

# Physician Burnout, Engagement and Career Satisfaction in a Large Academic Medical Practice

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**Objective:** To determine (1) if engagement among physicians impacted plans to stay in current role and job satisfaction, (2) what factors impact engagement and burnout, and (3) the relationship between engagement and burnout. Burnout has been described as a syndrome characterized by depersonalization, emotional exhaustion, and a sense of low personal accomplishment resulting in decreased effectiveness at work. Engagement may be regarded as the antonym to burnout and has been described as a connection to one's work characterized by dedication, vigor, and absorption.

**Design:** We extracted data from an academic practice-wide survey conducted at two time-points and evaluated physician burnout and engagement. We used the Maslach Burnout Inventory and the Utrecht Work Engagement Scale to evaluate the association between burnout and engagement and the impact of engagement on mitigating the effect of burnout in a large physician academic faculty practice.

**Setting:** Large academic practice

**Participants:** Academic physicians

**Methods:** The authors conducted a hospital-wide physician practice survey in 2014 and 2017 assessing physician burnout and engagement.

**Results:** Of eligible physicians (n=1882), 92.0% completed a survey. High levels of engagement and burnout were shown in 59.5% and 45.6%, respectively. Compared to physicians with high levels of engagement and low levels of burnout, physicians with low engagement and low burnout were less satisfied with their career (OR=0.20, 95% CI=0.11-0.35) and less likely to stay in their current role (OR=0.52, 95% CI= 0.37-0.73). Among physicians with high levels of burnout, highly engaged physicians were more satisfied (OR=0.21; 95% CI=0.12-0.36 vs OR=0.08; 95% CI=0.05-0.12) and more likely to stay in their career (OR=0.34; 95% CI=0.25-0.45 vs OR=0.27; 95% CI=0.21-0.34) than non-engaged physicians.

**Conclusion:** Engaged physicians have higher career satisfaction. There are many actionable ways to improve engagement.

**Keywords:** Physicians; Engagement; Burnout; Career satisfaction

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Physician burnout has been described extensively in the peer-reviewed literature.<sup>1</sup> Maslach and colleagues<sup>2</sup> defined burnout as a syndrome characterized by depersonalization, emotional exhaustion, and a sense of low personal accomplishment resulting in decreased effectiveness at work. Although the loss of professional precision and compassion accompanying this constellation of symptoms can be devastating for individual patients, the loss of collective productivity can be even more threatening to communities that rely on ready access to high-quality clinical care. This has been demonstrated in several studies that capture how burnout can negatively impact quality and safety of care.<sup>3-8</sup>

High burnout rates among physicians have also been associated with loss of commitment and engagement.<sup>9-13</sup> Engagement can be conceived as the antonym to burnout and has been described as a connection to one's work characterized by dedication, vigor, and absorption.<sup>14</sup> Some authors have suggested measuring well-being not with the pathologic framing of burnout but rather the more aspirational rubric of engagement with the aim to identify work factors that can protect against often unavoidable drivers of burnout.<sup>15</sup> Studies show that engagement can be protective of burnout and that

