

MAYO CLINIC  
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## Disturbing Trends in Physician Burnout and Satisfaction With Work-Life Balance: Dealing With Malady Among the Nation's Healers

Recent data analyses reveal the disturbing decline in well-being of contemporary US physicians. This trend has captured the attention of not only affected physicians and researchers but also physicians' patients and the general public. For example, the September 7, 2015, issue of *TIME Magazine* featured an article titled "Life/Support: Inside the Movement to Save the Mental Health of America's Doctors."<sup>1</sup> The article addresses many troubling facts about the state of physicians in the United States, including that as many as 400 US physicians are dying by suicide each year, a number comparable, the author points out, with the graduating classes of two or three medical school classes annually. Physicians who remain in practice while burned out show higher propensities for making medical errors and diminished quality of medical practice and professionalism. Worse still, patients of depleted physicians are less compliant with physicians' care plans. These disquieting patterns, the author concludes, show that "[d]octors are stressed, burned out, depressed, and when they suffer, so do their patients."<sup>1,p43</sup>

The declining well-being of US physicians is documented empirically in the current issue of *Mayo Clinic Proceedings*. Specifically, Shanafelt et al<sup>2</sup> report on a survey of 6880 US physicians that assessed burnout and satisfaction with work-life balance. The data were collected in 2014 and were compared with (1) data from a similar survey conducted in 2011 and (2) 2011 and 2014 probability-based samples of working US adults. The investigators discovered that during the 3-year study interval, the percentage of physicians experiencing at least 1 symptom of

burnout increased significantly, rising from 45.5% in 2011 to 54.4% in 2014 ( $P<.001$ ). Furthermore, this burnout was apparent in all 24 medical specialties studied, and 9 of the 24 specialties showed a relative increase in burnout of more than 10%. In the work-life balance portion of the study, the incidence of physician satisfaction decreased from 48.5% to 40.9% overall ( $P<.001$ ), and a decline in satisfaction was observed in 22 of the 24 specialties studied. In contrast, the sample of working US adults showed no such declines in well-being. When the analysis was adjusted for age, sex, relationship status, and hours worked per week, physicians had a risk of burnout that was twice as great as that of the broader US population (odds ratio=1.97; 95% CI, 1.80-2.16;  $P<.001$ ), and physicians' satisfaction with work-life balance was one-third less than that of the broader population (odds ratio=0.68; 95% CI, 0.62-0.75;  $P<.001$ ). Of note, the research by Shanafelt et al also discovered that physicians' rates of depression or suicidal ideation remained rather stable between 2011 and 2014; however, this consistency may simply signify that physicians' baseline rates were already disturbingly high: For example, in 2011 and 2014, rates of depression were 39.2% and 39.8%, respectively ( $P=.04$ ), and rates of suicidal ideation were 6.4% in both years ( $P=.98$ ).

Regardless of the exact assessment or metrics used, these are serious matters, and they most likely result from multiple underlying factors, many in the domains of psychological and physical stress.

Of course, stress is not limited to physicians, but in our minds there are 3 main factors



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resulting directly from the recent changes to the medical environment that could disproportionately and adversely affect physicians' well-being: asymmetrical rewards, loss of autonomy, and cognitive scarcity.

### Asymmetrical Rewards

In our personal and professional lives, when we do what is expected of us, we receive, at most, a bit of praise. But, when we make a mistake, we are likely to be punished strongly. And although this asymmetry is true across the globe, it is particularly substantial in the medical profession. Correct diagnosis or successful surgery outcomes quickly disappear into the background, whereas mistakes become a point of discussion among colleagues, perhaps a focus of dissection at the weekly grand rounds conference or in a published journal article (as seen in the report by Vatterott et al<sup>3</sup> in the current issue of the *Proceedings*), or potentially the basis of a lawsuit. To emphasize this asymmetry, one of the most celebrated, quotable commentaries on medical care quality in a generation—the Institute of Medicine's 1999 report *To Err Is Human: Building a Safer Health System*<sup>4</sup>—left the public with an ultra-distilled sound bite on medicine's failings: "At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented."<sup>4,p1</sup> Of course, there is no equivalent commentary from such an august, authoritative source, or an equivalently memorable sound bite, on the number of lives saved or improved by US medical care each year.

As if the asymmetry of reward and punishment is not sufficiently harmful by itself, the explosion of information about each patient, each treatment, and each disease exacerbates this harm. The availability of more data increases the possibility that someone down the line, with the help of hindsight, could point a finger to a mistake that a physician has made, and severe negative consequences are likely to follow. Now, imagine living with the constant fear that any mistake could be very painful and expensive. In what ways will such a fear affect your performance? Fortunately, this issue can be abstractly studied in psychosocial experiments on human volunteers, in a controlled environment, and outside of the confines of medical care. In one such experiment, Ariely et al<sup>5</sup> promised

individuals in rural India a payment equivalent to 5 months' salary if they could perform a few tasks at a high level of proficiency in 1 hour. This excessive payment was intended to increase the financial reward as well as the fear of not meeting expectations and losing the potential reward. The results? The study participants almost always failed, and they failed much more often than people who were promised a payment equal to 1 day of salary. From this study and related research, human behavior researchers have learned that as we humans spend more of our time and mental energy fearing the consequences of making mistakes, we increase the odds that we will do just that: make mistakes.

