



## Beyond Burnout — Redesigning Care to Restore Meaning and Sanity for Physicians

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In late 2016, a primary care physician with a thriving practice decided it was time to shut her doors. She felt her retirement was forced on her after she'd spent a year in the grips of her

health care system's new electronic health record (EHR). It was her fourth EHR over her years of doctoring, but this transition felt different. Instead of improving her efficiency, the new system took time away from her patients, added hours of clerical work to each day, and supplanted her clinical judgment with the government's metrics for "meaningful use" of information technology in health care.

"We're spending our days doing the wrong work," argues Christine Sinsky, a practicing internist and vice president for professional satisfaction at the American Medical Association, who has conducted several studies tracking

how doctors spend their time. "At the highest level, we are disconnected from our purpose and have lost touch with the things that give joy and meaning to our work."

Increasing clerical burden is one of the biggest drivers of burnout in medicine. Time-motion studies show that for every hour physicians spend with patients, they spend one to two more hours finishing notes, documenting phone calls, ordering tests, reviewing results, responding to patient requests, prescribing medications, and communicating with staff.<sup>1</sup> Little of this work is currently reimbursed. Instead, it is done in the interstices of life, during time often referred to as

"work after work" — at night weekends, even on vacation.

"EHRs can be a double-edged sword, because they give you flexibility about where you're enabling physicians to get home for dinner," argues Tait Shan professor of medicine at State University and a leading researcher on physician burnout. "But physicians are working a staggering number of hours at night, this has enabled organizations to continuously increase productivity targets without changing the structure or support system, effectively adding a whole extra week hidden within a month."

Burnout rates are now as high in medicine as in other fields, even after adjustment factors such as age, sex, level of education, and hours worked the past week. In 2014, a national survey found that 54% of physicians reported at least

symptom of burnout: emotional exhaustion, depersonalization, or a diminished sense of personal accomplishment due to work-related stressors. Those in “front-line” specialties, including general internal medicine, family medicine, emergency medicine, and neurology, are at the highest risk.<sup>2</sup>

“There was this assumption that doctors could take on extra work seamlessly, but now it is crowding out our true work as healers,” notes Sinsky. “Physicians are at the sharp end of the stick for accountability, regulatory issues, and now even data acquisition and entry — it’s too much.”

Shanafelt and others argue

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that the situation needs to change and that there’s a business case for addressing physician burnout. At the most basic level, physicians with symptoms of burnout are twice as likely to leave an organization as those without such symptoms, and the cost of replacing a physician is estimated to be \$500,000 to \$1 million, according to a recent report from Atrius Health. This estimate reflects the expenses for physician recruitment, “onboarding” and training, and lost revenue.

Beyond the financial toll physician burnout takes on institutions, there are human costs to both doctors and patients. Studies over the past decade have shown

that burnout can undermine a physician’s sense of purpose and altruism and lead to higher rates of substance use, depression, and suicidality. Physicians with symptoms of burnout are more likely to report having made a major medical error in the past 3 months and to receive lower patient-satisfaction scores.<sup>3</sup>

Female physicians may be at highest risk, particularly those with heavy clinical loads. A survey of Stanford School of Medicine faculty found that few female faculty members reported “feeling supported” in their career development. The survey prompted the administration to

consider novel ways to improve work–life integration and prevent burnout. Stanford piloted a “time bank” to ensure that faculty were rewarded for activities that are rarely recognized by medical centers, such as serving on committees. This program allowed faculty to trade time spent on these activities for in-home support, such as meal delivery and cleaning services, or support at work, including assistance with grant writing and submission. Though this initiative was meant for all physicians and basic scientists, women used these services more frequently than men, and the number of female faculty members who reported “feeling sup-

ported” had nearly doubled by the end of the pilot program.

Increasingly, other medical organizations are starting to tackle the challenge of burnout. In 2016, chief executives from 10 major health care organizations gathered at a summit to share strategies for combating physician burnout. The group committed to 11 actions, including measuring physician well-being, supporting team-based models of care that allow physicians to operate at the top of their license, and proactively monitoring and addressing the increasing regulatory burden imposed on physicians.<sup>4</sup>

Measuring rates of physician burnout is the first step toward addressing this national epidemic. “Fundamentally, you manage what you measure,” argues Mayo Clinic President and Chief Executive Officer John Noseworthy. “CEO performance scorecards always include financial and quality measures, but mine also has staff engagement, satisfaction, and burnout measures that are reported up to the board of trustees.”

