

# Hospitalists as Teachers

## How Do They Compare to Subspecialty and General Medicine Faculty?

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**OBJECTIVE:** To compare evaluations of teaching effectiveness among hospitalist, general medicine, and subspecialist attendings on general medicine wards.

**DESIGN:** Cross-sectional.

**SETTING:** A large, inner-city, public teaching hospital.

**PARTICIPANTS:** A total of 423 medical students and house staff evaluating 63 attending physicians.

**MEASUREMENTS AND MAIN RESULTS:** We measured teaching effectiveness with the McGill Clinical Tutor Evaluation (CTE), a validated 25-item survey, and reviewed additional written comments. The response rate was 81%. On a 150-point composite measure, hospitalists' mean score (134.5 [95% confidence interval (CI), 130.2 to 138.8]) exceeded that of subspecialists (126.3 [95% CI, 120.4 to 132.1]),  $P = .03$ . General medicine attendings (135.0 [95% CI, 131.2 to 138.8]) were also rated higher than subspecialists,  $P = .01$ . Physicians who graduated from medical school in the 1990s received higher scores (136.0 [95% CI, 133.0 to 139.1]) than did more distant graduates (129.1 [95% CI, 125.1 to 133.1]),  $P = .006$ . These trends persisted after adjusting for covariates, but only year of graduation remained statistically significant,  $P = .05$ . Qualitative analysis of written remarks revealed that trainees valued faculty who were enthusiastic teachers, practiced evidence-based medicine, were involved in patient care, and developed a good rapport with patients and other team members. These characteristics were most often noted for hospitalist and general medicine attendings.

**CONCLUSIONS:** On general medicine wards, medical students and residents considered hospitalists and general medicine attendings to be more effective teachers than subspecialists. This effect may be related to the preferred faculty members exhibiting specific characteristics and behaviors highly valued by trainees, such as enthusiasm for teaching and use of evidence-based medicine.

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Faculty responsible for teaching medical students and internal medicine residents in the hospital face a daunting task with increasingly rapid turnover of higher acuity patients combined with documentation requirements which encroach upon the time available for student and resident education.<sup>1</sup> Despite the continued need for excellent clinical teaching and appropriate supervision of trainees, financial pressures limit the funding available to support teaching in academic medical centers.<sup>2-5</sup> Traditionally, biomedical researchers and office-based physicians, both subspecialists and generalists, have comprised the pool of faculty responsible for teaching internal medicine on the hospital wards. They usually serve for 1 or 2 months per year, rounding with the ward team for 1 to 2 hours per day, while trying to maintain their other clinical obligations and research activities. Well known for decades, the conflict between service and education for trainees<sup>6</sup> demands new attention with recent enforcement of Residency Review Committee criteria that markedly increase the responsibilities of the ward attending (e.g., ensuring adequate time off for the house staff, mandated 4.5 hours of teaching rounds per week, and distinct management and teaching rounds).<sup>7</sup>

As outpatient office and research duties of general medicine and subspecialty faculty limited their time for hospital work, many leading academic medical centers introduced hospitalists, physicians whose primary professional focus is the care of hospitalized patients.<sup>8-13</sup> Academic hospitalists commonly work as clinician-educators, teaching house staff and medical students, while serving as the physician of record for medical inpatients.<sup>14</sup> In a 1997 survey by the National Association of Inpatient Physicians (now the Society of Hospital Medicine; SHM), 5.7% of respondents reported working for a university.<sup>15</sup> However, hospitalist programs have proliferated and are now in place at all of the "Top 15 Hospitals" (as rated by U.S. News & World Report) in the United States.

Growth in the use of hospitalists has primarily been driven by research demonstrating equal or improved clinical outcomes, reduced length of stay, and substantial cost savings under a hospitalist model, with no decline in patient satisfaction.<sup>10-12,16-28</sup> The educational impact of hospitalists is less clear.<sup>29</sup> Despite concerns raised about

the impact of hospitalists on academic medicine—diminishing subspecialty exposure,<sup>30</sup> threatening trainee autonomy,<sup>31</sup> and overemphasizing hospital care compared to primary care<sup>32</sup>—there are a number of theoretical advantages to employing a hospitalist model in academic institutions.<sup>31,33–36</sup> Because they are based on the hospital wards, hospitalists are more available to teach, supervise trainees, and provide direct patient care.<sup>13</sup> Furthermore, hospitalists develop expertise in managing common inpatient illnesses and tend to emphasize cost-effective, evidence-based medicine.<sup>12</sup> The initial experience of academic hospitalist programs has been positive,<sup>11,18,31,37</sup> and house staff preferred hospitalists to traditional ward attendings at 3 centers.<sup>12,38,39</sup> However, no large studies have been published, and the impact of hospitalists on medical student education is unknown.<sup>10,29</sup> The present study was conducted among medical students and house staff at a large, urban teaching hospital, to evaluate the teaching effectiveness of hospitalists compared to subspecialists and general medicine faculty.

