

A Survey of Neurologists on Career Satisfaction and Burnout

BY RANDOLPH W. EVANS, MD AND CHRISTINA L. UPCHURCH, MA

We became neurologists with great enthusiasm and idealism. To us, a more interesting specialty or frontier of science was unimaginable. The practice of neurology can be personally meaningful and fulfilling but can also be especially demanding and stressful.

We spend long hours with challenging patients with life-threatening acute diseases and the most debilitating chronic illnesses. Like all physicians, we now face an accelerating

landscape of unprecedented practice changes where the initials themselves strike fear: EHR, MU, PQRS, ACA, HITECH, ACO, and ICD-10-CM. All of this rests on top of capricious E&M coding, pre-certifications for medications and scanning, and threats of malpractice. There are audits upon audits. Violations of the new rules are punishable by large fines. Who has time to keep up with the medical literature when there are so many practice issues to learn? Although

TABLE 1. MASLACH BURNOUT INVENTORY

How often do you experience the following?

Answers: never, few times a year, monthly, few times a month, weekly, few times a week, daily

I. Emotional Exhaustion

1. I feel emotionally drained from my work
2. I feel used up at the end of the day
3. I feel fatigued when I get up in the morning to face another workday
4. Working with people all day is a strain on me
5. I feel burned out from my work
6. I feel frustrated by my job
7. I feel that I am working too hard
8. Working with people directly puts too much stress on me
9. I feel like I'm at the end of my rope

II. Depersonalization

10. I feel that I treat some patients as if they were impersonal objects

11. I've become more callous toward people since starting my career
12. I worry that my job is hardening me emotionally
13. I don't really care what happens to some of my patients
14. I feel that patients blame me for some of their problems

III. Personal Accomplishment

15. I can easily understand how my patients feel about things
16. I deal very effectively with the problems of my patients
17. I feel that I positively influence people through my work
18. I feel very energetic
19. I can easily create a relaxed atmosphere with my patients
20. I feel exhilarated after working closely with my patients
21. I have accomplished many worthwhile things through my job
22. In my work, I deal with emotional problems calmly

TABLE 2. DEMOGRAPHICS (N=101)

Age		Practice Setting	
<30	3%	solo	42%
31-40	10%	private group	45%
41-50	21%	academic setting	5%
51-60	31%	VA	1%
>61	35%	military	0%
		other	7%
Gender		Work Hours per week	
Male	71%	<30	8%
Female	29%	30-40	5%
		41-50	21%
Years in Practice		51-60	39%
<5	14%	61-70	18%
6-10	6%	71-80	5%
11-20	26%	>80	4%
21-30	24%		
31-40	24%	Days of Call/Month	
>41	6%	<3	38%
		3-5	19%
Subspecialty		6-10	1%
(40% or more of their time spent in this area)		>10	27%
n = 33		other	15%
Pediatric Neurology	3.03%	Hours of Administrative Tasks/Week	
Electrophysiology	6.06%	<5	28%
EMG	6.06%	5-10	39%
Epilepsy	15.15%	11-15	22%
Headache	12.12%	16-20	7%
Movement	3.03%	>20	4%
MS	9.09%	Weeks of Vacation Per Year	
Neurohospitalist	6.06%	<1	11%
Neuromuscular	15.15%	1-2	42%
Neurophysiology	6.06%	3-4	34%
Pediatric Epilepsy	6.06%	>4	13%
Sleep	6.06%	Malpractice Lawsuits in the Last 5 Years	
Teleneurology	3.03%	0	85%
Vascular	3.03%	1-5	15%
		6-10	0%
Marital Status		>10	0%
single	9%		
married	79%		
divorced	10%		
separated	0%		
with significant other	2%		

all physician salaries are under siege, as neurologists, we are particularly undervalued with cuts to cognitive services and the gargantuan cuts to electrodiagnostic studies this year.