At Mayo, physician well-being is measured annually, benchmarked against national data, and used to identify divisions and departments that need help. Physicians are also asked to evaluate the leadership skills of their immediate supervisors, since a 2013 study demonstrated that every 1-point increase in a 60-point measure of leadership was associated with a 3.3% decrease in physician burnout.<sup>5</sup> “There was a linear relationship between how empathic, engaged, and involved leaders were with their staff and burnout rates,” Noseworthy said. “So now I have leadership-effectiveness scores for every division

head and department chair, and we review them and coach faculty on leadership skills when they need it.”

Whereas past efforts to address burnout have focused on bolstering individuals’ resilience skills, there’s a growing recognition that organizations also need to redesign the way that clinical care is delivered. In 2015, the Department of Family Medicine at the University of Colorado health system instituted a team-based model called ambulatory process excellence, or APEX. Under this system, medical assistants gather data, reconcile medications, set the agenda for patient visits, and identify opportunities to increase preventive care. After they complete this structured process, they share this information with a physician or nurse practitioner and remain in the room to document the visit. When the clinician leaves, the medical assistant provides patient education and health coaching. This arrangement allows physicians and mid-level clinicians to focus on synthesizing data, performing the physical exam, and making medical decisions without distractions.

“The chaos in exam rooms before APEX was akin to texting while driving,” explains Corey Lyon, associate professor at the University of Colorado School of Medicine and medical director of the A.F. Williams Family Medicine Center. “The greatest advantage now is that the computer no

longer stands between me and my patients. This allows for deeper thinking and connection.”

Lyon warns that launching APEX required work. Although the program increased the ratio of medical assistants to clinicians from 1:1 to 2.5:1, it required more than simply adding people. APEX required rigorous training for medical assistants, the development of structured protocols to allow them to function semi-independently, and new communication systems. Most of all, Lyons believes, the implementation succeeded because of flexibility and teamwork: “Providers have to be willing to give up a little control to get the support they need so that they can build better connections with patients without technology interfering.”


Within 6 months after the APEX launch, burnout rates among clinicians dropped from 53% to 13%. There was also an improvement in the practice’s pneumococcal vaccination rates and patient referrals for mammography and colonoscopy screening tests. With increased efficiency, the practice was able to add nearly three extra patients per doctor per day and reduce waiting times for new patients who wanted to join the practice. With increased provider productivity, APEX remained cost-neutral, and the University of Colorado health system plans to expand the program to six additional family medicine, internal medicine, and primary care clinics. Similar team-based models have been successfully in-

tegrated into smaller, independent practices throughout the country.

Yet even if they’re effective, clinical care redesign efforts do not address the fundamental question of how physicians can claim joy in the practice of medicine. Such a transformation first requires investments in senior administration in academic medical centers and independent practices to recognize and ensure the extent of the problem. Then, the resulting data will be used to inform shifts in policy and culture to address a system that remains broken for many. Changes to allow for creative and flexible solutions that promote physician well-being.

Disclosure forms provided by the authors are available at [NEJM.org](http://NEJM.org).

Drs. Wright and Katz are national correspondents for the *Journal*.

 An audio interview with Dr. Tait Shanafelt is available at [NEJM.org](http://NEJM.org)

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# Care Is Human — Collectively Confronting the Clinician-Burnout Crisis

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The ethical principles that guide clinical care — a commitment to benefiting the patient, avoiding harm, respecting patient autonomy, and striving for justice in health care — affirm the moral foundation and deep meaning underlying many clinicians' view of their profession as a worthy and gratifying calling. It is clear, however, that owing to the growing demands, burdensome tasks, and increasing stress experienced by many clinicians, alarmingly high rates of burnout, depression, and suicide threaten their well-being. More than half of U.S. physicians report significant symptoms of burnout — a rate more than twice that among professionals in other fields. Moreover, we know that the problem starts early. Medical students and residents have higher rates of burnout and depression than their peers who are pursuing nonmedical careers. Nor is the trend limited to physicians: nurses also experience alarming rates of burnout.<sup>1</sup> Clinicians are human, and it takes a personal toll on them when circumstances make it difficult to fulfill their ethical commitments and deliver the best possible care.