## METHODS

### Setting

The study was conducted over a 12-month period, from August 1998 through July 1999, at Grady Memorial Hospital (GMH), a 750-bed, inner-city, public teaching hospital located in Atlanta, Ga. GMH primarily serves an indigent, African-American population. Teaching services staffed by faculty, residents, and medical students from 2 medical schools care for all patients admitted to the hospital. Approximately 75% of general medical admissions receive care from Emory University School of Medicine staff. The remaining medical patients are admitted to the teaching service of Morehouse School of Medicine. Together, 12 Emory ward teams admit approximately 1,000 patients per month, providing care on the medical wards, telemetry, step-down, and coronary care units. Each team is typically comprised of an attending physician, 1 resident (postgraduate year [PGY] 2 or 3), 2 interns (PGY-1), 2 third-year medical students (M3), and 1 or 2 fourth-year students (M4). The resident manages patient care, making most of the decisions from the time of admission through discharge, with daily supervision from the attending physician. Team members change at the end of each calendar month.

Traditionally, the attending physicians spent 1 to 2 months per year on the medical wards. Approximately 75% were subspecialists, and the rest were generalists with an outpatient focus. In July 1998, the academic service reorganized with the introduction of hospitalists. During the study period, 6 of the 12 medical ward teams were supervised by hospitalists, 3 by general medicine attendings, and 3 by subspecialists. The hospitalists were all trained and board certified in internal medicine; none had completed a chief residency, general medicine fellowship, or subspecialty training. Seven of the 12 hospitalists had just completed their residency, and 5 had previously

worked as generalists at GMH. Their primary responsibility was to supervise medical ward teams for 6 to 8 months per year, and in addition to this, they spent approximately one-third of their professional time in outpatient clinics. By comparison, general medicine attendings spent most of their time in the outpatient setting and only 1 to 2 months working on the inpatient wards. The subspecialists had varied clinical duties and generally spent 1 month per year as a ward attending. While many worked at GMH as subspecialty consultants, others spent limited time there, and were instead based at a university-affiliated private practice. Most subspecialists also conducted laboratory or clinical research.

Hospitalist and nonhospitalist teams worked in the same areas of the hospital, sharing work space, nurses, and other ancillary staff. During a given month, they admitted an equal number of patients, the majority (>85%) of whom were initially evaluated by the emergency department. Once patients were deemed appropriate for admission to the medical ward service, they were sequentially distributed to the on-call teams regardless of diagnosis, acuity of illness, or primary care physician. Quasi-randomization of admissions to the 3 different types of attendings was achieved by having only 1 type admit patients each 24-hour period. The 12 teams rotated through a 4-day call cycle, with 3 teams on call each day. On day 1 of the cycle, 3 teams with a general medicine attending admitted all Emory medical patients. On day 3, the 3 subspecialist-staffed teams were on call. On days 2 and 4, the 6 hospitalist teams (3 teams each day) admitted patients.

### Study Design

The study was descriptive, following a cross-sectional design. Data were collected through a self-administered questionnaire. The study design, questionnaire, and consent forms were reviewed and approved by the Institutional Review Board at Emory University. A project coordinator supervised data collection and conducted ongoing quality control of the study.

### Participants and Data Collection

All house staff and medical students who worked on Emory medical ward teams between August 1998 and July 1999 were eligible for participation. At the end of each ward month, a research assistant approached potential subjects, asking them to complete a questionnaire about their experience that month. These surveys were usually administered, completed, and collected during a noon educational conference. Participation was voluntary and anonymous. Prior enrollment did not disqualify trainees from completing a questionnaire for subsequent ward rotations. In addition, we obtained attending characteristics from the Department of Internal Medicine (gender, type of attending), Emory University medical staff directory, and American Medical Association website (year of graduation from medical school).<sup>40</sup>

## Study Instrument

The full questionnaire took approximately 20 minutes to complete and addressed several domains. In the first section, respondents completed the Clinical Tutor Evaluation (CTE),<sup>41,42</sup> a valid and reliable method of rating teaching effectiveness that provided the data for the present analysis. The CTE listed 25 attending attributes, with a 6-point Likert response scale that varied from “very strongly disagree”<sup>1</sup> to “very strongly agree.”<sup>6</sup> It was not modified from its original form. The survey also requested the gender and year of training of each respondent. On other sections of the questionnaire, trainees evaluated the experience of working on the medical wards and the educational content of the rotation. The final page of the survey asked participants to provide additional written comments in an unstructured format.

