Addressing Burnout in Oncology: Why Cancer Care Clinicians Are At Risk, What Individuals Can Do, and How Organizations Can Respond

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OVERVIEW

Despite their benevolent care of others, today, more than ever, the cancer care professional who experiences overwhelming feelings of exhaustion, cynicism, and inefficacy is in grave jeopardy of developing burnout. Clinicians are repeatedly physically and emotionally exposed to exceedingly long hours in direct care with seriously ill patients/families, limited autonomy over daily responsibilities, endless electronic documentation, and a shifting medical landscape. The physical and emotional well-being of the cancer care clinician is critical to the impact on quality care, patient satisfaction, and overall success of their organizations. The prevention of burnout as well as targeting established burnout need to be proactively addressed at the individual level and organizational level. In fact, confronting burnout and promoting wellness are the shared responsibility of both oncology clinicians and their organizations. From an individual perspective, oncology clinicians must be empowered to play a crucial role in enhancing their own wellness by identification of burnout symptoms in both themselves and their colleagues, learning resilience strategies (e.g., mindful self-compassion), and cultivating positive relationships with fellow clinician colleagues. At the organizational level, leadership must recognize the importance of oncology clinician well-being; engage leaders and physicians in collaborative action planning, improve overall practice environment, and provide institutional wellness resources to physicians. These effective individual and organizational interventions are crucial for the prevention and improvement of overall clinician wellness and must be widely and systematically integrated into oncology care.

CASE PRESENTATION

Dr. M is a medical oncologist who finished her fellowship 5 years ago and is now working in a cancer center for a large integrated health system. She is well respected and has worked hard to develop her practice. Now she has a large patient panel and is on track to make partner next year. She is active in the clinical trials group and spends time every week participating in conference calls and meetings so that her patients have access to the latest treatments. But lately she is feeling stretched pretty thin. Her phone seems to ring constantly, even into the evening. Her son, age 4, is starting preschool, and she does not want to leave it all to the nanny. Her husband, an attorney, is also working long hours to become partner at his law firm. Yesterday, she sat in her office at the end of the day feeling overwhelmed by the pile of charts she had to take home—she knew she'd be staying up late after putting her son to bed—and thought, "How much longer can I work like this?"

The demanding lifestyle of the present-day oncology clinician has become increasingly overwhelming and burdensome because of the evolving landscape of clinical care and medicine. Dr. M is an exceptionally trained, dedicated oncologist working at optimal performance professionally and attempting to meaningfully meet the needs of her patients and practice; however, she is feeling besieged at effectively addressing the desires of her family. She finds her present work-life balance much to her dissatisfaction. Dr. M is exhibiting signs of a common syndrome universally experienced by oncology clinicians today referred to as "burnout."

WHAT IS BURNOUT: SIGNS AND SYMPTOMS

Originally described in the mid-1970s by psychologist Herbert Freudenberger,[1,2] burnout is a condition that occurs when work coupled with additional life pressures exceed the ability to cope, resulting in physical and mental distress.[1–11] Although definitions of burnout have varied over the years, in health care, and especially oncology, it has traditionally been defined as an occupational-related syndrome characterized by physical and emotional exhaustion, cynicism

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Disclosures of potential conflicts of interest provided by the authors are available with the online article at asco.org/edbook.

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and depersonalization (sense of detachment or disengagement), and low sense of professional accomplishment.[1–11] These three-dimensional signs of burnout exist along a continuum characterized by distinctly unique symptoms as well as an overlap of symptoms (Sidebar 1).[1–3] For example, the symptoms of physical and emotional exhaustion may include: chronic fatigue, cardiovascular issues, cognitive dysfunction, insomnia, gastrointestinal complaints, and affective and behavioral distress (anger, depression, and anxiety). Cynicism and depersonalization may be characterized by pessimism/depression, isolation, demoralization, and detachment. A low sense of personal accomplishment may lead to feelings of inefficacy, decreased productivity, and overall dissatisfaction in work-life balance. Evidence reveals that the initial physical and emotional symptoms of burnout may slowly develop over the course of 1 year.[1–3] Burnout is a physical and mental response that manifests as chronic occupational and interpersonal stressors arise and persevere over an extended period of time.[1–17] Dr. M is feeling mentally and physically exhausted at work due to equally rising demands as an oncologist, resulting in overall decreased productivity and increased workload brought home. She feels overwhelmed in her role as a clinician, which negatively impacts her personal dual roles as wife and mother. Increasingly, these signs and symptoms may adversely affect Dr. M, leading to potentially long-term personal and professional consequences.

Sidebar 1. Signs and Symptoms of Burnout Syndrome

- Physical and emotional exhaustion
- Chronic fatigue
- Cardiovascular issues
- Cognitive dysfunction
- Insomnia
- Gastrointestinal complaints
- Affective and behavioral distress: anger, irritability, depression, anxiety
- Cynicism and depersonalization
- Pessimism
- Isolation
- Demoralization
- Detachment
- Low sense of personal accomplishment
- Feelings of inefficacy
- Decreased productivity
- Overall dissatisfaction in work-life balance

A Group of Related Concepts

Burnout is at the center of a group of related concepts with overlapping features.[18–20] Compassion fatigue is "a state of tension and preoccupation with the individual or cumulative trauma of one's clients as manifested in three major domains that parallel symptoms of post-traumatic stress disorders: (1) hyperarousal (irritability, hypervigilance), (2) avoidance of stressful situations, and (3) re-experiencing difficult events through persistent or intrusive thoughts or even dreams."[18] Moral distress is "the pain or anguish affecting the mind, body, or relationships in response to a situation in which the person is aware of a moral problem, acknowledges moral responsibility, and makes a moral judgment about the correct action; yet, as a result of real or perceived constraints, participates in perceived moral wrongdoing."[19] Empathy fatigue is "a state of emotional, mental, physical, and occupational exhaustion that occurs as the counselor's own wounds are continually revisited by the client's life stories of chronic illness, disability, trauma, grief, and loss."[20] Although these concepts all capture a different aspect of burnout, they have not been clearly distinguished empirically. Thus, this review will focus on burnout, even though clinicians should be aware of the variety of concepts in the literature.

