Burned Out at the Bedside: Patient Perceptions of Physician Burnout in an Internal Medicine Resident Continuity Clinic

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BACKGROUND: Burnout is high among resident physicians and may be associated with suboptimal patient care and reduced empathy.

OBJECTIVE: To investigate the relationship between patient perceptions of empathy and enablement and physician burnout in internal medicine residents.

DESIGN: Cross-sectional, survey-based observational study between December 2012 and March 2013 in a resident continuity clinic located within a large urban academic primary care practice in Baltimore, Maryland.

PARTICIPANTS: Study participants were 44 PGY1-3 residents and a convenience sample of their English-speaking adult primary care patients (*N*=244).

MAIN MEASURES: Patients rated their resident physicians using the Consultation and Relational Empathy Measure (CARE) and the Patient Enablement Instrument (PEI). Residents completed the Maslach Burnout Inventory (MBI). We tested for associations between resident burnout and patients' perceptions of resident empathy (CARE) and enablement (PEI) using multilevel regression analysis.

KEY RESULTS: Multilevel regression analyses indicated significant positive associations between physician depersonalization scores on the MBI and patient ratings of empathy (B=0.28, SE=0.17, *p*<0.001) and enablement (B=0.11, SE=0.11, *p*=0.02). Emotional exhaustion scores on the MBI were not significantly related to either patient outcome.

CONCLUSIONS: Patients perceived residents who reported higher levels of depersonalization as more empathic and enabling during their patient care encounters. The relationship between physician distress and patient perceptions of care has important implications for medical education and requires further study.

B urnout is a chronic state of emotional exhaustion and depersonalization, and a reduced sense of personal accomplishment.[1] It is measured using a validated instrument,[1] and reported by 50–75 % of resident physicians.[2–4] Burned-out residents self-report increased rates of medical errors,[4,5] suboptimal patient care,[2] and reduced empathy.[6,7]

A few studies have tried to substantiate these findings with independent observational data but have not provided confirmatory evidence. Fahrenkopf found that although burned-out residents reported increased rates of medical errors, a review of their charts failed to identify any differences between them and their peers.[4] A recent study of burned out residents revealed that their supervisors rated their communications skills higher than residents with lower levels of burnout.[8] Thus, there appear to be discrepancies between how residents with burnout perceive themselves and how they are independently judged.

So what do patients think of resident physicians who report symptoms of burnout? Because of the negative relationships between burnout and physician-reported empathic behavior,[6,7] and the positive associations between clinical outcomes and patient perceptions of physician empathy and enablement[9–12] (defined as health-related activation and empowerment), we conducted an observational study to examine relationships between patient perceptions of care and physician-reported burnout. We used validated scales to measure physician burnout and patient assessments of physician empathy and enablement among a sample of internal medicine residents and their clinic patients.

METHOD

Design

We performed a cross-sectional, survey-based observational study of internal medicine residents and their continuity clinic patients between December 2012 and March 2013 at the Johns Hopkins Bayview Medical Center in Baltimore, Maryland.

Setting and Subjects

The resident continuity clinic is located in an ambulatory care building on the campus of a large urban academic medical center. Residents see patients in this clinic in 2-week blocks separated by no more than 4 weeks on other rotations.

All PGY1-3 internal medicine residents in the training program were recruited to participate in a study to "learn about aspects of the doctor–patient relationship," using surveys of their clinic patients. We did not state that we were studying "burnout." Residents received $10 for their participation. We obtained written consent from all 44 eligible residents.

We recruited a convenience sample of primary care patients between December 2012 and March 2013. Adults were eligible if they had a clinic appointment with a resident and were English-speaking. We informed them that their physicians would not be aware of their participation in the study or have access to their responses. Patients received $10 for participating. We approached 308 patients, and 244 agreed to participate and complete the survey.

Data Collection

One member of the study team (HP) administered the surveys. She had no role in resident education. Following their completion of the clinic check-out process, patients were approached by HP in order to assess their willingness to participate. Patients completed the survey, responding to questions about their visit with the resident they had just seen. Surveys were matched to a resident using a unique identifier. Informed by a power analysis to estimate the number of patients needed to detect associations of interest at different levels in a multilevel analysis, we enrolled consecutive patients until we had collected at least four and no more than six patient surveys for each resident in the training program. Residents completed their surveys subsequent to a 3-month patient survey period during which our patient enrollment target was met. Data collection software ensured that the data were de-identified as soon as they were entered by the resident.