## Data Analysis

We used descriptive statistics to examine the exposure variables—attending type (hospitalist, general medicine, or subspecialist), attending gender, number of years since the attending graduated from medical school, trainee gender, and level of training. Two-way frequency tables compared the distribution of respondent and attending characteristics across attending type.

The outcome variables consisted of the 25 individual attending attributes measured by the CTE, as well as a summary score. We used the  $\chi^2$  statistic to examine how the individual attribute ratings differed across attending characteristics. To calculate the composite score, we summed the ratings of the 25 individual attributes, using the mean attribute rating from each survey to impute missing values. Missing values occurred in approximately 0.5% of the CTE questionnaire items. We tested 2 alternative imputation strategies, and also performed the analysis using only complete surveys, with no significant change in the results.

Statistical analyses were limited to the last survey completed by each participant, since most trainees completed a single questionnaire and this constraint allowed us to focus on the physician-level clustering. The analyses of composite CTE scores and individual attending attributes were performed using the generalized estimating equation (GEE) method implemented with SAS Proc Genmod (version 8, Cary, NC). In addition to the GEE analyses, within- and between-physician variance estimates for CTE scores were obtained from SAS Proc Mixed.

The GEE method is based on fitting a generalized linear model to the CTE data, while accounting for covariates and for the correlations among trainees' ratings of attending physicians (physician-level clustering). Furthermore, the GEE method does not make any assumptions regarding the distribution of CTE scores. A compound symmetry variance-covariance form in the trainee assessments was assumed for CTE score, and robust estimates of the standard errors of parameters were used to do statistical tests and construct 95% confidence intervals (CI). Univariable

GEE analyses were performed, fitting separate models for each of the 3 attending-level covariates and each of the 2 respondent-level covariates. Multivariable GEE analyses adjusted for the covariates and for the within- and between-physician variances. Reported *P* values are two sided, and  $\alpha$  was set at .05.

We also analyzed the thematic content of written comments to identify recurring themes. Two authors (SK and DDD) then classified remarks into these themes and judged them to be positive, negative, or mixed. A third reviewer (ACP) resolved disputes. Reviewers were blinded to the identity of the trainee and faculty physician. The categorization scheme allowed an individual's comments to be coded under more than 1 theme when appropriate. For example, a resident may have written, “I really enjoyed working with Dr. X. She was an excellent role model and taught us a lot during rounds. But December is just too busy. I didn't get enough sleep, and there isn't enough time to read.” This comment would have been scored as a positive attending evaluation, negative remark about workload, and mixed feeling about the educational environment. These qualitative comments were not used as covariates in the GEE analyses described above.

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## RESULTS

### Demographics

We collected a total of 673 questionnaires from 423 medical students and house staff. Most trainees (*N* = 224) completed only 1 questionnaire, and the remainder (*N* = 199) completed 2 to 4 questionnaires each due to multiple GMH ward rotations during the study year. We used the last questionnaire from each participant (*N* = 423) for the present analysis. The overall response rate was 81%, with medical students and house staff having nearly equal rates (80% and 82%, respectively). Demographic characteristics of the study participants revealed a distribution of gender and training that was representative of the eligible population (Table 1).

**Table 1. Demographic Characteristics of Participants**

	<i>n</i>	%
Gender		
Male	286	67.6
Female	137	32.4
Training		
M3	113	26.7
M4	93	22.0
PGY-1	121	28.6
PGY-2 or 3	96	22.7
Total	423	100.0

*M3, third-year medical student; M4, fourth-year medical student; PGY, postgraduate year.*

**Table 2. Characteristics of Attending Physicians**

	Attending Type			
	Hospitalist	General Medicine	Subspecialist	All Physicians
Physicians, <i>N</i>	12	24	27	63
Male, %	50.0	50.0	85.2	65.1
Number of years as MD*				
Mean	6.1	9.7	21.6	14.1
Median	5	8.5	18	12
Number of months as ward attending during the study period, mean	6	1.7	1.2	2.3

\* Number of years from medical school graduation to the beginning of the study period.

