BRIEF REPORT

Faculty Development Needs

Comparing Community-based and Hospital-based Internal Medicine Teachers

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We compared prior training in 4 areas (general teaching skills, teaching specific content areas, teaching by specific methods and in specific settings, and general professional skills) among community-based teachers based in private practices ($N = 61$) compared with those in community sites operated by teaching institutions ($N = 64$) and hospital-based faculty ($N = 291$), all of whom attended one of three national faculty development conferences. The prevalence of prior training was low. Hospital-based faculty reported the most prior training in all 4 categories, teaching hospital affiliated community-based teachers an intermediate amount, and private practice community-based teachers the least (all $P < .05$). This association remained after multivariable adjustment for age, gender, and amount of time spent in teaching and clinical activities. Preferences for future training reported frequently by the private practice community-based teachers included: time management (48%); teaching evidence-based medicine (46%); evaluation of learners (38%); giving feedback (39%); outpatient precepting (38%); and "teaching in the presence of the patient" (39%).

KEY WORDS: teaching/methods; medical faculty; education; medical; ambulatory care/education; internal medicine/education.

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The practice of medicine is increasingly outpatient focused, requiring training programs to recruit outpatient, community-based teachers to provide experiences for trainees in internal medicine.¹ As a result, awareness of the need for faculty development in teaching skills for community-based teachers is increasing. National, regional, and local faculty development initiatives have begun.^{2–4} Although it is axiomatic that an assessment of the needs of targeted faculty should precede any faculty development program, many published reports of such programs fail to mention that a needs assessment preceded or guided development efforts.^{5,6} Given this deficiency, little is known about differences in the faculty development needs of private practice community-based teachers versus other teachers. Although the level of training among volunteer faculty might be presumed to be less, this is an unproven assumption and the specific areas of need are not known.

We took the opportunity to conduct a needs assessment of a group of internal medicine teachers who attended one of three national conferences on teaching-related faculty development for outpatient teachers. We had 2 objectives. First, we wanted to compare the prior training reported by hospital-based teachers, community-based teachers directly affiliated with teaching hospitals, and private practice community-based teachers. Second, we wanted to compare these same teachers' interest in topics for future faculty development conferences.

METHODS

Sample

A series of three conferences focused on teaching-related faculty development were conducted between December 1999 and December 2000. These meetings were funded by Health Resources and Services Administration (HRSA) and developed by the General Internal Medicine Generalist Education Leadership Group (GIMGEL), a collaborative group with representatives from all major organizations with expertise in faculty development within internal medicine.² Participants for the meetings were

recruited from teaching hospitals with internal medicine residency programs in the United States. Teams of 3 to 5 physicians were funded to attend one of the conferences and each team was required to include a community-based teacher (CBT). Participants completed a survey on the last day of the conference that serves as the data source for this analysis.

Survey Development and Content

The survey included demographic characteristics, administrative position (i.e., dean, chair, division chief, program director, clerkship director), and percent of time spent in teaching and clinical activities. Based on their self-report, physician participants were categorized as community-based if they responded that they spent the majority of their professional time in a community-based setting and hospital-based if they reported that they spent the majority of their time in a hospital-based setting. Community-based participants were further subdivided, based upon their reported type of community-based setting, into 1) community-based teachers who were located in a site operated by their teaching institution or 2) community-based teachers who were located in a private practice.

Participants were asked: "In which of the following content areas have you received training prior to this meeting?" and "Which of the following content areas would you prefer to be included in future conferences?" A list of 24 responses was developed by the Project Evaluation Team (JMC, TKH, DEK) and revised, using an iterative process. Input into the list of items was elicited from an advisory board based at Johns Hopkins University, an independent, multi-institutional group of physicians with expertise in teaching skills, and the GIMGEL Group. Participants were also allowed to write-in other skills areas not listed. For this report, we have identified a subset of 16 responses from the list most likely to be relevant to the community-based teachers. These items were categorized as follows: 1) general teaching skills (general teaching/learning principles, giving feedback, evaluation of learners, and mentoring skills); 2) teaching specific content (teaching evidence-based medicine, psychosocial medicine, cost-effectiveness, preventive medicine, population-based medicine, and telephone medicine); 3) teaching by specific methods and in specific settings (outpatient precepting, inpatient precepting, teaching in the presence of the patient, and how to use role play); and 4) professional skills thought to be valuable to teachers (time management, and using computers/information technology).

Analysis

Trends in the frequency of prior training reported for each of the 16 individual teaching-related items between private practice community-based teachers, teaching hospital-affiliated community-based teachers, and hospital-based teachers were assessed using Maentel-Haenzel χ^2 tests for trend. To further define where gaps in training exist,

differences in the 4 categories were assessed first using analysis of variance, and then after adjustment for age, gender, percent of time teaching, and percent of time in clinical activities using linear regression. Differences in preferred future content were assessed using similar methods as that for prior training.

