Health Resources and Administration (HRSA)
Health Center Workforce Survey

LITERATURE REVIEW SUMMARY

A Component of the Qualitative Research Report

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Submitted By:

John Snow, Inc.
44 Farnsworth St
Boston, MA 02210

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Introduction

The literature review for the Health Center Workforce Survey project will serve as the foundation for other activities including informing the development of the survey instrument, identifying promising practices to enhance workforce well-being and engaging a cross section of health centers[1] in a learning collaborative. Additionally, the survey will be used to collect information on how job satisfaction and burnout vary by staff demographic characteristics and relevant attributes of the work environment. Ultimately, the data collected through the Health Center Workforce Survey will: (1) provide baseline levels of job satisfaction and burnout; (2) allow for comparisons at the national, state, and organizational levels; (3) organizational change to improve workforce well-being; and (4) inform HRSA/Bureau of Primary Health Care (BPHC) training/technical assistance strategies to improve workforce well-being and build learning organizations/communities.

Background

The delivery of primary care is an intensive service-sector endeavor, almost wholly dependent on the effective functioning and integration of care providers and other ancillary/administrative staff of the health care organization for the process and outcomes produced (Agency for Healthcare Research and Quality, 2015). The pressures on staff in a modern primary care practice are enormous, often described as being on the "front line" of today's medical system. These individuals must have significant clinical autonomy, yet simultaneously work in concert with each other and with a myriad of external provider and non-provider organizations, and in collaboration with their patients/caregivers and the community they serve (Lotte N. Dyrbye et al., 2017). Primary care practices are responsible for not only a difficult mix of direct clinical care and the related billing and record keeping, but also for coordinating the patient's path through the entire medical system, and for much beyond the scope of just "medical" care (Liselotte N Dyrbye, West, Burriss, & Shanafelt, 2012). Provision of mental health and substance use services, oral health service integration and factoring in the social determinants of health, further extends the possible roles in primary care. Integrated electronic health records (EHR) systems hold great promise but are often cumbersome to learn/use with efficiency, even as they provide access to yet greater sums of data/information to be assimilated (Reisman, 2017; T. Shanafelt et al., 2016). The compensation for primary care is relatively low, while medical education costs remain high (Phillips, Petterson, Bazemore, & Phillips, 2014). These factors are true in most primary care settings, but the challenges are exacerbated when caring for the medically underserved and socially disadvantaged populations that are the focus of the Community Health Center Program, where the medical/social needs of patients are great andthe

[1] "health centers" refer to health centers that are part of the HRSA/BPHC Community Health Center program.

resources scarce (Olayiwola et al., 2018). Conversely, however, it can also be this sense of mission and purpose that produces great intrinsic rewards for Health Center staff.

With a large primary health care workforce, provider and non-provider staff well-being continues to be at the forefront for Health Centers working to optimize quality of care by enhancing patient experience, improving population health, and reducing costs. National studies indicate that approximately half of all physicians and nurses are experiencing professional burnout (C P West, Dyrbye, Satele, Sloan, & Shanafelt, 2012). Similar trends are seen in pharmacists, dentists, and other health care providers. Numerous factors have been associated with clinician well-being, burnout, and engagement, including workload and job demands, efficiency and resources, degree of meaning derived from work, culture and values, control and flexibility, social support and community at work, and work-life integration (Tait D Shanafelt & Noseworthy, 2017; Tait D Shanafelt et al., 2019; C. P. West, Dyrbye, & Shanafelt, 2018; C P West et al., 2012). Consequently, provider burnout negatively affects provider well-being, quality of care, patient safety, satisfaction, and attributes to suboptimal patient outcomes. These effects can also lead provider turnover, difficulties with recruitment and retention, and productivity loss (Bogle, Bosio, Cangialosi, & Jiang, 2018; Dewa, Jacobs, Thanh, & Loong, 2014; Jackson et al., 2018; Misra-Hebert, Kay, & Stoller, 2004).

Improving workforce well-being and satisfaction and addressing burnout are critical to maintaining an engaged workforce and to improving recruitment and retention (Willard-Grace et al., 2019). These will support both access to and quality of care to closely align with the US Department of Health & Human Service's (HHS) and HRSA/BPHC's strategic goals to reform, strengthen, and modernize the nation's health care system and improve access to quality health care services.

Objectives

The overarching objective of this literature search was to support the identification and selection of measures of workforce well-being as well as any concepts that influence well-being and outcomes that are affected by staff levels of well-being. There has been extensive research conducted on these concepts and the relationships among them both inside and outside of the health care professions. However, much of the research that was conducted among health care professions has focused on clinical occupations in hospital settings. Relatively little has been conducted in the health center setting and even less on non-clinical staff in health centers. Therefore, another key objective was to identify measures that would be appropriate to use within a health center setting and for all occupations within health centers, clinical and non-clinical.

Meeting these objectives was facilitated by building on prior literature reviews of relationships among these concepts and descriptions of pros and cons of various alternative measures of these

concepts. The search was organized around a conceptual model similar to the Mayo Clinic framework of burnout and engagement focusing on the primary care delivery setting. At the center of the conceptual model (described below) were two main concepts:

1. Burnout/engagement for both clinical and non-clinical staff;
2. Job satisfaction setting for clinical and non-clinical staff.

