



# Perspectives on Healthcare Provider Well-Being: Looking Back, Moving Forward

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## Abstract

Recognizing the impact of healthcare professional (HCP) burnout has led to vigorous interest from organizations and individuals regarding how to most effectively promote HCP well-being. The present paper reviews the literature on HCP well-being and describes factors that impact well-being at various levels (i.e., system, institution, program, interpersonal, and individual). We propose that change must occur at all levels to have the greatest impact. Further, we highlight opportunities to advance research on HCP well-being (e.g., being more inclusive regarding study populations and designing longitudinal intervention studies).

**Keywords** Burnout · Well-being · Wellness · Resilience

## Introduction

The phenomenon of burnout and provider wellness across healthcare professions is of national concern. Work-related stress is pervasive and affects diverse healthcare professionals (HCPs) working in different clinical settings such as physicians across subspecialties and career stages (Dyrbye et al., 2013; Shanafelt et al., 2012), nursing (Branch & Klinkenberg, 2015; Jesse, Abouljoud, Hogan, & Eshelman, 2015; Rees et al., 2016), physician assistants (Benson et al., 2016), pharmacists (Mott, Doucette, Gaither, Pedersen, & Schommer, 2004), and others. The majority of studies on HCP burnout have been conducted with physicians, and data on other groups, including psychologists, are more limited (Dyrbye et al., 2017); given the increasingly collaborative environment of interprofessional teams, the well-being of all HCPs on the team is important to consider. Burnout, most

commonly measured by the Maslach Burnout Inventory (Maslach & Jackson, 1981) involves feelings of depersonalization or cynicism, emotional exhaustion, and reduced self-efficacy. Wellness, on the other hand, involves “self-awareness and healthy choices resulting in a successful, balanced lifestyle” (Eckleberry-Hunt, Van Dyke, Lick, & Tucciarone, 2009, p. 227) and “being challenged, thriving, and achieving success in various aspects of personal and professional life” (Shanafelt, 2003, p. 514). As yet, there is no widely accepted measure of well-being as there is with burnout.

The consequences of HCP burnout are serious and include reductions in patient satisfaction (Moss, Good, Gozal, Kleinpell, & Sessler, 2016) and provider empathy (Haramati, Cotton, Padmore, Wald, & Weissinger, 2017) and increases in medical errors (Hall, Johnson, Watt, Tsipa, & O’Connor, 2016) and patient safety concerns (Chuang, Tseng, Lin, Lin, & Chen, 2016). Stress and burnout contribute to lower productivity, more absences, and lower retention rates resulting in higher turnover, in addition to rising employee healthcare costs due to stress-related physical and emotional conditions, all adding up to significant costs for a healthcare system (Dewa, Jacobs, Thanh, & Loong, 2014; Moss et al. 2016; Waldman, Kelly, Arora, & Smith, 2004). Thus, it is clear that healthcare cannot continue as usual without attending to the health of the workforce; indeed, the Quadruple Aim holds HCP well-being as a prerequisite for success (Bodenheimer & Sinsky, 2014).

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Although much attention has been paid to individual factors related to burnout and wellness, the etiology of these conditions in HCPs is multi-factorial, and therefore, interventions to mitigate burnout and promote well-being also must consider different factors. Sources of stress include increasing clinical workloads (Tayfur & Arslan, 2013), frenzied workplaces (Linzer et al., 2017), longer work hours (Ozyurt, Hayran, & Sur, 2006), unsupportive work environments (Jesse, Abouljoud, & Eshelman, 2016), and administrative burdens from duplicative documentation, electronic health record processes, and payor forms (Linzer et al., 2017; Van Dyke & Seger, 2013). Shrinking budgets (Saver, 2009), salary and benefit reductions (Saver, 2009), insufficient support staff, and perceived low levels of control over policy, procedure, scheduling, or other administrative decisions (Linzer et al., 2017) compound the stress. Finally, personal risk factors for burnout include younger age, fewer years of experience, having an external locus of control, and female gender (Craig & Sprang, 2010; Schaufeli, 2007). As such, models to understand burnout and well-being are being revised to allow for a more holistic understanding of how multiple influences work together to impact employee well-being. A popular model is the Areas of Worklife model (Leiter & Maslach, 2003); this framework includes six domains to consider when predicting burnout and well-being: workload (i.e., too many job demands), control (having autonomy and resources to meet demands), presence of appropriate rewards or recognition, a cohesive work community, perceived fairness with regard to decision-making, and values alignment between employee and organization.

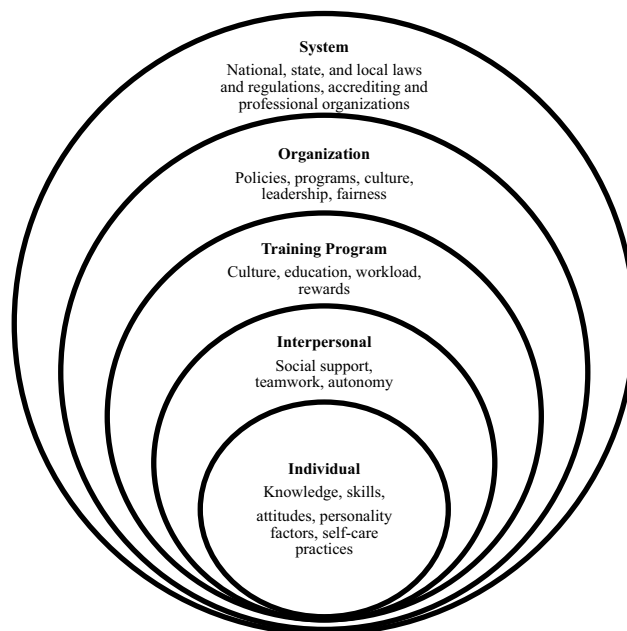
Current opinions on HCP well-being are consistent with the factors proposed in the Areas of Worklife theory; Shanafelt and Noseworthy (2016) add to this model by highlighting roles and responsibilities for addressing well-being at different levels of healthcare (i.e., individual, team, organization, and national). For example, meaning in work may be affected positively by local opportunities for professional development or negatively by decreased funding nationally for research. A supportive work community can be engendered by the presence of a physician lounge that facilitates connecting with colleagues. Similarly, the Institute for Healthcare Improvement (IHI; Perlo et al., 2017) outlines the roles of senior leaders, managers, and individuals in their Framework for Improving Joy in Work, considering such needs as choice and autonomy, recognition and rewards, and daily improvement. Mahan (2017) also calls for solutions involving systems changes and continued personal development of coping skills to mitigate burnout, reflecting multiple perspectives.