KEY POINTS

- **Burnout is defined as an occupational-related syndrome characterized by: physical and emotional exhaustion, cynicism/depersonalization, and low sense of professional accomplishment.**
- **Multiple oncology-specific risk factors associated with an increased susceptibility for the development of burnout may trigger personal and professional consequences.**
- **Addressing clinician burnout by promoting oncology clinician well-being needs to be tackled at the individual level and organizational level.**
- **At the individual level, oncology clinicians have an important role in identifying symptoms, acquiring resilience skills, and building positive relationships with colleagues.**
- **At the organizational level, leadership must optimize the clinical practice environment and institutional culture in order to promote clinician well-being.**

Risk Factors Associated With Burnout

Multiple individual and organizational risk factors have been associated with an increased susceptibility to develop burnout in oncology (Sidebar 2).[2,5–17,21–28] Individual risk factors are internally based dispositional risk factors consisting of sociodemographic and personality characteristics. Prior research revealed specific individual risk factors associated with burnout including: female gender, younger age ($\leq$ 55 years), junior physicians (residents, fellows, or physicians $\leq$ 5 years from training), years in practice, and single, unmarried/nonpartnered physicians.[4–17,21–28] Personality characteristics identified as independent risk factors for burnout include compulsiveness, neuroticism, extraversion, conscientiousness, alexithymia, psychologic hardiness, and type A behavior.[2,21–28] Empirical study of neurobiological characteristics including genetic factors or biomarkers (e.g., catecholamines) as potential risk factors for burnout have been not been supported.[2] Finally, externally based,

Sidebar 2. Individual and Organizational Risk Factors: Why Cancer Care Clinicians Are At Risk

- Female gender
- Younger age (≤ 55 years)
- Junior physicians: oncology fellows, physicians ≤ 5 years from training completion
- Single, unmarried/nonpartnered physicians
- Personality characteristics: compulsiveness, extraversion, type A behavior
- Increased time in direct patient care
- High occupational demands
- Lack of control over daily tasks
- Increased administrative responsibilities
- Use of electronic medical record systems
- Limited decision making
- Unclear job expectations
- Lack of social support
- Changing health care system
- Care of patients who are terminally ill with cancer

environmental, occupational, and organizational risk factors specific to oncology identified as contributing central causes to burnout include increased time in direct patient care, high occupational demands, lack of control over daily tasks, increased administrative responsibilities, use of electronic medical record systems, limited decision making, unclear job expectations, lack of social support, and the changing landscape in health care system.[6,9,21,22] As a young, female, conscientious, compulsive junior physician working exceedingly long hours in direct patient care in a busy community practice, Dr. M is at an increased risk of developing burnout, resulting in significant consequences.

Personal and Professional Consequences of Burnout

Burnout is not formally diagnosed as a disorder given it is primarily recognized as an occupational-related condition; however, it is incorporated in the International Statistical Classification of Diseases and Related Health Problems, 10th revision, under the category "Problems related to life-management difficulty" (Z73.0) due to its adverse effects and influence on the individual's overall health.[2,29] Psychiatric disorders such as depression and post-traumatic stress disorders may be both precursors to the development of burnout as well as consequences of burnout.[2,6–17,21,22,30–32] It has been linked to and compared with both stress and depression given similar shared symptomology and metabolic, physiologic systems involved (e.g., systematic inflammation or autonomous nervous system).[30,31,33–35] However, unlike stress, which tends to be fairly short-term and resolves completely once the stressful situation has changed, burnout is a complex, insidious process gradually and progressively developing over an extended period of time.[2,3] Traditionally, the burnout process occurs in 12 nonspecific, dynamic stages ranging from a compulsion to establish oneself to a development of multiple behavioral and mood changes, causing the final burnout syndrome.[2,3,32] In fact, it is due in part to this gradual development in exhaustion symptoms that burnout has been difficult to detect, identify, and intervene early on, therefore resulting in long-term enduring health consequences for the individual.[2,6–28,30–35] Unlike stress and depression, symptoms of burnout may resolve once the individual changes a job or resolves if the work environment is altered. Yet, long-term untreated and unaddressed burnout may lead to personal consequences such as chronic health conditions (heart disease, stroke, or obesity) or mental health conditions (depression, anxiety, substance use, and suicide).[2,6–17,21–28,30–35] Professionally, long-term burnout may lead to diminished quality care, reduced professional satisfaction, and accomplishment.[21,22] At present, no formal tailored clinical diagnostic assessment exists to identify burnout symptoms in the individual; however, self-reported screening tools such as the Maslach Burnout Inventory (MBI)[36] and the Mayo Clinic Physician Well-Being Index[37] have been used in research, occupational, and clinical settings to empirically study burnout and burnout-related signs for various health and medical staff populations, including oncology.