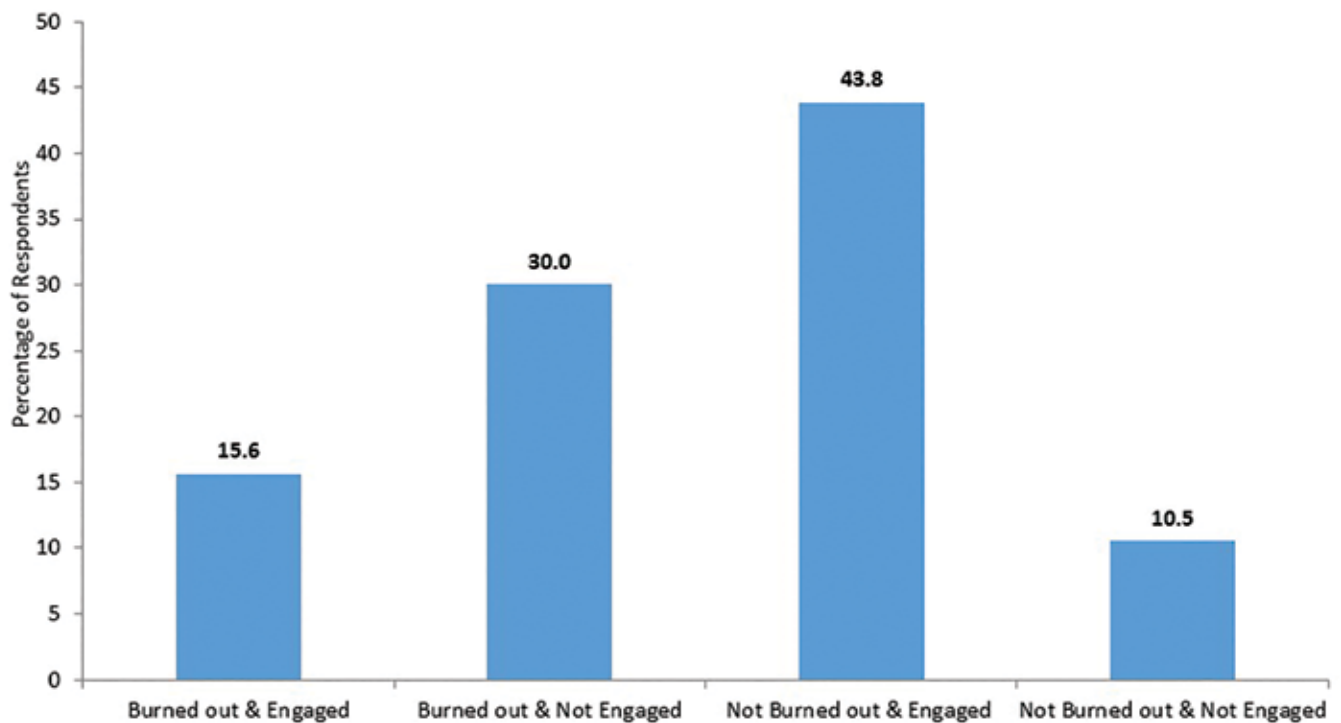
organizations and practices that invest in programs promoting engagement can mitigate burnout in their providers.<sup>14-19</sup>

To date, most studies characterizing physician well-being have used the Maslach Burnout Inventory,<sup>2</sup> and few researchers have used the Utrecht Work Engagement Scale (UWES), a validated instrument for measuring workplace engagement, on physicians.<sup>20-22</sup> Our institution conducts a survey across the entire academic practice every two years. We saw an increase in burnout from 41% in 2014 to 45% in 2017. Given this rise, we embarked on this study, using a less frequently used tool to measure engagement, to further elucidate the association between burnout and engagement and the impact of engagement on mitigating the effect of burnout in a large physician academic faculty practice. Although a series of studies have previously documented the relationship between burnout and career engagement, few have included large academic medical practices and are limited by the use of less vetted instruments to measure engagement and low response rates. Our survey is designed to guide institutional leadership in priorities based on responses and it is part of the organizations Quality Incentive Program. With this study, we intended to expand on previous studies in the literature by including a large heterogenous

**Table 1:** Distribution of Respondents by Demographics and Burnout/Engagement Status (Source: Authors' analysis of the data)