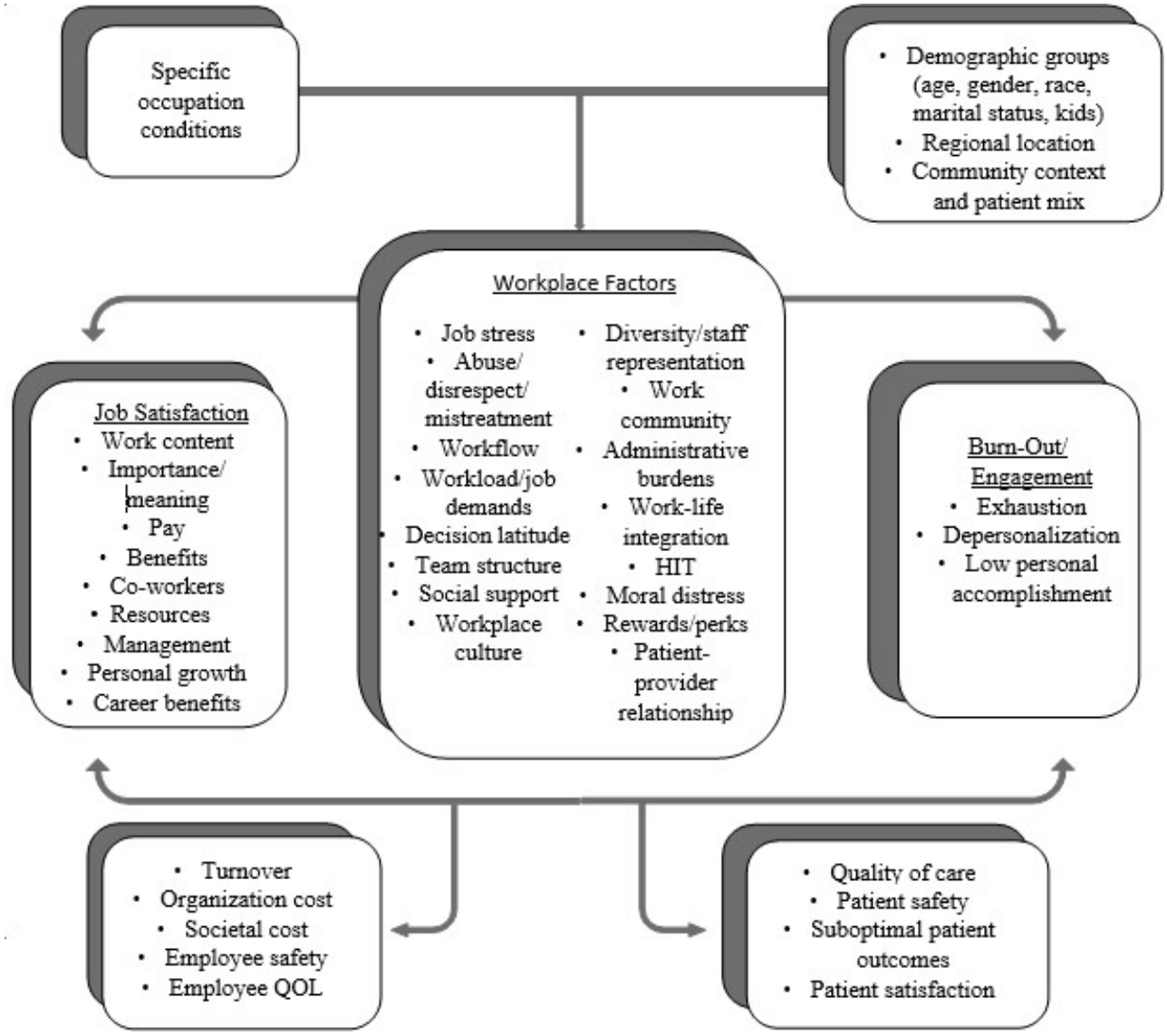
The specific aims/objectives of the literature search include the following:

- Identify validated measures of the two central concepts that are appropriate for use with both clinical and non-clinical staff in the health center setting
- Identify the factors that influence burnout/engagement and job satisfaction and then identify measures of these factors that would be appropriate to use for health center staff
- Document the impact of burnout/ engagement and job satisfaction on staff retention, quality of care and related patient outcomes such as patient satisfaction and identify measures of those outcomes that employees could speak to
- Determine whether there are different definitions or wordings of measures by gender, ethnicity, age or tenure
- Identify current best practices and innovations to improve staff satisfaction and decrease staff burnout

Conceptual Model (Framework) as a Guide to the Literature Search

JSI's conceptual model or framework that formed a guide to the literature search is shown below in Figure 1. JSI's framework is similar to the Mayo Clinic Framework for Understanding Burnout in Clinical Settings (T. D. Shanafelt et al., 2019). It differs from the Mayo Clinic Framework in that it incorporates both concepts of worker well-being – burnout/engagement and job satisfaction – as well as incorporating related outcomes affected by these concepts. The JSI framework provides a more detailed listing of "Workplace Factors" which are thought to influence burnout or job satisfaction, or both. As explained below, JSI used this conceptual model to focus the literature search and to organize the presentation of information gathered from the search.

Figure 1. JSI conceptual model to guide survey development for health centers



Methods

JSI conducted a scoping review of the current literature on burnout, job satisfaction and well-being among physicians and other health care personnel in various health care settings. JSI began with a critical evaluation of recent national studies and reviews on burnout and job satisfaction. Using results from that evaluation, JSI developed the conceptual model/framework to inform a targeted literature search. JSI performed targeted literature searches for each the major concepts within the conceptual model.

JSI identified publications/reports for review from peer-reviewed sources as well as other sources with scientific integrity including proceedings/recommendations from the Advisory

Committee on Training in Primary Care Medicine and Dentistry. Searches were conducted from multiple databases (e.g., Medline/ PUBMED, CINAHL, Web of Science, PsychLit, ABI/INFORM), National Library of Science, conference proceedings, and program evaluation reports. All identified literature was uploaded into Covidence, a web-based tool for screening and managing search results and data extraction.

JSI's search strategy included a specific collection of key words (e.g. burnout, job satisfaction, measures, and factors). To select relevant papers for review, JSI applied the following inclusion criteria: focused on burnout (depersonalization, emotional exhaustion, personal accomplishment) and job satisfaction in health care/primary care settings; focused on factors contributing to or associated with burnout and/or job satisfaction; focused on health care professionals (clinical/non-clinical), included models, constructs and measures; focused on recent (within the past 10 years) with the exception of theoretical papers; and focused primarily on studies conducted in the United States.

Screening and Review Process

JSI identified 1,284 articles through the literature search of which 398 were duplicates and excluded from review (see Figure 2). The remaining 886 articles were then subjected to a screening and review process that was conducted in three stages: abstract review, full text screening and tagging, and full text review for data abstraction.

Abstract review

During this process, abstracts were evaluated for eligibility and relevance to the topic areas using a broader inclusion and exclusion criteria, and then tagged to document which topics and content areas from the conceptual model were addressed based on information available from the abstract. All of the 886 articles underwent abstract screening; based on this screening 358 were dropped from more in depth review either because the quality of the article was very low or upon further consideration it was thought to not be relevant.