We're threatened with the SGR reductions and had the recent sequestration cut. It's all enough to lead to burnout. Professional burnout is common among physicians and

TABLE 3. CAREER SATISFACTION

Percentage who 'Agree' or 'Strongly agree'	
My work schedule leaves me enough time for my personal and/or family life.	10%
Government regulations (meaningful use, PQRS) contribute to my dissatisfaction with neurologic practice.	61%
Implementation of the Affordable Care Act ("Obamacare") will contribute to my dissatisfaction with neurologic practice.	53%
Insurance company policies (such as authorizations for medications and imaging) contribute to my dissatisfaction with neurologic practice.	71%
Malpractice concerns contribute to my dissatisfaction with neurologic practice.	21%
The practice of neurology is becoming more complicated without patient benefit.	53%
My professional life will improve in years to come. ...	9%
Neurologists are fairly compensated for their work. .	3%
I am fairly compensated for my work.	2%
I am appreciated by my patients.	33%
If I were a fourth year medical student, I would go into neurology again.	17%
I would recommend that my child or close relative become a neurologist.	7%

has only recently been studied among neurologists. Maslach and colleagues define burnout as the increased feelings of emotional exhaustion, an unfeeling and impersonal response toward patients, and dissatisfaction with work accomplishments.¹ Burnout can be harmful for patients and result in a lack of professionalism, increased risk for medical errors, ordering unnecessary tests and procedures, and a decreased quality of care.² Burnout can also be harmful for physicians and lead to early retirement, job change (such as switching jobs or leaving academic medicine), medical malpractice suits, depression and suicidal ideation, increased absenteeism, increased alcohol use, and problems with relationships, including divorce.

In order to learn more about the professional stress of neurologists and their attitudes about practice issues, we performed a survey of Texas neurologists.

SUBJECTS AND METHODS

A survey was developed by one of the authors (RE). Three hundred and ten neurologists attending the Texas Neurological Society 16th Annual Winter Conference continuing medical education meeting February 22-24, 2013 in Austin, TX were supplied the survey titled, "Neurologist Survey on Physician Satisfaction," with their registration materials. Completed instruments were submitted at the end of the meeting. The survey asked 45 questions organized into the following three sections: demographics, professional quality of life and satisfaction, and burnout. Burnout was measuring using the Maslach Burnout Inventory¹ (MBI), which is a validated 22-item questionnaire considered the gold standard for measuring burnout³ (Table 1).

The MBI has three subscales to evaluate each domain of burnout, including emotional exhaustion (EE; assesses feelings of being emotionally overextended and exhausted by one's work), depersonalization (DP; measures an unfeeling and impersonal response toward patients), and personal accomplishment (PA; assesses feelings of competence and successful achievement in one's work with people). Each item was answered on a 7-point Likert scale from "never" (0 points) to "daily" (6 points). A score was then generated for each of the three sections, and results were then stratified into high, moderate, or low levels of burnout based on published values (low EE ≤ 18, high EE ≥ 27; low DP ≤ 5, high DP ≥ 10; high PA ≥ 40, low PA ≤ 33).⁴ A neurologist was considered to be suffering burnout if he or she had high emotional exhaustion and/or depersonalization scores similar to prior physician studies of burnout.⁵

RESULTS

There were 101 respondents for a response rate of 33 percent.

Demographics. The participants reported the following demographics (Table 2): 71 percent male; 66 percent over the age of 50 years; 54 percent in practice for over 20 years; 33 percent in subspecialties; 79 percent married; 42 percent in solo practice, 45 percent in a private group; 87 percent worked more than 40 hours per week; 57 percent have five or fewer days of call per month; 33 percent spend more than 11 hours per week on administrative tasks; 53 percent take two weeks or less vacation per year; and 85 percent have had no malpractice suits in the last five years.

Career satisfaction. Table 3 provides responses to the 12 career satisfaction questions.

Burnout. Results of the MBI are summarized in Table 4. The median scores for EE, DP, and PA were 24.5, 5, and 40, respectively. Overall, 43 percent had high emotional exhaus-

tion, 16 percent had high depersonalization, and 18 percent had a low sense of personal accomplishment. Forty six percent of respondents were burned out.

The only significant correlations between demographics and MBI subscales were between malpractice lawsuits and emotional exhaustion ($r=.22, p=.03$) and malpractice lawsuits and depersonalization ($r=.30, p<.01$).

