
Organization-Level Interventions to Promote Physician Health and Well-Being: From Taking Care of Physicians to Giving Care to Patients

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Abstract

Physician burnout is not simply a problem of problematic physicians. It is a worldwide, workplace-related phenomenon, shaped by systemic and individual factors. To address modifiable risk factors and promote physician engagement, satisfaction, and well-being, both individual and organizational interventions are needed. Enhancing individual resiliency is necessary but not sufficient, and it can inadvertently shift sole responsibility onto physicians. Conversely, when organizations visibly acknowledge and address workplace factors, they legitimize the burden on physicians and share responsibility for mitigating those factors. Organizational interventions target six major work-related factors: (1) work overload relative to the time available, (2) insufficient autonomy with loss of both discretionary time and input into decisions affecting patient care, (3) a non-supportive interpersonal work environment, (4) incentives tied to productivity, based on increased fiscal and performance monitoring, with diminishing respect and appreciation, (5) perceived organizational injustice, and (6) misaligned values between physicians and their organizations. Organizational culture and individual physicians differ across healthcare systems and clinical units. Thus, while burnout is global, interventions are local. Participatory organizational interventions are effective and address local conditions. They are designed, customized, and implemented by physicians based on the work factors they identify as being most important to the functioning of their clinical units and well-being. Leaders have good reason to support organizational interventions, because engaged and healthy physicians will support their triple aim of improving the healthcare of populations, enhancing their patients' experience of care, and reducing costs. The fourth aim of improving the experience of providing care calls upon organizations to embrace physician health and well-being as a core value and goal.

13.1 Introduction

The sheer number of physicians affected by burnout, 50% in the USA (Shanafelt et al. 2015a), argues against it being a simple problem of problematic physicians. Burnout does not occur in a vacuum. Rather, it results from chronic exposure to stressors embedded in the workplace (Maslach et al. 2001). While these stressors certainly interact with the individual characteristics of vulnerable physicians, they can also overwhelm the personal resources of otherwise healthy and resilient physicians. Accordingly, interventions to prevent burnout and promote the well-being of physicians necessarily combine two major strategies. The first involves organizational interventions that target modifiable workplace stressors associated with burnout. The second helps physicians learn new self-care strategies and develop personal resiliency to manage the unavoidable stress in their lives.

Overall, physician burnout is a workplace-related phenomenon that occurs in a sociocultural context, shaped by a complex interplay of systemic and individual factors (see Fig. 13.1). The organizational and individual factors are amenable to interventions which can occur in the workplace. Physicians and organizations share responsibility

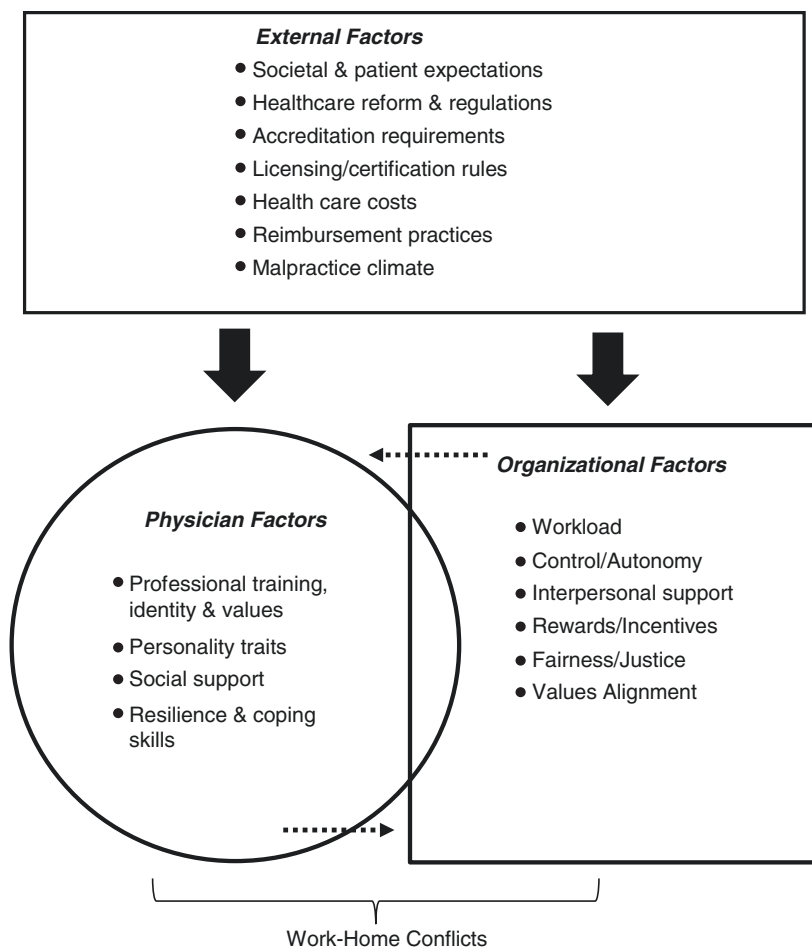


Fig. 13.1 Factors associated with physician burnout. Physician burnout results from individual and systemic factors. Systemic factors include the immediate organizational/workplace environment as well as factors external to the organization (DeChant and Shannon 2016). Together, organizational factors and external factors form the sociocultural context for burnout (represented by *rectangular shapes*). External factors exert pressure on both the organizational workplace and individual physicians (*large downward arrows*). Physicians are represented by a *circle*, a metaphor for fitting a round peg into a *square*, organizational hole. However, the closer the alignment and fit between physicians and their organizational workplaces (represented by *dotted arrows*), the better able they can respond to challenges from systemic factors external to the organization. Work-home conflicts lie at the interface between workplace factors (time demands and resources) and physician factors (personal life, social support)

for these interventions to improve and protect their well-being. By collaborating together, they are most likely to achieve their common goals of providing high-quality and patient-friendly care in a cost-effective manner (Swensen et al. 2016). External factors such as healthcare reform and reimbursement policies are shaped by societal and political forces. They exert considerable pressure on individuals and their organizations. Unfortunately, these forces persist despite workplace interventions.

This article will review (1) workplace factors associated with physician burnout, (2) the effectiveness of organization-level interventions, (3) the business case for organizational interventions, and (4) suggestions for implementing them. In addition to *burnout*, organizational factors affecting physician *satisfaction*, *engagement*, and *well-being* are also included in this review, because these are desired outcomes for organizational interventions. (See Appendix for descriptions of these terms.)

13.2 Workplace Factors Associated with Physician Burnout

Knowledge of work-related risk factors for burnout helps to identify targets for organizational interventions. Most studies of factors associated with burnout are cross-sectional in their design, so evidence for causation is limited. For example, perceived time pressure to accomplish one's work may contribute to burnout, but burnout may contribute to feeling pressured and overwhelmed at work as well. Nevertheless, with that caveat in mind and for the purposes of this discussion, it is simpler to write about, and reasonable to infer, that the workplace factors discussed below are risk factors if not causes for physician burnout.

