

Burnout and Scope of Practice in New Family Physicians

Amanda K. H. Weidner, MPH¹

Robert L. Phillips, Jr, MD, MSPH²

Bo Fang, PhD²

Lars E. Peterson, MD, PhD²

¹Family Medicine Residency Network,
Department of Family Medicine, University
of Washington, Seattle, Washington

²American Board of Family Medicine,
Lexington, Kentucky

ABSTRACT

PURPOSE Family physicians report some of the highest levels of burnout, but no published work has considered whether burnout is correlated with the broad scope of care that family physicians may provide. We examined the associations between family physician scope of practice and self-reported burnout.

METHODS Secondary analysis of the 2016 National Family Medicine Graduate Survey respondents who provided outpatient continuity care (N = 1,617). We used bivariate analyses and logistic regression to compare self-report of burnout and measures of scope of practice including: inpatient medicine, obstetrics, pediatric ambulatory care, number of procedures and/or clinical content areas, and providing care outside the principal practice site.

RESULTS Forty-two percent of respondents reported feeling burned out from their work once a week or more. In bivariate analysis, elements of scope of practice associated with higher burnout rates included providing more procedures/clinical content areas (mean procedures/clinical areas: 7.49 vs 7.02; $P = .02$) and working in more settings than the principal practice site (1+ additional settings: 57.6% vs 48.4%; $P = .001$); specifically in the hospital (31.4% vs 24.2%; $P = .002$) and patient homes (3.3% vs 1.5%; $P = .02$). In adjusted analysis, practice characteristics significantly associated with lower odds of burnout were practicing inpatient medicine (OR = 0.70; 95% CI, 0.56-0.87; $P = .0017$) and obstetrics (OR = 0.64; 95% CI, 0.47-0.88; $P = .0058$).

CONCLUSIONS Early career family physicians who provide a broader scope of practice, specifically, inpatient medicine, obstetrics, or home visits, reported significantly lower rates of burnout. Our findings suggest that comprehensiveness is associated with less burnout, which is critical in the context of improving access to good quality, affordable care while maintaining physician wellness.

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INTRODUCTION

The first national study of physicians and professional burnout took place in 2011¹; the rate of burnout among physicians has been on the rise since.² The professional, psychological, and patient-care aspects of physician burnout have been well documented.³⁻¹⁷ National efforts to identify and prevent physician burnout are underway,¹⁸ and numerous recent studies examining the individual, structural, and organizational contributions to burnout have generated potential strategies to address the problem.¹⁹⁻²⁴

Among physicians, family physicians report some of the highest levels of burnout.² As a specialty, family medicine is not limited by patient sex, physiology, age, or site where care is delivered. Despite broad training, recent research has described the declining scope of practice of family physicians.²⁵⁻²⁹ This decline is occurring in spite of trainees' intention to have a broader scope than what most practicing family physicians actually provide.³⁰ Benefits of family physicians practicing broadly, evident at the health care system level,³¹ include reducing overall costs and odds of hospitalization.³² On an individual level, however, practicing broadly may be a challenge because of constraints imposed by employers, insurers, and market forces or because of impact on lifestyle.^{25,26,28,33-35} Despite the

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CORRESPONDING AUTHOR

Lars E. Peterson, MD, PhD
American Board of Family Medicine
1648 McGrathiana Parkway, Suite 550
Lexington, KY 40511
lpeterson@theabfm.org

potential negative impact of a broad scope of practice on lifestyle, no studies to date have considered the role of scope of practice on physician burnout. Populations are healthier in systems that emphasize primary care,³¹ and comprehensive family medicine is associated with lower costs³² which both make a case for family physicians to provide a broad scope of practice to contribute to the Triple Aim.³⁶ If broad scope was also shown to be associated with lower physician burnout, then it would meet the additional focus on wellness that is central to the new Quadruple Aim.¹⁷ Our objective was to examine the associations between family physician scope of practice and self-reported burnout.

METHODS

We used data from the first cohort of the National Family Medicine Graduate Survey. The survey was administered in 2016 by the American Board of Family Medicine (ABFM) to all diplomates who graduated from residency in 2013. It was a collaborative effort between the ABFM and the Association of Family Medicine Residency Directors to help residencies meet accreditation requirements and provide national comparisons.³⁷ The survey included items relevant to residency education including preparation for practice, scope of practice, practice organization, satisfaction, and burnout.³⁸ Additional personal demographics were obtained from ABFM administrative databases.