Consistent with results of the most recent literature and calls for action by others (i.e., Leiter & Maslach, 2003; Mahan, 2017; Perlo et al., 2017; Shanafelt & Noseworthy, 2016), our belief is that the nature and scope of HCP

well-being indicate interventions at multiple levels. We propose that well-being can be best understood within a model that reflects different perspectives or intervention points within complex systems (see Fig. 1), similar to Bronfenbrenner's (1994) ecological model. The remainder of the current manuscript provides a review of influences on well-being and interventions to address burnout and promote wellness within the context of this model, organized from the system level down to the individual level. The interventions presented herein are not meant to be an exhaustive list of strategies to reduce burnout and promote wellness but rather reflect the current state of the literature on provider well-being albeit appreciating that most of the published literature focuses on the physician workforce. They will be discussed at the level in which they have the most empirical support, with mention at other levels of impact where appropriate. Throughout, we will highlight needs that can be filled by psychologists working in academic health centers (AHCs).

### Multi-level Model of HCP Well-Being

Systems set the tone for HCP well-being, though may be the most difficult to change. System factors in well-being include laws, policies, and initiatives promoted by national organizations. At this level, efforts to reduce burnout or promote well-being would flow from policymakers (e.g., dealing with reimbursement), accrediting bodies (which have functions at national and state levels), and professional organizations, creating the circumstances within which



**Fig. 1** Multi-level model of influences on healthcare professional well-being

organizations, training programs, and individuals function. Organizational factors include leadership support and local policies and culture within an AHC. Program-level interventions focus primarily on the learning environment and curricula in graduate health professions training programs. Interpersonal influences on well-being include functioning of interprofessional teams, collegiality, and maintaining meaningful connections both at and outside of work. Finally, individual interventions to promote well-being often involve developing certain skills, attitudes, and practices.

There are no distinct boundaries between the levels, as many of these influences are highly matrixed. Although some stressors may be attributed primarily to environmental factors, when those factors cannot be changed or are an inherent part of the work, responses that are focused on individual coping skills may be more effective (Jesse et al., 2016). Further, many interventions that aim to promote individual use of skills require support from a healthcare organization to be implemented, as well as a cultural shift in how healthcare approaches provider well-being (Beckman, 2015; Perlo et al., 2017). For example, the cultivation of resilience has been highlighted as a necessary endeavor to improve HCP well-being (Rakesh, Pier, & Costales, 2017). Interventions to enhance resilience require input at all levels—from acknowledgement within a medical culture of the legitimacy and need for attention to resilience, availability of resources offered by a healthcare system, a formal curriculum implemented by a training program, engagement of social supports, and individual practice of skills (Brennan & McGrady, 2015; Perlo et al., 2017).

## System

The individual, training program, and healthcare organization interventions discussed herein will have limited effectiveness if these entities continue to exist within systems and cultures that are unwell. A medical culture that prioritizes high volumes of work over self-care, does not seriously consider employee input or recognize employee dedication or contributions, and stigmatizes help-seeking does not facilitate HCP well-being. Larger-scale initiatives must focus on system factors that are contributing to HCP burnout, such as reimbursement, meaningful use requirements, burdensome documentation systems, insurance hassles, and funding for research and other programs (Noseworthy et al., 2017; Shanafelt & Noseworthy, 2016). When experiencing distress or impairment, physicians, psychologists, and other HCPs must be able to receive mental health treatment without facing significant reporting burdens, costly monitoring by state physician health programs, or other penalties or professional liabilities (Bearse, McMinn, Seegobin, & Free, 2013; Lenzer, 2016). Yet, reducing hassles will not be enough to truly improve HCP well-being; entities and individuals at

all levels also must consider those aspects that contribute to HCP satisfaction and purpose (Herzberg, Mausner, & Snyderman, 1959; Leiter & Maslach, 2003; Perlo et al., 2017).

To this end, major national professional organizations are getting involved. For example, the Accreditation Council on Graduate Medical Education (ACGME, 2017) has outlined specific elements of resident and faculty well-being that must be addressed in its common program requirements and has begun sponsoring a national symposium and other educational programs related to physician well-being. The American Medical Association, with its Steps Forward initiative, and the Association of American Medical Colleges offer online resources to support well-being in medical settings; in addition, the American Psychological Association offers many resources on self-care and resilience. The National Academy of Medicine has formed an Action Collaborative on Clinician Well-being and Resilience which aims to “assess and understand the underlying causes of clinician burnout and suicide, and advance solutions that reverse the trends in clinician stress, burnout, and suicide” (National Academy of Medicine, n.d.). The IHI calls for well-being to be included as a core organizational metric to underscore the importance of it for all healthcare employees (Perlo et al., 2017). Additionally, many national conferences hosted by professional organizations are offering workshops or talks on improving well-being. Perhaps these initiatives reflect a changing culture that attends to the health of the healthcare provider; at the very least, they continue to focus attention on the issues. To continue the progress being made toward HCP well-being, professional organizations and national leaders in healthcare must advocate for solutions to some of the most commonly cited contributors to burnout, such as optimizing technology, advancing team-based models of care, and reducing documentation and regulatory burdens, and publicize success stories of organizations who are making significant improvements in HCP well-being (Noseworthy et al., 2017). Given that there is a dearth of information on psychologist burnout, national leaders in our field should seek to understand the current well-being of psychologists in AHCs and what may need to be done to maintain or improve it. Additionally, it would be ideal to have a well-being statement from the American Psychological Association included with the other organizational commitment statements on the National Academy of Medicine’s clinician well-being site.

## Organization

The impacts of HCP burnout create ripples throughout a healthcare system, from patient care to operating costs. Healthcare institutions such as AHCs can impact individual and organizational well-being in how they shape the culture around wellness through diverse programs and advocacy from those in leadership. Using a positive psychology model

such as PERMA can help guide culture change (Slavin, Schindler, Chibnall, Fendell, & Shoss, 2012).

Regarding sponsored wellness programs, many institutions are exploring ways to implement and enhance wellness programs. For example, the Stanford Medicine Physician Wellness Task Force (2015) outlines plans to promote physician wellness, including creating a Center for Wellness and Professional Fulfillment, implementing pilot programs, tracking provider wellness annually at the institution level, creating institutional policy and procedural changes that impact the causes of stress, and providing leadership and funding for programs. Other common institution-sponsored wellness programs include offerings to promote emotional and physical well-being. Many institutions are offering similar informational content, recent research, and institutional and/or national resources for these domains via intranet or internet sites. While a complete review of institutional programs is not the intent for this manuscript, we provide a brief overview here.