There were 63 attending physicians who supervised medical ward teams during the 12-month period (Table 2). The 12 hospitalist and 24 general medicine attendings tended to be more recent graduates from medical school than were the subspecialists. Overall, the median year of graduation was 1990. Most subspecialists were men, but there was an equal gender distribution among other attendings. In keeping with their job duties, hospitalists spent a mean of 6 months per year as a ward attending, compared to 1 or 2 months for other attending types. Medical students and house staff were distributed equally among the 3 attending types by trainee level and gender. Individual attendings and trainees never worked together for more than 1 month during the study period; thus, there were no repeat evaluations of an attending by a particular trainee.

### Evaluation of Individual Attending Attributes

Results of the survey were skewed toward highly positive ratings. The mean Likert score was 5.25 out of 6, with a standard deviation of approximately 1 for each questionnaire item. Comparison of the percentage of high ratings (i.e., Likert score of 5, "strongly agree," or 6, "very strongly agree") by attending type revealed significant differences on 12 of 25 questions (Table 3). In general, hospitalist and general medicine attendings were rated higher than subspecialists. We also compared the percentage of high ratings by the year in which the attending had graduated from medical school, using the median graduation date of 1990 to divide recent graduates from their more experienced counterparts. Statistically significant differences were noted on over half the items, with recent graduates receiving higher ratings in all cases (Table 3). Evaluation of teaching effectiveness by attending gender revealed only that male attendings were felt to inspire greater confidence in their knowledge base (item 3), and that female physicians were considered more available for discussion (item 25),  $P < .05$  for each.

### Composite Clinical Tutor Evaluation Scores

Composite scores ranged from 48 to 150 (median 135, mean 131.19, SD 17.86). Mean CTE scores tended to be

high for all physicians (134.5 for hospitalists, 135.0 for generalists, and 126.3 for subspecialists). In the univariate analysis, CTE scores varied significantly by attending type and year of graduation, but not by attending gender, trainee level, or trainee gender (Table 4). On average, hospitalists and general medicine attendings were each considered more effective teachers than subspecialists ( $P = .03$  and  $.01$ , respectively). Combined, hospitalist and general medicine ratings were 8.5 points higher (95% CI, 2.1 to 15;  $P = .02$ ), compared to subspecialists. Recent graduates also received higher ratings than their more senior counterparts ( $P = .006$ ).

In the multivariable model, year of attending graduation remained a significant predictor of composite CTE scores ( $P = .05$ ). While a trend toward better teaching evaluations persisted for hospitalists and generalists, this effect was not statistically significant after controlling for covariates ( $P = .14$  and  $.06$ , respectively).

### Qualitative Evaluation

A total of 232 surveys included written comments, which upon review reflected 8 major themes. Educational environment ( $N = 127$ ) and interaction with the attending ( $N = 118$ ) were the most common, followed by hospital structure and ancillary services, team relationships, autonomy, workload, quality of care, and patient interaction. There was good concordance between the 2 primary reviewers in determining the thematic content of written remarks and whether they were positive, negative, or mixed,  $\kappa = 0.68$ .

Among the 118 comments regarding attending interaction, remarks directed toward hospitalists were more likely to be positive (79%) than those pertaining to general medicine (61%) and subspecialist faculty (56%). Most comments focused on the quality of teaching rounds, where trainees valued faculty who taught enthusiastically, while respecting team members' time and other obligations. Many young hospitalists and general internists received specific positive comments about their enthusiasm for teaching, ability to create a good learning climate, use of evidence-based medicine, and rapport with patients and

Table 3. Evaluation of Selected Attending Attributes by Attending Type and Year of Graduation from Medical School