Burnout — a syndrome characterized by emotional exhaustion and depersonalization (which includes negativity, cynicism, and the inability to express empathy or grief), a feeling of reduced personal accomplishment, loss of work fulfillment, and reduced effectiveness — has serious conse-

quences in terms of both human cost and system inefficiency.<sup>1</sup> Nothing puts these consequences into starker relief than the devastating rates of suicide among physicians. As many as 400 U.S. physicians die by suicide every year.<sup>2</sup> Nearly every clinician has been touched at some point by such a tragedy.

Not only are clinicians' lives at risk, so is patient safety. Some studies have revealed links between clinician burnout and increased rates of medical errors, malpractice suits, and health care-associated infections. In addition, clinician burnout places a substantial strain on the health care system, leading to losses in productivity and increased costs. Burnout is independently associated with job dissatisfaction and high turnover rates. In one longitudinal study, the investigators calculated that annual productivity loss in the United States that is attributable to burnout may be equivalent to eliminating the graduating classes of seven medical schools.<sup>1</sup> These consequences are unacceptable by any standard. Therefore, we have an urgent, shared professional responsibility to respond and to develop solutions.

Indeed, there is broad recognition in the health care community that the problem of clinician burnout, depression and other mental disorders, and suicide has reached a crisis level. There are many existing efforts by individual organizations, hospitals, train-

ing programs, professional societies, and specialties to confront the crisis. But no single organization can address all the issues that will need to be explored and resolved. There is no mechanism for systematically and collectively gathering data on, analyzing, and mitigating the causes of burnout. The problem is not lack of concern, disagreement about the severity or urgency of the crisis, or absence of will to act. Rather, there is a need to coordinate and synthesize the many ongoing efforts within the health care community and to generate momentum and collective action to accelerate progress. Furthermore, any solution will need to involve key influencers beyond the health care community, such as information technology (IT) vendors, payers, regulators, accreditation agencies, policymakers, and patients.

We believe that the National Academy of Medicine (NAM; formerly the Institute of Medicine, or IOM) is uniquely suited to take on the coordinating role. Nearly 20 years ago, the IOM report *To Err Is Human* identified high rates of medical error driven by a fragmented care system. The report spurred systemwide changes that have improved the safety and quality of care.<sup>3</sup> Today, we need a similar call to action. To that end, in January 2017, the NAM, in collaboration with the Association of American Medical Colleges (AAMC) and the Accreditation Council for Graduate Medical Education (ACGME), launched

a national Action Collaborative on Clinician Well-Being and Resilience.<sup>4</sup> The collaborative aims to draw on the relevant evidence base to build on existing efforts by facilitating knowledge sharing and catalyzing collective action.

Since launching the collaborative, the NAM has been overwhelmed by requests from organizations wanting to take part in this work and has therefore issued an open call for network organizations to share information and resources. These network organizations have made formal public commitments to promoting clinician well-being (available on the collaborative's website<sup>5</sup>), and they pledge to work with the NAM and others in the network to share knowledge and coordinate efforts. Currently, the collaborative comprises 55 core organizations and a network of more than 80 others, including clinician groups that span many disciplines and specialties, as well as payers, researchers, government agencies, technology companies, patient organizations, trainees, and more.

Four central goals guide the collaborative's initial work: to increase the visibility of clinician stress and burnout, to improve health care organizations' baseline understanding of the challenges to clinician well-being, to identify evidence-based solutions, and to monitor the effectiveness of implementation of these solutions. We already know that burnout is driven largely by external factors, rather than by personal characteristics. These factors include work-process inefficiencies (such as cumbersome IT systems), excessive work hours and workloads, work-home conflicts, problems with the organizational culture (such as team dysfunction

and management styles that neglect clinician input), and perceived loss of control and meaning at work. Although personal factors unrelated to the clinical environment (such as being young, female, or a parent of young children or teenagers) may also contribute to a greater risk of burnout, the collaborative will focus initially on promoting solutions and progress at organizational, systems, and cultural levels.

