Family Medicine Faculty Time Allocation and Burnout: A Residency Research Network of Texas Study

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ABSTRACT

Background Burnout among graduate medical education (GME) faculty is a well-documented phenomenon, but few studies have explored the relationship between faculty time allocation and burnout.

Objective Our objectives were to (1) characterize time allocation of academic family physicians, (2) measure the difference between *actual* versus *preferred* time spent on various tasks, and (3) examine this difference in relation to burnout.

Methods From January to March 2017, family medicine GME faculty across Texas completed anonymous online surveys for burnout (Maslach Burnout Inventory) and occupational stress (Primary Care Provider Stress Checklist). They also reported the percentage of time they *actually* versus *prefer to* allocate across 5 categories of tasks: direct patient care, nondirect clinical duties, teaching, administration, and research. Difference scores between *actual* and *preferred* time allocation were calculated and correlated with burnout and stress scores.

Results Of the faculty physicians surveyed, 53% provided complete responses (103 of 195). On average they engaged in their preferred amount of time on direct patient care (30% of their time) and administrative duties (15%). Meanwhile, faculty preferred to increase time spent teaching (37% to 41%, $P = .002$) and conducting research (4% to 7%, $P \leq .001$), while reducing time spent on nondirect clinical duties (14% to 7%, $P < .001$). Those with higher misalignment in their weekly schedules reported higher levels of professional burnout and occupational stress.

Conclusions Many family medicine GME faculty spent 20% or more of their time in a manner incongruent with their preferences, which may place them at higher risk for burnout and occupational stress.

Introduction

Despite concluding the Hippocratic Oath with "may I long experience the joy of healing those who seek my help," physicians today experience alarming rates of burnout,[1–5] a condition marked by exhaustion, cynicism, and reduced sense of personal accomplishment.[6] In recent years, focus has turned toward better characterizing burnout among graduate medical education (GME) faculty, who are drawn specifically to careers in academic medicine for the rich variation of clinical and nonclinical tasks. Yet it has been suggested that the challenge of juggling such an amalgam of work duties may contribute to these physicians' particular vulnerability to burnout.[7–9]

Few studies to date have explored this unique association between GME faculty's varied work responsibilities and burnout. One study demonstrated that academic physicians who spend less time on their most meaningful activity are at higher risk for burnout,[10] while another provided correlation between low satisfaction with work-schedule control and burnout.[11] However, no study to our knowledge has comprehensively examined academic physicians' allocation of time among their work duties and whether any objective deviation from their preference is associated with burnout.

Accordingly, this study aimed to (1) characterize time allocation of academic family physicians across various different tasks, (2) measure the difference between *actual* versus *preferred* time spent on these tasks, and (3) examine this difference in relation to burnout and occupational stress. We hypothesized that greater time misallocation would predict higher rates of burnout and occupational stress scores.

Methods

From January to March 2017, a cross-sectional, closed-ended, anonymous survey was administered electronically to all faculty physicians (N = 195) employed at the 11 family medicine training sites participating in the Residency Research Network of Texas. This collaborative comprised academic and

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Editor's Note: The online version of this article contains the survey used in the study, demographics of the faculty physician sample, and a figure showing the distribution of overall percent time misallocation.

TABLE 1
Faculty Weekly Percent Time Allocation (Actual versus Preferred)

Activity Category	Actual Time, %		Preferred Time, %		95% CI	*P* Value
	Mean	SD	Mean	SD		
Direct patient care	30.5	17.2	29.6	17.8	−1.45, 3.13	.47
Nondirect clinical duty	13.9	10.0	6.9	7.0	5.54, 8.53	< .001
Teaching	36.6	15.9	41.0	16.3	−7.17, −1.64	.002
Administration	14.8	15.3	15.1	14.1	−2.27, 1.68	.77
Research	4.2	7.4	7.4	10.3	−4.43, −1.91	< .001

Abbreviation: CI, confidence interval.

community residency programs. The faculty were asked to provide basic demographic information and estimates of percent time, in increments of 10%, that they allocate to each of the following categories of GME tasks: direct patient care, nondirect clinical duties (eg, documentation, medication refills), teaching (eg, precepting residents, student didactics), administration (eg, leadership, directorship duties), and research (eg, scholarly writing, grantsmanship). They were also asked to provide their *preferred* percentage time allocation across the same 5 activity domains.

The outcome of interest was faculty's level of burnout and occupational stress. Burnout was measured using the Maslach Burnout Inventory (MBI), a 22-item questionnaire with substantial validity evidence for measuring burnout among physicians.[6] The MBI encompasses 3 domains: emotional exhaustion, depersonalization, and personal accomplishment. Burnout was also assessed using a single item from the MBI Emotional Exhaustion Scale, which others have used as a measure of burnout.[12] Occupational stress was measured using 11 items from the Primary Care Provider Stress Checklist, a questionnaire developed by content experts to assess stress levels associated with various aspects of the clinical work environment among primary care physicians.[13] See the online supplemental material for the survey utilized in the study.

