

SPECIAL CONTRIBUTION

Physician Wellness

Are emergency physicians satisfied? An analysis of operational/organization factors

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Abstract

Objective: Professional satisfaction is associated with career longevity, individual well-being, and patient care and safety. Lack of physician engagement promotes the opposite. This study sought to identify important facets contributing to decreased career satisfaction using a large national data set of practicing emergency physicians.

Methods: We performed a secondary analysis of the national Longitudinal Study of Emergency Physicians survey conducted by the American Board of Emergency Medicine. The survey was composed of 57 variables including career satisfaction as well as occupational and psychological variables potentially associated with career satisfaction. Factor analysis was used to determine the important latent variables. Ordinal logistic regression was performed to determine statistical significance among the latent variables with overall career satisfaction.

Results: A total of 863 participants were recorded. The overall mean career satisfaction rate was 3.9 on a 5-point Likert scale with 1 and 5 indicating "least satisfied" and "most satisfied," respectively. Our analysis revealed 9 factors related to job satisfaction. Two latent factors, exhaustion/stress and administration/respect, were statistically significant. When comparing satisfaction scores between sex, there was a statistically significant difference with men reporting a higher satisfaction rate ($P = 0.0092$). Age was also statistically significant with overall satisfaction lower for younger physicians than older physicians.

Conclusion: Our study found that emergency physicians are overall satisfied with emergency medicine, although with variability depending on sex and age. In addition, we characterized job satisfaction into 9 factors that significantly contribute to job satisfaction. Future work exploring these factors may help elucidate the development of

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targeted interventions to improve professional well-being in the emergency medicine workforce.

KEYWORDS

career satisfaction, emergency medicine, job factors

1 | INTRODUCTION

1.1 | Background

Prior studies have found that emergency physicians consistently rank among the highest medical specialties in both clinician burnout and satisfaction with work–life integration.^{1,2} Although several studies have focused on determining the various contributors to burnout in emergency medicine, few have focused specifically on the determinants of emergency physician career satisfaction.

1.2 | Importance

Both external/organizational and internal/individual level factors contribute to career satisfaction. One qualitative study looking at emergency physician career satisfaction determined that both external stress factors (eg, long shifts, night shifts, psychological demands, lack of continuing education) and internal stress factors (eg, coping strategies, personality types, anxiety with making mistakes and medical malpractice) impact job satisfaction.³ Another informative source of information for assessing emergency physician satisfaction is the Longitudinal Study of Emergency Physicians (LSEP). The LSEP was a broad national survey conducted every 5 years from 1994 to 2014 by the American Board of Emergency Physicians (ABEM) that examined several domains of emergency medicine practice including career satisfaction among emergency physicians.^{4–7} A secondary analysis of the LSEP data from 1994, 1999, and 2004 that focused on emergency medicine career satisfaction found the following factors associated with higher levels of career satisfaction: work that was considered “exciting” and well regarded, job security, teaching, involvement with medical politics and consulting, compensation, and professional leadership positions of any kind.⁸ Factors associated with lower levels of career satisfaction included physicians reporting insufficient time for personal life, lack of collegial support, problems with autonomy and control of their working conditions, fatigue, underlying personality traits, lack of job involvement, excessive clinical workload, night shifts and sleep disturbances, problems with subspecialty coverage, feelings of inadequate knowledge, and lack of opportunity to attend conferences.⁸ All of these factors have been potentially accelerated and compounded in the setting of the COVID-19 pandemic, where emergency physicians have experienced historic levels of psychological stress, moral injury, and occupational hazards while working under demanding clinical conditions amid the global pandemic.^{9,10}

1.3 | Objective

The aim of this study is to assess current career satisfaction among board-certified emergency physicians and to identify associated factors with satisfaction using the most recent 2014 ABEM data set.

2 | METHODS

2.1 | Study design and setting

This study was a secondary data analysis of the 2014 American Board of Emergency Medicine (ABEM) Longitudinal Study of Emergency Physicians (LSEP). The ABEM LSEP was a 36-page questionnaire sent out every 5 years to an on-going cohort of emergency physicians, from 1994 to 2014. A full text of the survey can be found on the ABEM website (<https://www.abem.org/public/docs/default-source/default-document-library/2014-five-year-survey.pdf?sfvrsn=0>). The first LSEP cohort identified in 1994 was selected via a stratified, random sampling of representative emergency physicians within 4 different stages in the development of the specialty, ensuring a representative sample of those who had completed emergency medicine residency and those who had not. Since that time, new cohorts were identified for inclusion every 5 years, until the final survey in 2014. Since 1999, all new cohorts have been participants of Accreditation Council for Graduate Medical Education (ACGME) approved emergency medicine residency programs. For the purpose of this study, all participants who responded to the 2014 questionnaire were considered for inclusion into this analysis. This study was approved by the Emory University Institutional Review Board as an exempt protocol.