Measures

Patient Survey. We measured patient perceptions of physician empathy using the Consultation and Relational Empathy Measure (CARE), a validated 10-item questionnaire measuring patient perceptions of empathetic behaviors on a five-point Likert scale from "poor" to "excellent".[9–14] The instrument is scored for a total of 10–50 points, with higher scores indicating more empathic behavior. The Patient Enablement Instrument (PEI), a six-item questionnaire previously validated among practicing physicians,[9–12,15,16] measured patient ratings of health-related enablement. Enablement is a concept related to patient satisfaction, but is more specific to the physician's patient-centeredness and empowerment.[15] Response options on the instrument include "much better," "better," and "same or less." The instrument is scored for a total of 0–12 points, and higher scores indicate greater enablement.

Additional questions measured demographics (gender, race, age), characteristics of the clinic visit (e.g., estimated wait time and visit length in minutes), and "I believe this doctor knows me as a person," measured on a five-point scale: "strongly disagree," "disagree," "neutral," "agree," or "strongly agree." Responses in the first two categories were combined to improve the distribution, resulting in a four-point scale.

Resident Survey. The resident survey measured burnout using the Maslach Burnout Inventory (MBI),[1,2,4–8] which is stable for up to a year,[1] across three domains: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). High scores in the EE and/or DP domains define burnout in physicians.[2,8] For the purposes of reporting the prevalence of burnout in our sample, we defined burnout in the same manner. Scores in PA measure a distinct separate phenomenon in this population.[1] Preliminary analysis of PA as the independent variable in our study did not result in any significant associations, so our team opted to exclude PA from our final analysis. Four screening questions for depression[17,18] and anxiety,[17] demographic variables (age, gender, race/ethnicity), training characteristics (PGY level, residency track), and job satisfaction were also collected.

The study was approved by an institutional review board of the Johns Hopkins University School of Medicine.

Data Analysis

We conducted an a priori power analysis using SamplePower2, with alpha set at 0.05 and power of at least 80 %. We used estimates of effect size of the association between physician burnout and patient-rated outcomes based on prior studies[6,19,20] in our power calculations. To account for the nested design effect (patients within provider), a design effect calculation was performed to determine the potential degradation in sample size. Power calculations demonstrated power greater than 90 % to detect associations of interest among a sample as small as 135 patients, with 3 patients each for 45 physicians. As such, our recruitment target was 4–6 patients per resident physician.[21]

To compute descriptive and summary statistics, we used SPSS version 21.0 software.[22] One-way analyses of variance (ANOVAs), chi squares, and Pearson correlations were computed to examine unadjusted bivariate relations among key study variables and demographic characteristics of patients and physicians.

To test for associations between residents' self-rated burnout and patients' rating of physician empathy and enablement, we specified multilevel models (MLMs) with maximum likelihood estimators and robust standard errors in Mplus (Version 7.0). This allowed us to account for the nested data structure of patient ratings within physician burnout ratings and to examine variance and model fit at two levels.[23,24] Patient variables were measured at level 1, and physician variables at level 2.

Prior to modeling, we performed missing data procedures and examined the distributions of all variables. As negligible

amounts of data were missing (<0.4 % from patients and <2.3 % from physicians), and missing data were deemed to fit the assumptions for missing at random, missing data were handled with the full maximum likelihood (FML) approach in Mplus.[25] The distribution of CARE in our sample was somewhat left-skewed (skewness=−1.50) and kurtotic (kurtosis= 2.37). To account for non-normality, we created a natural log transformation. Because models using CARE and the log transformation yielded the same conclusions, CARE results are presented without transformation for ease of interpretation.

The primary outcomes were patient ratings of physician empathy (CARE) and enablement (PEI), measured at level 1. The independent variables, measured at level 2, were burnout domains of EE and DP, continuously measured. A series of MLMs were specified for the regression of each outcome on each burnout dimension separately. Because of the potential for multicollinearity due to the correlation between EE and DP (r=0.53, p<0.001), and because we were interested in examining relations of each burnout domain independently, we did not adjust for other burnout domains in MLMs.