Variable	N (%)	Engagement <sup>a</sup>		Burnout <sup>b</sup>	
		Engaged N (%)	P value	Burned-out N (%)	P value
Gender			<0.0001		0.0003
Male	962 (51.1)	612 (63.6)		404 (42.0)	
Female	759 (40.3)	435 (57.3)		362 (47.7)	
Prefer not to say	161 (8.6)	72 (44.7)		93 (57.8)	
Race			0.0013		0.003
Asian	266 (14.1)	163 (61.3)		117 (44.0)	
White	1334 (70.9)	816 (61.2)		587 (44.0)	
Others <sup>c</sup>	282 (15.0)	140 (49.7)		155 (55.0)	
Career Stage			0.229		0.0094
Early (≤10 y)	819 (43.5)	5469 (57.3)		399 (48.7)	
Middle (11-20 y)	518 (27.5)	315 (60.8)		240 (46.3)	
Late (>20 y)	545 (29.0)	335 (61.5)		220 (40.4)	
Specialty			0.046		<0.001
ERAPS <sup>d</sup>	336 (17.9)	194 (57.7)		138 (41.1)	
Medicine	1117 (59.4)	673 (60.3)		499 (44.7)	
Primary Care	251 (13.3)	134 (53.4)		153 (61.0)	
Surgical	178 (9.5)	118 (66.3)		69 (38.8)	

<sup>a</sup>Engaged is defined as scoring high on two of the three engagement scales; <sup>b</sup>Burned-out is defined as score high on two of the three burnout scales; <sup>c</sup>Other race includes: black/African American, American Indian/Native Alaskan, Native Hawaiian/Pacific Islander, and Others. The number of respondents for these groups were small and we combined them into one group for the analysis; <sup>d</sup>ERAPS= emergency medicine, radiology, anesthesia, and pathology



**Figure 1.** Distribution of respondents by engagement-burnout status

academic practice inclusive of 16 clinical departments, using a validated instrument for measuring engagement, in a survey with a historically high response rate.

We used the Maslach Burnout Inventory and the Utrecht Work Engagement Scale to report on the association between burnout and engagement and the impact of engagement on mitigating the effect of burnout in a large physician academic faculty practice.

### Methods

Data were extracted from the 2017 Massachusetts General Physicians Organization survey. This study was approved by the Partners human research committee. This is a biennial survey administered to physicians comprising the faculty practice at Massachusetts General Hospital. Qualifying physicians earn a financial incentive for completing the survey, which is part of the organization’s Quality Incentive Program.<sup>23,24</sup> The goals of the survey are to evaluate the functioning of our clinical enterprise within and across departments, reflect on the progress made on current organizational priorities, and evaluate hospital leadership.<sup>23,24</sup> The 2017 survey included questions assessing four domains of interest: (1) career and compensation satisfaction; (2) well-being; (3) administrative workload; and (4) leadership and diversity.<sup>24</sup>

### Outcome Measures

To explore the relationship between burnout and engagement, we constructed the following four binary outcome measures.

- Burnout: measured using the Maslach Burnout Inventory-General Service (MBI-GS). Physicians were considered ‘burned-out’ if they scored at extreme in two of three subscales: high in exhaustion or cynicism, and low in professional efficacy.<sup>2</sup>
- Work engagement: assessed using the Utrecht Work Engagement Scale.<sup>20</sup> Physicians were considered ‘engaged’ if they scored high on two of three subscales: vigor, dedication, and absorption.
- Career satisfaction: measured using responses to the question “How satisfied are you with your career as a physician?” Physicians were considered “satisfied” if they chose one of the top two responses on a five-point Likert scale: very satisfied, satisfied, neutral, dissatisfied, or very dissatisfied.<sup>24</sup>
- Intention to stay at current role: assessed using a question asking physicians about their career plans for the next three years. Physicians who indicated that they would continue in their current role were defined as ‘staying.’

Based on the burnout and engagement outcomes defined above, we created an interaction variable that resulted in four mutually-exclusive groups: (1) burned out and engaged; (2) burned out and not engaged; (3) not burned out and engaged, and; (4) not burned out and not engaged. The reference group selected was physicians with low levels of burnout and high levels of engagement. The interaction variable was used to measure the degree of association (overlap) between the two outcomes and assess the moderating effect of engagement on the impact of burnout on career satisfaction and intention to stay at current role.