Employee assistance programs are institutions' primary steps toward addressing emotional burnout-related symptoms, but often they focus on treatment and not health promotion/prevention. Emotional health screenings that may lead to earlier intervention, supportive debriefings regarding difficult events or traumas, and proactive screening and support for suicidal ideation also have a place (Eckleberry-Hunt & Lick, 2015). *Finding Meaning in Medicine* (with groups for physicians, nurses, and other HCPs; Schwartz Rounds, and other educational and supportive groups and retreats are popular offerings to address the distress associated with providing healthcare and increase meaning in work. These programs also have benefits for interpersonal well-being by improving a sense of connection, teamwork, communication, and support among the healthcare team (Lown & Manning, 2010).

Healthcare professionals are more effective in promoting healthy lifestyles to patients if they can model positive health behaviors themselves (Frank, 2004). On-site support for health behavior changes (e.g., smoking cessation, weight loss) can improve engagement and outcomes (Goetzel & Ozminkowski, 2008). Opportunities for physical fitness may seem difficult to schedule for busy HCPs; worksite wellness facilities can remove some barriers and result in increased engagement in physical activity among HCPs (Abu Dabrh, Gorty, Jenkins, Murad, & Hensrud, 2016). On-site urgent care clinics for providers can minimize the impact of illness on work and reduce stress related to taking time off for their own healthcare.

Often overlooked in AHCs are programs to enhance faculty vitality (Pololi et al., 2015). Faculty development programs have the opportunity to highlight diverse stress management techniques and build skills and relationships to enhance resilience in individuals and strengthen the

workforce; psychologists in AHCs can help to inform these programs.

In addition to the aforementioned programs, supportive immediate leadership has a considerable impact on individual burnout by, for example, facilitating provider involvement in decision-making, providing support, and modifying work schedules. Leadership at an organization's executive level can impact work force burnout by improving communication pathways, redesigning work shifts, mentoring, developing trust, and supporting a shared governance model (Duncan et al., 2016; Shanafelt, Gorringer et al., 2015; Shanafelt & Noseworthy, 2016). Leaders also have the power to impact human resource policy changes. For example, inadequate time off routinely is cited among the top contributors to burnout (Van Ham, Verhoeven, Groenier, Groothoff, & De Haan, 2006), and surveys indicate high rates of presenteeism (working while sick) and difficulty taking time off to see a physician (Jena, Baldwin, Daugherty, Meltzer, & Arora, 2010); thus, leaders can develop policies surrounding sick leave, time off, and maternity leave to ensure that they are not overly restrictive and contributing unnecessarily to burnout (Duncan et al., 2016). Leaders at the highest level who passionately advocate for the wellness of the workforce and model healthy behaviors themselves can significantly impact the cultural milieu (Maslach & Leiter, 2017; Rahman, Abdul-Mumin, & Naing, 2016). Further, leadership that engages and partners with the healthcare workforce can decrease burnout and increase satisfaction (Swensen, Kabcenell, & Shanafelt, 2016). Noseworthy et al. (2017) call for healthcare CEOs to support research regarding which programs or interventions are most effective for promoting HCP well-being within their respective institutions; certainly psychologists working in AHCs could bring a desirable skill set in developing and evaluating these programs.

## Training Program

Emphasis on trainee wellness has received significant attention, perhaps because of the professional identity and health habits that are formed during this crucial time, as well as highly publicized medical student and physician resident suicides (Bond, 2017; Sinha, 2014). While the field at large has indicated stable patterns in how burnout changes over time in residency and how factors such as sleep and duty hour restrictions affect burnout, there is less research on evidence-based practices to promote wellness among trainees (Eckleberry-Hunt, Kirkpatrick, & Hunt, 2017).

Medical education is beginning to examine how individual, program, and system changes can effect change in the wellness of physicians beginning at the training level. Research in individual methods of decreasing burnout and improving wellness tends to focus on mindfulness and reflection training (cf. Goldhagen, Rosdahl, Kingsolver, &

Stinnett, 2015), cognitive strategies (Regehr, Glancy, Pitts, & LeBlanc, 2014), and resilience building (cf. Rakesh et al., 2017; Saadat, Snow, Ottenheimer, Dai & Kain, 2012). The use of Balint groups or support groups are popular ways to address distress and deliver content, space for reflection, and support (Branch, 2010; Fortenberry, Van Hala, & Frost, 2017). Recognizing the importance of sleep and when one is fatigued is crucial for patient safety and is required as part of resident education; many institutions use the American Academy of Sleep Medicine's SAFER (Sleep Alertness and Fatigue Education in Residency) program to promote education about fatigue management.

With respect to other health professions training programs, psychoeducational interventions promoting self-care may help to reduce burnout among nursing students (Kravits, McAllister-Black, Grant, & Kirk, 2010). Many psychology graduate programs lack clear guidance or emphasis on self-care, despite the acknowledgement that self-care falls under a psychologist's ethical responsibilities as part of maintaining competence (Barnett, Baker, Elman, & Schoener, 2007; Wise, Hersh, & Gibson, 2012); thus, programs should be more proactive and offer more support for self-care, beyond encouraging trainees to engage in personal psychotherapy (Bamonti et al., 2014). For example, psychologists working in AHCs with psychology trainees could incorporate discussions of self-care into supervision meetings to reinforce healthy boundaries and encourage leisure time activity.

Kumar (2016) appropriately cautions that too much focus on the individual does not work toward change in the work environment. As such, there is increasing call and action toward culture change regarding wellness practices in physician residency training (ACGME, 2017). As important as formal well-being curricula is the "hidden curriculum." Medical residents who witness unprofessional behaviors being modeled by attendings are more likely to report cynicism and depersonalization (Billings, Lazarus, Wenrich, Curtis, & Engelberg, 2011); conversely, those who report feeling supported by attending faculty also report greater well-being (Gonzalez, Gentile, Angstman, Craner, & Bonacci, 2017). The overall educational environment must be supportive and respectful to best facilitate learning and growth (Brown, Chapman & Graham, 2007). In addition, as residencies do not exist within a vacuum, residents may benefit from hospitals' or organizations' efforts to reduce healthcare burnout and increase employee engagement.