13.2.1 Major Workplace-Related Risk Factors

Workplace-related risk factors have been summarized across multiple studies and reviews, some specific to physician trainees (Prins et al. 2007; Ishak et al. 2009; Dyrbye and Shanafelt 2016; Raj 2016), practicing physicians (Lee et al. 2013; Amofo et al. 2015), and various specialties (Arora et al. 2013a, b; Kumar 2011; Hlubocky et al. 2016; Oskrochi et al. 2016; Pulcrano et al. 2016). Medical students face their own training-related environmental stressors (Dyrbye and Shanafelt 2016) indicating that postgraduate physician burnout is a developmental process with distal as well as proximal factors. Studies also have focused on different types of practice environments (Heponiemi et al. 2011), such as academic settings (Gabbe et al. 2002; Johns and Ossoff 2005), ambulatory care clinics, inpatient units, and rural or urban regions. Nevertheless, many factors are common across career stage, specialty, and setting. Six major categories of workplace-related drivers of burnout are described below (Maslach et al. 2001; Studer 2015).

1. **Work overload** for physicians can result from the actual number of hours or shifts worked (Amofo et al. 2015; Pulcrano et al. 2016) and from *perceived* job demands. The latter includes time pressure and pace of work (Babbott et al. 2014; Friedberg et al. 2013; Linzer et al. 2009), chaotic work conditions and workflow inefficiency (Linzer et al. 2009), administrative and clerical burden (Woolhandler and Himmelstein 2014), and user-unfriendly electronic health record (EHR) software (Babbott et al. 2014; Friedberg et al. 2013; Shanafelt et al. 2016a). Work overload also contributes to work-home conflicts, a prominent contributor to physician burnout (Bakker et al. 2011). For example, Linzer

et al. (2001) reported that the effect of work hours on burnout was mediated by work-home interference in both the USA and the Netherlands. Likewise, Keeton et al. (2007) found that satisfaction with work-life balance was related to total weekly hours worked, total weekly hours on call, and control over schedule and hours worked. Other studies suggest that perceived workload is more important than actual workload (Shirom et al. 2010; Eckleberry-Hunt et al. 2016).

2. **Lack of autonomy or control** plays an important role in physician burnout (Lee et al. 2013), satisfaction (Heponiemi et al. 2011; Friedberg et al. 2013; Scheurer et al., 2009), and well-being (Raj 2016). Autonomy involves input into decision-making processes including administrative decisions affecting patient care, one's schedule (Keeton et al. 2007), and the amount of time spent on preferred and meaningful activities. One study found that physicians who spent at least 20% of their time doing work activities that were most meaningful to them had lower burnout rates (Shanafelt et al. 2009).
3. **Insufficient rewards** or ineffective incentives can be divided into financial and nonfinancial. Nonfinancial rewards can be further divided into social and intrinsic rewards (Maslach et al. 2001). Many studies confirm that there is a relationship between physicians' income and their levels of burnout or job satisfaction (Pulcrano et al. 2016; Scheurer et al. 2009). Anticipated debt among trainees is also associated with burnout (Prins et al. 2007). Income stability and fairness in compensation are also important factors (Friedberg et al. 2013). However, in certain situations or when income exceeds a certain monetary level, financial incentives can lose effectiveness, while intrinsic rewards assume more value (Judson et al. 2015). This is especially true when incentives based on seeing more patients conflict with the intrinsic motivation of physicians to provide high-quality care. In terms of nonfinancial rewards, opportunities for professional development and learning new skills are important (Stark 2014). A critical component of job satisfaction for physicians are the social rewards of feeling valued and respected by the organization for their expertise and contributions in improving the lives of patients, which costs the organization very little. For example, the two most important factors to feeling engaged at work, endorsed by 1666 US physicians, were (1) "Respect for my competency and skills" and (2) "Feeling that my opinions and ideas are valued" (Stark 2014). Physicians derive meaning, joy, and a sense of accomplishment from using their knowledge, skills, and expertise caring for patients (Sinsky et al. 2013).
4. **Breakdown of community** or lack of workplace social support refers to the quality of interpersonal relationships at work, including those with leadership, supervisors, physician colleagues, other clinicians, and support staff (Prins et al. 2007; Friedberg and Chen 2013; Scheurer et al. 2009; Shanafelt et al. 2015b). While physicians value autonomy and independence, feeling isolated and having to do everything with no help contributes to burnout. A supportive interpersonal work environment is based on respect, trust, confidentiality, transparency, effective communication, collaborative teamwork, and common goals. Unfortunately, time pressures and dependence on expedient electronic communications reduce opportunities for face-to-face and "curbside" building of professional

relationships. Workplace support is crucial to prevent burnout associated with exposure to workplace violence and traumatic adverse events (Zafar et al. 2016). In a study of Egyptian physicians, 91.6% and 10.5% admitted being exposed to verbal and physical work-related violence, respectively, which was significantly related to burnout (Abdo et al. 2015).

5. **Absence of fairness** is also known as a lack of organizational justice, of which four forms are described (MacLeod 2015). *Procedural* justice refers to how decisions are made in the organization and whether input is solicited from those people most affected. Without this, physicians feel disrespected and experience a lack of control. *Informational* justice refers to having access to all the available data needed to inform decision-making. *Distributive* justice refers to the distribution of resources, including income and other rewards, in a transparently equitable manner. *Interpersonal* justice refers to an interpersonal work environment characterized by respect and collaboration. Organizational justice varies across practice settings. A study of Finnish physicians, for example, found higher levels of organizational justice for those working in the private vs. public sector, and it mediated physician well-being in the private sector (Heponiemi et al. 2011).
6. **Conflicting values** can be contrasted with the goal of *aligning* values between physicians and their organizations. In one study of 449 US physicians, only 14.2% reported a strong alignment with leadership values, which was significantly correlated with burnout and dissatisfaction (Linzer et al. 2009). As professionals, physicians are bound to a code of ethics, including, “A physician shall, while caring for a patient, regard responsibility to the patient as paramount” (Brotherton et al. 2016). Medical ethics also compel physicians to provide competent medical care. Thus, physicians can feel caught in the middle, when they perceive organizations as more interested in the bottom line and *quantity of productivity* than in the *quality of care* provided (Miller 2016). To the extent this holds true for an organization, the risk for burnout increases. When physicians violate their core professional values, because of organizational restrictions, they are likely to feel distress (Campbell et al. 2016). Similarly, they feel burned out and dissatisfied when they perceive the organization to have a low emphasis on quality (Linzer et al. 2009). Studer (2015) argues that the most powerful driver of burnout is the perception by physicians that systemic factors interfere with their ability to provide the best possible patient care. Support comes from a Rand study concluding that physician dissatisfaction is associated with perceived obstacles to providing high quality care (Friedberg et al. 2013).