The collaborative has organized its efforts into four work streams. The "Research, Data, and Metrics" workgroup is compiling validated

that will serve as a user-friendly repository for available models, and toolkits and provide opportunities for clinicians and other stakeholders to share information and build productive relationships. The collaborative encourages all interested organizations and individuals to come involved in the work of the collaborative and to use its products in their own endeavors. For more information, see the project website<sup>4</sup>).

The health professions are at a critical inflection point. The current system cannot sustain it

***The goals are to increase the visibility of clinician burnout, improve organization understanding of challenges to clinician well-being, identify evidence-based solutions, and monitor their effectiveness***

survey instruments and evidence-based interventions and identifying benchmarks for gauging progress in supporting clinician well-being. The "Conceptual Model" workgroup has created a comprehensive conceptual model and will establish a shared taxonomy by defining key factors. The "External Factors and Work Flow" workgroup is exploring approaches to optimal team-based care and documentation in the rapidly evolving digital health environment. And the "Messaging and Communications" workgroup is identifying key stakeholders and developing targeted messaging to disseminate available evidence and knowledge and thus inspire action. A key deliverable for the collaborative is an online "knowledge hub" (to launch in 2018)

rates of clinician burnout continue to deliver safe, quality care. But there is no reason to be optimistic that the current system is turning. The strong commitment of more than 100 national organizations to the work of the collaborative has made clear that clinician well-being is a high priority for health care leaders, policymakers, payers, and decision makers capable of leading about system-level change. Through collective action and targeted investment, we can not only reduce burnout and protect clinician well-being, but also help clinicians carry out the sacred mission that drew them to the profession — providing very best care to patients.

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## TORY OF MEDICINE

# PEPFAR — 15 Years and Counting the Lives Saved

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In the long history of successful public health initiatives, such as those leading to the eradication of smallpox, the elimination of polio throughout most of the world, and the marked reduction globally in vaccine-preventable childhood diseases, few programs have matched the impact of one that began in 2003, the President's Emergency Plan for AIDS Relief, or PEPFAR. This innovative program has had an unprecedented impact on the pandemic of HIV and AIDS.

The major scientific and clinical advances that made PEPFAR possible were the development and approval of highly effective combinations of antiretroviral medications that suppressed the replication of HIV. These drugs, generally administered in combinations of three or more, have transformed the lives of people living with HIV/AIDS, providing them with the possibility of a near-normal life expectancy and, in most cases, the ability to return to normal daily activities. Although HIV-infected people in resource-rich countries almost immediately benefited from these medications when they were li-

censed in the mid-1990s, a dramatic discrepancy in access to these drugs soon became apparent. More than 90% of all HIV infections were occurring in resource-limited countries, particularly in sub-Saharan Africa, where patients had little or no access to antiretroviral medications. Millions of people who could have been saved were needlessly dying.

PEPFAR was created by President George W. Bush, who felt strongly that as a resource-rich and privileged country, the United States was morally obligated to help people in low-income countries with diseases for which there were effective interventions that were unavailable to them. HIV/AIDS in the resource-limited world, particularly in southern and eastern Africa, was a stark example of such a disease. Early in his administration, Bush articulated his belief that the United States could and should design and implement a transformational and accountable program to address the HIV/AIDS pandemic in low-income countries. At that time, an estimated 30 million people were living with HIV/AIDS in Africa, where more than one third

of adults in some countries were infected.<sup>1</sup>

After consulting scientific advisors, faith-based organizations, and others from both inside and outside his administration, Bush tasked trusted officials, including one of us (A.S.F.) and an inner circle of White House staff, with determining the feasibility of developing a program for the prevention, treatment, and care of people living with or at risk for HIV/AIDS in Africa and other low-income regions. The proposed goal would be to supply lifesaving drugs to HIV-infected people and provide the means of preventing new infections, such as the distribution of condoms to at-risk individuals.

In 2002, Bush sent members of his administration and federal officials, including one of us (A.S.F.), on a fact-finding mission to several of the hardest-hit African countries to determine whether such a program was feasible. In those countries, philanthropic and other organizations were efficiently and effectively providing antiretroviral drugs to small numbers of patients, and it was clear that patients there understood and em-