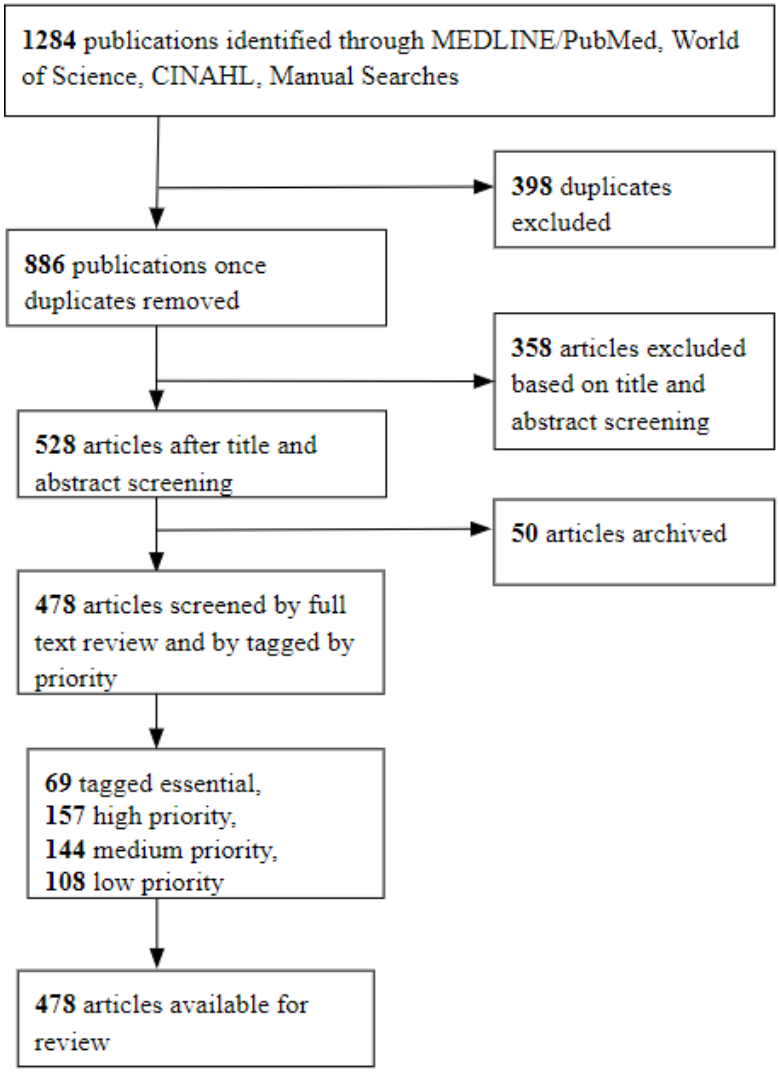
Full text screening and tagging process

After completing the abstract screening/tagging process, JSI continued a more detailed review of the remaining 528 articles by conducting a full text review. During this process, JSI partially adopted the Critical Appraisal Skills Program (CASP) criteria for systematic reviews, using it to rank papers by priority. CASP uses a checklist to evaluate and appraise papers for inclusion in a systematic review. In addition to meeting the criteria for inclusion, a more extensive review was conducted based on the full text of the article. This review added to/modified previous tagging and provided descriptions of elements such as the quality of the study, relevance to the conceptual model topic areas, availability of the specific measures or concept descriptions, and a summary description of outcomes and results. Based on this more in depth review of the full text articles, a ranking was assigned – essential, high priority, medium priority, low priority or archive. Through this process, 50 papers were archived and excluded from the final step.

Full text review and data extraction process

For this final step, JSI developed a template for data extraction and assigned reviewers one or more topic areas/concepts. Reviewers extracted information on the study objectives, setting and population, concept definitions, instruments and measures, study findings as they related to burnout and job satisfaction as well as study implications. In addition, reviewers extracted information on potential initiatives to improve job satisfaction or reduce burnout as identified by the author(s). Data extraction was prioritized articles ranked as essential, high priority, or medium priority.

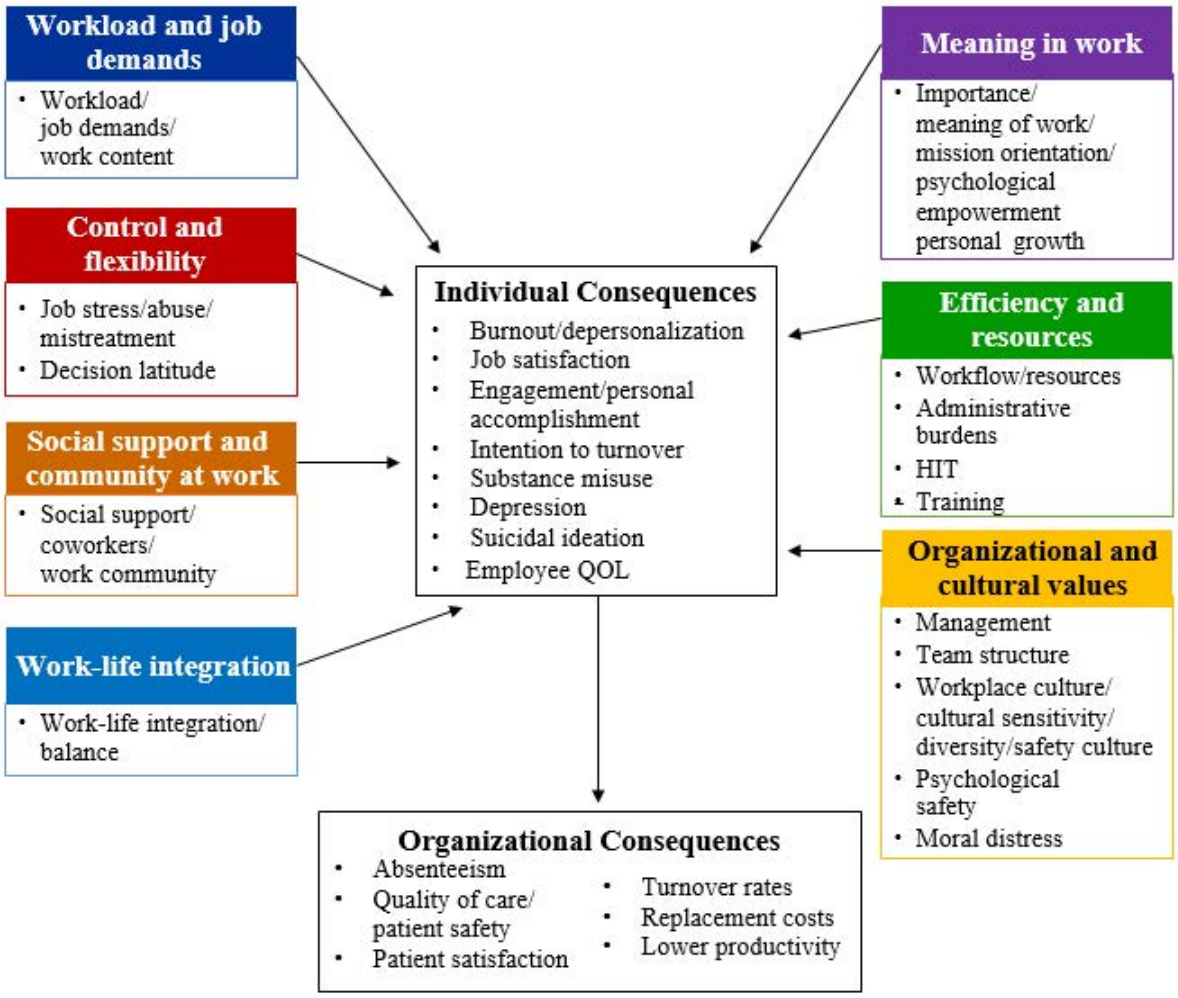
Figure 2. Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow chart.



An Integration of the JSI Conceptual Model (Framework) and the Mayo Clinic Framework

JSI's conceptual model is aligned with the Mayo Clinic framework, although there is a difference of structure. The Mayo Clinic framework provides an advantage in that it groups what JSI has labeled as "workplace factors" into seven major groups of "drivers" of burnout. These seven groups are labeled (1) Workload and Job Demands; (2) Control and Flexibility; (3) Social Support and Community at Work; (4) Work-Life Integration; (5) Meaning in Work; (6) Efficiency and Resources; and (7) Organizational and Cultural Values. In the integrated model in Figure 3, workplace factors in JSI's model are sorted and listed under each of the seven Mayo Clinic's drivers of burnout.

