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# Sources of Satisfaction: A Second Administration of the Program Director Satisfaction Survey

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In the past decade, the short half-life of leaders in academic medicine has been an important issue,<sup>1-4</sup> but residency program directors have been of particular interest because of their roles in developing and maintaining a high-quality academic environment, ensuring continuous cycles of program and process improvement, and monitoring the development and well-being of physicians-in-training from the time of recruitment to graduation.<sup>5</sup> Program directors have short job durations and high burnout associated with administrative "hassles," long work hours, dissatisfaction with promotion opportunities, and concerns about resources.<sup>6-8</sup>

In 1996, 34% of internal medicine program directors reported some degree of "burnout," defined as "the loss of enjoyment or enthusiasm for a job, so that an individual is no longer able to devote emotional energy to its accomplishment."<sup>9</sup> Among this group of 262 program directors, a 3-year cohort study demonstrated a 29% turnover and mean job duration of 2.4 years. Turnover was highly associated with overall job satisfaction. Program director characteristics that were independently predictive of job turnover included low satisfaction with colleague relationships, high percentages of administrative work time, perceptions of the job

as a stepping stone, and the availability of training to deal with problem residents.<sup>8</sup>

The Association of Program Directors of Internal Medicine (APDIM) Survey Task Force sought to measure the job satisfaction of program directors at routine intervals to monitor issues affecting turnover during years of rapid change in internal medicine education. This knowledge is important for strategic planning among national academic medicine organizations to meet the continuing education needs of academic administrators. The survey also serves to identify potentially remediable variables that affect job turnover. To that end, APDIM repeated the job satisfaction measures used previously to determine changes in satisfaction since the study in 1996 and the characteristics that are most strongly associated with satisfaction.

## MATERIALS AND METHODS

### Questionnaire Development

The APDIM Survey Task Force developed the Program Director Satisfaction Survey (PD-Sat) to gather information on certain characteristics of the 391 internal medicine residencies in the United States and to address current issues facing residencies and residency directors. In particular, the questionnaire asked about house-staff financing (eg, salaries, benefits), program director job support and satisfaction, and the Accreditation Council for Graduate Medical Education 6 general competencies.<sup>10</sup>

The PD-Sat is a reliable and valid facet-specific job satisfaction measure for residency program directors.<sup>9</sup> A 3-year

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cohort study demonstrated its predictive validity through its independent association with program director job duration.<sup>8</sup> Program directors of other disciplines, including obstetrics and gynecology residencies, used the survey as well.<sup>7</sup> There are 6 facets of the PD-Sat: satisfaction with work with residents, colleague relationships, resources, patient care, pay, and promotion. The total PD-Sat score correlates positively with a standard general job satisfaction measure.<sup>9</sup>

The task force distributed the questionnaire in November 2004 to all residency programs registered with APDIM. Results were collected by the end of March 2005. A program administrator or an associate program director could complete the first section about baseline program characteristics, but the program director was requested to complete the remaining questions containing the job satisfaction. The survey was confidential with respondents tracked by numeric codes.

### Data Analysis

Survey responses were entered into a Microsoft Access (Microsoft Corp, Redmond, Wash) database with intentional double-checks to limit entry errors. Multiple questions were used to measure each specific facet of job satisfaction. If a respondent failed to complete one of the questions of a facet, we assigned an average value as calculated using the average value of the other questions of the specific facet questions (mean substitution).

Program directors provided salary data as an ordinal variable, and we used this to calculate a weighted average to compare data between 1996 and 2005 after adjusting for inflation.<sup>11</sup> For the top and bottom ordinals, for which there was no range, we used the weighted limit value in the calculation. When provided, exact salary data were used to validate the weighted average of salaries for the larger group.