**Table 2:** Odds Ratio Estimates Predicting the Likelihood of Engagement and Burnout (Source: Authors' analysis of the data)

Predictors	Engagement		Burnout	
	Odds Ratio	[95%CI]	Odds Ratio	[95%CI]
Gender (ref=Male)				
Female	0.91	(0.72 – 1.14)	0.93	(0.74 – 1.17)
Other	0.77	(0.51 – 1.19)	1.06	(0.69 – 1.63)
Race (ref=White)				
Asian	0.92	(0.68 – 1.26)	1.11	(0.82 – 1.50)
Others	0.92	(0.66 – 1.28)	1.10	(0.79 – 1.53)
Career Stage (ref=late)				
Early ( $\leq 10$ y)	0.70	(0.53 – 0.92)	1.87	(1.42 – 2.47)
Middle (11-20 y)	1.04	(0.78 – 1.38)	1.29	(0.97 – 1.71)
Specialty (ref=medicine)				
ERAPs	0.82	(0.62 – 1.09)	0.87	(0.66 – 1.16)
PCP	1.22	(0.88 – 1.69)	1.42	(1.02 – 1.97)
Surgery	1.22	(0.83 – 1.78)	0.79	(0.55 – 1.15)
Career Misfit	0.67	(0.47 – 0.96)	1.21	(0.85 – 1.73)
Satisfaction with				
Opportunity to consult with Peers	1.63	(1.41 – 1.89)	0.71	(0.61 – 0.82)
CME Support	1.31	(1.15 – 1.49)	0.82	(0.71 – 0.93)
Work Load	1.60	(1.43 – 1.78)	0.54	(0.48 – 0.60)
Trusted Advisor	1.27	(1.16 – 1.39)	0.79	(0.72 – 0.86)

ERAPs, emergency medicine, radiology, anesthesia, and pathology; PCP, primary care physicians; CME, Continuing Medical Education

Each model was adjusted for basic demographics and selected work factors. For the burnout and engagement models, we adjusted for demographics (gender, race/ethnicity, career stage), specialty, career misfit (<20% of time spent on activity physician finds most meaningful), and selected work characteristics (satisfaction with Continuing Medical Education [CME] opportunity, workload, having a trusted advisor, and opportunity to consult with peers).<sup>25</sup> For models characterizing career satisfaction and intention to stay at current role, we adjusted for demographics (gender, race/ethnicity, career stage), specialty, and burnout-engagement interaction.

The Chi-square test was used for univariate comparison and multivariate logistic regression to assess the predictors of each outcome variable. A significance level of less than 5% was used to establish statistical significance. All statistical analyses were performed using SAS version 9.4 (SAS Institute Inc., Cary, North Carolina).

## Results

Of the 2,031 physicians in the MGPO who received the survey, 92.66% (n=1882) responded. A total of 40.3% (n=759) were female, 51.1% (n=962) were male, and 8.6% (n=161) preferred not to specify their gender. Of all

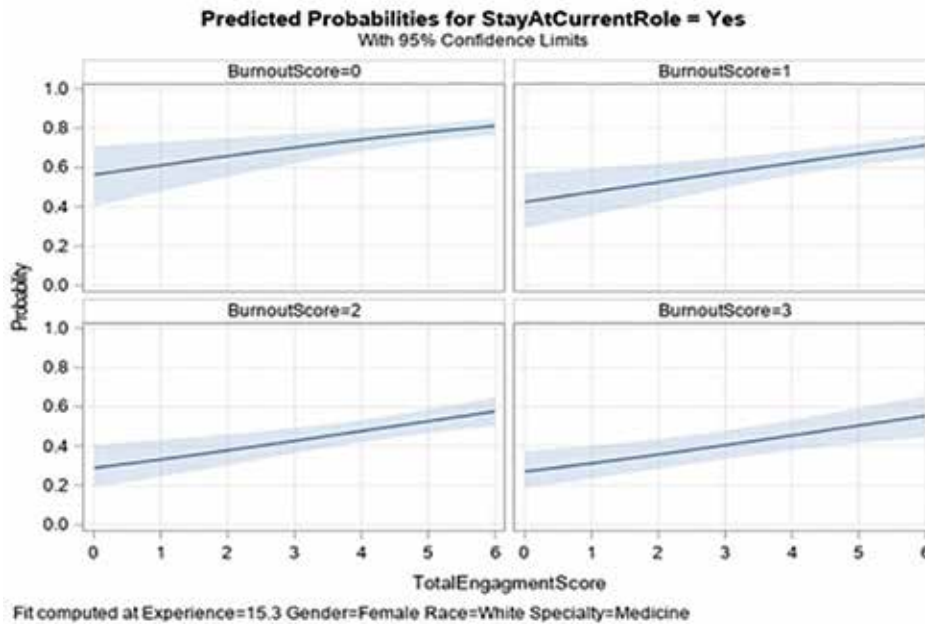
respondents, 59.4% (n=1117) were medical specialists, and 43.5% (n=819) had been in practice for 10 years or less (Table 1).