2.2 | Measurements and outcomes

The multisection questionnaire addresses different aspects of emergency medicine including, but not limited to, personal aspirations, practice environment, and demographics. For this particular analysis, a subset of this questionnaire was used to create the cohort of interest. As this study investigates insights into emergency physician career satisfaction, sections A (professional interests, attitudes, and goals), C (professional experience), and E (demographics) were selected, which

created a subset of 57 variables of interest. These variables focus on different components that could impact the physician's overall satisfaction with their career in emergency medicine.

The aim of this work is to identify the different facets that contribute significantly to professional career satisfaction in emergency medicine. Although each question may not be identical, many cover similar content areas. Therefore, as a large number of variables are present, factor analysis was employed to reduce the dimensions of the data set into the important latent variables contributing to career satisfaction. The variable "Overall, how satisfied are you with your career in EM?" was used to measure overall career satisfaction on a 5-point Likert scale, with 1 and 5 indicating "least satisfied" and "most satisfied," respectively.

2.3 | Statistical analysis

A total of 1102 participants (identified as board-certified emergency physicians) were sent the survey, with 863 participants completing the survey. As the survey was collected in 2014, all available samples were used. As factor analysis requires a complete data set with no missing values, the data were explored to determine if any null values existed. Any variables with >15% missing data were removed, and the rest of the missing data points were imputed with the median values (Table 1). Summary statistics, including medians, interquartile ranges, frequency counts, and distributions were calculated for all variables.

The primary endpoint was to determine emergency physicians' overall satisfaction with their career. In addition, we sought to investigate which components (professional interests, attitudes, and goals; professional experience; and demographics) have a significant impact on career satisfaction.

Excluding the variable, "Overall, how satisfied are you with your career in EM?," a Kaiser-Meyer-Olkin test was performed using the variables listed in Table 1 with the exception of the dependent variable "satisfaction with emergency medicine" to determine if the survey was suitable for factor analysis, with a cutoff of <0.6 indicating that the data are poorly suited for factor analysis. The factor analysis was then subsequently performed with a varimax rotation. The number of factors were selected based on eigen values >1.0 and inspected manually to determine what each factor represents. Each participant's scoring response was then transformed into the new latent factor representations.

Using the "Overall, how satisfied are you with your career in EM?" variable as the independent variable, an ordinal logistic regression was performed to determine statistical significance among the latent (factor) variables. A separate ordinal logistic regression using all elements of demographics including age, sex, marriage, children, and race was performed. Because of the low frequency counts, the numbers of children and race were consolidated into "Have children?" and "Caucasian?" before their use in the regression.

The analysis was performed using R Core Team (R) 3.6.3 and Python Software Foundation (Python) 3.8.2.

The Bottom Line

Most emergency physicians are satisfied or very satisfied with their career in emergency medicine. Female emergency physicians report significantly lower levels of career satisfaction (3.699) than men (3.972; $P = 0.009$). The authors suggest that 9 factors originating primarily at the organizational level contribute to career satisfaction.

3 | RESULTS

3.1 | Satisfaction in emergency medicine

3.1.1 | Characteristics of study subjects

Demographic characteristics are summarized in Table 2. Overall, 1102 surveys were distributed, with a response rate of 80%. Satisfaction in emergency medicine is reported among 863 of the 1102 participants completing the survey. The mean career satisfaction was 3.9, with 34% reporting being most satisfied. The mean satisfaction for women was 3.699, and the mean satisfaction for men was 3.9726. The categorical distribution of the Likert scores between the 2 sexes was statistically significant ($\chi^2 = 13.474$; $P = 0.0092$). The majority of the participants were White married men with 2 children and an average age of 50.82 years old.

3.2 | Main results

3.2.1 | Factor analysis

Given the many individual items assessed on the survey, we conducted a factor analysis to evaluate whether these variables grouped in a more limited number of dimensions (Table 3). Our factor analysis revealed 9 factors that we conceptualized based on the individual variables within each factor (Table 4).

