



**Association of  
Professors of Medicine**

## APM Perspectives

*The Association of Professors of Medicine (APM) is the national organization of departments of internal medicine at the US medical schools and numerous affiliated teaching hospitals as represented by chairs and appointed leaders. As the official sponsor of The American Journal of Medicine, the association invites authors to publish commentaries on issues concerning academic internal medicine.*

*For the latest information about departments of internal medicine, please visit APM's website at [www.im.org/APM](http://www.im.org/APM).*

# Clinicians' Perceptions About How They Are Valued by the Academic Medical Center

**Scott M. Wright, MD, Aysegul Gozu, MD, MPH, Kathleen Burkhart, MPA, Harjit Bhogal, MD, Glenn A. Hirsch, MD**

*Division of General Internal Medicine, Johns Hopkins Bayview Medical Center, Johns Hopkins University School of Medicine, Baltimore, Md.*

Academic health centers have multiple distinct yet interrelated missions related to advancing research and discovery, educating the next generation of physicians, and caring for patients with expertise and humanism.<sup>1,2</sup> The reverence directed toward accomplishment in research at our academic health center exceeds the value directed toward clinical and educational successes, as reflected in both the culture and the promotion processes.<sup>3-7</sup> Because promotion decisions and academic rank are heavily influenced by research success and not clinical accomplishments, distinction in the clinical care of patients is thought to be “under-rewarded and taken for granted.”<sup>1</sup> Some academic health centers have established multiple tracks for promotion in an effort to balance the appreciation for all 3 parts of the tripartite mission, but even at those academic health centers, clinicians or clinician-educators who are part of these alternate tracks may feel as though they are members of a “second class.”<sup>8</sup>

Clinical care is critical to an academic health center's bottom line and financial viability, generating ap-

proximately 50% of all revenue.<sup>2</sup> In recent years, institutions have begun to hire more clinician educators, perhaps without adequate investment in their career development.<sup>9</sup> Some institutions may view their highly clinically active faculty as “temporary,” anticipating turnover at 6 to 7 years because these physicians fail to fulfill the institution's criteria for scholarship required for promotion.<sup>2</sup> The perceived expendability of these providers may have a profoundly negative effect on faculty morale,<sup>2</sup> which can trickle down to influence the quality of care delivered to patients.<sup>10,11</sup> We hypothesized there would be great variability among academic clinicians with respect to how valued they feel within the institution. This study set out to develop a measurement tool to characterize academic clinicians' perceived value by the institution and to identify the factors that are associated with feeling valued.

## MATERIALS AND METHODS

### Study Design

We conducted a cross-sectional study of our highly clinically active faculty to determine how valued they are for their clinical contributions by the institution.

### Study Participants and Setting

Our target population included faculty from across all clinical departments at Johns Hopkins University School of Medicine who spend 50% or more time in clinical care.

**Funding:** Dr Wright is a Miller-Coulson Family Scholar and is supported through the Johns Hopkins Center for Innovative Medicine.

**Conflict of Interest:** None.

**Authorship:** All authors had access to the data and played a role in writing this manuscript.

Reprint requests should be addressed to Scott M. Wright, MD, Division of General Internal Medicine, Johns Hopkins University School of Medicine, Johns Hopkins Bayview Medical Center, 4940 Eastern Avenue, Baltimore, MD 21224.

E-mail address: [smwright@jhmi.edu](mailto:smwright@jhmi.edu)

## Questionnaire Development

We performed a comprehensive literature review on the topic of physicians feeling valued and appreciated. After reviewing this literature, the study team had a series of meetings and discussions with the goal of identifying a theoretic framework for “feeling valued as a clinician in academia.” This framework was influential in selecting items for inclusion in the questionnaire to ensure there would be questions that addressed the multiple dimensions of this construct. Insights from our own prior related studies also were integrated into the survey.<sup>12,13</sup> Within the final 42-item instrument, 9 questions specifically queried respondents about whether and the extent to which they feel valued by the institution for their efforts in caring for patients.

We performed pilot testing to assess the clarity and relevance of each question and to ensure that the survey took less than 15 minutes to complete. Depending on the section, survey items used Likert scales, yes or no, and multiple choice as response options.