Figure 3. Integration of the JSI and Mayo Clinic frameworks.



Summary of Findings

This section provides a summary of the findings for each of the major concepts identified in the integrated model as shown in Figure 3.This section begins with research findings related to the two central concepts – burnout and job satisfaction. Then findings are presented for the concepts that the literature review found to be related to burnout and/or job satisfaction. The presentation of these findings is organized into subsections using the Mayo Clinic groupings of "drivers" of burnout and within those sections, findings are then presented for each concept that is listed in the integrated model within each driver box. For each concept, a definition is given, evidence is documented as to its relationship with burnout and/or job satisfaction, and ways in which the concept has been measured in those studies. If possible, JSI provides a preliminary recommendation as to which alternative measure to use for the Health Center Workforce Survey instrument. However, in many instances this selection will need to await further exploration and evaluation. Considerations about which measures would be most appropriate to use were made by implementing the following criteria where possible:

- Ability to be measured in the population of interest, in this case health care personnel (both clinical and non-clinical);
- Potential for implementation in primary health care settings including a reduced burden of implementation;
- Ease of measurement and interpretation including the availability of benchmarks;
- Sensitive to change and thus can be used for longitudinal assessments;
- Having strong psychometrics; and
- Broadly applicable to a variety of occupations.

The sections conclude with identification of interventions to influence the presence of that concept in the workforce based on evaluation studies or inferred implications from study results as defined by the study authors.

Burnout

Conceptual definition

Burnout is a syndrome characterized by high emotional exhaustion, high depersonalization (i.e., cynicism), and a low sense of personal accomplishment from work (National Academies of Sciences, Engineering, 2019). From a historical perspective, burnout was initially considered as a psychological phenomenon in the United States, beginning with studies by the psychologist Freudenberger (1974) and the psychologist Maslach (1976) (Freudenberger, 1974; C Maslach, 1976). Despite some criticism (Bianchi, Schonfeld, Vandel, & Laurent, 2017) and the existence of several other related constructs, such as karoshi (International Labor Organization, 2013) meaning "death by overwork and karoji satsu (Amagasa, Nakayama, & Takahashi, 2005)

meaning “suicide from overwork,” burnout became a popular topic in occupational health (Marques-Pinto, Lima, & Silva, 2008; Schaufeli & De Witte, 2017).

The names attributed to burnout measures can vary (Larsen, Ulleberg, & Rønnestad, 2017; Simbula & Guglielmi, 2010). The most commonly suggested definition is a tri-factor one (C Maslach & Leiter, 2016; Christina Maslach, Schaufeli, & Leiter, 2001), comprising emotional exhaustion (or simply exhaustion), depersonalization (also known as cynicism or disengagement), and a reduced sense of personal accomplishment (or professional efficacy) (Halbesleben & Buckley, 2004). It is expected that if a worker has high levels of the first two dimensions, there should be low levels of the third dimension since it is measured in the opposite direction to the other two.

Carod-Artal and Vázquez-Cabrera (2013) state that emotional exhaustion is the most important dimension of burnout syndrome—being referred to as a state of having feelings of being emotionally overextended and depleted of one’s emotional resources—representing the individual stress component (Bresó, Salanova, & Schaufeli, 2007; Carod-Artal & Vázquez-Cabrera, 2013). Depersonalization refers to cynical or excessively detached responses to others in the work context; this is the interpersonal component of burnout (C. Maslach, 1998). Finally, diminished personal accomplishment refers to the decreased sense of competence and of productivity, representing the component of self-evaluation (C. Maslach, 1998).

Other definitions of burnout are simpler in their conceptualizations and dimensionality. In 2001, Schaufeli and Greenglass defined burnout as ‘‘a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding.’’ A similar definition offered is ‘‘a state of physical and emotional exhaustion caused by long-term involvement in situations that are emotionally demanding’’(Pines & Aronson, 1988).

There is also a two-dimensional structure to burnout (Evangelia Demerouti, Bakker, Nachreiner, & Schaufeli, 2000). Based on empirical evidence, some authors consider that disengagement and exhaustion are the core dimensions of burnout, while reduced personal accomplishment plays a less important role (Christina Maslach et al., 2001; Shirom, 2002). In fact, it has been shown that the relation of reduced personal accomplishment to burnout outcomes and antecedents is weaker than the other two dimensions (R. L. Lee & Ashforth, 1996). Moreover, while emotional exhaustion leads to disengagement, reduced personal accomplishment develops individually in relation to the other two dimensions (M. P. Leiter, 1993). Cordes and Dougherty (1993) suggest that it is an individual difference similar to self-efficacy (Cordes & Dougherty, 1993).

Importance of the concept

The high rate of clinician burnout is a strong signal to health care leaders that major improvements in the clinical work environments have to become a national and organizational priority (National Academies of Sciences, Engineering, 2019). Burnout among clinicians affects quality of care, patient safety and health care performance (Lotte N. Dyrbye et al., 2017). In

addition, high levels of clinician burnout affects their overall well-being resulting in high rates of depression and suicidal ideation (Mata et al., 2015; Rotenstein et al., 2016). More than 50 percent of physicians in the United States have been reported to have burnout symptoms. The prevalence of burnout among physicians increased by nine percent between 2011-2014 (T. D. Shanafelt et al., 2015). Moreover, physician burnout is nearly twice as high as that among United States workers in other fields of work (Tait D. Shanafelt et al., 2012). The prevalence of burnout has also been shown to be high among nurses with 23-35 percent of nurses reporting emotional exhaustion (Mchugh, Sloane, Aiken, & Fagin, 2011).

Consequences to the physician workforce and health care system costs

Cross-sectional studies have associated physician burnout with decreased productivity, job dis-satisfaction and more than doubled self-reported intent to leave one's current practice for reasons other than retirement (Lotte N. Dyrbye et al., 2017). Using practice payroll records, a longitudinal study of physicians using the single-item Maslach Burnout Inventory (MBI)-based measures reported that each 1-point increase in emotional exhaustion or 1-point decrease in job satisfaction between 2011 and 2013 was associated with a 28 percent and 67 percent greater likelihood, respectively, of reduction in professional effort and work hours over the ensuing year (Tait D Shanafelt et al., 2016). Other studies further support the relationship between burnout symptoms and physicians leaving their clinical practices. In addition to the obvious effects on physicians' lives, these practice changes may reduce patient access to physician care and further strain health care systems already struggling to meet the needs of the populations they serve (C. West, Dyrbye, & Shanafelt, 2018).