3.2.2 | Ordinal logistic regression

The ordinal logistic regression demonstrated that the following 2 latent factors had statistical significance (Table 5): factor 1, exhaustion and stress ($P = 0.0155$; odds ratio [OR], 0.8501; 95% confidence interval [CI], 0.7451–0.97) and factor 9, administration and respect ($P = 0.0002$; OR, 0.7641; 95% CI, 0.6635–0.8791). After adjusting for race, children, and marital status, both sex ($P = 0.0375$; OR, 1.3837; 95% CI, 1.0188–1.8796) and age ($P = 0.0000$; OR, 1.0237; 95% CI, 1.0123–1.0354) were statistically significant with overall satisfaction in emergency medicine decreasing with female sex and younger physicians (Table 6).

TABLE 1 Variables and missing values

	Count	Percentage
Time for conducting research	451	52.3
Number of night shifts	110	12.7
Minority discrimination	71	8.2
Boarding in ED	63	7.3
Crowding in ED	61	7.1
Safety in ED	55	6.4
Implementation of EHR records	47	5.4
EMS support	43	5.0
Hospital administration	41	4.8
Attending conferences	38	4.4
Subspecialty support	36	4.2
Hospital politics	36	4.2
Ongoing use of EHR	30	3.5
Opportunity for subspecialization	29	3.4
Sex discrimination	27	3.1
Concern about malpractice suits	26	3.0
Number of shifts	26	3.0
Research opportunity	24	2.8
Nursing staff	23	2.7
Ancillary support	23	2.7
Teaching opportunity	22	2.5
Number of patients	19	2.2
Length of shifts	18	2.1
Promotion opportunity	18	2.1
Time devoted for documentation	18	2.1
Clinical productivity	17	2.0
Learning new skills	17	2.0
Exciting work	17	2.0
Fringe benefits	17	2.0
Sense of ownership	16	1.9
Level of patient acuity	16	1.9
Personal reward	15	1.7
Fair compensation	15	1.7
Job security	13	1.5
Autonomy at work	13	1.5
Infectious disease exposure	13	1.5
Control over working conditions	13	1.5
Defined working hours	13	1.5
Up-to-date equipment	13	1.5
Difficult moral or ethical issues	12	1.4
Administration opportunity	11	1.3
Opportunity to attend conferences	11	1.3
Compatible colleagues	11	1.3
Enough time for family	9	1.0

(Continues)

TABLE 1 (Continued)

	Count	Percentage
Burnout	9	1.0
Exercising medical judgment	9	1.0
Stress	8	0.9
Enough time for personal life	8	0.9
Income	7	0.8
Level of energy needed to work	7	0.8
Keeping up with medical literature	6	0.7
Colleagues	6	0.7
Fatigue	5	0.6
Knowing enough	5	0.6
Respect from medical colleagues	5	0.6
Satisfaction with emergency medicine	0	0.0

ED, emergency department; EHR, electronic health record; EMS, emergency medical services.

After adjusting for sex, race, marital status, number of living children, and age, sex and age were found to be statistically significant, which suggests an association between sex and emergency medicine satisfaction and age with emergency medicine satisfaction. Sex was found to be statistically significant as an independent predictor of satisfaction in terms of one's career, with men having higher satisfaction than women (OR, 1.38; $P = 0.0375$). In addition, when the mean satisfaction for women (3.699) was compared with the mean satisfaction for men (3.9726), a statistically significant difference ($\chi^2 = 13.474$; $P = 0.0092179$) was found.

3.3 | Limitations

Although this study had a large sample size, the data have several limitations. First, the data were from a secondary analysis of data obtained from the ABEM 2014 LSEP. The LSEP cohort is voluntary and includes only physicians board certified in emergency medicine. The age of the data set is a limitation; however, many of the factors and themes that emerged as related to career satisfaction in emergency medicine have not undergone major change in the past several years. Second, the study sample was limited by the homogeneity of the demographic characteristics of respondents and biased because of the number of older White males, so the findings in this cohort may not reflect the unique challenges of more diverse physicians particularly those who are younger, female, and underrepresented in medicine (URiM). The number of non-White participants was small and limited our ability to analyze the 9 factors by race/ethnicity. In addition, the number of women who responded was also small compared with the number of male respondents. This limited our ability to do multivariate analysis based on sex. Third, as with any large data set, there were missing data; however, with the exception of 1 variable, the overall degree of missing data was quite small. Median was used rather than the mean for