## Interpersonal

For many HCPs, the desire to help others was a primary motivating factor in career choice. Healthcare is inherently interpersonal, which presents both challenges and opportunities for fulfillment (Gaither & Nadkarni, 2012). Healthy relationships and social support, longtime indicators of life

satisfaction, also top the lists of key factors for physician wellness (Bogue, Guarneri, Reed, Bradley, & Hughes, 2006; Raj, 2016). Receiving praise, feeling valued, effective teamwork, having supervision or mentorship to assist growth, social outings, and being able to have some autonomy and set boundaries contribute to HCP wellness (Raj, 2016; Shanafelt, Gorringer et al., 2015; Sim, Zanardelli, Loughran, Mannarino, & Hill, 2016).

On the flip side, lacking supportive supervisors, effective team functioning, and mentorship can contribute to burnout. With respect to physicians, many behavioral issues (often termed "disruptive behaviors") may be related to the work environment and low levels of support. In our experience, these disruptive behaviors are usually solely addressed as individual behaviors without examining the role of the work environment. The cost of the disruptive behaviors in both resources and lost productivity on the part of the medical team would seem to be high (Rosenstein, Russell, & Lauve, 2002).

Programs that aim to increase peer support can decrease emotional distress, particularly when made available following adverse events (Shapiro & Galowitz, 2016). High-functioning healthcare teams that communicate well and have organized methods of delivering care not only provide better care but also manage conflict better, are more innovative, and may experience lower risk for burnout (Deneckere et al., 2013; Martinussen, Adolfsen, Lauritzen, & Richardsen, 2012; Willard-Grace et al., 2014). The Back to Bedside initiative (Hipp, Rialon, Nevel, Kothari, & Jardine, 2017), reflecting an approach at the organization, program, and interpersonal levels, proposes that trainees' learning experiences can be enhanced by focusing on several key interpersonal factors: spending less time on clerical duties in favor of more time interacting with patients, developing healthy working relationships within interprofessional teams, and working and learning within a supportive, collegial environment.

## Individual

A variety of individual strategies to improve wellness have been studied with HCPs. One that has received a notable amount of interest is resilience. According to Epstein and Krasner (2013), "resilient individuals not only 'bounce back' rapidly after challenges but also grow stronger in the process" (p. 301). Multiple authors report that HCPs reporting lower levels of burnout attended to particular resilience practices (e.g., leisure time activity, maintaining supportive relationships, taking time off, engaging in pursuits outside of medicine, prioritizing basic needs, cultivating spirituality) and attitudes (e.g., acceptance, gratitude, curiosity) (Jackson, Firtko, & Edenborough, 2007; Lemaire & Wallace, 2010; Zwack & Schweitzer, 2013). Ways to promote

resilience may include the use of reflective questions during teaching rounds, mindful practice seminars, and journaling (Epstein & Krasner, 2013; Jackson et al., 2007). Although “Three Good Things” is a popular gratitude practice and has shown benefits in general populations, there is limited empirical support for its role in improving physician well-being (Hershberger, 2005; Wise et al., 2012).

Mindfulness, increasingly popular for improving life satisfaction, also is being studied vis-à-vis HCP well-being. The self-awareness that is engendered by mindfulness practices is key to understanding and responding effectively to distress by appropriately engaging in self-care (Kearney, Weininger, Vachon, Harrison, & Mount, 2009). Self-compassion, an important component of many mindfulness practices, has been associated with well-being (Barnard & Curry, 2011; Boellinghaus, Jones, & Hutton, 2014). In studies of HCPs, mindfulness has been found to be helpful in improving physician and nurse wellness (Amutio, Martinez-Taboada, Hermosilla, & Delgado, 2015; Fortney, Lucherband, Zakletskaia, Zgierska, & Rakel, 2013; Goldhagen et al., 2015; Mackenzie, Poulin, & Seidman-Carlson, 2006) and subsequently may enhance empathy (Lamothe, Rondeau, Malbouef-Hurtubsie, Duval, & Sultan, 2016). From a leadership perspective, physician leaders who are trained in mindfulness practices and how to teach them to others may model a mindful approach to colleagues, thereby helping to create a more mindful workplace (Luchterhand et al., 2015).

Enhancing self-awareness, whether through mindfulness practice or other interventions, is necessary for personal growth. For example, there is some evidence that, for physicians, raising awareness of unprofessional behavior leads to self-regulation and positive behavior change (Hickson, Pichert, Webb, & Gabbe, 2007). Self-reflection also is important in recognizing when certain positive qualities are no longer functional. Some behaviors or attitudes that serve adaptive functions for HCPs (e.g., compassion, commitment to service) also can be maladaptive in extremes (e.g., over-identifying with patient distress, neglecting self-care), leading to symptoms of burnout (e.g., isolation, emotional exhaustion, compassion fatigue) (Nedrow, Steckler, & Hardman, 2013). Being able to calibrate one’s own set of unique tools and attributes has the potential to decrease burnout. This may be especially important for HCPs working extensively with trauma (Craig & Sprang, 2010).

At times, individual wellness is less about learning new skills and more about learning to be flexible with the skills, beliefs, and attitudes one already possesses. Whereas work–life balance once was the ultimate goal, more recent thoughts on managing professional and personal responsibilities suggest that the work–life balance concept actually may create more stress, as it suggests that one must hold rigid boundaries between work life and personal life; a more

flexible approach to creating boundaries between competing roles—called work–life integration—may be more adaptive (Morris & Madsen, 2007; Shanafelt & Noseworthy, 2016). Further, being able to tap into psychological flexibility and choose value-directed actions in various life domains is associated with lower burnout among HCPs (Villardaga et al., 2011). Integrating any of these practices into daily life and routines may make a regular practice seem more feasible as opposed to viewing self-care as another task on the to-do list (Wise et al., 2012).

## Discussion

As illustrated by multiple national prevalence studies, HCP burnout is a serious concern across professional groups (Benson et al., 2016; Branch & Klinkenberg, 2015; Jesse et al., 2015; Mott et al., 2004; Rees et al., 2016; Shanafelt et al., 2012). Given the state of the healthcare workforce and the costs of burnout, increasing attention has been paid to improving HCP well-being. Current research points to approaches that incorporate interventions at multiple levels; we propose consideration of system, organization, training program, interpersonal, and individual roles in HCP well-being.