Prevalence in Oncology

The global incidence of burnout has drastically increased over the past decade for oncologists in the United States, Europe, and Australia.[38–41] In 2005, the survey study by Allegra et al[38] of over 1,700 oncologists revealed early on that nearly 62% of oncologists in community practice in the United States reported experiencing specific symptoms of burnout, including the top three signs: frustration (78%), emotional exhaustion (69%), and lack of work satisfaction (50%). Today, 45% of American Society of Clinical Oncology (ASCO) member medical oncologists have reported experiencing emotional exhaustion and/or depersonalization symptoms related to burnout.[39] In Europe and Australia, burnout rates vary significantly, ranging from 52% to 78% depending on medical oncology specialty, practice, health care systems, and screening tools used.[9,40,41] For example, in France, a mailed survey study of 340 medical and radiation oncology fellows using the MBI revealed that 44% believed burnout was prevalent and associated with low perception of health status and a desire to leave medicine.[40] In Australia, 36% of gynecologic oncologists surveyed reported a high degree of emotional exhaustion, with 43% reporting a desire to leave their current position, 29% considering retirement, or 57% wishing to reduce work hours.[41] These are only a few of several notable studies uncovering the global scale of the prevalence of burnout in medical oncology in uniquely different health care systems. Large-scale studies of the incidence and development of burnout remain underway, calling for not only the identification of risk factors but also for the implementation of individual and institutional interventions to address this increasingly burdensome phenomenon.

WHAT ONCOLOGY CLINICIANS CAN DO TO ADDRESS BURNOUT

Dr. M's dedication to patient care was inspired by her grandmother, who dealt with cancer while Dr. M was a medical student. She feels that her patients must always come first and prides herself on having a personal connection with every patient. She wants things to be perfect for her patient because she remembers how frustrating it was for her grandmother to wait for tests or treatments when paperwork had not been finished. Her son is a rambunctious, happy 4-year-old, and she loves every minute she has with him. Between her responsibilities as an oncologist and a mother, she is on the run every minute and feels like she never has a moment for herself.

The case of Dr. M illustrates a common scenario: she realizes she is stressed but does not take the time to stop and figure out what is happening, much less create an action plan. Her belief, although she has not quite articulated it to herself, is that although she realizes that she is at risk for burnout, she does not know how to prevent it or address symptoms of burnout. Her case represents a common situation for physicians, advanced practice providers, and nurses in cancer care. Preventing burnout proactively and dealing with established burnout must be addressed at the individual and system level.[3,42] Although system-level issues will be covered in the following section, in this section, we will focus on individual issues. At the individual level, clinicians have an important role in recognizing symptoms in themselves and their colleagues, learning skills that prevent burnout, and rebuilding their local culture of clinicians (Sidebar 3).

Because many clinicians did not have burnout prevention included in their training, it is worth naming common tacit assumptions and strategies that do not work. Many clinicians assume that burnout occurs when a clinician has given everything she has to her work and that when a fixed quantity of energy is used up, that burnout becomes inevitable. In addition, many clinicians experienced during training attitudes from role models that the way to deal with stress is to "tough it out" and that clinicians need to deal with these issues on their own time. The strategies that result from these erroneous but common assumptions are that burnout should be approached by working longer and harder, not admitting even to yourself that you are stressed, and addressing colleagues mostly by venting behind their backs. None of these strategies is effective; they simply compound the problem.

Sidebar 3. What Oncology Clinicians Can Do: Individual Interventions

- Recognize symptoms: irritability, impatience, exasperation, feeling burdened by work
- Seek out professional advice
- Develop an action plan
- Acquire resilience strategies for wellness: fitness/sleep, cognitive behavioral interventions, mindfulness, finding meaning and purpose, connect with fellow clinicians
- Rebuild local culture of oncology clinicians through advocacy

Recognizing Symptoms

Perhaps the most important issue in recognizing symptoms—such as irritability, impatience, exasperation, or feeling burdened by work—is that every clinician experiences these at some point. The key to recognizing these symptoms as warning signs is to track how often they occur. The most widely used burnout instrument is based on frequency,[4] and the question clinicians should start to ask themselves is: how often is this symptom happening? When symptoms are occurring weekly or more, it is probably time to take action. In addition, clinicians should recognize that their accuracy in self-reporting may not be high—many clinicians minimize their own self-report of these symptoms (for many of us, it is a habit formed in training)—and a trusted observer or friend may be the most accurate reporter. This trusted observer could be a spouse, friend, colleague, or therapist—but it is worth asking them from time to time the question: "What are you observing about my stress level these days?" This is not a formally validated question, but it is designed to ask for observations rather than judgments or diagnoses, pointed toward stress, which is a less loaded term than burnout, and gives an immediate time frame for an implicit comparison. Part of the challenge in starting to recognize burnout proactively, before it is established, is to identify language that is evocative but not stigmatizing.

When a clinician feels that burnout is established, it is worth seeking out a professional for an assessment and creation of an action plan. Established burnout often restricts a clinician's perspective, and because burnout can merge into a more serious depression,[28] it is not advised that clinicians diagnose and treat themselves. Taking the time to begin this process is an important step for clinicians who think they might have a serious level of burnout.

Learning Resilience Skills

Research studies testing interventions for clinician burnout have generally focused on a single modality, and there is a developing evidence base identifying useful interventions. A 2015 Cochrane systematic review concluded that there is some evidence that cognitive-behavioral interventions and relaxation interventions have benefit, and whereas this review classified interventions into just three categories (cognitive-behavioral, relaxation, and organizational), it is useful to consider a larger repertoire of resilience skills even though they have not all been formally tested in cancer care clinicians.