TABLE 2 Physician demographics

Career satisfaction	Total, N = 863	1, N = 14	2, N = 64	3, N = 207	4, N = 284	5, N = 294
Age (SD)	50.82 (12.06)	46.8 (7.71)	50.2 (11.0)	49.6 (11.4)	48.1 (11.9)	54.5 (12.1)
Sex						
Male	657	9	47	142	214	245
Female	193	4	17	59	66	47
Missing	13	1	0	6	4	2
Marital status						
Married	729	11	50	175	243	250
Single	78	1	7	19	25	26
Separated	8	0	4	3	1	0
Divorced	31	1	3	4	11	12
Widowed	7	0	0	2	1	4
Missing	10	1	0	4	3	2
Race/ethnicity						
White	728	13	56	169	228	262
Hispanic	23	0	0	8	11	4
Black	17	0	3	3	6	5
Asian	57	0	3	17	27	10
American Indian	3	0	0	1	1	1
Other	19	0	2	3	7	7
Missing	16	1	0	6	4	5
Number of children (interquartile range)	2 (2)	2 (1)	2 (2)	2 (2)	2 (2)	2 (2)

Likert scale ratings: 1 = not satisfied, 3 = satisfied, 5 = very satisfied.

imputation because of the potential of a heavy skew with data from a 5-point Likert scale. Therefore, we felt that the mean was less suitable than the median for analysis. Finally, physicians who are less satisfied with their work may have been less likely to participate in the survey, limiting our ability to accurately assess the level of career satisfaction. The absence of this cohort, as well as the lower number of minority and female respondents, may have skewed the data obtained regarding career satisfaction within emergency medicine.

4 | DISCUSSION

Career satisfaction is a vital factor impacting professional longevity, physician well-being, and patient safety.¹¹ When addressing physician well-being, career satisfaction is important because studies show less turnover and intention to leave the workplace when career satisfaction is higher.¹² There is also increasing evidence that poor staff perception of the workplace impacts staff retention and thus personnel and professional capital in the emergency department (ED).¹³ In addition, workplace perceptions are centered on the following themes: perceived excessive workload, teamwork and feeling like a skilled and valued member of the team, the impacts of traumatic events, the need for support (managerial, peer, and social), and autonomy.¹³ Although our study did not sample physicians during the COVID-19 pandemic,

the professional satisfaction factors described in our study have likely been compounded with the COVID-19 pandemic, where physicians who were already experiencing high degrees of occupational stress encountered a unique historic pandemic with extraordinary challenges for acute care physicians worldwide. In this cohort, infectious disease exposure was not found to be a significant factor contributing to career satisfaction. Future work should examine the impact of infectious disease exposure on career satisfaction in emergency physicians as we have been the frontline of the COVID-19 pandemic.

To add to the research on workplace perceptions, our study leveraged a large existing data set from board-certified emergency physicians to evaluate potential factors influencing career satisfaction. Although our study found that exhaustion and stress (OR, 0.8501; 95% CI) had a statistically negative impact on career satisfaction in emergency medicine, corroborating the existing literature, physicians with perceived satisfaction of hospital administration and medical colleagues (OR 0.7641, 95% CI) were found to correlate with higher overall satisfaction with emergency medicine.^{2,3,5,8} Furthermore, by analyzing the components of reported satisfaction, we found the following 9 factors broadly contributed to career satisfaction: (1) exhaustion and stress, (2) family and personal time, (3) non-clinical opportunities, (4) medical knowledge, (5) sex and racial discrimination, (6) work conditions, (7) electronic health record, (8) ED crowding, and (9) administration and respect (Table 4). These factors demonstrate that career