Drawing on the literature and our collective experience with addressing the well-being of HCPs illuminates a few key points. First, efforts focused on individuals only will have limited impact; improving the well-being of our healthcare workforce will require advocacy at multiple levels (Perlo et al., 2017; Shanafelt & Noseworthy, 2016; Slavin et al., 2012; West, Dyrbye, Erwin, & Shanafelt, 2016). Thus far, research has been concentrated mostly on individual and residency program interventions. Second, when implementing interventions locally, it can be helpful to offer a variety of programs and different methods of delivery; what improves the well-being of one individual will not necessarily be effective for another (Goetzl & Ozminkowski, 2008). Resilience and mindfulness training are among the interventions that have received the most empirical attention, but there is room to implement and study other strategies to improve well-being. Given that definitions of well-being are multi-faceted, so too should be programs to enhance well-being, considering physical, emotional, spiritual, social, and intellectual aspects. Finally, buy-in from leadership and other key stakeholders is crucial to success; whether providing resources (e.g., funding, time) or public support for programs, their involvement and engagement must be cultivated and considered a core function of their leadership role (Perlo et al., 2017). Routinely monitoring HCP burnout, wellness, and related performance and system financial metrics can motivate healthcare leaders to take an active role in addressing HCP well-being (Noseworthy et al., 2017).

Implementing interventions to improve HCP well-being is not without barriers. Leaders may be frustrated by limited returns on investment in the short-term and low employee engagement in programs. Finding funding in a tight budgetary climate at AHCS is a real challenge. Strategic approaches for funding requests are needed. For example, linking professional wellness to recruitment/retention can be helpful. Alternatively, linking wellness to key institutional initiatives such as the impact on patient safety or the move toward value-based, collaborative team-based practice may garner financial support for efforts that can show diverse impact. Another funding approach might be to start with trainees and/or early career professionals with evidence-based burnout prevention initiatives which are less costly than intervention options. Finally, linking physical health to rising healthcare costs for employees across the institution could successfully link improving health and wellness to reduced healthcare costs which could off-set the funding needed for a professional wellness program.

Regarding employee engagement, it is important to start with a needs assessment to understand what interventions are indicated or most desired by the individuals to whom they will be delivered. Utilizing strong behavioral theories to guide worksite wellness programs can result in more effective programs (Goetzel & Ozminkowski, 2008). Again, there is a clear role for psychologists here. Drawing on experience, it can be helpful for psychologists to partner with respected physician leaders to engage other leadership and encourage HCP participation in needs assessments and programs that are being offered.

In sum, flexible, tailored approaches that are supported by the available evidence should be carefully considered by stakeholders at multiple levels and implemented systematically to address HCP well-being. Psychologists bring many relevant skills to improving well-being, from assessment to developing, delivering, and evaluating interventions; roles in advocating for policy changes should not be overlooked.

### Limitations and Future Directions

A major limitation in the burnout and well-being literature is the focus primarily on one professional or trainee group (i.e., medical students, residents, and physicians). Although many strategies to enhance well-being may apply equally to all HCPs, it has been helpful to consider physician well-being uniquely, as physicians traditionally have been elevated in the hierarchy of healthcare occupations and may be experiencing more drastic changes in terms of autonomy and practice in the changing healthcare landscape (Lathrop, 2017). However, this has left a missed opportunity to assess how organization-level and system-level changes impact the culture at AHCs and benefit professionals across HCP groups. Future research could address these gaps by broadening the

study population to include psychologists, physician assistants, pharmacists, and other members of the healthcare team. Further, as many of the initial studies focused solely on burnout, there is much to be discovered about other states of well-being (e.g., Eckleberry-Hunt et al., 2017). Thus, the literature on HCP well-being would be advanced by measuring other positive psychological and professional states in addition to burnout. In addition, there is a paucity of research regarding ethnic and gender differences in HCP burnout and wellness. Many measures of burnout center on emotional exhaustion, which may lead to females being identified inaccurately as burned out at higher rates than males (Purvanova & Muros, 2010). Gender, racial, and other cultural differences should be explored within more diverse study samples. Finally, many of the interventions described herein have been implemented but not fully evaluated in medical settings. To strengthen the science of HCP well-being, research must move beyond surveys to study impacts of wellness interventions and practices. Evaluation of successful programs should occur not only at the individual level but also at organizational levels and should be tracked longitudinally. Given psychologists' training in many of the principles and practices being studied (e.g., mindfulness, cognitive flexibility, interpersonal and communication patterns, interprofessional education and care) and strong research backgrounds, our professional group is well suited to spearhead designing, implementing, and tracking outcomes from different programs and initiatives.

### Compliance with Ethical Standards

**Conflict of interest** The authors Lauren Penwell-Waines, Wendy Ward, Heather Kirkpatrick, Patrick Smith and Marwan Abouljoud declares that they do not have conflict of interest.

**Human and Animal Rights and Informed Consent** No human or animal studies were performed by the authors for this article.

### References

- Abu Dabrh, A. M., Gorty, A., Jenkins, S. M., Murad, M. H., & Hensrud, D. D. (2016). Health habits of employees in a large medical center: Time trends and impact of a worksite wellness facility. *Scientific Reports*. <https://doi.org/10.1038/srep20804>.
- Accreditation Council on Graduate Medical Education. (2017). *Common Program Requirements Section VI*. Retrieved June 6, 2017, from [http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRs\\_Section%20VI\\_with-Background-and-Intent\\_2017-01.pdf](http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRs_Section%20VI_with-Background-and-Intent_2017-01.pdf).
- Amutio, A., Martinez-Taboada, C., Hermosilla, D., & Delgado, L. C. (2015). Enhancing relaxation states and positive emotions in physicians through a mindfulness training program: A one-year study. *Psychology, Health, & Medicine*, 20, 720–731.
- Bamonti, P. M., Keelan, C. M., Larson, N., Mentrikoski, J. M., Randall, C. L., Sly, S. K., ... McNeil, D. W. (2014). Promoting ethical behavior by cultivating a culture of self-care during graduate