RESULTS

Response Rate and Participant Characteristics

Of the 478 physician-teachers from 110 different teaching hospitals who attended the conferences, 443 (response rate 93%) completed our survey. A small number ($n = 27$, out of 443, or 6%) of participants reported being located in government, the military, nonteaching institution-operated HMOs, or other community-based sites, and were thus excluded from these analyses. Sixty-one of the 416 remaining teachers were based in community-based, private-practice settings, 64 in community-based settings operated by their teaching institutions, and 291 in teaching hospitals. The majority of participants (54%) were over 40 years old and most (60%) were male (Table 1). Not unexpectedly, compared with hospital-based teachers, the private practice community-based teachers reported a greater percent of time spent in clinical practice and conversely less of their total effort teaching.

Needs Assessment of Prior Training

The prevalence of prior training was not high. Only 2 of the general teaching skills, general teaching/learning principles and giving feedback, were reported by over 50% of all participants (Table 2). A consistent trend was seen with hospital-based teachers reporting the most training, community-based teachers directly affiliated with the teaching hospital having less prior training, and private practice community-based teachers having the least training. Differences were significant for 15 of the 16 items (Maentel-Haenzel χ^2 test for trend ranging from 36.0 to 4.4; $P < .05$ for all).

The greatest gaps (over 40% absolute difference) in prior training between hospital-based faculty and private practice community-based teachers were seen in the general teaching skills of giving feedback and evaluation of learners. Only 7 of the 61 private practice teachers reported having received training in "teaching in the presence of the patient," a specific method likely very relevant to education in community outpatient settings.

Analysis at the category level (general teaching skills, specific content, specific methods and settings, and professional skills) confirmed these differences. Hospital-based teachers reported a mean prior training in 2.3 (standard deviation [SD] 1.4) out of the 4 general teaching skills, compared with community-based teachers affiliated with the teaching hospital (1.9; SD 1.4) and private practice community-based teachers (1.1; SD 1.2; ANOVA $F = 22$; $P < .001$). Overall prior training in teaching specific content was even lower, and again differences were seen with private practice

Table 1. Demographic Characteristics, Administrative Positions, and Clinical and Teaching Activities Among 416 Internal Medicine Physicians Who Participated in Three National Meetings for Teaching Skills

		Hospital-based (N = 291)		Community-based Teaching Hospital Affiliated (N = 64)		Community-based Private Practice (N = 61)	
		n*	(%)	n*	(%)	n*	(%)
Age	≤40	131	(46)	30	(47)	24	(40)
	41 to 50	108	(38)	28	(44)	27	(45)
	>50	47	(16)	6	(9)	9	(15)
Gender [†]	Male	169	(60)	36	(56)	44	(76)
	Female	111	(40)	28	(44)	14	(24)
Administrative position ^{‡§}	Dean, Chair, Chief, Program or Clerkship						
	Director	173	(59)	17	(27)	6	(10)
Percent clinical time ^{‡§}	More than 55%	44	(17)	34	(55)	51	(85)
Time spent teaching ^{‡§}	More than 30%	93	(34)	17	(27)	7	(12)

* Total N varies due to small numbers of missing data (less than 9%).

[†] Chi-square hospital versus community-based/private practice $P < .05$.

[‡] Chi-square hospital versus community-based/private practice $P < .01$.

[§] Chi-square hospital versus community-based/teaching-hospital affiliated $P < .01$.

community-based teachers reporting a mean of 0.5 (SD 0.9) out of the 6 content items, compared with community-based teachers affiliated with the teaching hospital (0.7; SD 1.2) and hospital-based teachers (1.4; SD 1.6; ANOVA $F = 14$; $P < .01$). Differences were also present for the

specific methods and setting and the professional skills categories ($P < .01$ for both). These differences remained significant for all 3 categories after adjustment for age, gender, and percent of time in clinical and teaching activities using linear regression.

Table 2. Differences in Prior Training in Specific Teaching-related Categories Among 416 Hospital and Community-based Teachers

Category	Teaching-related Item	Hospital-based N = 291	Community-based Teachers Affiliated with Teaching Hospital N = 64	Private-practice Community-based Teachers N = 61
		Percent Yes	Percent Yes	Percent Yes
General teaching skills	General teaching/learning principles*	72	65	54
	Giving feedback*	70	62	28
	Evaluation of learners*	56	43	15
	Mentoring skills*	33	23	13
Teaching specific content	Psychosocial medicine*	26	12	6
	Evidence-based medicine*	45	28	19
	Cost-effectiveness [†]	17	9	8
	Preventive medicine [†]	25	11	17
	Population medicine [†]	12	3	3
	Telephone medicine [‡]	11	6	3
Teaching by specific methods and in specific settings	Outpatient precepting [‡]	50	56	30
	Inpatient precepting*	46	29	15
	How to use role play*	47	31	19
	Teaching with the patient present*	37	26	12
Teaching-related professional skills	Using computers	17	14	13
	Time management*	37	30	11

* Mantel-Haenszel chi-square P for trend $\leq .001$.

