

The Intersection Between Clinical Excellence and Role Modeling in Medicine

STEVEN J. KRAVET, MD, MBA
COLLEEN CHRISTMAS, MD
SAMUEL DURSO, MD, MBA
GREGORY PARSON, BS
KATHLEEN BURKHART, MPA
SCOTT WRIGHT, MD

Abstract

Background Role modeling is an integral component of medical education. The literature suggests that being a clinically excellent academic physician and serving as a role model for trainees are integrally related.

Purpose To explore the relationship between being considered clinically excellent and being considered an effective role model.

Methods Two independent surveys were administered to clinically active faculty (asked to name clinically excellent colleagues) and internal medicine residents (asked to name faculty role models). We compared frequency counts of clinically excellent faculty mentioned and frequency counts of role models mentioned by respondents. Spearman correlations and odds ratios with 95% confidence intervals were used to assess the relationship between the responses.

Results A total of 39 of 66 faculty (59%) and 45 of 50 residents (90%) responded. There were 31 faculty members judged to be clinically excellent and 67 faculty identified as role models. Thirty faculty members appeared on both lists. There was a moderately high correlation between these groups (Spearman correlation coefficient = 0.54, $P < .001$). Faculty members who were among those named as clinically excellent by their peers were more likely to be named 3 or more times as a role model by trainees (odds ratio, 24.6; confidence interval, 2.9–207).

Conclusions This study tested and confirmed the correlation between clinical excellence and role modeling, illustrating the value of these faculty members at teaching hospitals.

Introduction

Medical resident and fellow professionalism is shaped by role models at academic medical centers.^{1,2} Attributes and skills of physician role models include humanism, professionalism, passion, and clinical reasoning.^{1–4} These same characteristics have been linked to the definition of clinical excellence in academia.^{5,6} Based on this overlap, one might

hypothesize a strong correlation between delivering clinically excellent care to patients and serving as an inspiring role model to medical trainees.

The reward systems, including promotion considerations, for faculty in academic medicine may underemphasize accomplishments in clinical care. Excellent clinicians whose primary academic contribution is teaching in a clinical context are believed to be more likely to leave academic medicine.⁷ If the most clinically excellent physicians were also shown to be the role models who are most cherished and influential to trainees, this association would underscore the compounded benefit of attracting and retaining these physicians in academic medical centers.⁸ We explored the association between being identified as clinically excellent by peers and being identified as a role model by trainees in an academic department of medicine.

Methods

Setting and Participants

The study took place in the Department of Medicine at the Johns Hopkins Bayview Medical Center.

In 2008, we developed a definition of clinical excellence in academic medicine based on a literature review and

All authors are at the Department of Medicine, Johns Hopkins Bayview Medical Center, Johns Hopkins University School of Medicine. **Steven J. Kravet, MD, MBA**, is Associate Professor of Medicine and President of Johns Hopkins Community Physicians; **Colleen Christmas, MD**, is Associate Professor of Medicine and Program Director of Internal Medicine at Johns Hopkins Bayview; **Samuel Durso, MD, MBA**, is Professor of Medicine and Division Chief of Geriatric Medicine at Johns Hopkins Bayview; **Gregory Parson, BS**, is a predoctoral student at Duquesne University and former Research Assistant at the Miller-Coulson Academy; **Kathleen Burkhart, MPA**, is Manager of the Miller-Coulson Academy; and **Scott Wright, MD**, is Division Chief of General Internal Medicine at Johns Hopkins Bayview and Director of the Miller-Coulson Academy.

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Corresponding author: Steven J. Kravet, MD, MBA, 4940 Eastern Avenue, B100, Baltimore, MD 21224, 410-338-3336, skravet@jhmi.edu

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discussions with consultants.^{5,6} The definition emphasized several domains, including knowledge, communication skills, diagnostic acumen, humanism, professionalism, teamwork, and interfaces with the teaching and research missions. We administered 2 distinct, single-question electronic surveys using a commercially available web-based survey tool (Survey Monkey, Palo Alto, CA). The first survey was fielded to full-time faculty who devoted at least 20% of their effort to clinical care in the past academic year, as determined by calculating clinical hours as a proportion of the total hours worked. Faculty participants were presented with the definition and asked to list up to 5 colleagues in the Department of Medicine at Johns Hopkins Bayview who they judged to be clinically excellent. In the second survey all internal medicine residents at the institution were asked to list up to 5 faculty members who served as their role models, defined as “standards of excellence to be imitated.”

Our survey excluded faculty named by peers who did not have clinical teaching responsibilities and thus were unknown to residents. Faculty listed by residents who were not in the Department of Medicine also were excluded. To avoid “familiarity bias,” we decided that both the chairman and program directors would be excluded from consideration because they have substantially greater exposure to the residents than other faculty.

Responses were anonymous and were collected and collated by an administrative assistant. Limited characteristic descriptors were collected from the respondents. The study was approved by the institutional review board.

Statistical Analysis

The 2 resultant lists of names describing the physician faculty members who were judged by their peers to be clinically excellent, as well as those who serve as role models for the residents were compared. The physicians who were not named but who devoted more than 20% effort to clinical practice were also entered into the data set.

Spearman correlation was used to examine the association between being recognized for clinical excellence by peers and having been identified as a role model by the residents. Odds ratios, with 95% confidence intervals, were calculated to compare likelihood of being recognized for clinical excellence and for being named as a role model. The SAS statistical package was used (SAS Institute, Cary, NC).

Results

A total of 39 of 66 faculty members (59%) responded: 49% were women, and 74% were non-Hispanic white (TABLE). A total of 45 of 50 residents (90%) responded: 62% were women, 64% were non-Hispanic white, and they were evenly distributed across training years (TABLE).