- training: A call to action. *Training and Education in Professional Psychology*, 8, 253–260.
- Barnard, L. K., & Curry, J. F. (2011). Self-compassion: Conceptualizations, correlates, & interventions. *Review of General Psychology*, 15, 289.
- Barnett, J. E., Baker, E. K., Elman, N. S., & Schoener, G. R. (2007). In pursuit of wellness: The self-care imperative. *Professional Psychology Research and Practice*, 38, 603.
- Bearse, J. L., McMin, M. R., Seegobin, W., & Free, K. (2013). Barriers to psychologists seeking mental health care. *Professional Psychology: Research & Practice*, 44, 150–157.
- Beckman, H. (2015). The role of medical culture in the journey to resilience. *Academic Medicine*, 90, 710–712.
- Benson, M. A., Peterson, T., Salazar, L., Morris, W., Hall, R., Howletter, B., & Phelps, P. (2016). Burnout in rural physician assistants: An initial study. *The Journal of Physician Assistant Education*, 27, 81–83.
- Billings, M., Lazarus, M. E., Wenrich, M., Curtis, J. R., & Engelberg, R. A. (2011). The effect of the hidden curriculum on resident burnout and cynicism. *Journal of Graduate Medical Education*, 3, 503–510.
- Bodenheimer, T., & Sinsky, C. (2014). From triple to quadruple aim: Care of the patient requires care of the provider. *Annals of Family Medicine*, 12, 573–576.
- Boellinghaus, I., Jones, F. W., & Hutton, J. (2014). The role of mindfulness and loving-kindness meditation in cultivating self-compassion and other-focused concern in health care professionals. *Mindfulness*, 5, 129–138.
- Bogue, R. J., Guarneri, J. G., Reed, M., Bradley, K., & Hughes, J. (2006). Secrets of physician satisfaction. Study identifies pressure points and reveals life practices of highly satisfied doctors. *Physician Executive*, 32, 30–38.
- Bond, A. (2017). *Medical student's death highlights high rates of physician suicides*. Retrieved from <http://abcnews.go.com/Health/medical-students-death-highlights-high-rates-physician-suicides/story?id=47006198>.
- Branch, C., & Klinkenberg, D. (2015). Compassion fatigue among pediatric healthcare providers. *The American Journal of Maternal/Child Nursing*, 40, 1–7.
- Branch, W. (2010). The road to professionalism: Reflective practice and reflective learning. *Patient Education and Counseling*, 80, 327–332.
- Brennan, J., & McGrady, A. (2015). Designing and implementing a resiliency program for family medicine residents. *International Journal of Psychiatry in Medicine*, 50, 104–114.
- Bronfenbrenner, U. (1994). Ecological models of human development. In *International encyclopedia of education*, (Vol. 3, 2nd ed.). Oxford: Elsevier.
- Brown, J., Chapman, T., & Graham, D. (2007). Becoming a new doctor: A learning or survival exercise? *Medical Education*, 41, 653–660.
- Chuang, C. H., Tseng, P. C., Lin, C. Y., Lin, K. H., & Chen, Y. Y. (2016). Burnout in the intensive care unit professionals: A systematic review. *Medicine*, 95, e5629.
- Craig, C. D., & Sprang, G. (2010). Compassion satisfaction, compassion fatigue, and burnout in a national sample of trauma treatment therapists. *Anxiety, Stress, & Coping*, 23, 319–339.
- Deneckere, S., Euwema, M., Lodewijckx, C., Panella, M., Mutsvari, T., Sermeus, W., & Vanhaecht, K. (2013). Better interprofessional teamwork, higher level of organized care, and lower risk of burnout in acute health care teams using pathways: A cluster randomized controlled trial. *Medical Care*, 51, 99–107.
- Dewa, C. S., Jacobs, P., Thanh, N. X., & Loong, D. (2014). An estimate of the cost of burnout on early retirement and reduction in clinical hours of practicing physicians in Canada. *BMC Health Services Research*, 14, 254.
- Duncan, G. A., Lockett, A., Villegas, L. R., Almodovar, S., Gomez, J. L., Flores, S. C., ... Tigno, X. T. (2016). National heart, lung, and blood institute workshop summary: Enhancing opportunities for training and retention of a diverse biomedical workforce. *Annals of the American Thoracic Society*, 13, 562–567.
- Dyrbye, L. N., Shanafelt, T. D., Sinsky, C. A., Cipriano, P. F., Bhatt, J., Ommaya, A., ... Meyers, D. (2017). Burnout among health-care professionals: A call to explore and address this under-recognized threat to safe, high-quality care. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. Retrieved from <https://nam.edu/Burnout-Among-Health-Care-Professionals>.
- Dyrbye, L. N., Varkey, P., Boone, S. L., Satele, D. V., Sloan, J. A., & Shanafelt, T. D. (2013). Physician satisfaction and burnout at different career stages. *Mayo Clinic Proceedings*, 88, 1358–1367.
- Eckleberry-Hunt, J., Kirkpatrick, H. A., & Hunt, R. (2017). Physician burnout and wellness. In K. J. Brower & M. B. Riba, (Eds.), *Physician mental health and well-being: Research and practice* (pp. 3–32). New York: Springer.
- Eckleberry-Hunt, J., & Lick, D. (2015). Physician depression and suicide: A shared responsibility. *Teaching and Learning in Medicine*, 27, 341–345.
- Eckleberry-Hunt, J., Van Dyke, A., Lick, D., & Tucciarone, J. (2009). Changing the conversation from burnout to wellness: Physician well-being in residency training programs. *Journal of Graduate Medical Education*, 1, 225–230.
- Epstein, R. M., & Krasner, M. S. (2013). Physician resilience: What it means, why it matters, and how to promote it. *Academic Medicine*, 88, 301–303.
- Fortenberry, K. T., Van Hala, S., & Frost, C. J. (2017). Establishing a culture of intentional wellness: Lessons from a family medicine focus group. *PRiMER*. <https://doi.org/10.22454/PRiMER.2017.597444>.
- Fortney, L., Lucheband, C., Zakletskaia, L., Zgierska, A., & Rakel, D. (2013). Abbreviated mindfulness intervention for job satisfaction, quality of life, and compassion in primary care clinicians: A pilot study. *Annals of Family Medicine*, 11, 412–420.
- Frank, E. (2004). Physician health and patient care. *Journal of the American Medical Association*, 291, 637.
- Gaither, C. A., & Nadkarni, A. (2012). Interpersonal interactions, job demands, and work-related outcomes in pharmacy. *International Journal of Pharmacy Practice*, 20, 80–89.
- Goetzel, R. Z., & Ozminkowski, R. J. (2008). The health and cost benefits of work site health-promotion programs. *Annual Review of Public Health*, 29, 303–323.
- Goldhagen, B., Rosdahl, J., Kingsolver, K., & Stinnett, S. (2015). Stress and burnout in residents: Impact of mindfulness-based resilience training. *Advances in Medical Education and Practice*, 6, 525–532.
- Gonzalez, C. A., Gentile, N. E., Angstman, K. B., Craner, J. R., & Bonacci, R. P. (2017). The associations between preceptor team lead relationships and resident wellness in an academic medicine setting: An exploratory study. *PRiMER*. <https://doi.org/10.22454/PRiMER.2017.1.5>.
- Hall, L. H., Johnson, J., Watt, I., Tsipa, A., & O'Connor, D. B. (2016). Healthcare staff wellbeing, burnout, and patient safety: A systematic review. *PLoS ONE*, 11, e0159015.
- Haramati, A., Cotton, S., Padmore, J. S., Wald, H. S., & Weissinger, P. A. (2017). Strategies to promote resilience, empathy, and well-being in the health professions: Insights from the 2015 CENTILE conference. *Medical Technology*, 39, 118–119.
- Hershberger, P. J. (2005). Prescribing happiness: Positive psychology and family medicine. *Family Medicine*, 37, 630–634.
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*, (2nd ed.). New York: Wiley.