Our main outcome was self-reported burnout. We used a validated single item to measure the emotional exhaustion domain of burnout that correlates highly to this subscale of the Maslach Burnout Inventory.³⁹ We chose to focus on this domain of the Maslach Burnout Inventory as it is what people commonly recognize as feeling burned out. Consistent with past work we characterized respondents as burned out if they reported that they feel burned out from work once a week or more often.^{2,15}

Measures of scope of practice were derived from single survey items that included inpatient medicine and obstetrics practices. To capture the breadth of practice we constructed 2 variables from multiple survey items. First, we summed the number of family physicians working in 8 clinical practice areas and performing 17 common procedures (Table 1). Second, to capture physicians providing care in multiple settings beyond their principal practice site, we summed the number of practice settings (9 types) in which respondents routinely saw patients (Table 2). To account for total work effort, we used self-reported number of patient encounters per day and whether they took after-hours call or saw patients on weekends and/or evenings. We had data on self-reported total hours worked per week but given

Table 1. Clinical Practice Areas and Procedures Captured in the 2016 National Family Medicine Graduate Survey (N = 1,617)

	No. (%) practicing
Clinical practice areas	
Pediatric outpatient care	1,386 (85.7)
Newborn hospital care	452 (28.0)
Pediatric hospital care (not newborn)	343 (21.2)
Maternity care	442 (27.3)
Intensive care / ICU-CCU	263 (16.3)
End-of-life care	1,035 (64.0)
Behavioral health care	1,491 (92.2)
Integrative health care (eg, acupuncture, massage therapy, etc)	332 (20.5)
Clinical procedures	
Women's health	
Endometrial biopsy	490 (30.3)
IUD insertion and removal	771 (47.7)
Implantable long-acting reversible contraception (eg, nexplanon)	369 (39.5)
Colposcopy	284 (17.6)
Uterine aspiration / D & C (n = 1,609)	84 (5.2)
Pregnancy termination (n = 1,605)	44 (2.7)
Basic obstetrics ultrasound (AFI, fetal presentation, placental location)	258 (15.9)
Orthopedics / musculoskeletal medicine	
Casting	467 (28.9)
Joint aspiration and injection	1,300 (80.4)
Musculoskeletal ultrasound	127 (7.9)
Genitourinary	
Vasectomy	84 (5.2)
Neonatal circumcision	357 (22.1)
Miscellaneous	
Cardiac stress testing	147 (9.2)
Osteopathic manipulative treatment	186 (11.5)
Buprenorphine treatment	119 (7.4)
Management of HIV/AIDS	304 (18.9)
Management of hepatitis C	392 (24.2)

ICU-CCU = intensive care unit-critical care unit; IUD = intrauterine device; D & C = dilatation and curettage; AFI = amniotic fluid index.

high collinearity with patient encounters, we excluded hours from the analysis.

We limited our sample to physicians who provided outpatient continuity care because we were interested in associations between scope of practice and burnout. Therefore, we excluded respondents with practices that were already limited by setting or specialization such as those who solely practice urgent care, sports medicine, or emergency medicine and those who became hospitalists. We first characterized our sample using descriptive statistics. Then we compared bivariate associations between those who reported burnout and those who did not. To determine associations between burnout and scope of practice, we constructed logistic regression models that controlled for personal and practice demographics. Due to high collinearity of

Table 2. Personal and Scope of Practice Characteristics of 2013 Family Medicine Residency Graduates Who Practice Continuity of Care (N = 1,617)

Characteristic	No. (%) or Mean (SD)
Burned out	677 (41.9)
Female	948 (58.6)
MD degree [vs DO degree]	1369 (84.7)
US medical graduate [vs international medical graduate]	1,081 (66.8)
Age in years, mean (SD)	35.9 (4.4)
Patient encounters per day, mean (SD)	20.3 (6.8)
Takes after-hours call	1,199 (74.2)
See patients weekends and/or evenings	844 (52.2)
In addition to principal practice site, routinely see patients at:	
Another outpatient clinic	183 (11.3)
Urgent care clinic	214 (13.2)
Emergency department	111 (6.9)
Hospital (not emergency department)	459 (28.4)
Nursing home or assisted living facility	227 (14.0)
Hospice facility	38 (2.4)
Other institutional setting (school-based clinic, correctional facility)	48 (3.0)
Patient homes	41 (2.5)
Other	60 (3.7)
Number of additional patient care settings ^a	
0	747 (46.2)
1	528 (32.7)
2	214 (13.2)
3 or more	128 (7.9)
Number of procedures/content areas in current practice, mean (SD)	7.7 (4.6)
Practice adult inpatient medicine	605 (37.4)
Currently delivering babies	249 (15.4)

DO = Doctor of Osteopathy; MD = Doctor of Medicine.

^a Confidence interval of 98.75% for each individual level of patient care setting sum using Bonferroni adjustment.

additional practice sites and number of procedures with the inpatient and obstetrics variables, we removed additional practice sites and count of procedures/clinical content areas from the regression model. All analyses were completed in SAS v9.4 (SAS Institute Inc). This study was approved by the American Academy of Family Physicians Institutional Review Board.