In a variation of these categories, Shanafelt and Noseworthy (2017) elaborated seven drivers of burnout or engagement: (1) workload and job demands, (2) efficiency and resources to mitigate workload and demands, (3) control and flexibility, (4) meaning in work, an intrinsic reward and motivator, (5) social support and community at work, (6) organizational culture and values, including organizational justice, and (7) work-life integration. In their conceptualization, each of these dimensions is shaped by individual, clinical work unit, organizational, and national factors.

13.2.2 Models of Work-Related Factors and Burnout

Given the complexity and overlap among workplace factors, several models of burnout have been proposed to understand their relationships to one another. The three models described below are not exhaustive. What they have in common is a mismatch between what physicians expect from the organization to do their work well and what the organization is doing to facilitate their work (Fig. 13.2). The first two models start with job demands such as clinical workload, time pressure, team dysfunction, and excessive administrative tasks. (1) The demand/control model (Hernandez-Gaytan et al. 2013; Karasek et al. 1981), later extended as the demand/control/support model (Johnson and Hall 1988), emphasizes the importance of job control and coworker support to mitigate job demands. (2) The job demand/resources model (Bakker et al. 2011; Lee et al. 2010) accounts for resources in addition to job autonomy and supportive workplace relationships, such as individual resiliency skills and social support at home. It hypothesizes that burnout results from excessive job demands which overpower both work and personal resources needed to do the job. (3) The effort/reward imbalance model (Siegrist and Li 2016) posits that burnout occurs when the effort expended at work exceeds the financial and nonfinancial rewards received in turn.

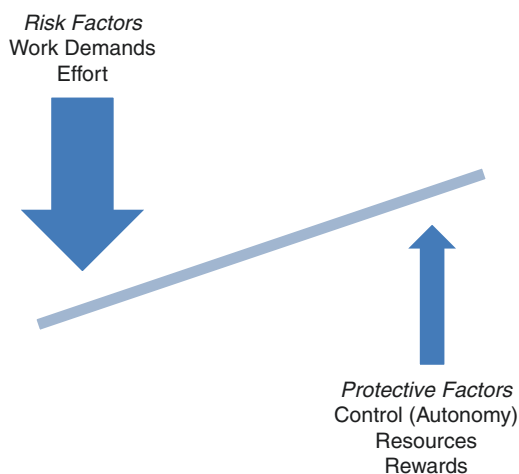


Fig. 13.2 Models of burnout. Three common models of burnout resulting from a mismatch or imbalance between risk and protective organizational factors. The (1) job demands/control model (Hernandez-Gaytan et al. 2013; Karasek et al. 1981) and (2) job demands/resources model (Bakker et al. 2011; Lee et al. 2010) posit that burnout occurs when job demands outweigh (1) work-related autonomy and (2) the resources to do the job well, respectively. The (3) effort/reward imbalance model (Siegrist and Li 2016) posits that burnout results when the effort required and expended to do the job outweighs the financial and nonfinancial rewards

13.3 Organization-Level Interventions

Organization-level interventions can focus on patient care teams, divisions and departments, or the larger organizational system. Interventions have common elements, but they are also specific to different specialties, workplace settings (e.g., inpatient vs. outpatient), and the culture of various organizations that employ or partner with physicians. Accordingly, one size does not fit all. Burnout may be global across cultures, but interventions are local.

An organization can support physician health and well-being in two major ways.

The traditional approach to supporting physician health and well-being has been to provide access to health education and programs, health facilities, training in stress and time management, and approaches to enhance resiliency. Providing such resources is necessary but rarely sufficient to address burnout, because it does not address the organizational factors that contribute to burnout. Moreover, focusing exclusively on the individual physician will likely be met with cynicism, distrust, and disengagement, because the organization will appear disinterested in the workplace drivers of burnout. Organizations willing to acknowledge and accept responsibility for their own contributions to burnout will also legitimize the problem, thereby reducing the secrecy and self-blame that affected physicians frequently feel.

Second, and more effective, an organization can work collaboratively with physicians to improve their work environment, make the best use of their time, solicit their input into decision-making, and create a culture of collegiality, fairness, teamwork, and respect. Organizational interventions are thought to produce longer-lasting change than individual interventions alone because they address systemic factors and the etiology of burnout, i.e., chronic exposure to work-related stress.

Interventions may be conceived as primary, secondary, or tertiary. Primary interventions are proactive and aim to prevent burnout in the first place. Primary interventions are directed at those 50% of US physicians who report few or no symptoms or burnout (Shanafelt et al. 2015a). Such physicians may be coping well, but should still be asked about their work-related stressors and what would help them feel more engaged at work. Organizational endorsement of physician well-being as a core value to improve the quality of patient care is an ideal example of a primary intervention. Primary interventions are more enduring and system-wide, involve relationship building between physicians and their organizations (Kreindler et al. 2014), and provide the basis for other interventions. Secondary interventions address low-to-moderate levels of burnout. They are more iterative and evolve over time to improve workflow inefficiencies and relationships in a constantly changing health-care environment. They target unit-specific factors that physicians have identified as most important to them. Tertiary interventions help physicians and trainees who have severe burnout or burnout that is complicated by depression, trauma, and substance use disorders, and who may present as disruptive or impaired (Brooks et al. 2011; Mata et al. 2015). Tertiary interventions focus on individuals, and organizations must have confidential structures and processes for identifying, treating, and monitoring those affected (Baker and Sen 2016). The focus of this section is on primary/secondary interventions.

13.3.1 A Review of Reviews

The evidence for organization-level interventions is encouraging. In the most comprehensive review and meta-analysis to date, West and colleagues (2016) examined 20 organization-level interventions, including 17 cohort studies and 3 randomized controlled trials. Panagioti et al. (2017) reviewed 19 studies, including 8 organization-directed interventions. Both reviews concluded that organizational interventions were more effective than individual ones when the outcome variable was overall burnout. West et al. also noted that no one intervention was known to be better than any others.

For medical educators, a few reviews focus only on medical students and/or physician trainees (Williams et al. 2015; Wasson et al. 2016). Other reviews either were not directed specifically at physicians (Awa et al. 2010; Ruotsalainen et al. 2014; Dreison et al. 2016) or did not include organizational interventions (Regehr et al. 2014; Murray et al. 2016). They are mentioned here because (1) physicians work in teams with other healthcare professionals (2) organizational interventions directed at other healthcare professionals may potentially be adapted to physicians, and (3) individual interventions can be combined with organizational interventions.

Shanafelt and Noseworthy (2017) offered these general strategies for targeted organizational interventions:

- Cultivate community at work
- Use rewards and incentives wisely
- Promote flexibility and work-life integration
- Align values and strengthen culture
- Provide resources to promote resilience and self-care

This remainder of this section is organized according to the six major workplace factors described above that contribute to physician burnout: workload, autonomy, rewards, interpersonal workplace support, organizational justice, and alignment of values.

13.3.2 Interventions to Address Workload

Workload-targeted interventions can address objective factors such as work schedules (the number of duty hours or shifts worked) or perceived work overload due to workflow inefficiencies and time pressures.