[†] Mantel-Haenszel chi-square P for trend $\leq .01$.

[‡] Mantel-Haenszel chi-square P for trend $< .05$.

Preferences for Future Training

Preferences reported frequently by the private practice community-based teachers included: teaching evidence-based medicine (46%); evaluation of learners (38%); giving feedback (39%); outpatient precepting (38%); and "teaching in the presence of the patient" (39%). However, the most frequent of all reported preferences for future training was time management. Forty-eight percent of private practice community-based teachers preferred time management training, compared to 36% of hospital-based teachers (χ^2 3.0; $P = .08$).

In general, preferences for future training were individual and varied widely. Across categories, no consistent trend between the 3 groups of teachers was seen. Overall, private practice community-based teachers preferred future training in an average of 4.4 of the 16 teaching-related items (SD 3.2), teaching hospital-affiliated community-based teachers in 4.3 (SD 2.8), and hospital-based teachers in 4.6 (2.9). However, private practice community-based teachers did have a slight but significantly greater preference for future training in the professional skills (time management, using computers) with a mean of 0.9 (SD 1.2) out of the 2, compared with hospital-based teachers (mean of 0.51; SD 0.6; ANOVA $F = 6$, $P = .014$).

DISCUSSION

Given the increased reliance on community-based teachers to provide outpatient clinical teaching, investment in their training as teachers is important. Our study has demonstrated that, compared with teaching hospital-based teachers, community-based internal medicine teachers reported substantially less prior training in general teaching skills, teaching specific content, teaching by specific methods and in specific settings, and teaching-related professional skills. Community-based teachers who were located in sites operated by their teaching institutions had more training than teachers in private practices, but less than their hospital-based colleagues. Additionally, we have demonstrated that fewer than 50% of the 416 participating faculty had any previous training in 14 of the 16 discrete teaching-related items.

To our knowledge, this is the first report of a needs assessment for faculty development that has targeted community-based teachers. Several studies that have evaluated faculty development in teaching skills for community-based teachers have not mentioned that the targeted community-based teachers participated in a needs assessment.^{5,7,8} In one report, expert opinion was utilized to confirm that the Stanford Faculty Development Program had utility for community-based teachers.³ Only one program used an advisory group populated by community-based faculty to develop curricular content.⁹ Based on these studies, it appears that an assessment of the curricular needs of community-based teachers rarely involves their direct input.

The strengths of our study include the high response rate from a diverse study population that included participants from 110 U.S. teaching hospitals (28% of all internal medicine teaching hospitals). These teachers represented a broad range of clinician educators with differing outlooks, demographic characteristics, geographic locations, practice types, and clinical, administrative, and teaching responsibilities.

The major limitation of this study is that the study sample was not randomly selected and therefore was likely not representative of all internal medicine teachers. Given that these physicians were selected to represent their institution at a faculty development conference, it is probable that these teachers were more interested and potentially had greater prior training compared with physicians who did not participate in the conferences. Thus, they may overestimate the absolute frequency of previous training among internal medicine physicians in general. Because the selection for participation was similar for community-based private practice, community-based teaching hospital-affiliated, and hospital-based faculty, differences in training between groups can still be assessed. Additional limitations are that the needs assessment was by self-report rather than objective assessment and was limited to the categories included on the questionnaire. However, very few participants used the optional "other" teaching skills fill-in blank. Finally, preference for future training was assessed at the close of the conferences, and may have been influenced by training obtained during the conferences.

Notwithstanding these limitations, we believe this study has several implications that can help inform future faculty development efforts for internal medicine faculty. Previous training in teaching-related skills was low for all physician groups in this study, confirming the need for additional training. These results are consistent with a recent national survey of faculty development, with responses from 108 teaching hospitals indicating that only 39% of teaching hospitals had ongoing faculty development in teaching skills.¹⁰ In the survey, faculty development leaders were asked to identify the areas they felt were most important for faculty development in teaching skills. Using a scale from 1 = not important to 5 = extremely important, respondents considered giving feedback (4.3), evaluation of learners (4.1), outpatient precepting (4.1), teaching evidence-based medicine (3.9), and mentoring skills (3.9) to be the most important.¹⁰ Because we found that training was lower and different in the community-based compared to hospital-based teachers in our sample, not only do community-based faculty appear to be the most in need, but the faculty development programs that target them should be different from those that target hospital-based faculty.

Our results suggest several specific areas of focus for training of community-based teachers. Because of the importance of general teaching skills, and the wide gaps in prior training identified, faculty development for private practice community-based providers should include training in general teaching skills, especially giving feedback

and evaluation of learners. Based on the preferences for the future, training in teaching specific content should include teaching evidence-based medicine. Being aware of the time constraints in private practice, many of these teachers may benefit from training in time management as it relates to their teaching activities. Along with this theme of efficiency in teaching, future faculty development efforts for community-based faculty should also include teaching in the presence of the patient. However, because the preferences for future training varied widely, we believe a local, focused needs assessment is desirable prior to the start of any faculty development initiative.

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