A regression analysis was performed with the career satisfaction questions that had a correlation with the MBI subscales that was significant at a $<.01$ level as the independent variable for each of the three subscales as the dependent variable. Forty three percent of the variance in emotional exhaustion is explained by the following three questions: My work schedule leaves me enough time for my personal and/or family life; Insurance company policies (such as authorizations for medications and imaging) contribute to my dissatisfaction with neurologic practice; and If I were a fourth year medical student, I would go into neurology again. Eighteen percent of the variance in depersonalization is explained by the following two questions: I am appreciated by my patients and If I were a fourth year medical student, I would go into neurology again. Thirteen percent of the variance in personal accomplishment was explained by the following two questions: I am appreciated by my patients and I would recommend that my child or close relative become a neurologist.

Respondents' comments. Selected respondents' comments to the survey are provided in Table 5.

DISCUSSION

The response rate was 33 percent, which is comparable to other physician surveys⁶ and the response rate of 27 percent in another neurologist burnout survey.⁵ Response bias cannot be excluded with those more dissatisfied and with higher degrees of burnout completing the survey. However, this pilot survey of neurologists in Texas may be representative of neurologists in the United States, as the burnout rates are similar to two nationwide surveys. The American Academy of Neurology may wish to consider performing similar nationwide surveys periodically to evaluate the effect of escalating healthcare changes.

Forty six percent of respondents had burnout. This is similar to two recent nationwide studies. In Shanafelt and colleagues' 2010 study, 53 percent of neurologists had burnout, which was the third highest of all specialties with only emergency medical and general internal medicine having higher rates.⁵ Family medicine had a burnout rate just below neurology with dermatology and preventive/occupational medicine having the lowest. A 2012 Medscape survey found a burnout rate of 41 percent, which was also among the highest of the specialties.⁷ Neurologists tied with gastroenterologists and internists for the least happy of all specialists.

TABLE 4. MASLACH BURNOUT INVENTORY RESULTS

Burnout Indices	Median Score	Number (%)
Emotional Exhaustion		24.5
% low score ≤ 16		25 (25)
% moderate score		32 (32)
% high score ≥ 27		43 (43)
Depersonalization		5
% low score ≤ 6		64 (64)
% moderate score		20 (20)
% high score ≥ 13		16 (16)
Personal Accomplishment		40
% low score ≤ 31		18 (18)
% moderate score		27 (27)
% high score ≥ 39		55 (55)
Burned out (high EE and/or DP score)		46 (46)

In two studies, burnout was present among 45 percent⁵ and 27 percent⁸ of neurosurgeons. Burnout is more prevalent among physicians than other US workers.

In our survey, the only demographic item that was significantly associated with MBI subscales was a higher number of malpractice suits in the last five years. In the Medscape survey,⁷ burnout was lowest in the youngest and oldest neurologists and more common in female than males physicians (56 percent vs. 40 percent). Shanafelt and colleagues' analysis of all specialists found a higher risk for burnout with greater number of hours worked per week and a lower risk of burnout with older age and being married.⁵

In our survey, career satisfaction items significantly associated with burnout include work schedule, insurance company policies, appreciation by patients, would recommend that a relative become a neurologist, and would go into neurology again. In the Medscape survey,⁷ the top four stressors that were reported as causing burnout among neurologists were the following: too many bureaucratic tasks; spending too many hours at work; income not high enough; and present and future impact of the Affordable Care Act.

The 12 career satisfaction questions reflect widespread dissatisfaction with work schedules, government regulations, implementation of the Affordable Care Act, and compensation.

Neurologists in other states may have more malpractice suits

TABLE 5. RESPONDENTS' COMMENTS

I recently started practice. Beginning this process >10 years ago, I definitely feel I had no idea what I was signing up for. I love neurology but I hate the state of medicine today and sometimes wonder if I should move on to a different career that would leave me feeling happier and more satisfied. It's becoming more difficult to feel like I am making a true difference.

Neurologist are in trouble b/c of government regulations; insurance regulations ... hospitals are no longer nice; Obamacare

Compassionate care by well-trained providers is dying! I hope it survives.

Twenty years ago I entered a profession I loved and now my only objective is to get out. I have 2 kids in college; 1 finished and 2 more in the pipeline. I am trapped in a situation where I once felt joy now only horror. May God have mercy on my soul :(

Fortunate to still be eager to learn and serve

I am hospital employed—reduces business hassles.