Work Schedules: Two randomized interventions in US academic centers investigated the effects of alternative hospital work schedules with positive effects on reducing burnout. One compared a 2- versus 4-week inpatient attending physician rotation on burnout and found that the 2-week rotation resulted in less burnout, perceived stress, and better job control (Lucas et al. 2012). The second study of attending physicians and residents compared alternative half-month rotations in

intensive care units: working a continuous schedule of every day for a half month versus working an interrupted schedule of 5 consecutive days with weekend cross-coverage. When working the interrupted schedule, physicians had lower burnout, job distress, and work-home imbalance than working the continuous schedule (Ali et al. 2011).

Duty Hour Reform: The effectiveness of US duty hour reform (DHR) on patient care, resident well-being, and resident education continues to be debated due to conflicting evidence. DHR for US residents exemplifies a widespread, national organizational intervention, mandated by the Accreditation Council for Graduate Medical Education (ACGME) (Rosenbaum and Lamas 2012). Responding initially to a well-publicized patient death attributed to an error by exhausted residents, DHR was designed to improve patient safety and decrease medical errors, as well as to mitigate resident fatigue, promote their sleep, and enhance their well-being and education. In 2003, residents were limited to an 80-h work week. In 2011, additional reform mandated no more than 16-h and 24-h work periods for interns and second-year residents, respectively, and at least 1 day off per week averaged over a 4-week period (Greenberg and Borus 2016; Mansukhani et al. 2012)¹. Consequently, individual graduate medical education programs implemented their own policies and strategies to be in compliance. In the USA, these changes resulted in estimated costs between \$1.1 and \$1.6 billion per year to provide coverage for hours previously worked by residents in excess of DHR limits (Law et al. 2014). Similar duty hour restrictions were mandated in Europe (European Working Time Directive) and Canada.

A large number of reviews of DHR have been published (Greenberg and Borus 2016; Mansukhani et al. 2012; Law et al. 2014; Reed et al. 2010; Moonesinghe et al. 2011; Philibert et al. 2013; Bolster and Rourke 2015; Lin et al. 2016), including some that are specialty-specific (Ahmed et al. 2014; Leafloor et al. 2015; Bina et al. 2016) and others that include European countries and/or Canada as well as New Zealand, Australia, and Hong Kong (Law et al. 2014; Moonesinghe et al. 2011; Ahmed et al. 2014; Bina et al. 2016). As one reviewer of 83 studies noted, “It is not possible to make an unqualified statement that patient care has been improved by the implementation of the duty-hour limits.” (Philibert et al. 2013). Another review of 27 studies which measured patient care, resident wellness, and/or resident education as outcomes of DHR found favorable effects in only 40%, 24%, and 14% of studies, respectively (Bolster and Rourke 2015). Similar reviews focusing on surgery (Ahmed et al. 2014) and neurosurgery (Bina et al. 2016) also point to a low degree of evidence that DHR has benefited training. Flexibility in duty hours by giving surgical residents discretion (autonomy) may be a better approach than mandating the same requirements across all specialties. For example, Philibert et al. (2013) concluded in their review that duty hour limits had positive effects in medical specialties on patient safety and quality of care, but negative effects in surgical specialties.

¹As this book was going to press, ACGME announced that it would remove the 16-h limit for interns and extend it to 24 h.

Unfortunately, simply reducing hours has not solved the problems for which it was designed, and resident burnout remains a significant problem. Reducing hours alone without addressing other burnout drivers such as workplace inefficiencies, excessive workload, and insufficient support may explain in part the persistent problem of resident burnout. Added to these is an unintended consequence of DHR: some residents feel compelled to lie about their duty hour reporting in order to fulfill their professional obligations to patients. Noncompliance with accurately reporting duty hours ranges across studies from 13 to 90% (Law et al. 2014). The result is distress due to conflicting values. Consequently, neither residents nor faculty are enthusiastic about recent changes (Greenberg and Borus 2016). In contrast to these negative results, West and colleagues (2016) reviewed six controlled studies of DHR and found a significant positive effect on reducing overall burnout.

Are there lessons to be gained from duty hour reform that can inform organizational interventions in general? *First*, a single tragedy such as a patient death or a physician suicide can mobilize and provide windows of opportunity for organizational changes. *Second*, top-down, mandatory regulations for how organizations must structure working conditions may not allow for adequate flexibility to adapt interventions to local conditions, different specialties, and variation across rotations during residency training. *Third*, while moderately strong evidence supported the number of duty hours as a risk factor for resident sleep deprivation and patient safety, controlled trials of duty hour reductions and their optimal implementation were virtually nonexistent prior to duty hour reform (Rosenbaum and Lamas 2012). Certainly, conducting and replicating controlled trials are important before generalizing interventions across sites nationally.

Fourth, leaders and organizations charged with designing and implementing interventions must remain cognizant of the complexity of systems, where well-intended changes in one factor (such as duty hour reduction) may unmask other untoward consequences, such as mortality due to interruptions in continuity of care as physicians “handoff” their patients at shift’s end (Denson et al. 2015). Duty hour limits also compress work into fewer hours (Philibert et al. 2013). Increasing time pressure without addressing the autonomy and flexibility to control one’s work schedule leads to burnout. Moreover, fewer work hours do not necessarily translate into more time sleeping (Sen et al. 2013), unless physicians utilize the opportunity for sleep in the face of competing off-duty priorities. *Fifth*, mandatory interventions can be costly monetarily and in terms of unintended consequences. *Lastly*, interventions may take up to 4 years before positive outcomes are measurable as in a study by Vadera et al. (2015) regarding the effects of duty hour reform on medical error reduction.

13.3.3 Interventions to Address Autonomy

Participatory organizational interventions empower physicians to address their own workplace concerns, which likely increases their autonomy. For example, a randomized controlled trial in oncology wards involved physicians, nurses, and radiotherapy assistants who worked together in teams. Interventions were

participatory, meaning that teams discussed their sources of job stress together with team counselors, who then helped them to design, implement, evaluate, and reformulate action plans targeted at their collective stressors as a team. The program consisted of 6 monthly sessions each lasting 3 h and showed a decrease in burnout subscales at 6 and 12 months (Le Blanc et al. 2007). Although the intervention ostensibly addressed team collaboration and functioning, measures of job control and workload, as well as social support among teams, improved as burnout improved. Organizations can also support flexibility in scheduling work hours; for example, at the beginning and end of the day to enable physician-parents to drop off their children or pick them up from school or daycare.

13.3.4 Interventions Using Rewards

One intervention being used successfully at Stanford University is the “time bank.” Physicians often engage in activities not rewarded, such as covering shifts for other physicians, serving on committees, and mentoring others. With the time bank, pre-designated activities are rewarded with credits, which can be used to pay for time-saving services. These services could be home-delivered gourmet meals, housekeeping or yard work, shopping, etc. The time bank directly compensates services that will free physicians’ time, instead of giving them money directly.