### *Burnout and Engagement*

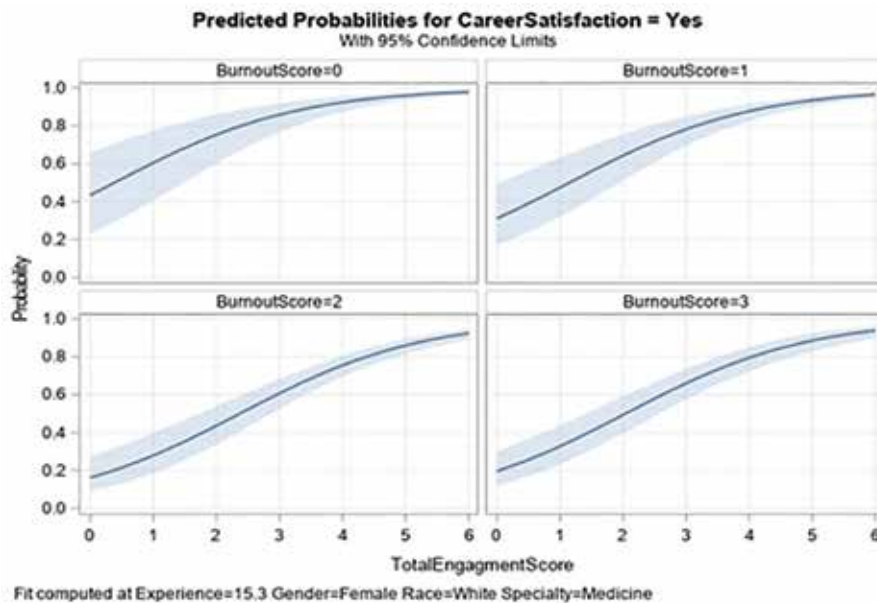
Low levels of burnout and high levels of engagement were reported by 43.8 % (n=825) of respondents. High levels of burnout and low levels of engagement were reported by 30.0% (n=565) of respondents while 15.6% (n=294) of respondents reported both high levels of burnout and high levels of engagement. Providers reporting both low levels of burnout and low levels of engagement consisted of 10.5% (n=198) of those responding (Figure 1).

Univariate analysis showed a statistically significant difference in engagement and burnout by gender, race/ethnicity, and specialty. Although career stage did not predict engagement, early-career physicians ( $\leq 10$  years) reported higher levels of burnout ( $P=0.009$ ; Table 1).

In the multivariate analysis controlling for demographics and selected workplace factors (Table 2), neither gender nor race/ethnicity predicted burnout or engagement. However, early-career physicians were more likely to report high levels of burnout (OR=1.87, 95% CI=1.42-2.47) and low levels of



**Figure 2A.** Examining the effect of engagement on the likelihood of staying in current role. The figure shows the impact of engagement on the likelihood of staying at current role for different levels of Burnout. The Predicted Probabilities are based on a logistic model adjusting for gender, race, specialty, experience (number of years since training), levels of burnout and engagement. For illustration purpose, engagement and burnout are specified differently in this model. Engagement is measured using the total engagement score, which is the average score of the three engagement subscales. It is specified as a continuous variable and has values that range from zero to six. Levels of burnout is measured as the sum of high score for the three burnout subscales and has four levels (3=high in all three scales, 2=high in two scales, 1=high in one scale, and 0=not high in any scale). The plots are computed for a white-female physician in the department of medicine who had 15 years of experience (the relationship between levels of burnout and levels of engagement are similar for other groups).