Takes way too much work to order needed tests and medication—too many PAs. Patients and families are becoming more demanding for treatment of Alzheimer's and demand constant HHC, etc. to sub for families taking care of their family members. More patients are poorly compliant with meds and are using more herbal/acupuncture, etc. People want disability right when dx with epilepsy or migraines even when not at all disabled and get angry at me when I try to encourage them to still work or get a job (they say they haven't worked in years or lost job 2 years ago or have a mean boss or why not go on disability?) Patients come in with fake symptoms/psych issues and are on disability and shouldn't be. Takes away from the ones who really need it.

I used to enjoy practicing neurology. I initially worked in an academic setup in Midwest and moved to Texas recently. Solo practice has its own challenges. Although I enjoy my autonomy, I am quite concerned of Medicare cuts and running a solo practice with the overhead. Neurology is a difficult specialty. Unlike other specialties it is difficult to see large volumes of patients without compromising care.

I wouldn't recommend medicine to children or friends. The glory of medical practice is over and there will be more democratic control. I just hope that government does not completely take over medicine in my lifetime.

I really enjoy practicing Neurology but I feel we are way behind in compensation

We have stayed in this area because we love our profession.

PQRI- The measurable things don't count and the things that do matter aren't measurable. ICD-10- how can this reduce cost when it costs a fortune to implement. E-records-more pages of medical gabble-be-gook. Who exactly benefits—the lawyers hate reading these! But they can charge a lot more for record review. We get the a**-kick. I stopped going to the hospital—no one called; no one cared.

If I could go back in time with what I know now, I would not go into medicine as a career at all!!

Our main concern is if working to our full capacity after most of my life. 44 out of my 67 years, will I still be able to afford the expense of my overhead with the "shrinking" income from my work?

Leaving practice in 2-4 years partly due to frustration with reimbursement and increased administrative problems and interference.

I find the combination of increasingly long hours, uncertainty whether I am going to have a check each month, inability to get away from the practice (both due to call coverage and monetarily), demanding patients and the need to practice defensive medicine exhausting. I think I have dealt with most of this successfully throughout my career but feel overwhelmed by the business problems and sense of helplessness in the face of increasing economic issues and future uncertainty. Those feelings carry over to how I cope with every stressor in my life and my lack of happiness with life itself.

I am saddened by the direction that medicine has taken with more concern for how cheap rather than how well a patient is treated.

and more concern over malpractice. (Texas enacted malpractice reform in 2003. Since then, the number of suits has significantly dropped and the number of physicians has increased by over 30 percent. One of the authors [RE] own malpractice premium has dropped by about 50 percent.) Fifty three percent of neurologists concur that the practice of neurology is becoming more complicated without patient benefit.

The responses to the last two questions of our survey are the most disturbing and reflect an alarming level of discontent. Only 17 percent of respondents say they would go into neurology again if they were a fourth year medical student and only seven percent would recommend that their child or close relative become a neurologist. By comparison, 88 percent of neurosurgeons would choose neurosurgery again as a career and 55 percent would recommend it to a child.⁸ With a growing shortage of neurologists, how can we encourage interest in neurology as a specialty among medical students when we wouldn't even recommend neurology as a career for ourselves again or our family members?

Is neurologist career satisfaction decreasing? In a 1996-1997 survey on career satisfaction and dissatisfaction in all physician specialties, 39 percent of neurologists were very satisfied and 16 percent dissatisfied with a little less very satisfied as compared to other specialists on average.⁹

Increasing numbers of neurologists are becoming hospital employees. By 2014, about 50 percent of physicians will be working for a hospital or hospital-owned health system. Younger neurologists may wish to avoid the uncertainties involved with joining a group or starting their own practice and desire what might be a better lifestyle, and older neurologists may choose to enter hospital employment as a way out of the hassles of physician ownership.

However, it is possible that some may find less personal accomplishment and happiness as employees with the loss of professional and personal autonomy.¹⁰ A Gallup Poll on well-being found small business owners as being the happiest of professions.¹¹ "The findings, psychologists say, reflect the importance of being free to choose the work you do and how you do it, the way you manage your time, and the way you respond to adversity." An increasing number of hospital employed neurologists may even compound the increasing shortage of neurologists. Some estimates find that productivity of hospital employed physicians decreases, sometimes by more than 25 percent.¹²

How can we deal with these issues? Can we hope to restore control or autonomy and meaning to neurology practice? For advocacy, we can join and be active in BrainPAC and the AAN Grassroots Alliance, contact our legislators, attend Neurology on the Hill and the Palatucci Advocacy Leadership Forum, contact our legislators, and be active in our state neurological societies.