Fitness and sleep. A variety of studies in general populations point to the importance of physical activity and sleep, both of which have well-established benefits in cognitive function.[43,44] Most Americans do not get enough

high-quality sleep, and, especially for clinicians who are on call, this may be worth addressing. Some might feel that we are stretching the point to discuss fitness and sleep skills, but it is important to build habits that ensure good fitness levels and adequate sleep benefit from focused attention, environmental cues, and setting goals.

Cognitive behavioral. A number of techniques derived from cognitive-behavioral psychotherapy can be useful in proactively preparing for stress[45–48] and dealing with it when it occurs. The specific techniques useful for cancer care clinicians involve tracking activation during the day (e.g., noticing when I am worked up and taking steps to calm down), reframing cognitive distortions (e.g., noticing when I am catastrophizing about a patient and taking steps to reel back my negative predictions), and finding healthy boundaries (e.g., noticing when I am about to take on too much work and taking steps to make it manageable). These techniques involve noticing patterns of thinking and addressing the contents of one's thoughts. They appear to be simple, but it takes practice to notice one's own patterns, catch the pattern as it is appearing, and to remember to use the specific steps.

Mindfulness. In contrast to cognitive-behavioral techniques that focus on the content of thoughts, mindfulness involves placing attention on the process of thoughts. For clinicians, the relevance of mindfulness is that it offers training to change how we deal with multiple demands, the constant pressure to multitask, and habits that keep us focused on the cognitive skills we use clinically. Two studies indicate that mindfulness training for practicing clinicians can have an effect on burnout, empathy, and well-being for clinicians (although not specifically in cancer care).[49,50] Although a variety of approaches to mindfulness exist, the most well-studied approaches involve secular forms of meditation, such as sitting meditation, body scan, and yoga. It is worth noting that mindfulness brings full attention to the present moment, rather than distracting oneself, and that not all forms of mindfulness have been equally studied.

Meaning and purpose. Reconnecting with one's purpose as a physician, nurse, or other professional can provide insight, inspiration, and motivation to do the work needed to deal with stress. One widespread program that has touched many clinicians was developed by Rachael Remen, author of the best-seller *Kitchen Table Wisdom*, and incorporated in many medical schools as The Healer's Art.[51] Another well-known program was developed by Linda Clever, MD, called Renew,[52] which has been featured at previous ASCO meetings. These interventions focus on reflective practices in which clinicians set aside time to recall and savor meaningful experiences and to draw from them guidance for the future. For some clinicians, this kind of reflection occurs in their personal spiritual practices, and surveys have confirmed the importance of personal spiritual practices in physician well-being.[28]

Community and relationships. The ability for a clinician to connect with other clinicians at a personal level, in a way different from their typical clinical duties—either with family, friends, or colleagues—has also been identified in a studies aimed at identifying components of well-being.[53] Although taking time for relationships is often mentioned at work, the involvement, commitment, and skill necessary to sustain a close relationship is not something clinicians should take for granted—the high divorce rates of physicians suggest inattention to this aspect of well-being. Notably, many interventions designed to prevent burnout have included a component of community building, and one of the mindfulness interventions cited above is designed explicitly to allow for informal clinician relationship building meant to address the isolation that many clinicians feel at work.[49]

Rebuilding Local Culture

Especially for physicians, whose practices have changed from self-run small businesses to large managed systems in which they are employees, the issue of work culture represents an important transition.[54] Physicians who are adjusting to having their work defined and structured as employees, dealing with payers in new ways, and mandates for quality and documentation that are more complex than ever are dealing with change management, leadership challenges, and reimbursement changes that have changed significantly how physicians regard each other as colleagues. In addition, the shift of cancer care to a team-based model means that oncology physicians have new kinds of collegial relationships with nurses and other specialists. As cancer care is being restructured, the importance of rebuilding a community of practice that connects clinicians as committed clinicians will require that individual clinicians think bigger than the organization roles they are being assigned to the community of colleagues they want to practice, learn, and care for patients with. A warning sign of sorts appeared in the *Journal of Oncology Practice* recently in the form of a study of internal medicine resident experiences with a hematology/oncology inpatient unit at a respected New York academic cancer center—the study reported that residents finished their month-long rotation with less empathy, more burnout, and less interest in oncology.[55,56] As individual clinicians, we may not possess the ability or power to change a situation like that on our own, but we do each have a responsibility to advocate and participate in building the kind of culture that ensures that we do our best work and offer the best care for our patients.

THE ROLE OF THE HEALTH CARE ORGANIZATION

Dr. M works in a large integrated health system that has very clear productivity expectations and established financial incentives, and she typically sees 100–120 outpatients per week. Her colleagues are always willing to help provide their advice when she sees a challenging case, but they are also very busy, and she feels a bit disconnected from them. Her practice operations are run by a manager that she has very little contact with, and, recently, the nurses in the clinic were

all reassigned to make things more efficient—even though Dr. M lost a working partner whom she felt had become a close collaborator and was someone she could talk things over with at the end of the day. Two other female physician colleagues, also with young children—a surgeon and an internist—both left recently for other jobs because they could not manage their hours in ways that allowed them enough time with their families.

The well-being of physicians is critical to the success of the organizations and practices in which physicians work. Physician burnout has a powerful impact on quality of care, safety, and patient satisfaction.[57–60] Burnout and professional satisfaction are also drivers of physician turnover and have implications for recruitment and retention.[22,61,62] Thus, burnout and well-being have important repercussions for the quality, sustainability, and financial health of hospitals and practice groups.[60,63–65] It should also be noted that many of the drivers of physician burnout are directly influenced by the organization. For these reasons, addressing physician burnout and promoting physician well-being are the shared responsibility of both the physicians and the organizations in which they work (Sidebar 4).