Continuous variables were examined for evidence of skewing, outliers, and non-normality, and were described using distributions, means, medians, standard deviations, and ranges. We compared data from 2005 with the initial 1996 survey to assess changes in total and facet-specific satisfaction scores. For the sake of presentation, many continuous variables (eg, percent work time) were assessed in tertiles after reviewing frequency distributions. Mean PD-Sat scores were compared using analysis of variance test and Tukey's honestly significant difference test. To account for multiple comparison, we report as significant only those

variables with a *P* value less than .01 (Bonferroni correction). Linear regression analysis with a series of stepwise regressions was used to determine the strongest independent predictors of program director job satisfaction, using the *F* value (entry = .05 and removal = .10) to determine inclusion in the model. All tests are 2 sided.

### PERSPECTIVES VIEWPOINTS

- The Program Director Satisfaction Survey was developed and administered in 1996 and 2005 to assess reasons for job turnover and burnout.
- The program director's salary level is the strongest independent predictor of total job satisfaction.
- From 1996 to 2005, program directors report being more satisfied with their jobs.
- Other factors for job satisfaction include academic rank, the number of hospital ward or consult months per year, the travel budget, and the number of full-time equivalent administrative assistants for the program director and associate program directors.

### RESULTS

A total of 272 programs responded to the survey, and 5 programs closed during the survey collection period (response rate =  $272/(391-5) = 70\%$ ). The mix of university (30%) and community programs (57%) was representative of programs across the nation (personal communication with Nicole V. Baptista, APDIM Policy Coordinator, APDIM office, April 2, 2007). Nonrespondent programs were not significantly different than respondents in their rolling 3-year (2004-2006) American Board of Internal Medicine certifying examination pass rate (91.4% vs 92.0%, *P* = .44)

Table 1 describes respondents, including the number of years in the position, the academic rank, and salary, along with comparative demographic data from the 1996 survey. The 2005 respondents' mean job tenure was 6.8 years, with more than one third holding this title for 3 years or fewer. Program directors held the rank of associate professor most frequently (41%), working an average of 58 hours per week. The mean yearly salary calculated from the ordinal data was \$169,000, whereas the average of the 118 respondents who provided their exact salary was \$171,439, demonstrating the validity of using a weighted average on the ordinal salary variable.

Table 2 compares the facet-specific job satisfaction measures of the 2005 respondents with the 1996 respondents. Overall, there is a trend toward higher overall job satisfaction (PD-Sat, *P* = .007) and in the individual facets of satisfaction with resources (*P* = .003), colleague relations (*P* = .03), and promotion (*P* = .011). Satisfaction with patient care was significantly higher (11.4 vs 12.0, *P* = .0013) in 2005. Satisfaction with pay trended lower.

Overall program director satisfaction scores are listed in Table 3 for characteristics of both the residency programs and program directors. Although the program di-

**Table 1** Characteristics of Program Director Respondents to Program Director Satisfaction Survey in 2005 and 1996

Demographic Characteristics	1996 (n = 301)	2005 (n = 272)	P Value
No. of years in position, Mean (SD, range)	5.3 (5.8, 1-39)	6.8 (5.9, 1-32)	.002
<3 y in position, %	48.1%	36.1%	.004
Academic Rank:			
Professor, %	30	32	.59
Associate Professor, %	32	41	<.001
Assistant Professor, %	29	26	.40
Other, %	9	2	<.001
Salary, <sup>a</sup> Mean	\$194K	\$169K	<.001

SD = standard deviation.

<sup>a</sup>1996 salary figures adjusted for inflation. Source: US Dept of Labor, Bureau of Labor Statistics (<http://www.bls.gov/cpi>); accessed October 18, 2007.

rector salary is the only variable significantly associated with overall job satisfaction using the most conservative definition of statistical significance, several variables demonstrate trends that suggest a graded influence on job satisfaction, including the academic rank ( $P = .05$ ), the number of hospital ward or consult months per year ( $P = .01$ ), the program director's travel budget ( $P = .02$ ), and the number of full-time equivalent administrative assistants for the program director and associate program directors ( $P = .03$ ).