For burnout, stress reduction training¹³ or combining mindfulness meditation, narrative medicine, and appreciative inquiry-based dialogues¹⁴ may be effective but may be too time consuming and not appealing to some physicians. The study of physician resilience or the capacity to respond to stress in a healthy way such that goals are achieved at minimal psychological and physical cost is a new area.¹⁵ A number of factors may be important, including individual, community, and institutional factors. Interviews with 200 physicians suggest resilience strategies including the capacity for mindfulness, self-monitoring, limit setting, and attitudes that promote constructive and healthy engagement with (rather than withdrawal from) the difficult challenges at work.¹⁶

It is essential that we actively engage these issues. The health and well-being of our patients, ourselves, and the future of neurology are at stake. ■

The authors thank the Texas Neurological Society members for participating in the survey. We also thank Ky Camero, TNS Executive Director, and Amy Lawson, Society Administrator, for survey reproduction, distribution, and initial data analysis.

Licensing fee: A fee was paid to Mind Garden for a license to administer the Maslach Burnout Inventory by one of the investigators (RE).

The authors have no conflicts of interest.

Randolph W. Evans, MD, is Clinical Professor of Neurology at Baylor College of Medicine in Houston.

Christina L. Upchurch, MA, is in the Department of Psychology at Rice University in Houston.

- Maslach C, Jackson S, Leiter M. Maslach Burnout Inventory Manual. 3rd ed. Palo Alto, CA: Consulting Psychologists Press; 1996.
- Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet*. 2009;374(9702):1714-1721.
- Lee RT, Ashforth BE. A meta-analytic examination of the correlates of the three dimensions of job burnout. *J Appl Psychol*. 1996;81(2):123-133.
- Maslach C, Jackson SE, Leiter MP, Schaufeli WB, Schwab RL. Maslach Burnout Inventory. Manual and Non-Replicable Instrument and Scoring Guides. Mind Garden, www.mindgarden.com, 2010
- Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, West CP, Sloan J, Oreskovich MR. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med*. 2012;172:1377-1385.
- Kellerman SE, Herold J. Physician response to surveys: A review of the literature. *Am J Prev Med*. 2001;20:61-67.
- Brooks M. Burnout remains an issue for neurologists. *Medscape Medical News*. 2013, <http://www.medscape.com/viewarticle/781668>, accessed 5/27/13.
- Klimo P Jr, Decuyper M, Ragel BT, McCartney S, Couldwell WT, Boop FA. Career Satisfaction and Burnout Among U.S. Neurosurgeons: A Feasibility and Pilot Study. *World Neurosurg*. 2012 Sep 25. [Epub ahead of print]
- Leigh JP, Kravitz RL, Schembri M, Samuels SJ, Mobley S. Physician career satisfaction across specialties. *Arch Intern Med*. 2002;162:1577-1584.
- Joshi S, Nehaul R, Broome MA. Declining proportion of physician-owned practices possibly related to increasing burnout. *JAMA Intern Med*. 2013;173:710.
- Shellenbarger S. Plumbing for joy? be your own boss. *Wall Street Journal*. 2009. <http://online.wsj.com/article/SB10001424127887323628804578346614033833092.html>. Accessed 5/26/13
- Gottlieb S. The doctor won't see you now. He's clocked out. *Wall Street Journal*. 2013, <http://online.wsj.com/article/SB10001424127887323628804578346614033833092.html>. Accessed 5/26/13.
- Sood A, Prasad K, Schroeder D, Varkey P. Stress management and resilience training among Department of Medicine faculty: a pilot randomized clinical trial. *J Gen Intern Med*. 2011;26(8):858-861.
- Krasner MS, Epstein RM, Beckman H, et al. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA*. 2009;302:1284-1293.
- Epstein RM, Krasner MS. Physician resilience: what it means, why it matters, and how to promote it. *Acad Med*. 2013;88(3):301-303.
- Zwack J, Schweitzer J. If every fifth physician is affected by burnout, what about the other four? Resilience strategies of experienced physicians. *Acad Med*. 2013;88(3):382-389.