TABLE 3 Loading factors from factor analysis

	Factors								
	1	2	3	4	5	6	7	8	9
Attending conferences	.256	-.040	.078	.095	.152	.263	.068	.056	.195
Burnout	.649	.042	.025	-.097	.169	.073	.031	.024	.277
Colleagues	.254	-.081	.081	.085	.051	-.004	.003	.214	.444
EMS support	.222	-.039	.081	.057	.006	.088	.012	.200	.386
Exercising medical judgment	.378	-.085	.058	.013	.023	.257	-.024	.184	.096
Fatigue	.711	-.002	-.001	-.012	.186	.132	.000	.094	.089
Sex discrimination	.165	.043	-.036	.013	.094	.134	.052	.695	.159
Minority discrimination	.152	-.017	-.006	.064	.062	.086	.036	.732	.135
Time for family	.364	-.018	.047	.085	.828	.114	.021	.112	.152
Time for personal life	.386	-.019	.054	.096	.810	.129	.022	.089	.158
Hospital administration	.171	.037	.152	.021	.128	.025	.117	-.077	.717
Hospital politics	.212	.021	.114	.026	.117	.052	.072	-.048	.750
Income	.345	-.005	.121	.087	.246	.085	.096	.109	.277
Infectious disease exposure	.364	.023	.107	.036	.066	.188	.096	.165	.285
Up-to-date medical literature	.295	.023	.014	-.004	.120	.756	.044	.081	.108
Knowing enough	.359	-.041	.050	.010	.074	.741	.004	.077	.114
Learning new skills	.323	-.053	.124	-.029	-.008	.637	.033	.093	.114
Length of shifts	.651	-.088	.088	.025	.020	.131	-.027	.088	.094
Level energy to work	.826	-.075	.097	.018	.027	.133	.002	.069	.063
Level patient acuity	.626	-.002	.099	-.008	-.037	.178	.100	.012	.177
Number of shifts	.575	-.016	.030	.044	.323	.008	.036	.084	.198
Number night shifts	.497	-.004	.003	.002	.139	.000	.087	-.009	.240
Number of patients	.599	.053	.039	.002	-.001	.125	.246	.030	.280
Nursing staff	.300	.038	.065	.001	.055	.067	.242	.081	.485
Respect from medical colleagues	.350	-.019	.024	.046	-.004	.103	.084	.122	.528
Safety in ED	.326	.039	-.010	.022	.039	.166	.183	.131	.465
Stress	.687	.050	.046	-.093	.126	.160	.128	.003	.279
Subspecialty support	.322	-.059	.140	-.103	-.023	.111	-.001	.098	.391
Malpractice	.409	.093	.102	-.082	.069	.223	.135	.024	.216
Difficult ethical issues	.337	-.021	.117	.034	.009	.246	.069	.211	.325
Implementation of EHR	.155	-.062	.797	-.088	.052	.090	.033	-.033	.199
Ongoing use of EHR	.170	-.024	.906	-.052	.011	.067	.046	.008	.197
ED boarding	.139	.045	.058	.094	.022	.024	.774	.031	.188
ED crowding	.194	.084	.053	.071	.006	.038	.866	.064	.187
Time for documenting	.289	.124	.395	-.035	.122	.095	.348	-.006	.233
Clinical productivity	.439	.037	.328	.013	.035	.211	.246	.062	.231
Admin opportunity	-.071	.289	.052	.487	.070	.054	.059	.024	-.070
Work autonomy	-.082	.570	-.018	.086	-.003	-.035	-.012	.023	.018
Conference attendance	.037	.458	-.069	.370	.039	.010	.015	.059	-.017

(Continues)

TABLE 3 (Continued)

	Factors								
	1	2	3	4	5	6	7	8	9
Compatible colleagues	-.011	.691	-.004	.056	-.012	.058	.055	-.024	-.095
Control of working conditions	.067	.636	.031	.101	-.072	-.008	.045	.017	.070
Defined working hours	.050	.642	-.028	-.001	-.094	-.041	-.116	.058	-.010
Exciting work	-.133	.591	-.034	.248	.026	-.019	.030	.028	.024
Fair compensation	.015	.677	-.028	.025	.049	-.047	.044	-.030	-.005
Fringe benefits	.122	.399	-.001	.354	.049	-.038	.068	.009	-.002
Job security	-.004	.638	.008	.124	.043	.004	.010	-.042	-.002
Personal reward	-.085	.614	.028	.158	-.022	.016	.008	-.006	-.030
Subspecialty opportunity	.077	.262	.005	.576	-.013	.011	-.042	.023	.062
Sense of ownership	-.006	.456	.081	.304	.078	.018	.067	-.024	.006
Up-to-date equipment	.023	.631	-.020	.158	-.039	-.016	.047	-.051	.016
Promotion opportunity	.047	.362	-.051	.583	.106	.024	.036	.029	.062
Research opportunity	-.067	.172	-.068	.765	.010	-.023	.029	.034	.059
Teaching opportunity	-.081	.250	-.075	.601	-.016	-.026	.049	-.001	.043

Loading factor names: 1 = exhaustion and stress, 2 = work conditions, 3 = electronic health record (EHR), 4 = non-clinical opportunities, 5 = family and personal time, 6 = medical knowledge, 7 = ED crowding, 8 = discrimination, 9 = administration and respect. ED, emergency department; EHR, electronic health record; EMS, emergency medical services. Bold table values = significant variable within the loading factor.