Physician turnover also has financial implications for health care organizations. In a study by Han and colleagues, conservative models showed that approximately $4.6 billion in costs related to physician turnover and reduced clinical hours is attributable to burnout each year in the United States. This estimate ranged from $2.6 billion to $6.3 billion in multivariate models. At an organizational level, the annual economic cost associated with burnout related to turnover and reduced clinical hours was approximately $7,600 per employed physician each year (Han et al., 2019). Other studies have shown the estimated organizational cost of physician burnout ranges from hundreds of thousands to well over one million U.S. dollars per doctor, depending on specialty, practice location and the duration of the unfilled vacancy. This estimate includes costs associated with lost billings for departing physicians as well as recruitment, sign-on bonuses, and onboarding costs for replacement physicians (Dewa et al., 2014; Fibuch & Ahmed, 2015; C. West et al., 2018). Several smaller studies point to the possibility of increased outside referrals and greater resource utilization amongst physicians experiencing burnout or high work- loads. Physician burnout may also increase health care expenditures indirectly via higher rates of medical errors and malpractice claims, absenteeism and lower job productivity. A conservative estimate of the cost of burnout-related turnover exceeds $5,000–$10,000 U.S. dollars per physician per year, with the actual figure almost certainly running much higher due to additional costs related to indirect factors (C. West et al., 2018).

Primary causes of burnout

A chronic imbalance of high job demands and inadequate job resources can lead to burnout. The job demand–resources imbalance in health care is exacerbated by the increasing push for system performance improvement, which leads to greater administrative burden, production pressures, shifts in financial incentives and payment structures; by technology implementation that hinders rather than supports patient care; by changing professional expectations; and by standards and regulatory policies that are insufficiently aligned with the delivery of high-quality patient care or professional values (National Academies of Sciences, Engineering, 2019).

Mounting health care delivery system pressures have contributed to overwhelming job demands for clinicians (e.g., workload, time pressures, technology challenges, moral and ethical dilemmas) as well as insufficient job resources and supports such as adequate job control, alignment of professional and personal values, and manageable work–life integration (National Academies of Sciences, Engineering, 2019).

JOB DEMANDS	JOB RESOURCES
• Excessive workload, unmanageable work schedules, inadequate staffing • Administrative burden • Workflow, interruptions and distractions • Inadequate technology usability • Time pressure and encroachment on personal time • Moral distress • Patient factors	• Meaning and purpose of work • Organizational culture • Alignment of values and expectations • Job control, flexibility and autonomy • Rewards • Professional relationships and social support • Work-life integration

Burnout is common among health care workers. Characteristics of the health care environment, including time pressure, lack of control over work processes, role conflict, and poor relationships between groups and with leadership, combine with personal predisposing factors and the emotional intensity of clinical work to put clinicians at high risk (Agency for Health Research and Quality (AHRQ), 2017).

Primary consequences of burnout

Many studies have documented a variety of consequences of burnout. Examples of these consequences in no particular order are as follows. The personal consequences of burnout for clinicians and learners include occupational injury, problematic alcohol use, and the risk of suicide, substance abuse, depression/suicidal ideation, poor self-care and motor vehicle crashes (National Academies of Sciences, Engineering, 2019; C. P. West et al., 2018). The Copenhagen Burnout Inventory has been shown to relate burnout to sickness days per year (average), sickness spells per year (average), sleep problems (average score), use of pain-killers every week, and

intention to quit work (Kristensen, Borritz, Villadsen, & Christensen, 2005; Molinero Ruiz, Basart Gomez-Quintero, & Moncada Lluis, 2013).

In a 2014 Swiss-based study, the investigators propose that the linkage between burnout and safety is driven by both a lack of motivation or energy and impaired cognitive function. In the latter case, they postulate that emotionally exhausted clinicians curtail performance to focus on only the most necessary and pressing tasks. Clinicians with burnout may also have impaired attention, memory, and executive function that decrease their recall and attention to detail. Diminished vigilance, cognitive function, and increased safety lapses place clinicians and patients at higher risk for errors. With ongoing burnout, clinicians become cynically detached from their work and they may develop negative attitudes toward patients that promote a lack of investment in the clinician–provider interaction, poor communication, and loss of pertinent information for decision-making. Together these factors result in the clinician having impaired capacity to deal with the dynamic and technically complex care effectively (Lyndon, 2016; Welp, Meier, & Manser, 2014).

Clinician burnout is also associated with an increased risk of patient safety incidents and malpractice claims, poorer quality due to low professionalism, reduced patient satisfaction, and diminished and ineffective communication between patients and clinicians (Aseltine, Katz, & Geragosian, 2010; Schmidt & Deshpande, 2014; Zaghini, Fiorini, Piredda, Fida, & Sili, 2020). Burnout also puts a strain on health care organizations by increasing clinician absenteeism, presentism (working while sick or impaired), and turnover, reducing productivity (Dewa et al., 2014; Han et al., 2019; Jackson et al., 2018).

Physicians with burnout are more likely to reduce their clinical work hours, at least twice as likely to leave their job, and five times more likely to leave medicine altogether leading to reduced productivity, increased turnover, and less patient access (LN Dyrbye et al., 2013; Hamidi et al., 2018; National Academies of Sciences, Engineering, 2019; T. Shanafelt et al., 2009; C. West et al., 2018; Willard-Grace et al., 2019; Windover et al., 2018).

Demographic correlates

Various studies have shown that levels of burnout can vary by staff demographics, including gender, age, and the presence of children in the home, marital status, minority status, financial status, family roles and spouse occupations (Chiron, Michinov, Olivier-Chiron, Laffon, & Rusch, 2010; Senter, Morgan, Serna-McDonald, & Bewley, 2010; M. Thomas, Kohli, & Choi, 2014; C. West et al., 2018). Other studies have however shown inconsistent results on specific demographic variables. For example, various studies claim that being single or married is unrelated to the three burnout dimensions (i.e. emotional exhaustion, depersonalization and personal accomplishment). Other researchers however have concluded that workers who are single present higher levels of burnout, whereas other studies claim that being married is correlated with burnout overall (Cañadas-De la Fuente et al., 2015; Sabbah, Sabbah, Sabbah, Akoum, & Droubi, 2012). Similarly, there is also controversy in regard to having or not having

children. Whereas certain authors say that this variable is not related to burnout development, others have found a significant relation between the two. These inconsistencies indicate the need for additional studies to better understand why differences may or may not exist.

Many studies support differences in burnout by gender. While sex has not been consistently an independent predictor of burnout, studies have found female physicians to have 20-60% increased odds of burnout (McMurray et al., 2000; T. D. Shanafelt et al., 2015; T D Shanafelt et al., 2012; Colin P West, Shanafelt, & Kolars, 2011). A recent survey by Medscape also demonstrated higher prevalence of burnout among female physicians compared to males. (Frellick, 2020). Age and generational differences have also been documented with Generation X (ages 40-54) physicians reporting noticeably more burnout than other age groups (Frellick, 2020; Kane, 2020).

Findings from the current literature review suggest that the strongest predictors of burnout might differ by demographic group but did not indicate the need for different measures across demographic groups.