## Data Collection

The questionnaire was administered electronically using SurveyMonkey in October 2009. Respondents were ensured that all data were to be kept confidential. Repeat contacts were sent to encourage full participation from all physicians who met the single inclusion criteria (>50% effort in patient care) to try to minimize response bias. The institutional review board approved the study.

## Data Analysis

For each variable, we examined the frequency of responses looking for irregularities in their distribution. For continuous variables, we checked distributions and descriptive statistics for evidence of skewness, outliers, and non-normality. Nonparametric tests were used where appropriate. Categorical variables were recoded and analyzed as proportions.

Factor analysis was used to examine and characterize the 9 variables that addressed physicians feeling valued by the institution. These 9 questions were candidate variables for the scale we hoped to establish.

Before including these items in the factor analysis, all variables were found to have sufficient variation. We examined 2 rotations, Promax and Varimax. A Scree plot allowed us to visually determine the number of factors with Eigen values more than 1. Both rotations

provided the same single factor solution, and Cronbach’s alpha was used to quantify the internal consistency of this single factor solution. Item to total correlations were examined to assess the extent to which each item contributed to the overall reliability of the factor. Alphas were examined while sequentially deleting each item, and the removal of any item caused the alpha for the factor to decrease, suggesting that all items were contributing to the factor solution.

The result of the factor analysis culminated to form the “clinical valuation scale.” To help establish the criterion-related validity of our clinical valuation scale, Pearson’s *r* was used to assess the strength of correlation between this newly developed “clinical valuation scale” and other variables. We chose to use 4 “job satisfaction”-related questions that we have

asked in multiple other studies<sup>14,15</sup> (2 questions relate to an intent to leave the institution, 1 question asks about recommending their current position to a friend, and 1 question inquires about their willingness to assume their current position knowing all that they now know about it) to establish relation to other variables’ validity evidence.

The clinical valuation scale was analyzed 3 different ways. We initially treated the clinical valuation scale as a continuous variable; in this format, multiple regression models were applied to the raw data. We also examined the data collapsing the clinical valuation scale into 3 categories (low, medium, high) and as a dichotomized version (dichotomized at the median). Results of all analyses were similar irrespective of how the respondents were divided using the clinical valuation scale (meaning that the same independent variables were significantly associated with clinical valuation scale). For ease of presentation, the data are presented using high versus low clinical valuation scorers. Odds ratios (OR) (with 95% confidence intervals [CIs]) are used to characterize the association of individual attributes with the likelihood of being a “clinical valuation

## PERSPECTIVES VIEWPOINTS

- Skilled clinicians who spend a majority of their effort caring for patients are a critical asset at academic health centers.
- There is significant variation in the extent to which these clinicians feel valued and appreciated by the institution, as shown by the “clinical valuation scale” described in this article.
- Academic health centers interested in retaining clinical faculty can now begin by assessing the degree to which their highly clinically active faculty members feel valued.
- Depending on the findings, they may decide to implement initiatives aimed at demonstrating how valuable these faculty are to achieving the institutional mission.

high scorer.” Multiple linear regressions were performed to identify variables that were independently associated with high clinical valuation scores. Data were analyzed using STATA 10.0 (STATA Corp, College Station, Tex).

## RESULTS

### Response Rate and Characteristics of Respondents

Surveys were completed by 268 of 374 physician faculty members contacted, for a response rate of 72%. Twenty-nine percent of respondents were female (Table 1). Respondents' mean age was 46.7 years. Forty-three percent of responding physicians were at the more junior academic ranks of instructor and assistant professor. Nonresponders were similar to respondents in terms of academic rank and gender (both  $P =$  not significant).

### Academic Clinician Perceived Value Scale

Factor analysis included all 9 questions from the survey wherein respondents assessed the extent to which they felt valued for their clinical contributions. A 5-item single factor solution emerged with an Eigen value of 1.8, high factor loadings, and face validity. The Cronbach alpha for the clinical valuation scale was 0.72.

The clinical valuation scale is presented in Figure 1; the lowest possible score is 5, and the highest possible score is 25. The responses from the 268 academic physicians yielded a median score of 14 (interquartile range 11-17) and a range of 5 to 22 (Figure 2). In dividing the physicians relative to the clinical valuation scale, 132 (49%) were designated as “low” scorers because they scored equal to or below the median, and 136 (51%) were classified as “high” scorers because their scores were greater than the median value.