We generated unconditional means models (random intercept-only models) to estimate intraclass coefficients (ICCs) in order to estimate the degree of clustering or relatedness of patient ratings within physicians. In each set of models, we first entered the level 2 independent variable. In subsequent steps, covariates were entered at level 1 and then level 2. At level 1, patient gender and race were treated as binary variables; race responses were collapsed into two dichotomous categories (white and non-white) because of low cell counts in other categories. All other variables ("I believe this doctor knows me as a person," age, wait time, visit time) were treated as continuous. Grand-mean centering was used for all level 1 covariates for accurate interpretation of effects at level 2.[26] At level 2, we entered physician demographic characteristics (gender and race, both treated as binary variables), enjoyment of the continuity clinic, and anxiety. In preliminary models, we examined both the depression and anxiety screening variables as predictors. Because they were highly redundant, and because only anxiety was related to EE in bivariate tests, in order to avoid collinearity we included anxiety only in the adjusted models. We hypothesized that these physician characteristics were related to patient perceptions of empathy and enablement. To compare fit of successive nested models, we used absolute fit indices (Akaike information criterion; Bayesian information criterion), with lower values indicating better fit,[23,27] and chi-square deviance statistics.[28]

RESULTS

All residents (44/44) completed the survey, for a response rate of 100 %. Fifty-five percent of the resident physicians (n=24/44) reported responses consistent with burnout.[2,8] Demographic characteristics and bivariate associations with burnout domains for the physician sample are listed in Table 1. EE was

significantly higher among those screening positive for anxiety. Satisfaction with the continuity clinic was negatively associated with EE (Pearson r=−0.32) but not DP.

Patient demographic characteristics and study variables are listed in Table 2. Bivariate associations did not reveal any differences in patient-rated physician empathy (CARE) or enablement (PEI) scores according to patient gender or age. There were no differences across racial categories on CARE scores. On the PEI, there was a significant difference between white patients (mean=6.17) and non-white patients (mean= 7.12). Patients who agreed more strongly that their physician "knows me as a person" rated those physicians higher on the CARE (r=0.38, p<0.001) and PEI (r=0.37, p<0.001) instruments. Patients who perceived longer wait times rated their physicians lower (r=−0.13, p=0.04) on the PEI instrument, and patients who perceived longer visit times rated their physicians higher (r=0.13, p=0.04) on the CARE instrument. Our two outcome variables (CARE and PEI) were positively associated with each other (r=0.34, p=0.02).

Intraclass coefficients (ICCs) for CARE and PEI were 0.036 and 0.085, indicating a 3.6 % and an 8.5 % degree of relatedness or clustering within physicians. Level 1 variance components representing patient-level variance in outcomes indicated a statistically significant degree of variance at the within-physician level (σ^2=43.0, SD=5.7; p<0.001 for CARE; σ^2=12.7, SD=1.0; p<0.001 for PEI). Level 2 variance components, representing the degree of between-physician variance in outcomes, were not significant (τ_{00}= 1.5, SD=2.0, p=0.47 for CARE; τ_{00}=1.16, SD=0.77, p=0.13 for PEI).

Physician Depersonalization (DP) and Patient Perceptions

The final MLMs predicting the fully adjusted relationship between CARE and PEI with depersonalization are presented in Table 3. MLMs indicated that the effects of DP on both CARE and PEI were significant in the positive direction, demonstrating that higher physician DP was associated with higher patient ratings of empathy and enablement. MLM results suggest that a 0.3-unit increase in DP was associated with 1-point increase in CARE, and a 0.1-unit increase in DP was associated with a 1-point increase in PEI. The p values and betas associated with all patient- and physician-level control variables are also listed in Table 3. The final multilevel models testing the relation of DP with patient outcomes accounted for 22 % of the level 1 variance and 67 % of level 2 variance in PEI. CARE models accounted for 20 % of level 1 and 96 % of level 2 variance.

Physician Emotional Exhaustion (EE) and Patient Perceptions

Two sets of MLMs tested the associations between EE and patient ratings of physician empathy and enablement. In fully adjusted models, EE was not significantly associated with

Table 1 Demographic Characteristics of the 44 Resident Physicians and Bivariate Associations with Burnout Dimensions of Emotional Exhaustion and Depersonalization