- Hickson, G. B., Pichert, J. W., Webb, L. N. E., & Gabbe, S. G. (2007). A complementary approach to promoting professionalism: Identifying, measuring, and addressing unprofessional behaviors. *Academic Medicine*, *82*, 1040–1048.
- Hipp, D. M., Rialon, K. L., Nevel, K., Kothari, A. N., & Jardine, D. A. (2017). “Back to Bedside”: Residents’ and fellows’ perspectives on finding meaning in work. *Journal of Graduate Medical Education*, *9*, 269–273.
- Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing*, *60*, 1–9.
- Jena, A. B., Baldwin, D. C., Daugherty, S. R., Meltzer, D. O., & Arora, V. M. (2010). Presenteeism among resident physicians. *Journal of the American Medical Association*, *304*, 1166–1167.
- Jesse, M. T., Abouljoud, M., & Eshelman, A. (2016). Determinants of burnout among transplant surgeons: A national survey in the United States. *American Journal of Transplantation*, *15*, 772–778.
- Jesse, M. T., Abouljoud, M., Hogan, K., & Eshelman, A. (2015). Burnout in transplant nurses. *Progress in Transplantation*, *25*, 196–202.
- Kearney, M. K., Weininger, R. B., Vachon, M. L. S., Harrison, R. L., & Mount, B. M. (2009). Self-care of physicians caring for patients at the end of life. *Journal of the American Medical Association*, *301*, 1155–1164.
- Kravits, K., McAllister-Black, R., Grant, M., & Kirk, C. (2010). Self-care strategies for nurses: A psycho-educational intervention for stress reduction and the prevention of burnout. *Applied Nursing Research*, *23*, 130–138.
- Kumar, S. (2016). Burnout and doctors: Prevalence, prevention, and intervention. *Healthcare* *4*, E37. <https://doi.org/10.3390/healthcare4030037>.
- Lamothe, M., Rondeau, E., Malbouef-Hurtubsie, C., Duval, M., & Sultan, S. (2016). Outcomes of MBSR or MBSR-based interventions in health care providers: A systematic review with a focus on empathy and emotional competencies. *Complementary Therapies in Medicine*, *24*, 19–28.
- Lathrop, D. (2017). Disenfranchised grief and physician burnout. *Annals of Family Medicine*, *15*, 375–378.
- Leiter, M. P., & Maslach, C. (2003). Areas of worklife: A structured approach to organizational predictors of job burnout. *Research in Occupational Stress and Well-being*, *3*, 91–134.
- Lemaire, J. B., & Wallace, J. E. (2010). Not all coping strategies are created equal: A mixed methods study exploring physicians’ self-reported coping strategies. *BMC Health Services Research*, *10*, 208.
- Lenzer, J. (2016). Physician health programs under fire. *BMJ*, *353*, i3568. Retrieved from <http://www.bmj.com/content/353/bmj.i3568>.
- Linzer, M., Poplau, S., Brown, R., Grossman, E., Varkey, A., Yale, S., & Barbouche, M. (2017). Do work condition interventions affect quality and errors in primary care? Results from the healthy work place study. *Journal of General Internal Medicine*, *32*, 56–61.
- Lown, B. A., & Manning, C. F. (2010). The Schwartz Center rounds: Evaluation of an interdisciplinary approach to enhancing patient-centered communication, teamwork, and provider support. *Academic Medicine*, *85*, 1073–1081.
- Luchterhand, C., Rakel, D., Haq, C., Grant, L., Byars-Winston, A., Tyska, S., & Engles, K. (2015). Creating a culture of mindfulness in medicine. *Wisconsin Medical Journal*, *114*, 105–109.
- Mackenzie, C. S., Poulin, P. A., & Seidman-Carlson, R. (2006). A brief mindfulness-based stress reduction intervention for nurses and nurse aides. *Applied Nursing Research*, *19*, 105–109.
- Mahan, J. D. (2017). Burnout in pediatric residents and physicians: A call to action. *Pediatrics*, *139*, e20164233.
- Martinussen, M., Adolfsen, F., Lauritzen, C., & Richardsen, A. M. (2012). Improving interprofessional collaboration in a community setting: Relationships with burnout, engagement, and service quality. *Journal of Interprofessional Care*, *26*, 219–225.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*, 99–113.
- Maslach, C., & Leiter, M. P. (2017). New insights into burnout and health care: Strategies for improving civility and alleviating burnout. *Medical Teacher*, *39*, 160–163.
- Morris, M. L., & Madsen, S. R. (2007). Advancing work-life integration in individuals, organizations, and communities. *Advances in Developing Human Resources*, *9*, 439–454.
- Moss, M., Good, V. S., Gozal, D., Kleinpell, R., & Sessler, C. N. (2016). An official critical care societies collaborative statement—burnout syndrome in critical care health-care professionals: A call for action. *CHEST*, *150*, 17–26.
- Mott, D. A., Doucette, W. R., Gaither, C. A., Pedersen, C. A., & Schommer, J. C. (2004). Pharmacists’ attitudes toward worklife: Results from a national survey of pharmacists. *Journal of the American Pharmacists Association*, *44*, 326–336.
- National Academy of Medicine. (n.d.) *Action collaborative on physician well-being and resilience*. Retrieved <https://nam.edu/initiatives/clinician-resilience-and-well-being/>.
- Nedrow, A., Steckler, N. A., & Hardman, J. (2013). Physician resilience and burnout: Can you make the switch? *Family Practice Management*, *20*, 25–30.
- Noseworthy, J., Madara, J., Cosgrove, D., Edgeworth, M., Ellison, E., Krevans, S., & Harrison, D. (2017). Physician burnout is a public health crisis: A message to our fellow health care CEOs. *Health Affairs*. <https://doi.org/10.1377/hblog20170328.059397>.
- Ozyurt, A., Hayran, O., & Sur, H. (2006). Predictors of burnout and job satisfaction among Turkish physicians. *The Quarterly Journal of Medicine*, *99*, 161–169.
- Perlo, J., Balik, B., Swensen, S., Kabeenell, A., Landsman, J., & Feeley, D. (2017). *IHI framework for improving joy in work*. Cambridge, MA: Institute for Healthcare Improvement: IHI Whitepaper.
- Pololi, L. H., Evans, A. T., Civian, J. T., Gibbs, B. K., Coplit, L. D., Gilum, L. H., & Brennan, R. T. (2015). Faculty vitality—surviving the challenges facing academic health centers: A national survey of medical faculty. *Academic Medicine*, *90*, 930–936.
- Purvanova, R. K., & Muros, J. P. (2010). Gender differences in burnout: A meta-analysis. *Journal of Vocational Behavior*, *77*, 168–185.
- Rahman, H. A., Abdul-Mumin, K., & Naing, L. (2016). A study into psychosocial factors as predictors of work-related fatigue. *British Journal of Nursing*, *25*, 757–763.
- Raj, K. S. (2016). Well-being in residency: A systematic review. *Journal of Graduate Medical Education*, *8*, 674–684.
- Rakesh, G., Pier, K., & Costales, T. L. (2017). A call for action: Cultivating resilience in healthcare providers. *American Journal of Psychiatry Residents’ Journal*, *12*, 3–5.
- Rees, C. S., Heritage, B., Osseiran-Moisson, R., Chamberlain, D., Cusack, L., Anderson, J., & Hegney, D. G. (2016). Can we predict burnout among student nurses? An exploration of the ICWR-1 model of individual psychological resilience. *Frontiers in Psychology*, *19*, 1072.
- Regehr, C., Glancy, D., Pitts, A., & LeBlanc, V. R. (2014). Interventions to reduce the consequences of stress in physicians. *The Journal of Nervous and Mental Disease*, *202*, 353–359.
- Rosenstein, A. H., Russell, A., & Lauve, R. (2002). Disruptive physician behavior contributes to nursing shortage: Study links bad behavior by doctors to nurses leaving the profession. *Physician Executive*, *28*, 8–11.
- Saadat, H., Snow, D. L., Ottenheimer, S., Dai, F., & Kain, Z. N. (2012). Wellness program for anesthesiology residents: A randomized, controlled trial. *Acta Anaesthesiologica Scandinavica*, *56*, 1130–1138.