### Differences Between Clinical Faculty by Scores on the Clinical Value Scale

Classifying the 268 responding house officers into “high” or “low” scorers on the clinical valuation scale illustrated significant differences between the faculty who perceive their clinical work to be appreciated and those who do not. Being male (OR 2.12; 95% CI, 1.20-3.89), being aged more than 45 years (OR 1.99; 95% CI, 1.18-3.35), holding the academic rank of professor (OR 1.44; 95% CI, 1.12-1.85), spending more than 10% time in research (OR 2.34; 95% CI, 1.29-4.26), and being at Hopkins longer than 10 years (OR 2.34; 95% CI, 1.19-3.47) were each statistically significantly associated with high clinical valuation scores (Table 1). Select variables that were not associated with higher or lower clinical valuation scale scores included race, fellowship training, or clinical

department (Table 1). In multiple linear regression including the variables above and others that were significantly associated with clinical valuation scale scores, 3 variables were independently associated with high clinical valuation scale scores: being male, spending more time on research, and having been at Hopkins for a longer period of time.

Pearson correlations were used to compare the clinical valuation scale scores with 4 variables related to satisfaction at work, and these data are shown in Table 2. There was a modest correlation between the 4 “job satisfaction”-related variables and the clinical valuation scale (all correlation coefficients  $> 0.3$  and all  $P < .0001$ ).

## DISCUSSION

All academic health centers value excellence and want to recruit and retain the best people. This theme is at the heart of the teachings in the bestseller *Good to Great*,<sup>16</sup> which emphasizes that getting and keeping the right people on the bus is the key to success for every organization.<sup>16</sup> The Association of American Medical Colleges recently investigated 10-year retention rates of faculty at academic health centers and found that 38% leave within this period.<sup>17,18</sup>

Although some of the brightest and most promising clinicians leave academic medicine, others never join academic health center faculty because these centers may have earned the reputation of being poor career choices for young physicians interested in primarily clinical careers.<sup>2,19</sup> Clinicians who are passionate about patient care and spend most of their time on this activity may be at risk of feeling disenfranchised at academic health centers because accomplishments in this realm have traditionally been inadequately recognized by leadership and promotion committees. The “clinical valuation scale” presented in this article may allow institutions to understand and keep track of how valued their busy clinicians are feeling.

In 2000, Virginia Commonwealth University School of Medicine surveyed its physician faculty who spend more than 50% of their time in patient care to assess attitudes about career progress and commitment to academic medicine.<sup>9</sup> A remarkable finding was that only one quarter of the highly clinical faculty reported a commitment to a career in academic medicine, compared with approximately three quarters of those who spent less than one half of their time caring for patients. The study found that the faculty who spend more than 50% time in clinical care had less access to mentoring and other resources known to promote successful academic careers. When academic health centers do not invest in and support clinician career advancement, it sends a clear message about how they are valued by the institution.

**Table 1** Characteristics of the 268 Physician Respondents, Distributions of “Low” Versus “High” Scorers on the Clinical Valuation Scale, and Odds of Being a “High Scorer”\*