Whether in medicine or elsewhere, mistakes directly translate into imagined or real negative consequences; what seems clear is that focusing on potential mistakes is a poor recipe for encouraging the highest levels of performance.

### Loss of Autonomy

Autonomy is the basic ability of individuals to exercise their judgment in terms of how to spend their time, attention, and resources. In the domain of medical care, this could include the ability to decide when to see each patient, how much time to spend with each patient, what questions to ask them, when to see them next, what kinds of tests to perform, and what kinds of treatments to try out and for how long. This view of autonomy is almost in direct opposition to the current practice of medicine. The current procedures in medical reimbursement policies and technological advances are constantly moving physicians in the direction of less time spent with each patient and greater floods of information (eg, related to a given patient or general medical information) to manage or master. Moreover, our medical system has increased oversight from known and visible forces (eg, practice committees and certification boards) to unknown and invisible forces (eg, computer "sniffers" silently screening practice and documentation patterns, looking for evidence of physicians' shortcomings or surrogates for shortcomings). Contemporary medicine's escalating oversight and control of how physicians spend their time goes hand in hand with a loss of physician autonomy. It is a sad outcome of this micromanagement style. And in the

current approach to health management, it is hard to envision physician autonomy improving any time soon.

In the absence of autonomy, physicians may feel like Charlie Chaplin's character in *Modern Times*, pulled through the gears and cogs of a machine in a factory, and as a consequence they often feel defeated when attempting to put their hearts and souls into their profession.

### Cognitive Scarcity

In the modern practice of medicine, physicians continuously face and make countless decisions: decisions about the health of their patients, about different tests and therapeutic options, about the financial consequences of these decisions for their patients, and about their own time management. (A physician friend of one of us [D.A.] confided that he cannot even take unscheduled bathroom or coffee breaks.) And, not only do physicians have to continuously make these decisions, they have to make them in an environment where many of these decisions have difficult tradeoffs and consequential outcomes.

In their book *Scarcity: The New Science of Having Less and How It Defines Our Lives*, Mullainathan and Shafir<sup>6</sup> use the appealing metaphor of a suitcase. In this metaphor, they compare poor individuals with those with small suitcases and rich individuals with those with large suitcases. If you are rich and you have to pack for vacation, you simply put all the clothes you want in the suitcase. And if you need to change your mind, you simply add or take away clothes. But if you are poor, you do not have sufficient space for all the clothes you need from the get-go, and if you need to add something, you have to rearrange your suitcase and take some of the other items out. The point that Mullainathan and Shafir make is that living in the world where every decision has immediate consequences ("opportunity cost") is cognitively taxing. These negative outcomes resulting from scarcity are just as relevant and important for time scarcity as they are for financial scarcity. Consider the suitcase metaphor for a physician who has to accommodate an unexpected schedule change: how would the experience differ in terms of complexity and stress for a physician who has some built-in time buffers vs a physician who is scheduled to see a different patient every 12 minutes?

The evidence showing the negative effects of scarcity on cognitive functioning is rather depressing. Mani et al<sup>7</sup> reported that when people make decisions without having to actively consider all the opportunity cost of each decision, people perform rather well on a range of cognitive tasks. But, when people have to consider opportunity cost, this dramatically and negatively affects their cognitive performance on logic and problem-solving tasks and even on IQ tests. Specifically, Mani et al determined that the effects of scarcity can be so large that they are comparable with the cognitive toll of completing the task after losing an entire night of sleep, being an alcoholic, or losing approximately 13 IQ points.

Given these effects of cognitive scarcity, the negative implications of having to continually manage time—as well as all the other difficult decisions that physicians face—should make physicians highly susceptible to cognitive exhaustion and, ultimately, poor-quality decisions.

When we think about the accumulating stress for physicians and the root causes of this stress, it is clear that physicians basically want to care for patients, and as a society and individuals, we too want them to care for us. Unfortunately, the structure we have created for practicing medicine makes taking care of patients more difficult, more stressful, and, ultimately, counterproductive. The important question, of course, is: Why have we created this system?

We propose that one main reason for this type of health management system is that we view the practice of medicine as a production function, a sort of "fixing-people production line," when, in fact, medicine should be viewed as a research and development activity. In a research and development practice, it is assumed that providers need time to think and reflect and that they need the flexibility to control their time, take different paths, and adjust as they make changes. The same is true for medicine, and unless we are going to recognize that such production line logic is the wrong metaphor for medicine, medical practitioners will experience more stress, fewer people will choose a healing profession, and patients will experience even worse outcomes. It is time to change direction and change the structure of the medical system from a system that focuses on micromanaging physicians' time

and decisions to a system that focuses on long-term health. After all, if we trust physicians with our lives, shouldn't we also trust them to manage their own time and resources for our benefit?

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