- Saver, C. (2009). OR leaders face tightened budgets, loss of benefits in wake of recession. *OR Manager*, 25, 10.
- Schaufeli, W. B. (2007). Burnout in health care. In P. Carayon (Ed.), *Handbook of human factors and ergonomics in health care and patient safety* (pp. 217–232). Mahway, NJ: Lawrence Erlbaum.
- Shanafelt, T. D. (2003). The well-being of physicians. *American Journal of Medicine*, 114, 513–519.
- Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., & Oreskovich, M. R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, 172, 1377–1385.
- Shanafelt, T. D., Gorringer, G., Menaker, R., Storz, K. A., Reeves, D., Buskirk, S. J., ... Swensen, S. J. (2015). Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clinic Proceedings*, 90, 432–440.
- Shanafelt, T. D., & Noseworthy, J. H. (2016). Executive leadership and physician well-being: Nine organizational strategies to promote engagement and reduce burnout. *Mayo Clinic Proceedings*, 92, 129–146.
- Shapiro, J., & Galowitz, P. (2016). Peer support for clinicians: A programmatic approach. *Academic Medicine*, 91, 1200–1204.
- Sim, W., Zanardelli, G., Loughran, M. J., Mannarino, M. B., & Hill, C. E. (2016). Thriving, burnout, and coping strategies of early and late career counseling center psychologists in the United States. *Counselling Psychology Quarterly*. <https://doi.org/10.1080/09515070.2015.1121135>.
- Sinha, P. (2014). Why do doctors commit suicide? *The New York Times*. Retrieved from <https://www.nytimes.com/2014/09/05/opinion/why-do-doctors-commit-suicide.html>.
- Slavin, S. J., Schindler, D., Chibnall, J. T., Fendell, G., & Shoss, M. (2012). PERMA: A model for institutional leadership and culture change. *Academic Medicine*, 87, 1481.
- Stanford Medicine Physician Wellness Task Force (2015). Physician wellness and professional fulfillment: A strategy for preeminence. Report of the Physician Wellness Task Force.
- Swensen, S., Kabacennell, A., & Shanafelt, T. D. (2016). Physician-organization collaboration reduces physician burnout and promotes engagement: The Mayo Clinic experience. *Journal of Healthcare Management*, 61, 105–127.
- Tayfur, O., & Arslan, M. (2013). The role of lack of reciprocity, supervisory support, workload and work—family conflict on exhaustion: Evidence from physicians. *Psychology, Health & Medicine*, 18, 564–575.
- Van Dyke, A., & Seger, A. M. (2013). Finding, keeping, and revitalizing the meaning in family medicine. *International Journal of Psychiatry in Medicine*, 45, 323–331.
- Van Ham, I., Verhoeven, A. A. H., Groenier, K. H., Groothoff, J. W., & De Haan, J. (2006). Job satisfaction among general practitioners: A systematic literature review. *European Journal of General Practice*, 12, 174–180.
- Vilardaga, R., Luoma, J. B., Hayes, S. C., Pistorello, J., Levin, M. E., Hildebrandt, M. J., & Bond, F. (2011). Burnout among the addiction counseling workforce: The differential roles of mindfulness and values-based processes and work-site factors. *Journal of Substance Abuse Treatment*, 40, 323–335.
- Waldman, J. D., Kelly, F., Arora, S., & Smith, H. L. (2004). The shocking cost of turnover in health care. *Health Care Management Review*, 29, 2–7.
- West, C. P., Dyrbye, L. N., Erwin, P. J., & Shanafelt, T. D. (2016). Interventions to prevent and reduce physician burnout: A systematic review and meta-analysis. *Lancet*, 388, 2272–2281.
- Willard-Grace, R., Hessler, D., Rogers, E., Dube, K., Bodenheimer, T., & Grumbach, K. (2014). Team structure and culture are associated with lower burnout in primary care. *Journal of the American Board of Family Medicine*, 27, 229–238.
- Wise, E. H., Hersh, M. A., & Gibson, C. M. (2012). Ethics, self-care, and well-being for psychologists: Re-envisioning the stress-distress continuum. *Professional Psychology: Research and Practice*, 43, 487–494.
- Zwack, J., & Schweitzer, J. (2013). If every fifth physician is affected by burnout, what about the other four? Resilience strategies of experienced physicians. *Academic Medicine*, 88, 382–389.