13.3.5 Interventions to Improve the Interpersonal Work Environment

The team-based intervention which increased autonomy (described above) also improved social support (Le Blanc et al. 2007). Another study randomly assigned physicians working in primary care clinics to an intervention versus control condition (Linzer et al. 2015). The intervention groups could choose among several interventions that best suited their needs, and some chose to work on communication within their multidisciplinary teams. Physicians participating in communication interventions were three times as likely to show improvement in satisfaction than physicians in the control group.

13.3.6 Interventions to Improve Organizational Justice

Interventions that target the interpersonal work environment with leaders and supervisors will likely improve interpersonal justice. Interventions that improve autonomy by providing input into decisions affecting patient care should improve procedural justice. Making overall justice an organizational value is one interventional strategy, but requires that justice is actionable (i.e., “walk” in addition to “talk”). Organizational interventions that specifically target justice or measure it as an outcome in healthcare are virtually nonexistent at this time. In the manufacturing field, however, a randomized controlled trial of leadership training involved a single

90-min session of lecture, group discussion, and role play activities. It found an increase in interpersonal justice among employees with the lowest baseline scores (Nakamura et al. 2016). Leadership training and collaborating with executive leaders are deemed important for reducing physician burnout as well (Swensen et al. 2016; Shanafelt and Noseworthy 2017).

13.3.7 Interventions to Align Values

Many organizations make their mission and values explicit, which is a good place to start for alignment. The values at the University of Michigan Health System (recently renamed Michigan Medicine) are: (1) Caring for patients as its first priority, (2) Teamwork to care for patients, (3) Integrity with patients and each other (including trust and adhering to the highest ethical standards), (4) Innovation (research into new solutions to improve the problems of patients and society), and (5) Excellence in patient care. These are strong, admirable values which embody quality patient care as a common denominator. Moreover, teamwork and integrity can be directly linked to the interpersonal work environment and organizational justice, which are important for reducing burnout and improving job satisfaction.

When organizations are developing their values, they should be encouraged to include the health and well-being of healthcare professionals. The business case for doing so is reviewed below. In short, valuing and supporting professional health and well-being is essential for achieving the mission and goals of the organization. How this is written into organizational values will depend on individual organizations, but one example is: “Caring for patients is our first priority. Caring about the health and well-being of our clinicians is essential for achieving this priority.” After agreeing on the value of physicians’ health and well-being, leadership accepts responsibility for how their decisions will impact on this value. Then discussion can focus on other targeted interventions.

Where value alignment sometimes goes awry is when finances are a “hidden” mission or value of an organization. (Hidden in the sense that they are not overtly stated in the mission and values statement of the organization, but not too hidden because visible actions of leadership are financially driven.) This is a setup for accusing the organization of being more interested in money than its care of patients. The triple aim of healthcare includes reducing costs (Fig. 13.3). Importantly, providing cost-effective healthcare is not the same as improving the bottom the line of an organization, so it does not have to be hidden. Physicians obviously understand and accept that no medical practice is sustainable without revenue exceeding expense. So if their organization fails, everyone does, but the aim of reducing costs needs to be flexible. There are times, for example, when (1) providing the best possible care is not cost-effective, (2) it conflicts with organization-endorsed practice guidelines, or (3) physicians have to spend excessive time obtaining authorization for evidence-based treatment. In these circumstances, physicians believe by virtue of their extended training, professional expertise, and direct knowledge of the patient that they are most qualified to make the best diagnostic and treatment decisions. The physician’s autonomy is jeopardized in these

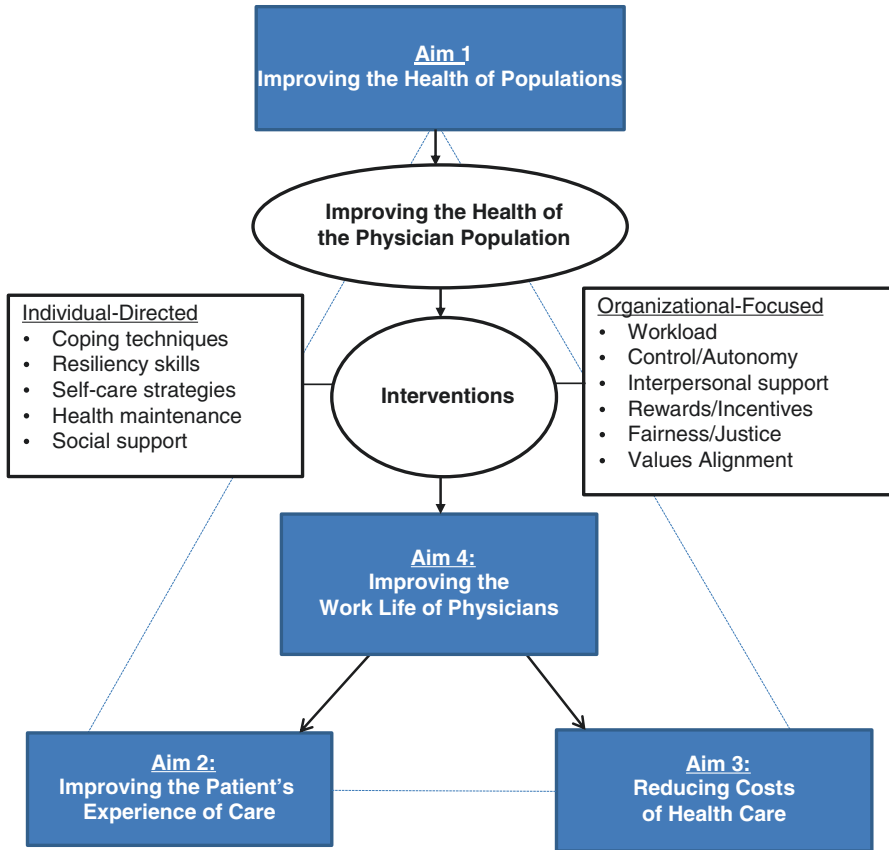


Fig. 13.3 From triple aim to quadruple aim in healthcare (Bodenheimer and Sinsky 2014). The quadruple aim of healthcare as described by Bodenheimer and Sinsky (2014) consists of the original triple aim of Berwick—improving the health of populations, improving the patient’s experience of care, and reducing costs—and the fourth aim of improving *the experience of providing care*, measured by physician satisfaction, well-being, and engagement. As presented here, the population targeted in Aim 1 comprises physicians. Interventions can be directed at individual physicians or focused on the organization. The business case for organizational interventions is that improving the health, well-being, and work life of physicians will in turn improve the patient’s experience of care (Aim 2) and reduce organizational costs (Aim 3). Although the figure focuses on physicians, the experience of providing care applies to all healthcare professionals

circumstances, and the way in which organizations acknowledge and address these conflicts in values will affect physician satisfaction.

13.4 The Business Case for Organizations to Intervene

The bottom line is that engaged and satisfied physicians provide higher quality and safer patient care at less expense to the organization than those with burnout (Scheepers et al. 2015).