As a first step to addressing this challenge, organizations must recognize the key drivers of burnout and satisfaction in physicians. Although numerous granular factors can influence physician well-being, these can typically be categorized into one of six dimensions: workload, work efficiency, control/flexibility, values alignment, meaning in work, and work-life integration. In a simple sense, the organization is responsible for having realistic workload/productivity expectations, providing an efficient practice environment, giving oncologists input into the decisions that affect their practice, and providing oncologists at least some flexibility/control over their work.[12] Providing opportunities for individual oncologists to focus at least some of their time on the aspects of work that are most personally meaningful (e.g., a specific type of cancer, end-of-life care, teaching, clinical trials, quality improvement, or administration), rather than treating them as homogenous "clinicians," is also critical to preserve engagement over the long term.[66] Although work-life integration is often considered the responsibility of the individual, practice structure and organization (calls scheduled, hospital coverage arrangements, office work hours, coverage for time away, etc.) can either promote or hinder the likelihood individual oncologists will succeed in this domain.

Sidebar 4. How Organizations Can Respond: Organizational Interventions

- Recognize the importance of oncology physician well-being to achieving its mission
- Assessment of burnout
- Proactively engage organizational leaders and physicians in collaborative action planning
- Optimize the clinical practice environment and institutional culture; and provide wellness resources

The introductory case illustrates a number of potential system issues and problems with the environment. An expectation to see 100–120 outpatients per week (20–24/day) is 30%–60% more than the average seen by private practice medical oncologists in the United States (15 outpatients per day or 75 per week)[39] and is likely unsustainable. The fact that this physician provides a personal cell phone number for patients to use for after-hours issues also implies an inefficient cross-coverage system or an unhealthy culture for the oncologists in the practice not to use the system that is in place. This is unacceptable for a physician working in a "large, urban health system." The description that Dr. M ends her day feeling overwhelmed by the pile of charts she needs to take home implies excessive clerical work that could be completed by other support staff, particularly in a practice seeing 100–120 patients/week (where tremendous ancillary support staff should be the expectation). Her symptoms of feeling disconnected from colleagues and anxiety about how she will integrate her professional duties with being a wife and mother are also consistent with work-life integration issues that have a high risk of resulting in this physician moving to a new practice (as illustrated by her two colleagues who recently left the practice).[22,67]

Evaluating and Improving the Practice Environment

Once the organization recognizes the importance of physician well-being to achieving its mission, it can begin to proactively address this challenge. Before initiating changes, organizations should consider anonymously assessing the prevalence of burnout and professional satisfaction among their physicians, and then track this variable over time in the same way they evaluate other measures of organizational health. For example, no leadership team or board of directors would neglect to monitor measures of financial performance and productivity. If the well-being and morale of physicians is deemed critical to the organization's success, it must be monitored (anonymously) and considered in the decision-making process as the organization sets priorities, allocates resources, and develops its strategy. It is essential that such assessments be anonymous, and they typically should be performed by an outside consultant to allow physicians to be honest and preserve the integrity of the process. A baseline assessment can also serve to identify which driver dimensions are most in need of attention and allow the organization to assess whether the changes implemented have led to improvement. Short validated tools to assess physician well-being across a variety of dimensions are publically available and could be used for this purpose.[37,68–70] These tools also have national benchmarks for physicians by specialty and can also allow a practice to understand how their physicians compare with like specialists nationally.

Once baseline assessment has occurred, a process of collaborative action planning between physicians and organizational leaders is a constructive way to identify solutions and engage physicians in the process.[71,72] This approach gives physicians the opportunity to provide input and share their

ideas regarding decisions affecting their work and helps physicians and practice leaders work in partnership toward a shared goal.[72] Because few practices have the bandwidth to make substantive changes in all six driver dimensions at the same time, initially focusing on one dimension and applying this process can lead to tangible and incremental improvements that help physicians recognize the organization is committed to the issue and that "things are getting better." This can also build momentum to then tackle challenges in the next dimension. In our experience, these efforts often initially focus on ways to reduce clerical tasks and enhance efficiency in the practice workflow or to identify changes to the scheduling/coverage system to address perceptions of inequity and improve work-life integration. Notably, such solutions can result in a large improvement in burnout and satisfaction at the practice level and are often cost neutral.[71] A number of innovative ways to reduce clerical burden, minimize the negative aspects of the electronic environment, and improve efficiency have been reported.[73–79] Effective leadership that engages physicians and empowers them to help solve the problems facing the organization is essential to this process.[72]

Organizational Resources for Individual Physicians

The primary focus of organizations should be to optimize the practice environment and institutional culture as described above. Given the prevalence of burnout and distress, however, it is also important for organizations to provide resources to individual physicians to prevent burnout, promote well-being, and provide assistance to individual physicians struggling with burnout.

