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

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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. 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. 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.” 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.”

Clinical care is critical to an academic health center’s bottom line and financial viability, generating approximately 50% of all revenue. In recent years, institutions have begun to hire more clinician educators, perhaps without adequate investment in their career development. 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. The perceived expendability of these providers may have a profoundly negative effect on faculty morale, which can trickle down to influence the quality of care delivered to patients.

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.
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.\textsuperscript{12,13} 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 patent 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. Categoric 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\textsuperscript{14,15} (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 scale.”
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 \( P = \text{not significant} \)).

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 to 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, 1.20-3.89), and spending more than 50% time in clinical care had less access to mentoring and other resources known to promote successful academic careers. 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.

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. 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.
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 reasons 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
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.\textsuperscript{10,11,20} 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.\textsuperscript{21} 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

<table>
<thead>
<tr>
<th>Question</th>
<th>1 Strongly Disagree</th>
<th>2 Disagree</th>
<th>3 Neutral</th>
<th>4 Agree</th>
<th>5 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The culture at Hopkins leads me to believe that clinical medicine and patient care are a top priority.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Johns Hopkins Medicine recognizes and rewards clinical faculty for their efforts and accomplishments.</td>
<td></td>
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<tr>
<td>I feel appreciated and valued as a clinician at Johns Hopkins.</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Clinical accomplishments, independent of scholarship (e.g., papers), should be considered in promotion decisions here at Hopkins.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How important do you think your clinical accomplishments will be in deciding whether or not you get promoted?</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
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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.\textsuperscript{a}
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.\textsuperscript{21} 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

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

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

\textit{CV} = clinical valuation; \textit{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