Regression modeling on these and other variables of interest found 4 variables that explained 14% of the variability in the job satisfaction scores of internal medicine residency program directors: the annual take-home pay, the total number of full-time equivalent administrative support available for the program director and associate program directors, the number of months per year on hospital wards or consulting services (a negative predictor), and the program director's percent research time.

## DISCUSSION

Between 1996 and 1999, internal medicine program directors in the bottom two thirds of scores on the

PD-Sat job satisfaction measure were 2.5 times more likely to change jobs than individuals in the highest one third.<sup>8</sup> In the present study, we used the same valid and reliable job satisfaction measure to gauge changes in job satisfaction during the last 9 years and to identify characteristics that are associated with higher job satisfaction. If departments of internal medicine can modify characteristics of their residency programs and the program directors' work environments, they may be able to improve job satisfaction and increase job stability of their program directors.

Our study shows signs that the situation of program directors may be improving. Respondents were more likely to be associate or full professors in 2005 (73% vs 62% in 1996,  $P = .005$ ), and data trended toward an increase in satisfaction with promotion (15.4 vs 14.5 in 1996,  $P = .011$ ). Moreover, the 2005 cohort has a longer tenure (6.8 vs 5.3 in 1996,  $P = .002$ ). The data suggest program directors are remaining in their positions longer and their likelihood of academic promotion has improved.

Some trends may not be so hopeful. The inflation-adjusted salary is lower. Although 22% of the 1996 sample were concomitantly department chairs, we know from internal APDIM data that this number has decreased over the last decade to approximately 18% (personal communication with Nicole V. Baptista, APDIM Policy Coordinator, APDIM office, April 2, 2007). We suspect this decrease in program directors who are concomitantly department chairs may account for a small decrease over this period in the average salary, but not all. Given the concomitant trend toward a decrease in satisfaction with pay in 2005 compared with 1996 ( $P = .03$ ), program director salaries may not be keeping up with inflation.

Not surprisingly, salary is the strongest independent predictor of total job satisfaction among program directors, adding nearly 2 points to the satisfaction measure with every \$25,000 increment (Table 4). However, higher salary and satisfaction with pay do not necessarily predict job longevity. The longitudinal follow-up on the 1996 cohort demonstrated no difference in job changes be-

**Table 2** Mean Scores by Factor: Program Director Satisfaction Survey 2005 and 1996

Facets of Satisfaction	1996	2005	P Value
	Mean (SD)	Mean (SD)	
Work with residents	24.1 (4.5)	24.5 (2.5)	.20
Colleague relations	26.7 (4.4)	27.6 (5.6)	.03
Resources	17.5 (3.2)	18.5 (4.8)	.003
Patient care	11.4 (2.6)	12.0 (1.6)	.0013
Pay	10.4 (3.2)	9.8 (3.2)	.03
Promotion	14.5 (3.5)	15.4 (4.6)	.011
Total Satisfaction (PD-Sat)	104.0 (16.7)	107.6 (13.8)	.007

SD = standard deviation; PD-Sat = Program Director Satisfaction Survey.

**Table 3** Total Job Satisfaction Measure for Different Characteristics of the Residency and the Program Director, n = 272