With respect to prevention, evidence suggests that organizational efforts to foster community at work and help physicians engage with colleagues is an effective way to improve physician well-being.[80] Two randomized trials have evaluated the impact of the organization providing time and/or a meal so that physicians can meet with colleagues in a structured format to explore both the meaningful and challenging aspects of their work. Both studies found that this approach reduces burnout and improves physicians' perception of meaning in work.[50,81] Providing residents, fellows, and practicing physicians training in self-awareness activities such as mindfulness and narrative medicine may also be a useful approach to helping enhance resilience.[49,82–84] Although these strategies are an individual approach to well-being, organizations can provide physicians opportunities to learn and develop these skills to enhance individual resilience.[49,82–84] Among practicing physicians, however, if such offerings are not coupled with meaningful efforts to address unrealistic workload expectations and problems in the practice environment, they are likely to be met with cynicism ("they are trying to imply this is my problem" or "they only want to make me more resilient so they can add to my workload"). Accordingly, it is critical that such offerings are part of a broader strategy that demonstrates the organization has "skin in the game." Flexibility in scheduling has also become an important dimension of job satisfaction for physicians in recent years. This is particularly true as the number of female physicians and physicians in a two-career relationship has increased. Providing physicians the ability to determine when they begin (early start or late start) and end the work day can allow them to more easily meet their personal life responsibilities and goals. Allowing oncologists the option of working less than full time with a commensurate reduction in pay can also help a practice retain talented physicians who may otherwise leave the practice.[85–87] Large medical centers may also be able to provide other resources to assist with work-life integration (e.g., childcare resources), self-care (exercise facilities or coaching), and resources for professional development (leadership training).

Finally, individual resources must be provided for physicians experiencing severe burnout and/or distress in other dimensions. The icon that physicians are super human and concerns about stigma can be barriers to physicians seeking help.[28,88] It is critical that such resources be confidential and, preferably, off-campus/outside the group. Ideally, these resources should be tailored to physicians rather than generic employee assistance programs that do not appreciate the unique challenges experienced by physicians or the repercussions of their burnout for their medical practice. External resources designed specifically to assist physicians experiencing burnout are also provided by some large medical centers such as the Mayo Clinic and available by self-referral (www.mayoclinic.org/physicianhealthcenter).

CONCLUSION

Given their dedication to the care of the oncology patient, the present day oncology clinician is at greatest risk for burnout once work stressors coupled with life pressures exceed the ability to cope. Both the prevention of burnout as well as established burnout must be targeted using effective wellness strategies and interventions at the individual level and organizational level. Such clinician-tailored and organizational-based interventions need to be incorporated systematically into routine oncology care.

References

1. Freudenberger HJ. Staff burn-out. *J Soc Issues*. 1974;30:159-165.
2. Bahrer-Kohler S (ed). *Burnout for Experts: Prevention in the Context of Living and Working*. Berlin: Springer; 2014.
3. Schaufeli WB, Leiter MP, Maslach C. Burnout: 35 years of research and practice. *Career Dev Int*. 2009;14:204-220.
4. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol*. 2001;52:397-422.
5. Cohn KH, Panasuk DB, Holland JC. Workplace burnout. In Cohn KH (ed). *Better Communication for Better Care: Mastering Physician-Administration Collaboration*. Chicago, IL: Health Administration Press, 2005;56-62.