Table 1. Summary of demographic correlates of burnout.

Demographic	Findings	Studies
Gender	Females more likely to show exhaustion particularly causes are work-home conflicts; males more likely to show depersonalization due to workload	McMurray et al, 2000; Toyry et al, 2004; West, et al, 2011; Shanafelt, et al, 2012 and 2015; Wang et al, 2014; Madhavappallil Thomas & Kohli Vandana, 2014; Frellick, 2020; Chiron, Michinov, Olivier-Chiron, Laffon, & Rusch, 2010
Age	Younger (<55) more likely to report burnout, but older may have left profession	
Children in home	Having children under 21 in the home increases burnout	
Marital Status	Individuals without a partner had higher levels of depersonalization	
Spousal/partner occupation	Having a spouse that works as a non-physician health care worker increases burnout	

Descriptions of available measures

There are in existence several instruments to measure burnout, however, the Maslach Burnout Inventory (MBI) (C Maslach & Leiter, 2016; Christina Maslach, Jackson, & Leiter, 2016) is the most used (Ahola, Toppinen-Tanner, & Seppänen, 2017) and is commercially available (for a fee). Other options, some of them available at no cost, include the Copenhagen Burnout Inventory (Kristensen et al., 2005), the Burnout Measure (Malach-Pines, 2005; Pines & Aronson, 1988), the Educator Burnout Inventory (Wang, Liu, & Wu, 2003), and the Oldenburg Burnout Inventory (OLBI) (Bakker, Demerouti, & Verbeke, 2004); Bakker et al., 2004).

According to Schaufeli and Enzmann (1998) the MBI has been applied in more than 90 percent of all empirical burnout studies in the world, which gives the MBI dominant status in the field (Christina Maslach & Jackson, 1981). Because of the dominant position of the MBI, this instrument and Maslach's definition of burnout have become two sides of the same coin; burnout is what the MBI measures, and the MBI measures what burnout is.

Its dominance notwithstanding, there are criticisms of the MBI that must be considered for the selection of instruments to be used for the Health Center Workforce Survey. The authors of the Copenhagen Burnout Inventory (Kristensen et al., 2005) point to the following problems: (1) the MBI is focused on physician burnout and may not be suitable for a wide range of health care occupations; (2) the three subscales of the MBI measure three different things – a state, a coping strategy and an effect and research has shown different predictors and consequences of each; (3) the response options extending to "life time" potentially makes the measure less sensitive to measuring change over shorter periods of time; (4) some of the individual question wordings engender negative reactions among some groups; and (5) the instrument is not in the public domain. These concerns have led others to develop alternatives to the MBI that incorporate wording changes and/or what sub-dimensions are included in the burnout measure.

The Oldenburg Burnout Inventory (OLBI) seems to be the most prominent alternative to MBI (Demerouti et al., 2000). OLBI was developed by Demerouti and Nachreiner (1998); they suggest two burnout dimensions- disengagement and exhaustion - applicable to professionals outside human services occupations (Demerouti et al., 2000). OLBI does not contain any factor corresponding to what the MBI calls "professional efficacy. "This dimension received criticism in some studies (Bresó et al., 2007; Sinval, Queirós, Pasian, & Marôco, 2019), and, in the opinion of various authors, it is not a core burnout dimension (Bakker et al., 2004; Evangelia Demerouti, 2008) but can be interpreted as a possible burnout consequence (Koeske & Koeske, 1989) related to personality characteristics (Cordes & Dougherty, 1993).

The OLBI's total number of items changed since its original structure of 25 items to 15 (E. Demerouti, Nachreiner, Bakker, & Schaufeli, 2001); however, today's English language version has 16 items (Bakker et al., 2004; Halbesleben and Demerouti, 2005). It has positively and negatively worded items—an equal number of each kind in the two dimensions—something that

is considered an advantage (Price, 1997) since it can diminish acquiescence bias despite diminishing the internal consistency of the instruments (Sinval et al., 2019).

The exhaustion subscale of the OLBI has eight items that relate to feelings of emptiness, work overload, the need to rest, and physical, cognitive, and emotional exhaustion (Demerouti et al., 2003). Different from the exhaustion concept presented in the MBI, the OLBI approach to exhaustion covers cognitive, physical, and affective aspects of exhaustion, which may facilitate the use of the instrument with workers of different kinds of activity (Demerouti et al., 2003; Bakker et al., 2004).

The disengagement subscale of the OLBI has eight items that refer to distancing oneself from the work, together with negative and cynical behaviors and attitudes in relation to one's job (Demerouti and Bakker, 2008). The OLBI's concept of disengagement differs from MBI's depersonalization in terms of the amplitude of the distancing, since OLBI's concept is broader; it may refer to distancing oneself from work in general or, more specifically, to distancing oneself from the content and object, along with experiencing negative attitudes (Demerouti et al., 2003). Thus, disengagement offers a less restricted view of the lack of interest in work.

Another validated measure of burnout is the Copenhagen Burnout Inventory (CBI). The CBI has three parts, all focusing on sources of exhaustion: (1) personal burnout –the degree of physical and psychological fatigue and exhaustion experienced by the person; (2) work-related burnout – the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work; (3) client-related burnout –the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work with clients. The three scales can be used independently or in combination in accordance with the populations being studied and the theoretical questions being elucidated.

MBI users feel that there is "something lost" in using the CBI because the CBI does not include depersonalization/cynicism and reduced personal accomplishment. Use of the CBI does not however preclude the use of scales measuring these phenomena. The point being that depersonalization and personal accomplishment should be measured, analyzed and understood as distinct phenomena, which are important in themselves, and not part of a ''syndrome'' (Kristensen et al., 2005).

The Stanford Professional Fulfillment Index (PFI) is another burnout measure which contrary to its name actually incorporates three dimensions similar to the MBI—exhaustion, interpersonal disengagement and professional fulfillment. The professional fulfillment dimension was constructed to measure several intrinsic fulfillment factors not captured by the MBI Personal Accomplishment Scale. Although the recent focus on physician burnout has fueled much-needed attention to physician well-being, targeting professional fulfillment, as opposed to mere absence of burnout, is an important qualitative addition to comprehensive efforts to improve physician well-being (Trockel et al., 2018).

The various burnout measures are summarized in Table 2 and includes the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 2. Summary of burnout measures.