	All Respondents N = 268	Low CV Scale Score N = 132	High CV Scale Score N = 136	P Value	Odds of Being a High CV Scale Scorer OR (95% CI)
Gender, n (%)					
Female	70 (29.4)	45 (64.3)	25 (35.7)	.009	1
Male	168 (70.6)	77 (45.8)	91 (54.2)		2.12 (1.20-3.84)
Age, mean (SD)	46.7 (9.6)			.009	
≤45 y, n (%)		71 (60.2)	50 (43.1)		1
>45 y, n (%)		47 (39.8)	66 (56.9)		1.99 (1.18-3.35)
Academic rank n, (%)				.001	
Instructor/clinical associate	30				1
Assistant professor	104	66 (53.2)	38 (31.9)		1.24 (0.43-3.55)
Associate professor	62	25 (20.2)	37 (31.1)		3.20 (1.07-9.55)
Professor	47	12 (9.7)	35 (29.4)		6.31 (1.96-20.33)
Specialty				.109	
Medicine		76 (53.9)	65 (46.1)		1
Surgery		56 (44.1)	71 (55.9)		1.49 (0.92-2.44)
No. of years at Hopkins	10.3 (9.4)			.008	
≤10		89 (71.8)	66 (55.5)		1
>10		35 (28.2)	53 (44.5)		2.04 (1.19-3.47)
Time spent in patient care, %	72.3 (15.7)			.083	
>70%		55 (44.3)	66 (55.6)		1
≤70%		69 (55.7)	53 (44.5)		1.56 (0.94-2.63)
Time spent in research, %	10.3 (11.9)			.005	
≤10%		102 (82.3)	79 (66.4)		1
>10%		22 (17.7)	40 (33.6)		2.35 (1.29-4.26)
Time spent in teaching, %	9.3 (7.2)			.665	
>9		57 (45.9)	58 (48.7)		1
≤9		67 (54.1)	61 (51.3)		1.12 (0.67-1.85)
Fellowship training, n (%)				.108	
No		41 (33.6)	28 (24.2)		1
Yes		81 (66.4)	88 (75.8)		1.59 (0.90-2.80)
Marital status, n (%)				.526	
Single		14 (11.5)	9 (7.8)		1
Married		99 (81.2)	98 (84.4)		1.54 (0.63-3.72)
Divorced/widowed/partnered		9 (7.4)	9 (7.8)		1.55 (0.45-5.41)
Children, n (%)				.033	
1		44 (36.1)	24 (20.7)		1
2		43 (35.3)	45 (38.8)		1.91 (1.01-3.67)
>3		32 (26.2)	39 (33.6)		2.23 (1.12-4.42)
None		3 (2.4)	8 (6.9)		4.88 (1.18-20.1)
Race, n (%)				.654	
African-American		8 (7.0)	5 (4.5)		1
Asian		17 (14.9)	15 (13.4)		1.41 (0.38-5.26)
White		89 (78.1)	92 (82.1)		1.65 (0.52-5.24)

CI = confidence interval; CV = clinical valuation; OR = odds ratio.

\*Total N does may not add up to 268 because of missing data.

Among our highly clinically active respondents, 3 variables that were independently associated with scoring higher on the clinical valuation scale were being male, having been at Hopkins more than 10 years, and spending more than 10% effort on research. The rea-

sons that these subsets of the faculty feel more appreciated for their clinical efforts are unclear. It should be noted here that our scale focused largely on perceived support and appreciation from leadership. A plausible explanation might be that these groups interact more

The culture at Hopkins leads me to believe that clinical medicine and patient care are a top priority.	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
Johns Hopkins Medicine recognizes and rewards clinical faculty for their efforts and accomplishments.	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
I feel appreciated and valued as a clinician at Johns Hopkins.	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
Clinical accomplishments, independent of scholarship (e.g. papers), should be considered in promotion decisions here at Hopkins.	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
How important do you think your clinical accomplishments will be in deciding whether or not you get promoted?	1 Not at all	2 A little	3 Some	4 A lot	5 Tremendously

Cronbach Alpha for the 'Clinical Valuation Scale' : 0.72.

**Figure 1** Clinical valuation scale: questions and response options from the survey instrument that emerged from factor analysis to form the scale.\*

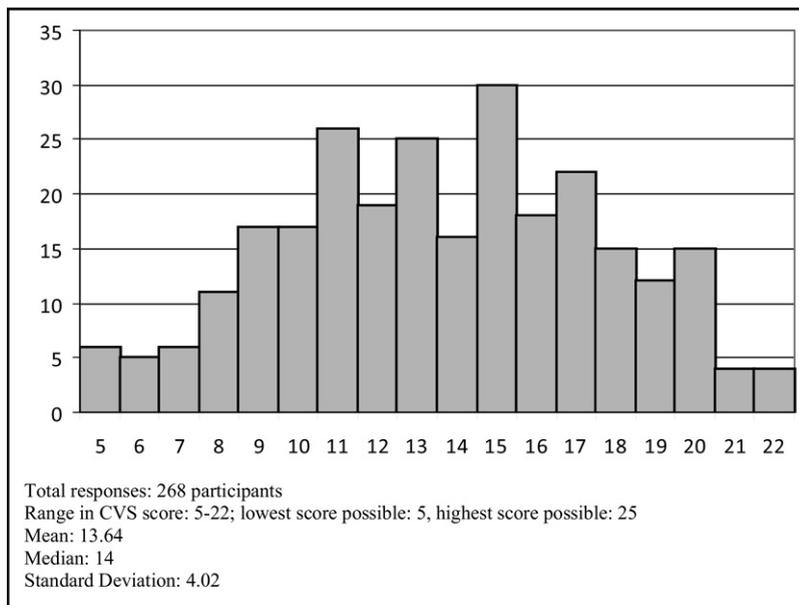
with leadership than do women, those with less history at Johns Hopkins, and faculty not engaged in scholarship. Future research might allow for a more comprehensive understanding of these associations.