13.4.1 Patient Satisfaction and Safe, High Quality Care

At a time when reimbursement in the USA increasingly depends on measures of patient satisfaction and quality of care (i.e., value-based reimbursement), the relationship between burnout and these patient outcomes is crucial for organizational revenues. Therefore, it is organizationally relevant that physician burnout and dissatisfaction are associated with lower scores for satisfaction among patients (Scheepers et al. 2015; Halbesleben and Rathert 2008; Anagnostopoulos et al. 2012). In addition, physician burnout was associated with longer recovery times as estimated by their patients following hospital discharge (Halbesleben and Rathert 2008).

Physicians with burnout or job dissatisfaction are also more likely than other physicians to perceive themselves as (1) providing lower quality of care (Klein et al. 2010; DeVoe et al. 2002) and (2) making more medical errors (West et al. 2006; Williams et al. 2007; Kang et al. 2013). Depression is also associated with a perception of increased medical errors (West et al. 2006; Shanafelt et al. 2010). These studies of *self-reported or perceived errors* are supported by two studies which demonstrated increased rates of *chart-verified errors* in house officers endorsing depression or psychological distress (Fahrenkopf et al. 2008; Houston and Allt 1997).

Other studies also found relationships between physician well-being and objective measures of care quality. For example, Linzer et al. (2009) found that alignment between physicians' and leadership values predicted both higher care quality and lower error rates for diabetic patients as well as less burnout and dissatisfaction. In two studies reviewed by Scheepers et al. (2015) job satisfaction among physicians was associated with objective measures of patient adherence to treatment and appropriate prescribing practices. Finally, a study on physician well-being showed that physicians' own personal, preventive health practices were related to those practiced by their patients (Frank et al. 2013). This study indicates that physicians who take care of their own health more successfully influence their patients to take care of theirs.

In summary, physician satisfaction and well-being are related to patient satisfaction, higher quality of care, fewer medical errors, and patients' own personal health practices.

13.4.2 Lower Organizational Costs

Organizational costs due to burnout result from (1) decreased physician productivity (Dewa et al. 2014a) due to diminished work ability and sick leave, (2) replacement costs due to physician attrition or turnover, and (3) costs due to medical errors and patient dissatisfaction, including malpractice lawsuits, as well as disruptive behaviors (see also Chap. 3).

1. **Decreased physician productivity.** A systematic review in 2014 found that burnout was associated with self-reported lower ability to work in one study and increased sick leave in one of two studies (Dewa et al. 2014a). Further evidence comes from a 2-year longitudinal study of Finnish physicians showing that short-term sick leave was predicted by feeling overloaded by work in men, and

low job control in all physicians, while long-term sick leave was related to more on-call days in men, and to both low job control and teamwork problems in all physicians (Kivimaki et al. 2001).

2. **Physician turnover costs.** When physicians leave their jobs, organizations have replacement costs of recruitment, relocation, hiring, and training new physicians. Organizations also lose revenue until a new physician can generate optimal revenue from seeing a full complement of patients. Misra-Hebert (2004) cited studies published in 1992 and 1998 that estimated lost revenues from a departing physician ranged from \$400,000 to \$2,000,000, likely depending on factors such as specialty, experience, and time to recruit. In 1999, Buchbinder et al. estimated replacement costs due to primary care physician turnover in the USA to range from \$236,000 for general and family practitioners to \$245,128 and \$265,000 for general internists and pediatricians, respectively. In 2004, Waldman et al. (2004) found in a US academic setting an annual turnover rate of 9% and estimated that the cost to hire and train one new physician as well as lost productivity during that process was between \$154,333 and \$185,254. However, they suggested that recruiting a physician for a senior position could easily exceed \$500,000. In 2005 dollars, Schloss et al. (2009) calculated expenses by specialty in another US academic setting, based on an average annual turnover rate of 6.4%. They reported that generalists cost \$115,544 to replace, medical specialists \$286,503, and surgical specialists \$587,125. Dewa et al. (2014b) focused on national costs of physician burnout in Canada using data from 2007 to 2008, which they estimated at \$213.1 million due to early retirement and \$27.9 million due to reduced clinical hours.

In summary, replacement costs vary widely depending on the circumstances, but organizations make considerable investments in hiring new physicians. Therefore, the money spent on interventions to increase physician retention must be weighed against the costs of attrition due to burnout and dissatisfaction.

Most surveys of physician turnover ask physicians about their intention to leave practice or medicine altogether. Some longitudinal studies demonstrate that actual turnover or reduction in hours is predicted by baseline levels of physician dissatisfaction and intention to leave (Hann et al. 2011; Buchbinder et al. 2001; Shanafelt et al. 2016b). The reasons physicians give for intending to leave practice include burnout, job dissatisfaction, or both (Misra-Hebert et al. 2004; Buchbinder et al. 1999; Lindfors et al. 2009). Other reasons reflect the six known organizational risk factors for burnout as mentioned above:

- (a) *Excessive workload*, chaotic workflow pace (Linzer et al. 2009), or time pressure in relation to electronic medical records (Babbott et al. 2014; Silver et al. 2016) and dissatisfaction with work-life balance (Shanafelt et al. 2014).
- (b) *Restricted job autonomy* (Linzer et al. 2009; Misra-Hebert et al. 2004; Lindfors et al. 2009).
- (c) *Less work-related social support*, frequent conflicts with superiors and coworkers (Lindfors et al. 2009), and an experience of racial discrimination (Nunez-Smith et al. 2009).

- (d) *Inadequate rewards* contribute to burnout and potential rewards such as professional development opportunities are associated with intentions to stay (Misra-Hebert et al. 2004).
- (e) *Organizational injustice* (Lindfors et al. 2009; Heponiemi et al. 2013).
- (f) *Misalignment of physician and organizational values* (Linzer et al. 2009; Misra-Hebert et al. 2004).
3. **Medical malpractice costs.** The relationship between burnout and malpractice is reciprocal. As discussed above, burnout is associated with patient dissatisfaction, medical errors, and lower quality of care, all of which in turn are associated with malpractice claims. Conversely, malpractice cases are highly stressful for physicians and can lead to burnout (Balch et al. 2011; Chen et al. 2013; Fileni et al. 2007). In one study, physicians cited many of the workplace factors known to be associated with burnout as contributing to malpractice-associated diagnostic errors: excessive workload, insufficient time for quality work, and a tense and uncooperative work environment (Fileni et al. 2007). Even when not resulting in a malpractice claim, these errors take their toll on patients, physicians, other staff, and organizational resources.

In summary, physician burnout is costly to organizations in terms of decreased safety and quality of care, patient satisfaction, sick leave, impaired ability to work, replacement costs (at a time when a physician shortage is predicted in the USA), and malpractice costs. Physician burnout is also associated with depression, suicidal thoughts and behaviors, and substance use disorders (Oskrochi et al. 2016; Wurm et al. 2016; Lheureux et al. 2016). Thus, there is also an ethical imperative for organizations to address the causes of burnout.