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Maslach Burnout Inventory (MBI)	22 items mapping into 3 subdomains: emotional exhaustion, depersonalization, personal accomplishment	Pros: oriented to clinical populations; national benchmarks Cons: 1-year time frame; fee
Copenhagen Burnout Inventory (CBI)	16 items mapping into 3 subdomains of exhaustion: personal exhaustion, work exhaustion, client exhaustion	Pros: free; all occupations Cons: no national benchmarks; only exhaustion items; no time frame reference
Oldenburg Burnout Inventory (OLBI)	19 items or 15 items; 5 point agree-disagree scale. exhaustion and disengagement; some items reverse scored	Pros: free; all occupations Cons: no national benchmarks; no timeframe reference
Physician Work-life Survey (Mini-Z)	1 item ("Overall, based on your definition of burnout, how would you rate your level of burnout.")	Pros: free; all occupations Cons: no national benchmarks; no timeframe reference; single item
Stanford Professional Fulfilment Index (PFI)	16 items; 3 subscales: work exhaustion, (5 point not at all true to extremely true); interpersonal disengagement, (5 point not at all true to extremely true); professional fulfillment (5 point. not at all true to completely true) (averages for each subscale)	Pros: free; oriented to clinical populations; no national benchmarks; time reference in question is last 2 weeks Cons: oriented only to clinical occupations; not national benchmarks
Physician Well Being Index (PWBI)	7 items yes/no responses; a series of questions encompassing mental quality of life, fatigue, burnout, suicidal ideation	Pros: all occupations Cons: mixes burnout questions with consequence measures

Adapted from: (Liselotte Dyrbye et al., 2018)

Recommendation of measure to use

Because the Maslach Burnout Inventory (MBI) asks the respondent to count the frequency of a feeling as far back as a year and even a lifetime, it may not be optimal for assessing changes due to interventions or other factors across time periods shorter than one year. Although the MBI personal accomplishment subscale captures a component of achievement at work, its authors conceived it and researchers often employ it as a reversed-valence component of burnout (Trockel et al., 2018). Others have criticized the three-factor structure and many favor using just two of the factors to gauge burnout—exhaustion and depersonalization. An overriding argument against the MBI for the Health Center Workforce Survey is the fact that it is not in the public domain and requires payment to use. Therefore, JSI is focusing on alternative measures of burnout rather than the MBI.

The Oldenburg Burnout Inventory (OLBI) has also been employed to measure physician burnout in the United States. Assessing emotional exhaustion and general disengagement from work, the OLBI has a well-validated English-language version. Absence of a time period anchor may complicate interpretation of variance in scores across time points, which will depend on the time periods that respondents independently formulate as they complete the questionnaire (Trockel et al., 2018). The five point agree/disagree scale may result in limited variation on individual items because of the severe positive skew in responses making this in effect only a 2-3 point scale. The wording of the items enables use across a variety of occupation groups, which is of importance for the Health Center Workforce Survey.

The Copenhagen Burnout Inventory (CBI) focuses entirely on the exhaustion dimension with three different domains—personal, work-related and client related. Although using a more psychometrically sound five-point scale than the OLBI, the work related and client related dimensions use a mixture of two different response scales within each dimension. The client (patient) dimension is recommended to be administered only to workers who have direct patient contact meaning that this dimension would not be scored for some health center workers.

The Stanford Professional Fulfillment Index (PFI) mimics the MBI in that it incorporates three dimensions of work exhaustion, interpersonal disengagement and professional fulfillment. Each dimension uses five-point response options that are psychometrically stronger than the OLBI. The three dimensions, which mirror the MBI, may make it a “safer” option than either the OLBI or the CBI.

However, all three burnout alternatives (OLBI, CBI, PFI) suggest that each sub-domain measured can be used independently. Therefore, this opens up the possibility to choose which source of each dimension to use.

Table 3. Summary of alternative measures to the MBI burnout dimensions.

MBI Burnout Dimensions	Instrument/Measure
Exhaustion	All three (OLBI, CBI, PFI) provide measures of this dimension
Disengagement	Only the OLBI and PFI provide measures of this dimension
Fulfillment	Only the PFI provides an alternative measure of this dimension

While a variety of instruments exists, JSI recommends the final choice of instrument be made following results from comparative analysis and cognitive testing for each of the alternatives described in Table 3 above.

Interventions

The evidence for system interventions that significantly address clinician burnout is limited (National Academies of Sciences, Engineering, 2019). Some organizational interventions (e.g., changes to clinical work processes) can reduce clinician burnout, and individual interventions (e.g. stress management) may also be effective, but they do not address some of the core work system factors that contribute to clinician burnout.

In their recent report, 'Taking Action against Clinician Burnout,' the National Academy of Medicine strongly recommends that health care organizations create, implement and evaluate their own interventions by using a systematic approach to reducing clinician burnout, use rigorous methods of evaluating burnout and burnout risk, and do so while openly sharing their lessons learned with other health care organizations. The report also calls for investment in research on organizational interventions (National Academies of Sciences, Engineering, 2019).

The literature is not devoid of either tested interventions or of strong ideas that flow from relational results into the causes of burnout (C. West et al., 2018). In their paper titled, 'Executive leadership and physician well-being: nine organizational strategies to promote engagement and reduce burnout' Shanafelt and Noseworthy (2017) outline key evidence-based strategies organizations can implement to reduce burnout and promote engagement at work (Tait D Shanafelt & Noseworthy, 2017).

West and Shanafelt summarize the global literature on interventions targeting physician burnout, identifying both individual-focused and structural or organizational strategies with demonstrated effectiveness (C. West, Dyrbye, Erwin, & Shanafelt, 2016). Panagioti (2017) focuses their paper on intervention results for the emotional exhaustion domain of burnout, further emphasizing the importance of organization-level strategies rather than purely individual-focused efforts (Panagioti et al., 2017).

The literature indicates that both individual-focused and structural or organizational strategies can result in clinically meaningful reductions in burnout among physicians. Further research is needed to establish which interventions are most effective in specific populations, as well as how individual and organizational solutions might be combined to deliver even greater improvements in physician well-being than those achieved with individual solutions. Examples of

organizational and individual level interventions to address the drivers of burnout, produced from the literature review, are summarized in Table 4.

Table 4. Examples of both organizational and individual level solutions.

Driver	Organizational Level Solutions	Individual Level Solutions
Excessive workload	• Fair productivity targets • Duty hour limits • Distribution of job roles	• Part-time status • Informed specialty choice • Informed practice choices
Work inefficiency and lack of work support	• Optimized electronic medical record (EMR) systems • Non-physician staff support to offload clerical burdens • Appropriate interpretation of regulatory requirements	• Efficiency and skill training • Prioritize tasks and delegate work appropriately
Lack of work-home integration	• Respect for home responsibilities in setting schedules for work and meetings • Include all required work tasks within expected work hours • Support flexible work schedules, including part-time employment	• Reflection of life priorities and values • Attention to self-care
Loss of control and autonomy	• Physician (worker) engagement in establishing work requirements and structure • Physician leadership and shared decision-making	• Stress management and resiliency training • Positive coping strategies • Mindfulness
Loss of meaning from work	• Promote shared core values • Protect physician time with patients • Promote physician communities • Offer professional development opportunities • Leadership training and awareness around physician burnout	• Positive psychology • Reflection/self-awareness of most fulfilling work roles • Mindfulness • Engagement in physician small-group activities around shared work experiences

Job Satisfaction

Conceptual definition

The definition of job satisfaction has evolved over time with a more recent definition summing up job satisfaction as how well people like their jobs, or more formally, an emotional state emerging from a cognitive appraisal of job experiences (Fritzsche & Parrish, 2005). Pool defined job satisfaction as — an attitude that individuals maintain about their jobs based on their perceptions of their jobs (Pool, 1997). Locke and Henne indicate that job satisfaction is an emotional response to a value judgment by an individual worker, and that if the individual perceives that their job values are fulfilled, they will be satisfied (Locke & Henne, 1985). Kalleberg's work on the theory of job satisfaction (Kalleberg, 1977) presents a clear understanding of the distinction between satisfaction and the specific dimensions of work roles from which an individual draws their satisfaction. Kalleberg emphasizes that even though job satisfaction is a unitary concept it can have a multidimensional representation, which should not be overlooked.