**Figure 2B.** Examining the effect of engagement on the likelihood of career satisfaction. The figure shows the impact of engagement on the probability of career for different levels of Burnout. The Predicted Probabilities are based on a logistic model that adjusted for gender, race, specialty, experience (number of years since training), levels of burnout and engagement. For illustration purpose, engagement and burnout are specified differently in this model. Engagement is measured using the total engagement score, which is the average score of the three engagement subscales. It is specified as a continuous variable and has values that range from zero to six. Levels of burnout is measured as the sum of high score for the three burnout subscales and has four levels (3=high in all three scales, 2=high in two scales, 1=high in one scale, and 0=not high in any scale). The plots are computed for a white-female physician in the department of medicine who had 15 years of experience (the relationship between levels of burnout and levels of engagement are similar for other groups).

engagement (OR=0.70, 95% CI=0.53-0.92). Compared to physicians in medicine, primary care physicians (PCPs) were more likely to report high levels of burnout (OR=1.42, 95% CI=1.02-1.97). Although career misfit did not predict burnout, physicians with career misfit were more likely to have low levels of engagement (OR=0.67, 95% CI=0.47-0.96). Finally, higher satisfaction with CME support, ability to consult peers, workload, and having a trusted advisor were associated with low levels of burnout and high levels of engagement.

Table 3 presents multivariate regression analysis predicting the impact of burnout-engagement interaction on career satisfaction and staying at current role. After controlling for burnout, engagement improves career satisfaction and likelihood of staying in current role. Among physicians with low levels of burnout, non-engaged physicians were less satisfied with their career (OR=0.20, 95% CI=0.11-0.35) and less likely to stay in their current role (OR=0.52, 95% CI=0.37-0.73) than engaged physicians. Similarly, among physicians with high levels of burnout, engaged physicians were more satisfied with their career (OR=0.21; 95% CI=0.12-0.36 vs OR=0.08; 95% CI=0.05-0.12) and more likely to stay in their career (OR=0.34; 95% CI=0.25-0.45 vs OR=0.27; 95% CI=0.21-0.34) than non-engaged physicians.

To illustrate the mitigating effect of engagement, we also plotted the predicted probabilities of career satisfaction and staying at current role as a function of the levels of burnout and total engagement score (Figures 2A and 2B). For each level of burnout, the likelihood of staying in current role and career satisfaction increase as a function of total engagement score.

## Discussion

Although the relationship between burnout and engagement has been previously identified in the literature, this study makes a significant contribution to our understanding of this association in several ways. Most researchers employ quality of life, work-life balance scales, or the mini-Z survey.<sup>26-28</sup> We employed the Utrecht Work Engagement Scale, which is validated instrument for measuring workplace engagement on physicians. The mini-Z survey usually measures the emotional exhaustion component of burnout. The Utrecht Work Engagement Scale measures vigor, dedication, and absorption.<sup>20-22</sup> These metrics may be a more appropriate assessment of career engagement. The current study is also unique in that it represents a heterogeneous academic medical practice, comprised of 16 clinical departments, and thus, elucidates a broader experience than previously reported, expanding beyond a single discipline in medicine. Our results describe the experience of an academic practice inclusive of physicians across different career stages, and expanding primary care, specialty medicine, surgical disciplines and both hospital- and ambulatory-based practices.

Furthermore, the survey response rate we report in the current study is 92%, much higher than response rates usually

reported for this type of research. Our sample size is also large, with 1,882 respondents. In the meta-analysis carried out by Panagioti and colleagues,<sup>29</sup> inclusive of 47 studies and 42,473 physicians, the median number of recruited physicians was 243, significantly lower than our participant sample size.