What was known

Clinical excellence is considered an attribute of faculty serving as role models.

What is new

There is a moderate correlation between peer selections of excellent clinicians and trainee selections of role models.

Limitations

Small sample and single specialty and institution limit generalizability.

Bottom line

There is a relationship between clinical excellence and being identified as a role model, with implications for developing and rewarding clinically excellent faculty.

Nonresponding residents were not statistically significantly different from respondents in terms of sex ($P = .3$), race ($P = .3$), year of training ($P = .6$), or track ($P = .18$), and nonresponding faculty physicians were comparable to respondents with respect to sex ($P = .3$), race ($P = .07$), rank ($P = .28$), and division ($P = .4$).

Thirty-one distinct physicians were named by peers as being clinically excellent, with a frequency ranging from 1 to 10 times (mean, 2.2 times). Sixty-seven distinct physicians were identified as role models by residents, with a frequency ranging from 1 to 20 times (mean, 4.5 times).

Thirty distinct faculty members appeared on both lists (FIGURE). There was a correlation between being named by physician-peers as clinically excellent and being named by residents as a role model (Spearman correlation coefficient = 0.54, $P < .001$). Among the faculty judged to be clinically excellent by their peers, they were more likely to be named as role models 3 or more times by trainees (odds ratio, 24.6; confidence interval, 2.9–207).

Discussion

Faculty and resident respondents from our academic department of medicine independently identified many of the same individuals as clinically excellent and role models, respectively. To our knowledge, this is the first attempt to confirm or quantify the strength of this correlation.^{1–3,9–11}

Role models have an impact on the development of future members of the profession. Role models influence career choice and may facilitate the professional growth of medical trainees, perhaps even more so for women and underrepresented minorities in medicine.^{12–14} In addition to influencing growth, role modeling itself is an explicit educational methodology for learning that is sustainable beyond the immediate interactions.^{15,16} Not all faculty have the capacity or attributes necessary to serve as an effective role model for trainees.^{17,18} It should be a priority of

TABLE CHARACTERISTICS OF THE RESPONDING RESIDENTS AND FACULTY PHYSICIANS

	No. (%)
Residents (N = 45)	
Women	28 (62.2)
Race/ethnicity	
Non-Hispanic white	29 (64.4)
African American	14 (31.0)
Other	2 (4.4)
Year of training	
Postgraduate year-1	16 (35.5)
Postgraduate year-2	14 (31.1)
Postgraduate year-3	15 (33.3)
Residency track	
Categorical	20 (44.4)
Primary care	20 (44.4)
Preliminary	5 (11.1)
Faculty physicians (N = 39)	
Women	19 (48.7)
Race/ethnicity	
Non-Hispanic white	29 (74.3)
African American	1 (2.6)
Other	9 (23.1)
Rank	
Instructor	10 (25.6)
Assistant	15 (38.5)
Associate	6 (15.4)
Professor	8 (20.5)
Division	
Geriatrics	13 (33.3)
General internal medicine	6 (15.4)
Cardiology	6 (15.4)
Hospital medicine	4 (10.2)
Other	10 (25.6)

academic medical centers to maintain a robust cadre of outstanding role models to inspire the next generation of physicians.

It is critical to the future of academic medicine to attract and retain the highest quality clinicians.⁷ Although academic medical centers espouse the tripartite

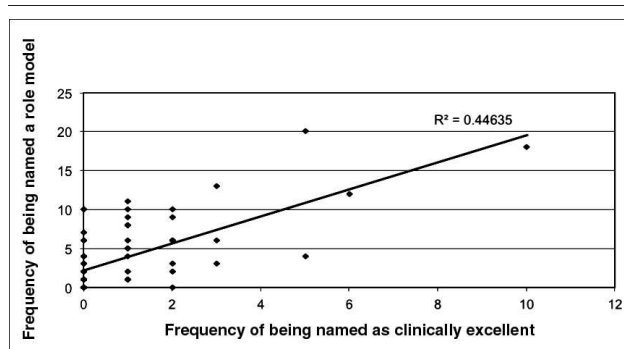


FIGURE THE CORRELATION BETWEEN CLINICALLY EXCELLENT FACULTY AND ROLE MODELS

mission of patient care, teaching, and research, with limited exception, the emphasis of promotion is generally based on scholarship.^{19,20} This is in contrast to the great value society places on high-quality clinical care.²¹ Recruitment and retention of clinically excellent physicians will be needed to best meet the needs of patients and learners.

Our study has several limitations. First, this is a small study that was conducted within a single department of medicine, and thus the results may not be generalizable. Second, among the clinically active faculty, the response rate was only fair. Third, peer assessments among the faculty may be imperfect and influenced by familiarity or reputation; yet, they are regularly used in clinical performance evaluations in academic medicine.²² Fourth, the choice to survey only those faculty members with a specific threshold of clinical activity (20% or more) may have introduced bias. Finally, in order to avoid “familiarity bias,” we chose to exclude from the analysis the chairman and program directors when named as role models by the trainees because of their more extensive exposure to the residents in both clinical and nonclinical settings. As predicted before collecting the data, the chairman and program directors were named as role models more frequently than other physicians judged to be exemplars (mean, 22 versus 4.5). Incorporation of these data into the analyses would have made the associations even more significant.

The correlation between clinical excellence and role models affirms the importance of clinically excellent physicians at teaching hospitals, both in their delivery of care to patients and in inspiring trainees. If the clinically excellent physicians are also those who are the most valued role models by trainees, it is incumbent upon academic medical centers to develop mechanisms to attract, reward, and retain such individuals.

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