It is our belief that the clinical valuation scale could have meaningful utility for academic health centers. The results of this study suggest that academic physician faculty are different in a variety of ways depending on whether they scored above or below the median on the clinical valuation scale. Feeling valued is intrinsically desirable because of the impact on provider satisfaction, which itself is known to be associated with patient satisfaction.<sup>10,11,20</sup> Further, repeated measurements of clinical valuation over time could allow for the institution to track progress or regression along this realm. Although we do not yet know the sensitivity of the measure, one could imagine that this scale may enable institutional leaders to gauge the impact of interventions aimed at improving clinician morale and their sense of contribution to the institutional mission. Additional studies will be needed to validate the use of the clinical valuation scale for such purposes.

The validity of the clinical valuation scale is difficult to ascertain given the lack of a true gold standard. The differences in theoretically related variables between respondents who scored above and below the median on the clinical valuation scale is a measure of the scale's "construct" validity. Further, the 4 job satisfaction-related questions that we assumed a priori might be associated with feeling valued by faculty who spend a majority of their time in patient care turned out to correlate strongly with the scale. This result establishes relation to other variables' validity evidence in that it shows how the scale relates to other pertinent variables.<sup>21</sup> Last, the rigorous approach used in the clinical valuation scale development, with input from experts and building on previously published literature, provides content validity evidence to the scale.

### STUDY LIMITATIONS

Several limitations of this study should be considered. First, our data relied exclusively on faculty physicians' reporting. That said, feeling valued is a personalized sentiment that truly lies in the eyes of the beholder, and



**Figure 2** Distribution of the scores on the clinical valuation scale for the 268 clinician respondents.

thus self-report is the only way to understand the physician perspective. The data were collected by independent investigators, not the institution, and participants were assured that all data would be protected and kept confidential. It is our hope that such measures enabled respondents to answer the questions honestly and authentically. Second, as in all cross-sectional studies, our results describe associations between various factors and high levels of clinical valuation, but causality cannot be determined. Third, despite the high response rate from physicians and our decision to study physicians from all clinical departments, the study was conducted

at a single academic health center and the results may not be generalizable. Testing this tool at other academic centers would examine inter-institutional reliability, which would be a second way to establish evidence for internal structure validity of the “clinical valuation scale.” Fourth, although the scale has evidence for construct validity, internal structure validity (attributable to the factor analysis), and relations to other variable validity, it lacks predictive validity.<sup>21</sup> We intend to track the respondents over the coming years to see who actually leaves Johns Hopkins. In the last year since collecting the data, 6 of the respondent physicians have

**Table 2** Relationship Between the Clinical Valuation Scale and Four Variables Related to Job Satisfaction

Variables Related to Job Satisfaction	Low CV Scale Score N = 132	High CV Scale Score N = 136	P Value	Correlation Coefficient Between Variable and Being a High CV Scale Scorer
Strongly recommend their current position (with its clinical FTE) to a friend, n (%)	30 (22.7)	89 (65.4)	.000	0.501
Would choose to take on their current position (with its clinical FTE) without hesitation knowing all that they now about it, n (%)	65 (49.2)	110 (80.9)	.000	0.389
Strongly considered leaving institution in the last 12 mo and looked at other opportunities, n (%)	45 (34.1)	29 (21.3)	.019	0.301
Likelihood of being on faculty at Johns Hopkins in 5 y, n (%)	72 (55.5)	113 (83.1)	.000	0.396

CV = clinical valuation; FTE = full-time equivalent.

left and 5 of them score below the median value on the scale. Finally, the long-term outcomes and impact of “clinical valuation” on patient care were not addressed.