Characteristics	N	Mean Total PD-Sat Score <sup>a</sup>
Residency Type		<i>P</i> = .05
Hospital-based	152 (57)	109.6 (13.1)
University-based	79 (30)	104.9 (13.5)
Consortium	19 (7)	109.4 (11.6)
VA/military/other	17 (6)	104.6 (13.8)
Region		<i>P</i> = .11
Northeast	99 (38)	107.6 (14.6)
Midwest	60 (23)	110.4 (11.0)
South	67 (26)	104.9 (14.5)
West	33 (13)	109.7 (9.8)
RRC Cycle Length		<i>P</i> = .22
<1 y	14 (5)	101.5 (18.6)
2 y	21 (8)	109.3 (12.0)
3 y	55 (21)	106.4 (13.8)
4 y	64 (24)	108.3 (12.8)
5 y	89 (33)	109.7 (12.9)
Program Director Tenure		<i>P</i> = .31
<3 y	68 (26)	108.0 (11.8)
3-6 y	77 (29)	105.2 (13.8)
6-9 y	38 (14)	108.2 (14.4)
9-12 y	31 (12)	109.6 (12.2)
12-15 y	22 (8)	109.6 (12.3)
>15 y	29 (11)	111.4 (15.5)
Program Director Rank		<i>P</i> = .05
Assistant Professor	67 (26)	105.6 (11.9)
Associate Professor	105 (41)	107.1 (13.3)
Professor	84 (32)	110.8 (14.7)
% Program Director Administrative Work		<i>P</i> = .83
<45%	84 (33)	107.4 (12.8)
45%-60%	106 (41)	107.7 (13.9)
>60%	68 (26)	108.7 (13.5)
% Program Director Work in Clinics		<i>P</i> = .32
<10.3%	85 (33)	109.0 (11.2)
10.3%-24.7%	87 (33)	108.1 (15.2)
>24.7%	88 (33)	106.0 (13.3)
% Program Director Teaching Work		<i>P</i> = .86
<15%	71 (28)	106.9 (13.5)
15%-25%	112 (43)	108.1 (13.4)
>25%	74 (29)	107.6 (13.1)
% Program Director Research Work		<i>P</i> = .19
0%	110 (42)	106.2 (13.2)
1-5%	95 (36)	108.3 (12.5)
>5%	58 (22)	109.9 (14.9)
No. of Hospital Months/Consult Months		<i>P</i> = .01
<2	58 (23)	110.7 (12.6)
2-4	140 (52)	108.6 (13.8)
>4	65 (25)	104.1 (11.3)
Program Director's Salary		<i>P</i> < .001
<\$125,000	33 (13)	105.5 (11.4)
\$125-150,000	42 (16)	102.9 (13.1)
\$150-175,000	53 (20)	105.8 (13.3)
\$175-200,000	68 (26)	107.4 (14.1)
\$200-225,000	27 (10)	111.1 (10.2)
>\$225,000	37 (14)	115.6 (12.4)

**Table 3** Continued

Characteristics	N	Mean Total PD-Sat Score <sup>a</sup>
Program Director's Travel Budget		<i>P</i> = .02
<\$2000	57 (24)	104.9 (15.4)
\$2000-\$3500	108 (43)	106.9 (12.4)
>\$3500	80 (33)	111.3 (13.5)
Program's No. of FTE Administrative Help		<i>P</i> = .03
<2	67 (26)	104.3 (13.2)
2-3	153 (57)	108.4 (13.6)
>3	47 (18)	110.7 (12.0)
No. of Associate Program Directors		<i>P</i> = .14
0-1	96 (36)	105.2 (13.1)
2	76 (28)	108.2 (11.6)
3	47 (17)	109.3 (16.4)
4	27 (10)	110.8 (11.3)
≥5 or more	21 (8)	111.0 (14.4)
Total No. of Residency Teaching Faculty		<i>P</i> = .10
<35	83 (33)	105.6 (12.7)
35-100	107 (40)	107.2 (13.5)
>100	79 (27)	110.3 (13.7)

PD-Sat = Program Director Satisfaction Survey; VA = Veterans Affairs; RRC = Research Review Committee; FTE = full-time equivalent.

<sup>a</sup>Analysis of variance for differences between categories within each characteristic.

tween those making the highest salary range versus the lowest (hazard ratio = 1.0).<sup>8</sup> In addition, when it came to satisfaction with pay, respondents with the lowest satisfaction had only a small, nonsignificant increase in job change rate (hazard ratio = 1.3).<sup>8</sup>

What was strongly associated with time to job change between 1996 and 1999 was the satisfaction with colleague relationships, with a hazard ratio for individuals in the lowest tertile more than 3 times the number in the highest.<sup>10</sup> In the current study, we found that administrative assistants, the number of teaching faculty, and the number of associate program directors

all had trends indicating their impact on job satisfaction. Program directors might not appreciate feeling isolated with the burden of all of the duties of the residency. When administrative staff, including program administrators, associate program directors, chief residents, and key clinical faculty, contribute to the work of the residency, the program director can enjoy working with a high-functioning team and likely feels more affinity for the job.