TABLE 4 Nine factors related to job satisfaction in emergency physicians

Exhaustion and stress*
Burnout, fatigue, length of shifts, level of energy to work, level of patient acuity, number of shifts, number of patients, and stress
Administration and respect*
Hospital administration, hospital politics, and respect from medical colleagues
Non-clinical opportunities
Opportunity for subspecialization, promotion opportunity, research opportunity, and teaching opportunity
Family and personal time
Enough time for family and enough time for personal pursuits
Medical knowledge
Keeping current with medical literature, knowing enough, and learning new skills
Work conditions/environment
Compatible colleagues, control of working conditions, defined working hours, fair compensation, job security, personal reward, and up-to-date equipment
EHR
Implementation of EHR, ongoing use of EHR
ED crowding
Boarding in the ED and overcrowding in the ED
Discrimination
Sex discrimination and minority discrimination

A total of 9 composite factors and corresponding variables related to physician job satisfaction in emergency medicine. ED, emergency department; EHR, electronic health record.

*Significantly contributing factors.

TABLE 5 Ordinal logistic regression of loading factors

Factor	Coefficient	P value	OR	95% CI of OR	
				Lower	Upper
Exhaustion and stress	-0.1624	0.0155	0.8501	0.7451	0.9700
Work conditions	-0.0809	0.2276	0.9223	0.8093	1.0533
EHR	0.0103	0.8755	1.0104	0.8878	1.1500
Non-clinical opportunities	0.1079	0.1283	1.1139	0.9698	1.2811
Family and personal time	-0.0695	0.3029	0.9330	0.8172	1.0646
Medical knowledge	0.0436	0.5383	1.0446	0.9091	1.2005
ED crowding	0.0251	0.7083	1.0254	0.8990	1.1700
Discrimination	-0.0654	0.3645	0.9367	0.8128	1.0789
Administration and respect	-0.2691	0.0002	0.7641	0.6635	0.8791
Emergency physician satisfaction outcome					
1 2	-4.1470	0.0000			
2 3	-2.3612	0.0000			
3 4	-0.7285	0.0000			
4 5	0.6700	0.0000			

CI, confidence interval; ED, emergency department; EHR, electronic health record; OR, odds ratio.
 Likert scale ratings: 1 = not satisfied, 3 = satisfied, 5 = very satisfied.

TABLE 6 Ordinal logistic regression of physician characteristics

Factor	Coefficient	P value	OR	95% CI of OR	
				Lower	Upper
Sex, male	0.3248	0.0375	1.3837	1.0188	1.8796
Race, White	0.1294	0.4598	1.1382	0.8068	1.6037
Marital status	0.09687	0.6302	1.1017	0.7422	1.6346
Children	-0.1824	0.3116	0.8333	0.5845	1.1854
Age	0.0235	0.0000	1.0237	1.0123	1.0354
Emergency physician satisfaction outcome					
1 2	-2.7952	0.0000			
2 3	-0.8652	0.0094			
3 4	0.7477	0.0205			
4 5	2.1381	0.0000			

CI, confidence interval; ED, emergency department; OR, odds ratio.
 Likert scale ratings: 1 = not satisfied, 3 = satisfied, 5 = very satisfied.

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satisfaction is dependent on the interplay of personal factors and organizational/operational factors.

