CI, clinician-investigator.

Other barriers to the completion of scholarly work by CEs, such as the paucity of mentorship, the relative lack of research-in-progress conferences to discuss work with colleagues, and limited protected time, will probably require a change in institutional philosophy and priorities rather than diligence on the part of CEs.^{3,11-13}

Because of the inherent barriers faced by CEs with respect to achieving promotion, it has been recommended that CEs take full advantage of any and all opportunities to be scholarly, including collaborating effectively, attempting to publish a particular aspect of their clinical work or teaching, and becoming recognized as experts within a particular niche.^{3,14} In order for CEs to have a chance at timely promotion in academia, CEs must: 1) collect any and all data about the quantity and quality of their teaching (teaching portfolio)¹⁵; 2) amass information describing their effectiveness as clinicians (e.g., number of patients seen, income generated, patient satisfaction, reputation with colleagues); 3) be aware of what is expected of them at

their institution for promotion to the rank of associate professor; 4) identify mentors who are truly committed to the professional growth and success of CEs; 5) insist on meeting with their division chiefs every 6 months to discuss issues related to the achievement of promotion; and 7) strive to create a supportive environment wherein they have the time and the necessary resources to work on scholarly activities.

There is considerable discrepancy between what is viewed to be most important for the promotion of CEs between the promotion committee chairs, who claimed to value most the teaching, clinical activities, and mentoring done by CEs, and the CEs themselves, who believe that clinical research, written scholarship, and their reputations are most important. Several possibilities could explain this disagreement. First, the promotion committee chairs may have misrepresented their true sentiments in an effort to answer the questions in ways they believed to be politically correct. Second, CEs may be misinformed about

the components of their work that are most highly considered and appreciated with respect to their promotion. Third, a combination of both may be in play, varying in degree from institution to institution.

Several limitations of this study should be considered. First, the sample of assistant professors studied represents only faculty members who have stayed at the institution that initially hired them at that rank. Twenty-one percent of faculty members whom we attempted to recruit into this study appear to have already left the institution. Our study was not designed to determine why early "drop-outs" occur. Second, we relied exclusively on self-report to characterize the physicians and their opinions about promotion. Third, comparisons of the physicians' opinions to earlier studies about the promotion of CEs may be disparate because of the evolution of the job descriptions and roles of CEs in recent years. Fourth, an argument could be made that the unit of analysis should be the medical schools rather than the individual faculty members. However, as the AAMC has recently demonstrated, there is no homogeneity in the make-up of CE tracks in U.S. medical schools.⁷ Another area of concern may be that there was a wide range of responses regarding the percent of time spent in clinical and research work in both of the main groups, CE and CI. Dividing faculty into such groups is fraught with inconsistencies in any chosen manner. Some faculty who consider themselves to be CEs perform very little clinical work. Alternatively, some who consider themselves to be researchers perform a great amount of clinical work. And as stated above, there are no uniform standards for classifying faculty tracks. We based our divisions on respondents' own choices, published definitions in the medical literature and research reports. Finally, a response rate of 38% of physicians surveyed may be considered low. Nonetheless, 38% of physicians have agreed to enroll in a prospective study in which they will be contacted repeatedly about their progression toward promotion. A 38% enrollment into a prospective study is excellent.

While both CEs and CIs believe that the latter are more likely to achieve promotion, CEs can learn a lot from their CI colleagues with respect to preparedness and readiness for success. Clinician-educators are less familiar with promotion guidelines, meet less often with superiors for performance review, and have less protected time than their CI colleagues. As these faculty near the time for promotion, this study will track their progress to find out

which demographics, job motivations, job characteristics, and job support mechanisms are associated with their achievement.

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