Our study suggests that work place engagement—which has been shown to be important in other professions—is also crucial for physicians. We found that engaged physicians at our organization, regardless of their level of burnout, have higher levels of career satisfaction and are more likely to stay in their current role. Thus, promoting engagement may be as important as mitigating burnout. Although physicians with low levels of burnout and low levels of engagement fared better than those who were burned out, physicians who were not burned out but reported high levels of engagement were twice as satisfied with their careers as those with low levels of both burnout and engagement.

Others have reported similar findings. In the meta-analysis conducted by Panagioti and colleagues,<sup>29</sup> which included 47 studies, burnout was associated with low professionalism, especially among residents and early-career physicians. In the present study, early-career physicians ( $\leq 10$  years) also reported higher levels of burnout ( $P=0.009$ ). This finding represents an opportunity for healthcare organizations to support physicians transitioning from trainees to professionals, and as suggested by others, may prove to be the most effective intervention for burnout prevention and reduction.<sup>29-35</sup> As suggested by Slavin,<sup>30</sup> health care leadership should focus efforts in increasing physician engagement in satisfying professional activities. These initiatives should include experiences that increase meaning, sense of purpose, connectivity and sense of being part of a unit larger than the individual.<sup>30</sup> Individual physicians should focus their efforts on achieving meaning in their vocation and calling.<sup>30</sup>

Implications of the association between burnout and engagement may extend beyond maintaining an appropriate level of professional satisfaction. Low professionalism has been associated with poorer quality of care (OR, 2.31; 95% CI, 1.87-2.85) and reduced patient satisfaction (OR, 2.28; 95% CI, 1.42-3.68).<sup>29</sup>

As has been suggested by others, we found burnout and engagement often function divergently, but not always.<sup>26,27</sup> If burnout and engagement were opposite experiences, we would expect all respondents to sort into either the high-burnout, low-engagement category or the low-burnout, high-engagement category. However, we observed that a quarter of our respondents did not sort into these expected categories. For these somewhat neutral respondents, not being burned out did not automatically translate into high levels of engagement and being engaged did not necessarily protect them from burnout.

We found that both engagement and burnout are driven by themes of connectedness, mentorship, and continued learning. This is supported extensively by other studies on physician burnout and non-physician studies on engagement.<sup>28-30</sup> Although much attention in the field of physician burnout has been focused on the electronic health record (EHR) and administrative burden on wellbeing, we found that considerable gains could potentially be achieved by creating programs in which physicians can have time and opportunity to connect with one another, as well as adequate support and resources for continued education and career development. Programs designed to decrease burnout and increase engagement should focus on vulnerable clinicians, including early-career providers—who may find it challenging to secure mentorship and continued learning opportunities—and those assigned to spend time traveling to multiple sites of care—for whom connectivity to other colleagues may be difficult to attain.

Career fit, a concept introduced by Shanafelt et al,<sup>25</sup> is defined as having 20% of time dedicated to one’s preferred professional activity. Previous studies have associated it with reduced burnout levels. Interestingly, we found in our population, that career fit was associated with improved engagement, but not negatively associated with burnout. Career fit is a more challenging aspect of physician life, requiring effective mentorship, availability of opportunities, and in many cases, resources to provide physicians with time and support to pursue specific interests. Enabling physicians to dedicate 20% of their time toward their passions seems like a small investment for the potentially large effect on increased physician retention.

Our study is limited primarily by the fact that it is a single center study. Furthermore, our study focused on academic physicians, so our findings may not be generalizable to broader physician communities.

## Conclusion

Our study demonstrates that to achieve maximum levels of career satisfaction and retention, we need to address both burnout and engagement. In general, this relies on addressing themes of connectedness and continued learning. Engagement is uniquely driven by having time to devote to the most satisfying aspects of one’s career. Institutions need to design and implement initiatives that identify activities maintaining high-levels of engagement and protect time to dedicate to those interests.

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