		Emotional exhaustion mean (SD)	Depersonalization mean (SD)
Physician variables (*N*=44)			
Gender, *n* (%)		*p*=0.86	*p*=0.64
Female	25 (57)	24.1 (9.7)	8.6 (4.8)
Male	19 (43)	23.4 (10.2)	9.3 (5.2)
Race, *n* (%)		*p*=0.99	*p*=0.57
White	22 (51)	24.2 (11.1)	9.4 (4.5)
Asian	13 (30)	23.5 (9.0)	8.8 (6.1)
Black	5 (12)	23.8 (11.3)	8.4 (4.5)
Hispanic	3 (7)	24.7 (5.7)	5.0 (3.6)
Level of training, *n* (%)		*p*=0.21	*p*=0.18
PGY 1	15 (34)	25.1 (11.5)	9.3 (4.6)
PGY 2	15 (34)	26.1 (7.1)	10.3 (5.1)
PGY 3	14 (32)	20.1 (10.0)	6.9 (4.8)
Residency track, *n* (%)		*p*=0.20	*p*=0.18
Primary care	23 (52)	22.0 (10.5)	7.9 (4.4)
Categorical	21 (48)	25.8 (8.8)	9.9 (5.3)
Satisfaction ("I enjoy my continuity clinic") [a] [†] mean (SD)	3.65 (1.09)	*p*=0.04	*p*=0.12
Depression screen, *n* (%)		*p*=.13	*p*=.61
No	28 (64)	22.1 (9.3)	8.6 (4.8)
Yes	16 (36)	26.8 (10.2	8.9 (4.9)
Anxiety screen, *n* (%)		*p*=0.008	*p*=0.52
No	18 (41)	19.2 (8.5)	8.3 (5.4)
Yes	26 (59)	27.0 (9.5)	9.3 (4.6)
Emotional exhaustion (EE), mean (SD)[††]		23.8 (10.0)	
Depersonalization (DP), mean (SD)[†††]		9.0 (4.9)	

Percentages may not sum to 100 due to rounding
[a]*p values for all variables represent chi-square significance tests, except for Satisfaction, which represents significance of a Pearson correlation*
[†]*Scores range from 1 to 5*
[††]*Scores range from 7 to 44*
[†††]*Scores range from 0 to 20*

CARE (B=0.05, SE=0.05, *p*=0.39) or with PEI (B=0.02, SE=0.03, *p*=0.50; not reported in Table 3).

DISCUSSION

We found that burnout was as common (55 %) as reported in other studies of resident physicians.[2–4] Similar to previous studies,[2,4] we found no significant associations between resident demographic characteristics and burnout. Our findings of

Table 2 Patient Demographic and Survey Variables

Patient variables (*N*=244)	
Gender, *n* (%)	
Male	106 (43)
Female	138 (57)
Race, *n* (%)	
White	132 (54)
Black	101 (43)
Hispanic	6 (3)
Native American	2 (1)
Age in years, mean (SD)	51.3 (14)
Wait time in minutes, mean (SD)	21.2 (19.2)
Visit time in minutes, mean (SD)	41.2 (23.4)
Belief that doctor knows me as a person, mean (SD) ("I believe this doctor knows me as a person")	2.9 (.97)
Consultation and Relational Empathy (CARE), [a] mean (SD)	44.6 (6.68)
Patient Enablement Instrument (PEI), mean (SD)	6.6 (3.73)

the relationship between job satisfaction ("I enjoy my continuity clinic") and burnout are also supported by the literature.[2]

Our study adds to the body of literature on physician distress by exploring how patients perceive burned-out residents. The findings suggest that behaviors seen as desirable by patients may be associated with increased resident distress, as manifested by depersonalizing attitudes towards patients. Patients reported more empathic and enabling behaviors among residents who reported higher levels of depersonalization. However, our design limits our ability to draw conclusions about the causality or directionality of this relationship. Our findings provide the first data on resident burnout as seen through the eyes of their patients in an outpatient setting. The data offer a new perspective from which to interpret the existing literature on burnout, with implications for both medical education and patient care.

Our results suggest that among physicians who reported more depersonalization, their patients actually perceived more empathy and enablement in the care their physician delivered. This is contrary to previous studies that used only physician-reported data to link burnout with low levels of empathy,[6,7,19] patient-centered doctoring,[2,19] and quality of care.[4,5] Higher scores on the empathy (CARE) and enablement (PEI) instruments used in our study predicted symptom improvement and enhanced well-being in patients at subsequent office encounters.[9–12] Therefore, our results provide some reassurance that quality of care from residents with higher levels of burnout, as

Table 3 Fully Adjusted Multilevel Regression Models Testing the Association Between the Depersonalization (DP) Domain of Burnout and Patient-Rated Physician Empathy and Enablement