6. Kash KM, Holland JC, Breitbart W, et al. Stress and burnout in oncology. *Oncology (Williston Park)*. 2000;14:1621-1633, discussion 1633-1634, 1636-1637.
7. Holland JC, Brietbart WS, Jacobsen PB, et al. *Psycho-Oncology*. Oxford: Oxford University Press; 2015.
8. Jacobsen PB, Holland JC, Steensma DP. Caring for the whole patient: the science of psychosocial care. *J Clin Oncol*. 2012;30:1151-1153.
9. Trufelli DC, Bensi CG, Garcia JB, et al. Burnout in cancer professionals: a systematic review and meta-analysis. *Eur J Cancer Care (Engl)*. 2008; 17:524-531.
10. Lyckholm L. Dealing with stress, burnout, and grief in the practice of oncology. *Lancet Oncol*. 2001;2:750-755.
11. Kearney MK, Weininger RB, Vachon ML, et al. Self-care of physicians caring for patients at the end of life: "Being connected... a key to my survival". *JAMA*. 2009;301:1155-1164, E1.
12. Shanafelt TD, Sloan JA, Habermann TM. The well-being of physicians. *Am J Med*. 2003;114:513-519.
13. Kakiashvili T, Leszek J, Rutkowski K. The medical perspective on burnout. *Int J Occup Med Environ Health*. 2013;26:401-412.
14. Bourg Carter S. *High Octane Women: How Superachievers Can Avoid Burnout*. Amherst, NY: Prometheus; 2011.
15. Center C, Davis M, Detre T, et al. Confronting depression and suicide in physicians: a consensus statement. *JAMA*. 2003;289:3161-3166.
16. Ramirez AJ, Graham J, Richards MA, et al. Mental health of hospital consultants: the effects of stress and satisfaction at work. *Lancet*. 1996; 347:724-728.
17. Ramirez AJ, Graham J, Richards MA, et al. Burnout and psychiatric disorder among cancer clinicians. *Br J Cancer*. 1995;71:1263-1269.
18. Figley CR. *Compassion Fatigue: Coping With Secondary Traumatic Stress Disorder in Those Who Treat the Traumatized*. New York: Brunner/ Mazel; 2005.
19. Rushton CH, Kaszniak AW, Halifax JS. A framework for understanding moral distress among palliative care clinicians. *J Palliat Med*. 2013;16: 1074-1079.
20. Stebnicki MA. Empathy Fatigue: healing the mind, body, and spirit of professional counselors. *Am J Psych Rehab*. 2007;10:317-338.
21. Shanafelt T, Dyrbye L. Oncologist burnout: causes, consequences, and responses. *J Clin Oncol*. 2012;30:1235-1241.
22. Shanafelt TD, Raymond M, Kosty M, et al. Satisfaction with work-life balance and the career and retirement plans of US oncologists. *J Clin Oncol*. 2014;32:1127-1135.
23. McManus IC, Keeling A, Paice E. Stress, burnout and doctors' attitudes to work are determined by personality and learning style: a twelve year longitudinal study of UK medical graduates. *BMC Med*. 2004;2:29.
24. Alarcon G, Escheleman KJ, Bowling NA. Relationships between personality variables and burnout: a meta-analysis. *Work Stress*. 2009;23: 244-263.
25. Shanafelt TD, Bradley KA, Wipf JE, et al. Burnout and self-reported patient care in an internal medicine residency program. *Ann Intern Med*. 2002;136:358-367.
26. Oreskovich MR, Shanafelt T, Dyrbye LN, et al. The prevalence of substance use disorders in American physicians. *Am J Addict*. 2015;24: 30-38.
27. Tyssen R, Hem E, Vaglum P, et al. The process of suicidal planning among medical doctors: predictors in a longitudinal Norwegian sample. *J Affect Disord*. 2004;80:191-198.
28. Shanafelt TD, Balch CM, Dyrbye L, et al. Special report: suicidal ideation among American surgeons. *Arch Surg*. 2011;146:54-62.
29. World Health Organization. *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. Geneva: World Health Organization; 1992.
30. Bianchi R, Schonfeld IS, Laurent E. Is burnout a depressive disorder? A re-examination with special focus on atypical depression. *Int J Stress Manag*. 2014;21:307-324.
31. Bianchi R, Boffy C, Hingray C, et al. Comparative symptomatology of burnout and depression. *J Health Psychol*. 2013;18:782-787.
32. Kraft U. Burned Out: your job is extremely fulfilling. It is also extremely demanding-and you feel overwhelmed. You are not alone. *Sci Am Mind*. 2006;28-33.
33. Toker S, Melamed S, Berliner S, et al. Burnout and risk of coronary heart disease: a prospective study of 8838 employees. *Psychosom Med*. 2012; 74:840-847.
34. Honkonen T, Ahola K, Pertovaara M, et al. The association between burnout and physical illness in the general population–results from the Finnish Health 2000 Study. *J Psychosom Res*. 2006;61:59-66.
35. Shirom A, Melamed S. Does burnout affect physical health? A review of the evidence. In Alexander-Stamatios AG and Cooper CL (eds). *Research Companion to Organizational Health Psychology*. Cheltenham: Edward Elgar Publishing, 2005;599-622.
36. Maslach C, Jackson SE, Leiter MP. *Maslach Burnout Inventory Manual*, 3rd Ed. Palo Alto: Consulting Psycologist Press; 1996.
37. Dyrbye LN, Satele D, Sloan J, et al. Utility of a brief screening tool to identify physicians in distress. *J Gen Intern Med*. 2013;28:421-427.
38. Allegra CJ, Hall R, Yothers G. Prevalence of burnout in the U.S. oncology community: results of a 2003 survey. *J Oncol Pract*. 2005;1:140-147.
39. Shanafelt TD, Gradishar WJ, Kosty M, et al. Burnout and career satisfaction among US oncologists. *J Clin Oncol*. 2014;32:678-686.
40. Blanchard P, Truchot D, Albiges-Sauvin L, et al. Prevalence and causes of burnout amongst oncology residents: a comprehensive nationwide cross-sectional study. *Eur J Cancer*. 2010;46:2708-2715.
41. Stafford L, Judd F. Mental health and occupational wellbeing of Australian gynaecologic oncologists. *Gynecol Oncol*. 2010;116:526-532.
42. Back AL, Steinhauser K, Kamal A, et al. Building resilience for palliative care clinicians: an approach to burnout prevention based on individual skills and workplace factors. *J Pain Symp Man*. Epub 2016 Feb 24.
43. Killgore WDS. Effects of sleep deprivation on cognition. *Prog Brain Res*. 2010;185:105-129.
44. Barnes DE, Yaffe K, Satariano WA, et al. A longitudinal study of cardiorespiratory fitness and cognitive function in healthy older adults. *J Am Geriatr Soc*. 2003;51:459-465.
45. Rowe MM. Four-year longitudinal study of behavioral changes in coping with stress. *Am J Health Behav*. 2006;30:602-612.
46. Jones MC, Johnston DW. Evaluating the impact of a worksite stress management programme for distressed student nurses: A randomised controlled trial. *Psychol Health*. 2000;15:689-706.
47. Lökk CTJ, Arnetz BB. Impact of management change and an intervention program on health care personnel. *Psychother Psychosom*. 2000;69: 79-85.
48. McCue JD, Sachs CL. A stress management workshop improves residents' coping skills. *Arch Intern Med*. 1991;151:2273-2277.
49. 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.
50. West CP, Dyrbye LN, Rabatin JT, et al. Intervention to promote physician well-being, job satisfaction, and professionalism: a randomized clinical trial. *JAMA Intern Med*. 2014;174:527-533.
51. Rabow MW, Newman M, Remen RN. Teaching in relationship: the impact on faculty of teaching "the Healer's Art". *Teach Learn Med*. 2014; 26:121-128.
52. Clever LH. A call to renew. Doctors who feel ground down can renew their spirits and their values. *BMJ*. 1999;319:1587-1588.

53. Wallace JE, Lemaire J. On physician well being-you'll get by with a little help from your friends. *Soc Sci Med*. 2007;64:2565-2577.

54. Hoff TJ, McCaffrey DP. Adapting, resisting, and negotiating: How physicians cope with organizational and economic change. *Work Occup*. 1996;23:165-189.

55. McFarland DC, Holland J, Holcombe RF. Inpatient hematology-oncology rotation is associated with a decreased interest in pursuing an oncology career among internal medicine residents. *J Oncol Pract*. 2015;11: 289-295.

56. Back AL, Safyan RA, Edwards KA. What residents learn from inpatient hematology-oncology: a call to rebuild a community of practice. *J Oncol Pract*. 2015;11:296-297.