RESULTS

Demographics

The 2016 National Family Medicine Graduate Survey had 2,069 respondents (67% response rate). The final sample for this study included 1,617 (78%) of the respondents who indicated that they provided direct patient care and practiced outpatient continuity of care, representing 52.4% of all physicians surveyed.

Respondents had a mean age of 35.9 years (SD = 4.4), and a majority were female (58.6%), had a doctor of medicine (MD) degree (84.7%), and graduated from a US medical school (66.8%) (Table 2). Overall, 41.9% of our sample reported feeling burned out from their work at least once a week.

Burnout Related to Demographics and Work Effort

In bivariate analysis, those who were burned out were less likely to be males (37.2% burned out vs 44.4% not burned out; $P = .004$) and international medical graduates (29.8% burned out vs 35.5% not burned out; $P = .016$) (Table 3). These associations held true in the multivariable logistic regression as well; in the adjusted models, females had 32% greater odds of burnout than males (OR = 1.32; 95% CI, 1.07-1.62; $P = .009$) and US medical graduates had 37% greater odds of burnout than international medical graduates (OR = 1.37; 95% CI, 1.08-1.75; $P = .0099$) (Table 4).

There were no differences in burnout associated with the number of patient encounters per day (20.2 vs 20.3), taking after-hours call (74.2% for both groups), or seeing patients after hours on weekends or evenings (53.5% vs 51.3%) (Table 3).

Burnout Related to Scope of Practice

In bivariate analysis, practicing in at least 1 setting beyond the principal practice site was negatively associated with burnout (no additional settings: 51.6% burned out vs 42.3% not burned out; 1 or more additional settings: 48.4% burned out vs 57.6% not burned out; $P = .001$) (Table 3). In independent analyses for each additional setting, practicing in a hospital and making house calls were both significantly associated with lower burnout. Practicing inpatient medicine, obstetrics, and more than the mean number of procedures/clinical areas were also significantly associated with lower burnout. Caring for pediatric patients in the outpatient setting was not correlated with burnout.

In logistic regression models controlling for all characteristics, we found significant independent associations with reduced burnout among those practicing obstetrics (OR = 0.64; 95% CI, 0.47-0.88; $P = .0058$) and practicing inpatient medicine (OR = 0.70; 95% CI, 0.56-0.87; $P = .0017$). No independent association with practicing pediatric ambulatory care was observed (Table 4). The number of procedures/clinical areas practiced and additional practice settings were not analyzed in the regression model because they were found to be co-linear with the variables for practicing inpatient medicine and obstetrics.

DISCUSSION

Data from the first year (2016) of the National Family Medicine Graduate Survey suggest that for early career family physicians, having a broader scope of practice is associated with a lower risk of burnout. Those who practiced in more locations and performed a greater variety of procedures/clinical areas were significantly less likely to report feeling burned out once a week or more. The strongest associations were for practicing obstetrics and inpatient medicine, both areas with a decline in practice among family physicians in recent years.^{25,28,29} Those practicing obstetrics had 36% lower

odds of reporting feeling burned out and those practicing inpatient medicine had 30% lower odds of reporting feeling burned out than their peers who were not practicing in these areas.

This study advances the literature on scope of practice by showing additional benefits to providing a broader scope of care—of major importance in a specialty where burnout rates are among the highest of all physicians.² Previous research has shown the importance of comprehensive care to the Triple Aim (the goal of having improved population health and patient care with lower costs³⁶) by demonstrating that comprehensive

ness can reduce costs to the system.³² Our study takes the notion of the benefits of comprehensiveness one step further by showing an impact on the Quadruple Aim, the model in which physician wellness is as important as access, quality, and cost to fixing the health care system.¹⁷

We have seen that graduating residents intend to provide a broader scope of care than that typically provided by practicing family physicians,³⁰ though causes of the narrowing scope of care are not clear and may be due to individual factors (such as training and preference), or market and system factors, or a combination of both.^{25–27,33} We also know that physician burnout is very costly for a health care system.^{15,40,41} If new family physicians and the systems hiring them see that there are many benefits to providing comprehensive, broad spectrum care even in a time of increasing health system integration,⁴² self- and system-imposed limitations of practice might change to encourage family physicians to see patients in the hospital and to deliver babies.