13.5 Implementation of a Physician Well-Being Initiative

Maslach et al. (2001), who pioneered burnout research, commented that organizational interventions have immense potential value, but are difficult to implement. There is no one right way to implement interventions, but a stepwise process can optimize success. The steps described here are neither exhaustive nor the best way for every organization, so other models and strategies should be consulted. For example, DeChant and Shannon (2016) gave several case examples of organizations implementing interventions using a lean improvement process, while Sinsky et al. (2013) visited well-functioning primary care practices to observe how interventions were implemented.

Swensen et al. (2016) recommended the following steps:

- **Listen** to physicians for their drivers of burnout (e.g., surveys and meetings with frontline physicians)
- **Act** using a participatory approach that empowers physicians to design and implement interventions targeted at their priority, unit-specific burnout drivers. Monitor outcomes and recognize successful multidisciplinary teams
- **Develop** and support physician leaders for intervention teams
- **Repeat** process in a quality improvement manner

Similarly, Shanafelt and Noseworthy (2017) identified the following strategies for implementing organizational interventions:

- Acknowledge and assess the problem
- Harness the power of leadership
- Develop and implement targeted interventions
- Facilitate and fund organizational science (developing and disseminating evidence-based strategies for reducing burnout and enhancing engagement in the organization)

Other authors can also be consulted (Gritz et al. 2009; Gautam 2009; Hernandez and Thomas 2015).

The four steps described below are for consideration to provide a framework when implementing a Physician Well-Being Initiative de novo.

13.5.1 Step 1: Gather Support from Leadership and Front-Line Physicians

Physicians: Within a given organization, there may already be physicians who are involved or interested in doing work on physician health and well-being activities. These individuals may or may not already know each other, so a snowball technique can be used to identify and network them. Their interests and activities should be ascertained as well as their willingness to join a network of interested physicians for sharing ideas, exchanging educational materials and readings, and playing a role in the next steps described below. Bringing these physicians together is a way to build community around physician health and well-being.

Leaders: Some organizational leaders may already have interest in or concerns about physician health and well-being. They should be identified, approached, and asked about other leaders to gather as much leadership support as needed. After making the business case and agreeing on common goals (see above), securing their visible commitment and concrete resources is essential. Fig. 13.3 shows how the three traditional aims of healthcare institutions—improving the health of populations, improving the patient’s experience of care, and reducing the costs of healthcare—known as the triple aim, dovetail with physician well-being as the fourth or quadruple aim (Bodenheimer and Sinsky 2014).

13.5.2 Step 2: Form a Working Task Force from the Network of Supportive Physicians

The task force is formed from the network of interested physicians with leadership support. The task force will accomplish specific activities:

- Taking an inventory of what the organization may already have in place to address burnout and its work-related factors, including policies, procedures, and resources.

- Asking physicians to identify the root causes of burnout among physicians and their clinical units, by conducting one or more surveys to assess their needs and stressors. Surveys provide baseline measures. A customized questionnaire—adapted for each organization’s unique culture, leaders, and frontline physicians—can be derived from existing, validated and standardized instruments, balancing survey length with the need for information.
- Analyzing and disseminating information from the survey to physicians and leaders with a commitment to address the top issues.
- Obtaining and utilizing other baseline metrics that leadership already monitors such as quality and safety, patient satisfaction and complaints, physician/employee satisfaction, and attrition rates, as well as the frequency and costs of malpractice claims.
- Determine the scope of the physician health and well-being initiative, which could include any or all of the following:
 - Education and prevention.
 - Cultivating an organizational and professional culture that emphasizes physician health and well-being as an organizational aim and value.
 - Resiliency training and wellness activities that time-pressured physicians will utilize.
 - Interventions (1) to reduce burnout and disruptive behaviors (Samenow et al. 2013; Speck et al. 2014), increase engagement, and improve physician health and well-being, (2) to decrease distress due to bad patient outcomes, medical errors, and malpractice claims (Balch et al. 2011), (3) to identify and treat mental health and substance use disorders with the potential to cause impairment (Baker and Sen 2016; Pitt et al. 2004), and (4) to decrease stigma and increase access to mental health services (Gold et al. 2016). Consider physician-specific assistance programs if physicians do not utilize the organization’s general employee assistance program.
- Transition to a Committee for Physician Health and Well-Being after initially discussing its purpose, goals, structure, and support. Some of the activities mentioned above are already mandated by The Joint Commission Requirements (e.g., MS.11.01.01 for health concerns as well as identifying and managing behaviors that undermine a culture of safety). The Committee suggested here should specifically address physician health and well-being by advocating for and facilitating organizational interventions and resiliency building to prevent burnout.

13.5.3 Step 3: Establish a Committee for Physician Health and Well-Being

Using the recommendations from the Task Force:

- Determine where the committee will fit in the organizational structure and which other groups it will interact with.
- Establish budget support and administrative/clerical support to fulfill its activities.

- Determine the size and composition of committee, how often it will meet (at least monthly to start), and establish a process and criteria for selecting committee members. While organizational leaders may serve on the Task Force, their inclusion in this committee will depend on its scope. Physicians will not refer themselves to a committee which includes people who can exercise any power over their job status and career.
- Discuss leadership of the committee and the roles of leaders and members.
- Affirm a vision, purpose, and goals for the committee, align committee values with organizational ones.
- Agree on confidentiality rules and protection as a Quality Assurance activity if possible.
- Review survey results and pertinent literature as a basis for the next step.

13.5.4 Step 4: Select, Prioritize, and Implement Interventions

- Identify and help individuals, teams, clinical units, departments, and divisions to design and develop interventions based on their interest, motivation, leadership support, and data regarding burnout and contributing work factors.
- Priority will be given to interventions with goals that meet SMART criteria (specific, measurable, attainable, realistic, and timely), both in terms of functional improvement of the clinical unit and participant well-being and engagement.
- Interventions will ideally be implemented using (a) a participatory approach with a designated physician leader and multidisciplinary team and (b) an iterative, continuous quality improvement approach. These two approaches are based on research demonstrating that physicians engaged in improvement projects of their own choice have decreased burnout scores post-intervention (Linzer et al. 2015).