Attending Attribute	Percent Replying "Strongly Agree" or "Very Strongly Agree"						
	Hospitalist	General		P Value*	MD ≥ 1990	MD < 1990	P Value
		Medicine	Subspecialist				
1. Is enthusiastic and understanding	90.7	88.6	82.2	.093	91.7	84.7	.026
2. Seems interested in social and psychological aspects of illness	78.7	92.1 <sup>†</sup>	79.2	.007	85.5	79.5	.107
3. Inspires confidence in his/her knowledge of subject	87.0	86.0	78.8	.162	88.9	80.8	.020
4. Emphasizes concepts rather than factual recall	85.5	87.7	77.2	.082	88.8	79.6	.010
6. Provides opportunity for discussion	85.4	89.4	77.0	.039	89.3	79.9	.008
7. Encourages me to think	87.0	85.7	81.2	.402	88.8	81.8	.041
8. Attitudes to patients fit my concept of professional behavior	87.0	93.0	87.0	.230	92.3	85.1	.021
9. Occasionally challenges points presented in text and journals	80.1 <sup>†</sup>	67.5	69.1	.021	81.0	67.5	.002
10. Is usually well prepared for teaching sessions	91.3	89.4	79.6	.012	91.2	85.0	.051
11. Conveys enjoyment of associating with me and my colleagues	85.1	91.1	78.2	.032	88.4	81.9	.062
12. Provides feedback and direction	81.2	88.5	65.4	.001	86.9	72.1	.001
14. Deals with colleagues and staff in a friendly manner	88.4	98.3 <sup>†</sup>	87.1	.005	91.3	90.3	.727
15. Teaching is suited to my level of sophistication	85.6	90.4	80.0	.099	89.4	81.9	.028
16. Invites comments rather than providing all the answers	88.4	93.9	81.0	.015	90.3	86.0	.167
19. Is clear and understandable in explanations	89.4	93.0	77.0	.001	94.2	80.9	.001
20. Encourages me to ask questions	83.1	86.0	71.3	.013	86.9	75.5	.003
21. Emphasizes problem-solving approach rather than solutions per se	82.7	88.5	71.0	.004	87.9	75.4	.001
25. Is usually readily available for discussion	89.3	89.4	65.4	.001	90.7	76.7	.001

MD ≥ 1990, attending received MD in 1990 or later; MD < 1990, attending received MD before 1990.

\*  $\chi^2$  test with 2 degrees of freedom, comparing across 3 attending types.

<sup>†</sup>  $P < .05$  for comparison of hospitalist to general medicine attending,  $\chi^2$  test with 1 degree of freedom.

other team members. Trainees also appreciated hospitalists' greater presence on the wards and their level of involvement in patient care. One representative comment from a fourth-year student read, "My hospitalist attending was the best attending I've ever had. He took the time to fully get to know the patients and to discuss their problems (and relevant, evidence-based journal articles) with the team. Rounds with him were efficient and very educational." Another trainee described her general medicine attending as "an excellent mentor and role model for me this month. I respect her fund of knowledge and desire to teach and incorporate all members of the medical team." However, among the many positive statements were some concerns about lack of experience, particularly directed at first-year hospitalist faculty. One resident wrote, "[Dr. G] is energetic, enthusiastic, and very interested in teaching, but lacks the clinical experience and depth of understanding of pathophysiology that makes some of the more veteran attending physicians so effective." Concerns about house staff autonomy were rare, and not increased among hospitalist faculty.

## DISCUSSION

Attributes of excellent attending physician role models include a love for teaching, emphasis on the doctor-patient relationship, and spending greater than 25 hours per week with the team when attending.<sup>43</sup> While some experienced academicians have expressed concern about the potential impact of hospitalists on medical education,<sup>32</sup> many hospitalist faculty share the above characteristics, and the results of this study indicate that hospitalists are considered highly effective educators by trainees in a public teaching hospital. On individual attributes in the Clinical Tutor Evaluation (CTE),<sup>41,42</sup> as well as an aggregate measure, ratings of hospitalist and general medicine faculty consistently surpassed those of traditional subspecialist attendings.<sup>44</sup> Furthermore, qualitative analysis of written remarks revealed greater praise for hospitalists than for other types of attendings. Our positive findings concur with reports from other academic hospitalist programs.<sup>11,12,36,38,39</sup>

Faculty graduation from medical school in the 1990s was associated with better teaching evaluations. However,

Table 4. Comparison of Composite CTE Scores by Attending and Respondent Characteristics