## CONCLUSIONS

The clinical valuation scale represents a first empiric attempt to characterize the extent to which academic clinicians feel valued at academic health centers. Institutions wanting to recruit and retain masterful clinicians may want to characterize the extent to which their highly clinically active faculty members feel valued and appreciated for the critically important work that they are doing.

## References

- Carey RM, Munsey SW, Reynolds RE. Evaluating faculty clinical excellence in the academic health sciences center. *Acad Med.* 1993;68:813-817.
- Levinson W, Rubenstein A. Integrating clinician-educators into academic medical centers: challenges and potential solutions. *Acad Med.* 2000;75:906-912.
- Barchi RL, Lowery BJ. Scholarship in the medical faculty from the university perspective: retaining academic values. *Acad Med.* 2000;75:899-905.
- Kevorkian CG, Rintala DH, Hart KA. Evaluation and promotion of the clinician-educator: the faculty viewpoint. *Am J Phys Med Rehabil.* 2001;80:47-55.
- Coates WC, Hobgood CD, Birnbaum A, Farrell SE, SAEM Undergraduate Education Committee. Faculty development: academic opportunities for emergency medicine faculty on education career tracks. *Acad Emerg Med.* 2003;10:1113-1117.
- Glick TH. How best to evaluate clinician-educators and teachers for promotion? *Acad Med.* 2002;77:392-397.
- Viggiano TR, Shub C, Giere RW. The mayo clinic’s clinician-educator award: a program to encourage educational innovation and scholarship. *Acad Med.* 2000;75:940-943.
- McHugh PR. A “letter of experience” about faculty promotion at medical schools. *Acad Med.* 1994;69:877-881.
- Buckley LM, Sanders K, Shih M, Hampton CL. Attitudes of clinical faculty about career progress, career success and recognition, and commitment to academic medicine. *Arch Intern Med.* 2000;160:2625-2629.
- Lowenstein SR, Fernandez G, Crane LA. Medical school faculty discontent: prevalence and predictors of intent to leave academic careers. *BMC Med Educ.* 2007;7:37.
- Weisman CS, Nathanson CA. Professional satisfaction and client outcomes: a comparative organizational analysis. *Med Care.* 1985;23:1179-1192.
- Christmas C, Kravet SJ, Durso SC, Wright SM. Clinical excellence in academia: perspectives from masterful academic clinicians. *Mayo Clin Proc.* 2008;83:989-994.
- Durso C, Christmas C, Kravet S, Wright SM. Implications of academic medicine’s failure to recognize clinical excellence. *Clin Med Res.* 2009;7:127-133.
- Knight AM, Cole KA, Kern DE, Barker LR, Kolodner K, Wright SM. Long-term follow-up of a longitudinal faculty development program in teaching skills. *J Gen Intern Med.* 2005;20:721-725.
- Cole KA, Barker LR, Kolodner K, Williamson P, Wright SM, Kern DE. Faculty development in teaching skills: an intensive, longitudinal model. *Acad Med.* 2004;79:469-480.
- Collins J. *Good to Great.* New York, NY: Harper Collins Publishers Inc; 2001.
- Alexander H. The long term retention and attrition of U.S. medical school faculty. *Analysis in Brief.* Washington, DC: AAMC; 2008;8:4.
- Leiff SJ. Perspective: the missing link in academic career planning and development: pursuit of meaningful and aligned work. *Acad Med.* 2009;84:1383-1388.
- Yusuf SW. The decline of academic medicine. *Lancet.* 2006;368:284-284.
- Hass JS, Cook EF, Puopolo AL, Burstin HR, Cleary PD, Brennan TA. Is the professional satisfaction of general internists associated with patient satisfaction? *J Gen Intern Med.* 2000;15:122-128.
- Cook DA, Beckman TJ. Current concepts in validity and reliability for psychometric instruments: theory and application. *Am J Med.* 2006;119:166.e716.