Paired-sample *t* tests were used to measure significant differences across the 5 categories of activity to identify patterns in faculty preference. Analyses were conducted using IBM SPSS Statistics for Windows version 25.0 (IBM Corp, Armonk, NY). Reports of *actual* versus *preferred* time were used to calculate difference scores across each task, which were then summed for each participant. These difference scores indicated the total percent time that faculty preferred to be reallocated to other tasks. Using methodology from previous literature,[10] the overall sample was grouped by degree of total difference: those with greater than 20% of time misaligned were grouped into the high schedule misalignment group, whereas those with less than 20% time misalignment were grouped into the low schedule misalignment group. One-way ANOVA analyses were used to examine group differences on burnout and occupational stress.

All aspects of this study were approved as exempt by the North Texas Regional Institutional Review Board.

Results

A total of 103 of 195 physicians surveyed (53%) provided complete information for analysis. Demographics are provided as online supplemental material. Faculty reported no significant preference for change in time allotted to direct patient care and administrative activities (approximately 30% and 15%, respectively). On average, they reported a preference for reducing nondirect clinical duties (14% to 7%, $P < .001$) and significant increases in teaching (37% to 41%, $P = .002$) and research (4% to 7%; $P < .001$; TABLE 1).

Difference scores in schedule misalignment ranged from 0% (no misalignment from preferred schedule) to 60% misalignment. Among the 103 faculty members, the average percent time misalignment was 18.2%. Almost half of the faculty (46%, 47 of 103) had 20% or higher time misalignment (figure provided as online supplemental material) and were classified into the high schedule misalignment group. Statistical analyses demonstrated that those in the high schedule misalignment group experienced greater levels of emotional exhaustion ($P = .001$) and lower personal accomplishment ($P = .023$), along with higher occupational stress ($P = .033$) and significantly higher endorsement of the single-item burnout measure ($P = .007$; TABLE 2).

Discussion

Our findings indicate that family medicine GME faculty, on average, maintain their preferred amount of time on direct patient care and administrative tasks, while desiring increased time for academic activities (ie, teaching and research) and reduced time

TABLE 2
Low versus High Schedule Misalignment and Professional Burnout

Burnout Domains	Low Schedule Misalignment		High Schedule Misalignment		95% CI	*P* Value
	Mean	SD	Mean	SD		
MBI–Emotional Exhaustion	17.10	10.91	24.51	11.69	0.36, 9.49	.001
MBI–Depersonalization	6.04	5.38	6.60	5.17	−2.62, 1.55	.59
MBI–Personal Accomplishment	41.46	5.44	38.95	5.49	−4.05, −0.32	.023
Occupational Stress	44.22	23.10	54.79	23.77	8.44, 15.59	.033
"I feel burned out from my work"	2.85	1.76	3.80	1.73	0.55, 1.40	.007

Abbreviations: CI, confidence interval; MBI, Maslach Burnout Inventory.

for nondirect clinical duties. Faculty, on average, reported 18.2% schedule misalignment; assuming a 50-hour workweek, this would be approximately 9 hours per week spent on tasks that faculty find to be inconsistent with their preference or in some way interferes with a more desired aspect of work. When grouped according to their degree of schedule misalignment, those with highly misaligned schedules (ie, over 20% of time misallocated) reported greater burnout and occupational stress.

While this study did not explicitly measure which specific tasks among nondirect clinical duties were most undesirable, previous literature has implicated electronic medical record utilization and documentation-related tasks to be key contributors to burnout in this domain.[14–16] While prior research has examined a relative threshold of meaning in one's work as a predictor of burnout,[10] our study examined an objective threshold of time perceived to be misused or misaligned from preference. Accordingly, our findings denote a kind of natural cut point where percent of weekly time misallocation beyond 20% is associated with increased burnout. Overall, these findings are consistent with preexisting literature noting that autonomy and perceived control are significant predictors of physician burnout.[11,17] Therefore, a pragmatic potentially impactful approach to addressing burnout in academic medicine may be found in reducing misalignment in faculty schedules and protecting time spent on such fundamental academic pillars as teaching and research.

One limitation to our study was that the faculty themselves did not assign rank or value to the activity categories. In addition, a relatively small sample size limited the statistical power of our between-group analysis. We also used an as-yet unvalidated means of assessing time allocation; therefore, there may be issues of recall bias with estimating time allocation percentages, or the categories we described may be subject to interpretation. Finally, our study was a single-specialty investigation, limiting generalizability to physicians in other specialties.

A logical next study may be to determine whether our findings can be replicated with GME faculty in specialties outside family medicine. Moreover, as time allocation appears to be an important factor in faculty burnout, the measure and construct of faculty time allocation could benefit from further development in future studies.

Conclusions

On average, family medicine GME faculty want to spend more time on teaching and research and less on nondirect clinical duties. Many physicians spend 20% or more of their time in a manner incongruent with their preferences, which may place them at higher risk of burnout and occupational stress. These findings suggest that allowing academic physicians the autonomy to allocate time in ways that are more consistent with their preference may protect against burnout, providing further evidence linking physicians' use of time to their well-being.

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