Attending characteristics	Univariate Comparisons		Multivariate Full Model	
	Mean composite CTE score (95% CI)	P Value	Mean composite CTE score (95% CI)	P Value
Attending type				
Hospitalist	134.5 (130.2 to 138.8)	.03*	134.0 (130.2 to 137.8)	.14*
General medicine	135.0 (131.2 to 138.8)	.01*	135.6 (132.2 to 139.0)	.06*
Subspecialist	126.3 (120.4 to 132.1)		128.5 (122.5 to 134.4)	
Gender				
Male	131.1 (126.9 to 135.3)	.5	131.7 (128.2 to 135.3)	.4
Female	133.0 (129.4 to 136.5)		133.6 (130.6 to 136.7)	
MD received				
1990 or later	136.0 (133.0 to 139.1)	.006	135.0 (131.9 to 138.2)	.05
Before 1990	129.1 (125.1 to 133.1)		130.3 (126.7 to 133.9)	
Respondent characteristics				
Gender				
Male	130.9 (127.7 to 134.1)	.1	131.4 (128.6 to 134.2)	.1
Female	133.7 (130.1 to 137.2)		134.0 (130.8 to 137.1)	
Training				
M3	131.9 (127.7 to 136.1)	.9 <sup>†</sup>	132.5 (128.9 to 136.1)	.8 <sup>†</sup>
M4	133.5 (130.3 to 136.8)	.3 <sup>†</sup>	134.2 (131.3 to 137.1)	.5 <sup>†</sup>
Intern	130.4 (126.9 to 133.9)	.4 <sup>†</sup>	130.9 (127.6 to 134.3)	.2 <sup>†</sup>
Resident	132.0 (128.4 to 135.7)		133.1 (129.6 to 136.5)	

M3, third-year medical student; M4, fourth-year medical student; Alpha = .05; CTE, clinical tutor evaluation; CI, confidence interval.

\* Comparison to subspecialist as reference group.

<sup>†</sup> Comparison to resident as reference group.

previous studies that used physician age or academic rank as a marker for experience have not described this relationship.<sup>43,45</sup> Qualitative evaluation of the written comments showed that young faculty tended to be more enthusiastic, convey a greater enjoyment of teaching, and relate well with trainees. These favorable characteristics, combined with a greater emphasis on current medical literature and evidence-based medicine, could have led to the better evaluations. As for the faculty who graduated before 1990, although many individuals were rated highly and praised for their clinical expertise, this group tended to spend less time with ward teams and may have discussed topics of less interest to team members. These factors, as well as the possibility that trainees identify more readily with a young attending, may also help explain the difference in evaluations.

In our qualitative analysis, several trainees mentioned the attending's lack of extensive clinical experience as a barrier to effective teaching. While this perception was not uniformly noted, it raises the possibility of a one- or two-year learning curve for some attending physicians. We were unable to examine this potential effect in the CTE analysis, because the number of evaluations by graduation year was not sufficiently distributed to permit analysis of attending experience by small time intervals. The possibility of a learning curve remains an important question for future research.

There are several potential limitations to the present study. First, its generalizability is limited by the fact that

it took place at a single institution. However, with 423 trainees and 63 faculty, it is one of the largest evaluations to date of teaching in the hospital setting. Second, since hospitalist faculty served a greater number of ward months, they each received more evaluations than the other attendings. This unequal sampling could have introduced bias. Third, the cross-sectional design of surveys limits their value for proving or disproving hypotheses. Nonetheless, questionnaires are widely used to evaluate hospital faculty, and previous work has shown positive results when such evaluations are used to provide feedback to attending physicians.<sup>46-48</sup> Fourth, although the CTE is a validated measure, its content may not reflect all the dimensions of teaching effectiveness.<sup>42,49</sup> A more important measure might be trainee performance on board exams or inpatient care scenarios, but when students and house staff are exposed to a variety of attendings, it is difficult to isolate the effect of a particular group of physicians on their training. Fifth, the clinical importance of CTE scores is uncertain, as are differences in CTE scores across groups of attendings. Although hospitalists and general medicine attendings received statistically higher ratings, the absolute difference between their scores and those of subspecialists was small. The nonparametric distribution of individual and composite CTE scores contributed to this effect, with most evaluations being skewed toward positive responses. Other investigations using this instrument have observed a similar distribution of ratings.<sup>42</sup> Finally, without a detailed log of attending hours, we were unable to control

for the amount of time spent with the ward team. Subspecialists and general medicine faculty tended to spend fewer hours per week with the team, and this may have influenced teaching evaluations, particularly the qualitative component.

In conclusion, this study demonstrates that hospitalists and general medicine attendings are considered highly effective teachers on the inpatient wards, compared to traditional subspecialist attendings. Some of this effect may be due to spending more time with team members, forming stronger personal bonds with trainees, and modeling characteristics highly valued by learners.<sup>43</sup> Given the increasing demands placed on traditional ward attendings, as well as the continued specialization of medical knowledge and practice, hospitalists appear well suited to serve as clinician-educators on the inpatient wards. Their presence as educators and role models may continue to drive the recent enthusiasm for hospital medicine as a career option for medical students and residents.<sup>50-53</sup>

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