Our study is subject to several limitations. As with all cross-sectional studies, these findings cannot demonstrate causality. We do not know whether a broad scope of practice is protective against developing burnout, if resilient personalities tend to choose a broader scope of prac-

Table 3. Bivariate Associations Between Burnout and Physician Characteristics and Scope of Practice of 2013 Family Medicine Residency Graduates Who Practice Continuity of Care (N = 1,617)

Characteristic	Burned Out ^a (n = 677) No. (%) or Mean (SD)	Not Burned Out (n = 940) No. (%) or Mean (SD)	P Value
Sex			
Male	252 (37.2)	417 (44.4)	.004 ^b
Female	425 (62.8)	523 (55.6)	
Degree			
MD degree	568 (83.9)	801 (85.2)	.47
DO degree	109 (16.1)	139 (14.8)	
Medical school location			
International medical graduate	202 (29.8)	334 (35.5)	.016 ^b
US medical graduate	475 (70.2)	606 (64.5)	
Age	35.7 (4.2)	36.0 (4.6)	.12
Patient encounters per day	20.2 (6.5)	20.3 (7.1)	.76
Takes after-hours call	502 (74.2)	697 (74.2)	.99
See patients weekends/evenings	362 (53.5)	482 (51.3)	.38
In addition to principal practice site, routinely see patients at:			
Another outpatient clinic	68 (10.0)	115 (12.2)	.17
Urgent care clinic	82 (12.1)	132 (14.0)	.26
Emergency department	40 (5.9)	71 (7.6)	.20
Hospital (not emergency)	164 (24.2)	295 (31.4)	.0016 ^b
Nursing home or assisted living facility	84 (12.4)	143 (15.2)	.11
Hospice facility	13 (1.9)	25 (2.7)	.33
Other institutional setting (school-based clinic, correctional facility)	22 (3.3)	26 (2.8)	.57
Patient homes	10 (1.5)	31 (3.3)	.02 ^b
Other	20 (3.0)	40 (4.3)	.17
Number of additional settings			.001 ^b
0	349 (51.6)	398 (42.3)	n/a
1	210 (31.0)	318 (33.8)	n/a
2	71 (10.5)	143 (15.2)	n/a
3 or more	47 (6.9)	81 (8.6)	n/a
Number of procedures/clinical areas part of current practice	7.02 (4.0)	7.49 (4.1)	.02 ^b
Practice adult inpatient medicine	212 (31.3)	393 (41.8)	<.0001 ^b
Currently delivering babies	80 (11.8)	169 (18.0)	.0007 ^b

DO = Doctor of Osteopathy; MD = Doctor of Medicine.

^a Respondents reporting that they feel burned out from my work once a week or more often.

^b P value <.05.

Table 4. Adjusted Associations Between Personal and Scope of Practice Characteristics With Burnout Among 2013 Family Medicine Residency Graduates Who Practice Continuity of Care (N = 1,617)

Characteristic	OR (95% CI)	P Value
Female (ref = male)	1.32 (1.07-1.62)	.009 ^a
DO degree (ref = MD degree)	0.93 (0.70-1.25)	.65
US medical graduate (ref = international medical graduate)	1.37 (1.08-1.75)	.0099 ^a
Age	0.99 (0.97-1.01)	.40
Per one additional patient encounter per day	1.00 (0.99-1.02)	.91
Take after-hours call	1.04 (0.82-1.31)	.77
See patients weekends and/or evenings	1.20 (0.98-1.47)	.083
Practice inpatient medicine	0.70 (0.56-0.87)	.0017 ^a
Practice obstetrics	0.64 (0.47-0.88)	.0058 ^a
Practice pediatric ambulatory care	0.88 (0.66-1.19)	.42

DO = Doctor of Osteopathy; MD = Doctor of Medicine.

^a P value < .05.

tice, or if those who are burned out already limited their scope of care. The data are self-reported, and thus may be subject to social desirability or recall bias. The sample represents early career family physicians certified by the ABFM; those certified only by the American Osteopathic Board of Family Physicians are not included, which limits the generalizability of our findings. This concern is attenuated, however, because almost 65% of osteopathic family physicians in residency are either in dually accredited or in Accreditation Council for Graduate Medical Education (ACGME) accredited programs⁴³ and in this cohort of residents, 94.8% became ABFM diplomates and were offered the graduate survey. Though the rates of burnout seen in this study corresponded to what has been published elsewhere for younger physicians,⁴⁴ the diversity in age was minimal enough that age had no impact on burnout in our study, despite much research that has shown age/career stage to play a significant role in burnout.^{4,44,45}

Future research is needed to compare how burnout may impact scope of practice for those who are in practice for longer periods of time and for those who make major changes to their practice patterns. If causality between scope of practice and physician wellness is confirmed, this would allow for new policy levers and incentives for systems and physicians to improve not only health care but also their own health. The associations with sex and medical school type, while outside the focus of this research question, also warrant further investigation.

With increasing evidence of the negative effects of physician burnout, health systems are focusing on phy-

sician wellness in the context of the Quadruple Aim. Our finding that early career family physicians who provide broader care—including inpatient medicine, obstetrics, and home visits—have lower rates of burnout suggests an association between comprehensive-ness and wellness. Promoting a broad scope of practice in primary care, and family medicine in particular, may advance efforts to achieve the Quadruple Aim.

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