The National Academy of Medicine established that a small proportion of physician well-being and resilience were based on personal factors; whereas, the largest proportion of clinician well-being was determined by organizational and operational factors.¹⁴ In addition, prior work has demonstrated the importance of organizational issues, such as job security, financial incentives, interaction with colleagues, and cooperative working relationships with colleagues and management to

be important predictors of overall career satisfaction.¹⁵ Our findings further demonstrate that organizational and operational factors significantly contribute to emergency medicine career satisfaction. Our study also validates previous work that physicians are less satisfied because of the amount of time spent on clerical tasks^{16,17} and the increased time for electronic health record documentation.¹⁸ Although many systemic factors affect physicians across medical specialties, ED boarding and crowding are unique operational factors that primarily impact emergency physicians. Our study discovered that in addition to

increasing workload and adverse events that were factors found in previous studies, ED boarding and crowding also leads to decreased job and career satisfaction.^{19–21}

In addition to organizational factors, personal factors also contribute to emergency medicine career satisfaction, highlighting the importance of work–life integration and the potential for the 2 to impact each other (Table 4). Numerous challenges from familial responsibilities and personal obligations to sex and racial biases likely have secondary effects on psychological stress and career satisfaction. Although our sample represented broadly the demographics of the emergency medicine specialty at the time of sampling, given the relatively low proportion of women and respondents by persons of color, our study may not have detected or fully appreciated the nuances and unique challenges encountered by such groups. However, even with the large difference of female and male respondents (193 vs 657), we still detected a statistically significant difference between mean satisfaction for women (3.699) and the mean satisfaction for men (3.972). This may be reflected in past studies that have found that women often carry a large amount of the responsibility for child care and domestic duties, and juggling these responsibilities may impact career satisfaction.^{22–24} Future research building on this work is needed to elucidate further associations or relationships. An additional personal factor contributing to career satisfaction is maintaining current medical knowledge. In the study by Goldberg et al of emergency physicians aged older than 55 years, 25% of respondents reported less ability to incorporate new modalities of diagnosis and treatment than they could 5 years previously.²⁵ Our study illustrates the concern of learning new skills and keeping up to date; however, it may be a reflection of the age distribution (mean age, 50 years) of individuals mid-career or later.

Prior literature has focused on the relationship between hospital-level and system-level factors contributing to both physician burnout and professional satisfaction. Factors such as leadership demonstrating interest in an individual's career trajectory and opinions, recognition of hard work, real-time information regarding organizational changes, and encouragement by leadership to develop an individual's talents and skills were all associated with increased physician satisfaction.²⁶ Potential organizational strategies to promote physician engagement include admitting when problems exist, identifying physician leaders and burnout prevention interventions, encouraging peer support, offering incentives and rewards, ensuring alignment of workplace culture with missions and values, and encouraging work–life integration.²⁷ Innovative personal and organizational/operational solutions are needed for emergency physician longevity and retention and improved career satisfaction. In addition, future efforts should focus on increasing the diversity of physicians in emergency medicine and recognizing the unique risk factors for job satisfaction and attrition that underrepresented groups may have.

In conclusion, our study suggests that factors contributing to career satisfaction originate primarily at the system or organizational level of medicine with a relatively small proportion of factors originating at the personal or individual level. We found that most emergency physicians were satisfied and very satisfied with their career in emergency

medicine despite being at significant risk for burnout. Our challenge as a specialty is to sustain this high level of satisfaction while creating systemic solutions that facilitate physician engagement and create a culture of change that prioritizes well-being. Future research focusing on organizational and operational factors as well as work–life integration may provide actionable initiatives to improve the well-being and professional satisfaction of emergency physicians. Studies focusing on URIM and female emergency physicians need to be conducted to provide a more comprehensive look at their unique challenges and how they contribute to career satisfaction.²⁸ Finally, the COVID-19 pandemic uncovered the moral injury that emergency physicians experience with consequences on career satisfaction, both short term and long term, which will need future evaluation. The post-pandemic level of career fulfillment may widely differ among physicians and be impacted by factors such as life stages and work environments.

CONFLICT OF INTEREST

J.P. is an employee of BeiGene, Ltd.

AUTHOR CONTRIBUTIONS

Michelle D. Lall, Bernard P. Chang, Joel Park, and Jenny Castillo participated in study concept and design. Michelle D. Lall and Jill M. Baren participated in acquisition of the data. Bernard P. Chang and Joel Park analyzed and interpreted the data. Michelle D. Lall, Bernard P. Chang, Joel Park, Ramin R. Tabatabai, Rita A. Manfredi, and Jenny Castillo drafted the manuscript. Michelle D. Lall, Bernard P. Chang, Joel Park, Ramin R. Tabatabai, Rita A. Manfredi, Jill M. Baren, and Jenny Castillo critically revised the manuscript for important intellectual content.

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