The number of months of hospital service was the only negative predictor of total job satisfaction that remained in the multivariable regression model. Since

**Table 4** Linear Regression to Determine Independent Predictors of Program Director Job Satisfaction<sup>a,b,c</sup>

Independent Predictors	Unstandardized Coefficient $\beta^b$	Standardized Coefficient $\beta^c$	<i>P</i> Value
Annual take-home pay (in increments of \$25K)	1.78	0.232	.001
No. of FTE administrative support staff for program director and associate program directors	3.56	0.170	.011
No. of months per year the program director is on inpatient or hospital consulting services	-0.75	-0.167	.013
Program director's total percent work time dedicated to research	2.50	0.138	.039

FTE = full-time equivalent.

<sup>a</sup>The model's constant has coefficient = 89.2, *P* < .001; *F* = 7.9, *P* < .001; *df* = 201; *R* = 0.371, *R*<sup>2</sup> = 0.138.

<sup>b</sup>The model's constant (89.2) gives the baseline PD-Sat job satisfaction a residency program director would be predicted to have. The unstandardized  $\beta$  coefficient gives the number of PD-Sat units to add to the constant for each interval of the variable. For instance, job satisfaction = 89.2 + (No. \$25K increments of pay over \$125K  $\times$  1.78) + (No. FTE administrative support  $\times$  3.56) + (No. months hospital  $\times$  -0.75) + (% research time  $\times$  2.5).

<sup>c</sup>Standardized coefficients ( $\beta'$ ) compare the magnitudes of the regression coefficients and indicate the relative importance of each individual variable.

2003, the Accreditation Council for Graduate Medical Education has required sponsoring institutions to “provide at least 50% salary support” for internal medicine program directors and that program directors should “dedicate no less than 50% of his or her professional effort” to administering the program.<sup>12</sup> Hospital ward service might interrupt the focus of attention on the administration and management of ongoing processes within the residency because of the high demands of inpatient care. One quarter of the sample performed more than 4 hospital service months per year, and their job satisfaction seems to have suffered from the increased workload. Similarly, the opportunity for a program director to engage in meaningful research requires support from the institution and is likely a good marker of whether a program director is able to find time away from clinical and administrative work.

There are several limitations to our study. This survey was by self-report and only captured the respondents' job satisfaction at one point in time. However, our previous study demonstrated that PD-Sat had predictive validity in determining job change over a 3-year period. In addition, the demographics of program directors likely have shifted over the last 9 years, given that fewer are in combined roles of chair and program director. Yet, the PD-Sat has been found valuable for program directors in other specialties<sup>7</sup> and measures facets that at face value would apply to academic administrators at several levels. Finally, the associations of the varied facets of job satisfaction with job turnover are intricate tapestries and not always intuitive. Fortunately, we have our previous cohort study to use as a guide. Also, the study was powerful enough to produce a regression model that is highly significant ( $P < .001$ ).

## CONCLUSIONS

Internal medicine program directors who responded to our survey in 2005 trended toward higher total job satisfaction scores than did their peers from 1996. However, satisfaction scores assigned to pay trended lower in 2005 than 1996, perhaps reflecting inflation-adjusted salaries that were significantly lower for the

2005 cohort. This realization is important given that the program director's salary level was the strongest independent predictor of the total job satisfaction. Other potentially modifiable variables that are associated with program director job satisfaction include the amount of administrative support available, the number of hospital patient care months assigned to the program director, and the amount of available research time. Departments of internal medicine and national organizations should ensure that these job characteristics are addressed in the program directors' job descriptions and support provided to enhance both program director job satisfaction and residency program leadership stability.

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