	Dependent variable			
	Patient-rated physician empathy (CARE)		Patient-rated physician enablement (PEI)	
	B (SE)	p	B (SE)	p
Patient-level predictors				
Age	−0.06 (0.02)	**0.02**	0.02 (0.01)	0.14
Female	0.72 (0.78)	0.36	0.25 (0.43)	0.56
White vs. back race	0.61 (0.68)	0.37	−1.11 (0.41)	0.01
Believe doctor knows patient	2.78 (0.59)	<0.001	1.37 (0.26)	<0.001
Visit time	0.02 (0.02)	0.19	0.02 (0.01)	<0.001
Wait time	−0.02 (0.02)	0.24	−0.02 (0.01)	0.04
Resident-level predictors				
Female	−0.46 (0.88)	0.60	0.43 (0.46)	0.35
White vs. black race	1.45 (0.92)	0.11	−0.31 (0.49)	0.52
Enjoys continuity care	0.37 (0.40)	0.36	0.22 (0.22)	0.32
Anxiety	0.21 (0.97)	0.83	−0.24 (0.46)	0.61
Depersonalization (DP)[†]	**0.27 (0.08)**	**0.001**	**0.11 (0.04)**	**0.01**

B coefficients represent the amount of change in the predictor variable per 1-unit change in the dependent variable

[†] *High scores in the DP domain are used as an indicator of burnout in physicians.*[2,8] *In these models, DP is the independent variable; all other resident-level and all patient-level predictor variables are control variables*

manifested by more depersonalizing attitudes towards patients, is not perceived as inferior by the patients they care for. It is plausible that physicians who are more empathic and enabling with their patients are also more cognizant of interpersonal dynamics and therefore more self-critical of their own degree of depersonalization felt towards their patients. This may explain our discordant results in the context of the existing literature.

Other studies that include a third-party perspective offer mixed support for the association between burnout and the doctor–patient relationship. In a study of audiotaped office-based clinical encounters, Ratanawongsa found no difference in verbal communication behaviors between physicians with high and low levels of burnout.[29] Beckman noted that supervisors evaluated residents with higher burnout as having *better* communication skills than those of their peers with lower burnout.[8] Our study provides complementary findings by demonstrating that patients report residents with higher levels of burnout as having more empathic and enabling behaviors during clinical encounters.

Burnout is linked with significant personal distress, including depression, substance abuse, divorce,[30,31] and plans to leave the medical profession,[32] all outcomes that are relevant to the affected physician. What our study's results may suggest is that, from the patient perspective, burned-out residents are not "bad" doctors. In fact, when it comes to behaving empathically and enabling patients' involvement in their healthcare, residents who rated themselves most critically on depersonalization were perceived positively by patients. While our design does not allow for establishing causality, it is plausible that the type of doctoring most valued by patients, and most encouraged by the medical education community, may come at a cost to the well-being of the resident physician. If future studies establish this causal relationship, we might more

closely monitor our most dedicated trainees and utilize targeted interventions to enhance their well-being[33] and resilience.[34]

Several limitations should be considered. First, the study was conducted at a single institution. Even though the prevalence of burnout among our residents and several other associations in our sample were similar to those in previous studies, our results may not be generalizable. Residency programs have unique cultures and attract students who are drawn to the established learning environment. Our program focuses on the importance of "knowing the patient as a person," and we have previously described our curricular innovations that foster this culture.[35–37] Therefore, trainees in our program may have unique characteristics. Second, the cross-sectional design precludes our ability to draw conclusions regarding causal relationships between burnout and patient-reported outcome measures. Third, the residents were aware that our study focused on the doctor–patient relationship and may have changed their behaviors as a form of social response bias. Fourth, patients' perceptions of their doctors' empathy and enabling behaviors may have been influenced by their ongoing relationship with their doctor. The benefits of a longitudinal doctor–patient relationship may mitigate some of the potentially negative effects of physician burnout. Finally, the instruments used to measure patient perceptions of physician empathy and enablement have been validated in assessing practicing physicians, but not specifically in residents.

This study provides novel data that are relevant to the widespread problem of physician burnout. Dyrbye and Shanafelt recently pointed out that the changing face of healthcare is expected to impose additional pressures on physicians that may lead to more burnout.[38] Experts in this area have encouraged efforts to mitigate the effects of burnout to ensure that patients "receive compassionate care from

committed, competent, and professional physicians." This goal is appropriate, and we fully endorse the recommendation. Our data indicate that associations with empathic and enabling patient care, physician well-being, and burnout are multidimensional and complex, and suggest that we revisit any assumptions that may connect physicians who report burnout with substandard care. As we continue our ongoing efforts to reform the healthcare delivery system, innovations in clinical practice need to consider how to provide enhanced support to physicians striving for patient-centered clinical excellence.

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