13.6 Conclusions

The workplace environment is fraught with difficulties for physicians that contribute to stress and burnout. Among them are (1) work overload relative to the time available and workflow inefficiency due in part to user-unfriendly electronic health records, (2) diminished autonomy and control with loss of discretionary time and input into decisions affecting patient care, (3) unsupportive, interpersonal work environments, (4) incentives tied to productivity, based on increased fiscal and performance monitoring, with reduced respect and appreciation, (5) perceived organizational injustice, and (6) conflicting professional and organizational values. These changes in the workplace result from external factors such as healthcare reform as well as the organization's response to those factors. Individual factors also contribute to burnout and interact with organizational factors, resulting in a mismatch between physicians and their organizations. Accordingly, a two-pronged approach to mitigating burnout requires interventions that (1) target organizational risk factors contributing to burnout and (2) increase resiliency. Resilience is necessary, but

insufficient to address the most powerful factors confronting otherwise healthy physicians. Moreover, focusing only on physician resilience inadvertently places all the responsibility (and blame) on individual physicians. Organizational acknowledgment of contributing workplace factors is a first step toward sharing the burden of responsibility and helps to alleviate the shame and secrecy of individual physicians who may be struggling. Thus, organizational interventions are necessarily a collaboration between physicians and their organizations. This calls upon organizations to include physician health and well-being as a core value and goal, accompanied by visible action. Both physicians and their organizations will benefit, because physicians engaged in work that is meaningful to them results in improved quality of care and reduced costs. In addition to being good for business, organizations have an ethical imperative to take good care of their physicians to reduce burnout and its associated negative effects, including the tragedy of suicides. Likewise, physicians have an ethical imperative to take good care of themselves for the good of their patients. This shared imperative for physicians and organizations may be summarized most succinctly as: *Take care to give care.*

Key Points

1. Three sets of risk factors contribute to physician burnout: individual, organizational, and external factors.
2. Work-related risk factors for burnout have been divided into six categories: (a) work overload, (b) insufficient autonomy or job control, (c) non-supportive interpersonal work environment, (d) ineffective rewards and incentives, (e) lack of fairness or organizational justice, and (f) misaligned values between physicians and their organizations. These factors are the targets of organizational interventions.
3. Models of burnout emphasize a mismatch between what physicians expect from organizations to do high-quality work and how the organization supports them to do their work.
4. The literature to date supports the efficacy of organizational interventions for improving physician burnout and job satisfaction.
5. Duty hour reform (DHR) in the USA is arguably the most widespread and well-studied of all organizational interventions. DHR targets workload and provides important lessons on (a) responding to sentinel events, (b) mandating interventions without the flexibility to adapt them to local conditions and different specialties, (c) conducting controlled trials prior to generalized implementation, (d) the need to monitor for unintended consequences of addressing one work factor when a complex system of factors contributes to outcomes, (e) financial costs, and (f) the time course of outcomes.
6. Participatory organizational interventions are designed, customized, and implemented by physicians based on the work factors they identify as being most important to the functioning of their clinical unit and their well-being. Baseline and follow-up measures of selected outcomes are necessary to assess the effectiveness of interventions and refine them as needed using a quality improvement process.

7. Leaders have good cause to support organizational interventions in order to enhance their patients' experience of care, improve safety and quality of care, and reduce their costs from decreased physician productivity, high turnover rates, and the adverse consequences of patient dissatisfaction and medical errors, including malpractice claims.
8. Both organizations and physicians have an ethical imperative to improve the workplace environment, not only to improve and safeguard patient care, but also to mitigate the high rates and consequences of physician burnout, including mental health and substance use disorders, and the tragedy of suicides.

Acknowledgments To Drs. Jack Billi, Jane Lemaire, Mark Linzer, and Vita McCabe as well as Claire Weiner for their helpful comments and reviews of this chapter.

Appendix: Constructs, Definitions, and Measures

Burnout, job satisfaction/dissatisfaction, engagement, and well-being are overlapping and correlated constructs. They differ in terms of positive (engagement, well-being) or negative (burnout, dissatisfaction) emphasis and measurement. When considering studies of burnout and related constructs, readers are encouraged to consider the study population (all physicians vs. specialty and subspecialty physicians, stage of career from training to pre-retirement, hospital vs. ambulatory care practice, academic vs. community and urban vs. rural settings, and country of origin); study methods (sampling, response rates, longitudinal vs. cross-sectional design, measurement tools, and multivariate analyses); and the dates of data collection because of cohort and environmental effects (Shanafelt et al. 2015a).

Burnout. The most dominant definition of burnout derives from the work of Maslach and colleagues (2001) who described it as a stress-induced, work-related syndrome characterized by (1) emotional exhaustion; (2) a negative reaction to the job, including cynicism and detachment from patients (called depersonalization); and (3) a decreased sense of personal accomplishment and feeling ineffective at doing what used to be meaningful work. Burnout is most commonly measured with the 22-item Maslach Burnout Inventory, a copyrighted instrument, although shortened versions and other instruments are also used. Some research has emphasized the greater importance of emotion exhaustion and cynicism than personal accomplishment. Many physicians are able to maintain their sense of efficacy under stressful work conditions.

Engagement. Physician engagement has been viewed on the same continuum as—and opposite of—burnout (Maslach et al. 2001). When 1666 US physicians were asked on a scale of 1–10 how important feeling engaged was to their job satisfaction, the average score was 8.0 indicating a high degree of importance (Stark 2014). As measured by the Utrecht Work Engagement Scale, it has three factors: vigor (feeling strong, energized, and motivated at work), dedication (feeling enthusiastic about, inspired by, and proud of work), and absorption (feeling happy when immersed and engrossed in work).

Satisfaction/Dissatisfaction. Multiple studies have shown that physician satisfaction is negatively correlated with burnout (Amofo et al. 2015; Keeton et al. 2007; Williams et al. 2007; Arora et al. 2014). In the USA dissatisfaction has been increasing since the 1980s, initially associated with the spread of managed care and increasing malpractice insurance rates and claims. *Direct questions* about satisfaction may focus on one's current job, chosen specialty, or a career in medicine; income and benefits; personal time (satisfaction with work-home balance); enough time to see patients; and relationships with other physicians, staff, and patients (Shanafelt et al. 2015a; Friedberg et al. 2013). *Indirect questions* about career satisfaction may inquire about one's likelihood of recommending the profession to others, leaving one's current job, retiring altogether, or switching to another career or specialty within a certain period (ranging from 1 to 5 years). *Objective indicators* of satisfaction have included the number of applicants to medical schools over time, strikes by unionized physicians such as in the UK, and rates of physician turnover.

Well-Being. Wellness, well-being, and health are related constructs. *Health* was defined in 1948 by the World Health Organization (WHO) as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO 1948). *Mental health* is described as "... a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community... In this positive sense mental health is the foundation for well-being and effective functioning for an individual and for a community" (World Health Organization 2004). *Well-being* is described as a state of positive mental health to emphasize that it is not simply the absence of disease. Well-being is measured by physicians' overall evaluations of their lives (job and life satisfaction) and job-related emotional experiences (higher positive and lower negative affects). Well-being is also associated with better quality of patient care (Scheepers et al. 2015).

Joy in Practice and Happiness. This newer and evolving concept encompasses physician well-being, career satisfaction, and work engagement but further attempts to capture the essence and meaning of the physician's professional calling and the medical encounter itself, which is to cultivate a healing relationship with patients that facilitates provision of high-quality care (Sinsky et al. 2013). Any obstacles to doing so will contribute to burnout, disengagement, and dissatisfaction. Happiness may be linked to joy through its emphasis on career purpose and personal accomplishment (Eckleberry-Hunt et al. 2016).

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