57. Shanafelt TD, Balch CM, Bechamps G, et al. Burnout and medical errors among American surgeons. *Ann Surg*. 2010;251:995-1000.

58. Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet*. 2009;374:1714-1721.

59. West CP, Huschka MM, Novotny PJ, et al. Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. *JAMA*. 2006;296:1071-1078.

60. Jones JW, Barge BN, Steffy BD, et al. Stress and medical malpractice: organizational risk assessment and intervention. *J Appl Psychol*. 1988; 73:727-735.

61. Shanafelt T, Sloan J, Satele D, et al. Why do surgeons consider leaving practice? *J Am Coll Surg*. 2011;212:421-422.

62. Atkinson W, Misra-Hebert A, Stoller JK. The impact on revenue of physician turnover: an assessment model and experience in a large healthcare center. *J Med Pract Manage*. 2006;21:351-355.

63. Dewa CS, Loong D, Bonato S, et al. How does burnout affect physician productivity? A systematic literature review. *BMC Health Serv Res*. 2014;14:325.

64. Dewa CS, Jacobs P, Thanh NX, et al. An estimate of the cost of burnout on early retirement and reduction in clinical hours of practicing physicians in Canada. *BMC Health Serv Res*. 2014;14:254.

65. Buchbinder SB, Wilson M, Melick CF, et al. Estimates of costs of primary care physician turnover. *Am J Manag Care*. 1999;5:1431-1438.

66. Shanafelt TD, West CP, Sloan JA, et al. Career fit and burnout among academic faculty. *Arch Intern Med*. 2009;169:990-995.

67. Shanafelt TD, Boone SL, Dyrbye LN, et al. The medical marriage: a national survey of the spouses/partners of US physicians. *Mayo Clin Proc*. 2013;88:216-225.

68. Shanafelt TD, Kaups KL, Nelson H, et al. An interactive individualized intervention to promote behavioral change to increase personal well-being in US surgeons. *Ann Surg*. 2014;259:82-88.

69. West CP, Dyrbye LN, Sloan JA, et al. Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med*. 2009;24:1318-1321.

70. Shanafelt TD, Hasan O, Dyrbye LN, et al. Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clin Proc*. 2015;90: 1600-1613.

71. Swenson SJ, Kabcenell A, Shanafelt TD. Physician-organization collaboration to reduce physician burnout and promote engagement: the Mayo Clinic experience. *J Healthc Manag*. In press.

72. Shanafelt TD, Gorringe G, Menaker R, et al. Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clin Proc*. 2015; 90:432-440.

73. The Joint Commission. Use of Unlicensed Persons Acting as Scribes. http://www.jointcommission.org/standards_information/jcfaqdetails.aspx?StandardsFaqId=426&ProgramId=47. Accessed February 27, 2016.

74. Reuben DB, Knudsen J, Senelick W, et al. The effect of a physician partner program on physician efficiency and patient satisfaction. *JAMA Intern Med*. 2014;174:1190-1193.

75. Shultz CG, Holmstrom HL. The use of medical scribes in health care settings: a systematic review and future directions. *J Am Board Fam Med*. 2015;28:371-381.

76. Hopkins K, Sinsky CA. Team-based care: saving time and improving efficiency. *Fam Pract Manag*. 2014;21:23-29.

77. Anderson RJ. Optimizing the role of nursing staff to enhance physician productivity: one physician's journey. *Fam Pract Manag*. 2013;20: 18-22.

78. Anderson P, Halley MD. A new approach to making your doctor-nurse team more productive. *Fam Pract Manag*. 2008;15:35-40.

79. Sinsky CA, Willard-Grace R, Schutzbank AM, et al. In search of joy in practice: a report of 23 high-functioning primary care practices. *Ann Fam Med*. 2013;11:272-278.

80. Bruce SM, Conaglen HM, Conaglen JV. Burnout in physicians: a case for peer-support. *Intern Med J*. 2005;35:272-278.

81. West CP, Dyrbye LN, Satele D, et al. A randomized controlled trial evaluating the effect of COMPASS (COlleagues Meeting to Promote and Sustain Satisfaction) small group sessions on physician well-being, meaning, and job satisfaction. *J Gen Intern Med*. 2015; 30:S89.

82. Beckman HB, Wendland M, Mooney C, et al. The impact of a program in mindful communication on primary care physicians. *Acad Med*. 2012; 87:815-819.

83. Charon R. The patient-physician relationship. Narrative medicine: a model for empathy, reflection, profession, and trust. *JAMA*. 2001;286: 1897-1902.

84. Shanafelt TD. Enhancing meaning in work: a prescription for preventing physician burnout and promoting patient-centered care. *JAMA*. 2009; 302:1338-1340.

85. Mechaber HF, Levine RB, Manwell LB, et al; MEMO Investigators. Part-time physicians...prevalent, connected, and satisfied. *J Gen Intern Med*. 2008;23:300-303.

86. Harrison RA, Gregg JL. A time for change: an exploration of attitudes toward part-time work in academia among women internists and their division chiefs. *Acad Med*. 2009;84:80-86.

87. Levine RB, Harrison RA, Mechaber HF, et al. Professional characteristics and job satisfaction among SGIM members: a comparison of part-time and full-time physician members. *J Gen Intern Med*. 2008; 23:1218-1221.

88. Balch CM, Shanafelt TS. Dynamic tension between success in a surgical career and personal wellness: how can we succeed in a stressful environment and a "culture of bravado"? *Ann Surg Oncol*. 2011;18: 1213-1216.