Importance of the concept and consequences of job satisfaction

Job satisfaction is critical to high productivity, motivation and low employee turnover. Job dissatisfaction among medical occupations has been discussed exhaustively in the literature in regards to its negative outcomes represented by burnout, absenteeism, turnover, greater intent to leave the employer and finally leaving the profession itself (Bani-Hani, Hamdan-Mansour, Atiyeh, & Alslman, 2016).

Causes of job satisfaction

Job satisfaction, due to its multifaceted nature, draws from of a number of theories in order to explain its role in organizational settings or its relationship with other constructs. As a result, multiple environmental, individual, and psychological factors effect job satisfaction (Dugguh & Ayaga, 2014). Factors that have been shown to positively affect job satisfaction include job type and authority level, tenure, salary, employee empowerment and required skills to complete work related tasks. The results in many articles show that job demands lead to many negative consequences and connect directly to job dissatisfaction (Burke, Moodie, Dolan, & Fiksenbaum, 2012; Hayes et al., 2012; Lu, Barriball, Zhang, & While, 2012). When psychological factors are considered, some researchers argue that burnout impacts job satisfaction while others argue the opposite. Job satisfaction has also been linked to health worker motivation, stress, absenteeism, intention to leave, and turnover. In the sections that follow, evidence will be presented on other concepts that are drivers of job satisfaction.

Available measures

Job satisfaction has been measured predominantly using self-report instruments that can be divided into two categories: (1) facet measures, which assess satisfaction with specific aspects of a job such as job security, coworkers, working conditions, company policies, and opportunities for achievement, accomplishment, and advancement (Weiss, Dawis, & England, 1967) and (2)

global measures, which focus on overall appraisals of a job. As Fritzsche and Parrish (2005) note, no theory is available to guide selection of which facets are most important under which circumstances. Evidence shows that global measures of job satisfaction are both effective and valid (Wanous, Reichers, & Hudy, 1997).

Available measures for job satisfaction are summarized in Table 5 and includes the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 5. Summary of job satisfaction measures.

Measure	Overview	Pros and Cons for Health Center Employee Use
The Ponds & Geyer Global Job Satisfaction Measure (Pond & Geyer, 1991)	6 items measuring an employee's general affective reaction to the job without reference to any specific job aspects (e.g., pay, promotion, coworkers)	Pros: oriented to tapping job satisfaction from a personal development and growth perspective Cons: no measures of specific sources of job satisfaction
Quality of Employment Facet-Free Measure of Job Satisfaction (Quinn & Staines, 1979)	This index estimated each worker's overall job satisfaction from his responses to five questions that in no way refer to specific facets of his job	Pros: short measure of general satisfaction Cons: questions have different numbers of response choices
Single item satisfaction question	"All in all how satisfied are you with your job?"	Pros: short; all occupations Cons: vulnerable to unreliability because of single item

Recommendation of measure to use

JSI recommends using a facet free/ global measure of job satisfaction because specific elements of the job situation will be measured directly (e.g. communication quality or workload or work-life integration for example) to measure workplace conditions that influence job satisfaction as is posited in the conceptual model.

Interventions

Creating job satisfaction begins by first providing a positive work environment. Mark Twain once said, "I can live for two months on a good compliment." Personal recognition is a powerful tool in building morale and motivation. A pat on the back, a personal note from a peer or a supervisor does wonders. Small, informal celebrations are many times more effective than a once a quarter or once a year formal event.

People may show up for work, but are they engaged and productive? People are more committed and engaged when there is a process for them to contribute their ideas and employee suggestions. This gives them a sense of ownership and pride in their work (Chartcourse, 2019).

Training and education motivates people and makes them more productive and innovative (Chapman, Chipchase, & Bretherton, 2017). Continuous evaluation includes, but is not limited to, the measurement of attitudes, morale, and motivation of the workforce. It includes the identification of problem areas needing improvement and the design and implementation of an improvement plan. Effective organizations conduct a job satisfaction survey at least once a year.

Organizational and Cultural Values

Management and Leadership

Conceptual definition

Leadership can be defined in various ways and the need for a specific type of leadership can change based on employee needs and organizational context (Nembhard & Edmondson, 2006). Nembhard and Edmondson defined leader inclusiveness and engagement behaviors as the "words and deeds by a leader or leaders that indicate an invitation and appreciation for others' contribution" (Nembhard & Edmondson, 2006). Leader inclusiveness and engagement are supported by the motivational model of participative leadership and argues that when employees are given opportunities to participate in decision making, this fosters higher levels of psychological empowerment that leads to increased employee engagement and improved work performance (Huang, Iun, Liu, & Gong, 2010). Another type of leadership, transformational leadership, is composed of four dimensions: idealized influence; inspirational motivation; intellectual stimulation; and individual consideration, and is supported by the full-range model of leadership (Bass, 1990). Idealized influence is the extent to which leaders instill pride in their team, provide a model for ethical behavior, and garner the trust and respect of their team. Inspirational motivation is the extent to which leaders communicate high expectations and a vision for the future. Intellectual stimulation is the extent to which leaders foster creativity and independent thinking, as well as welcoming new ideas from their staff. Individual consideration is the extent to which leaders interact with their staff on a personalized basis to assist their individual development (Bass, 1990).

Relationship to burnout and job satisfaction

Qualities and perceptions of organizational and team leadership have significant associations with employee outcomes, burnout and job satisfaction. Madathil (2014) found that transformational leadership scores were significantly and negatively related to emotional exhaustion and tended toward significance in relation to depersonalization in psychiatric nurses. In a study of mental health service providers, increasing the presence of a transformational leader was a protective factor against burnout. In addition, greater levels of transformational leadership

behaviors were associated with higher levels of personal accomplishments (Green, Albanese, Shapiro, & Aarons, 2014; Madathil, Heck, & Schuldberg, 2014). In a study of over 29,000 registered nurses within 41 states, nursing leadership, along with unit-level collaboration, were significantly associated with nurse job satisfaction. A hospital study by Ma (2015) also found that nursing leadership was significantly and negatively associated with nurse intent to leave and significantly and positively associated with nurse-reported quality of care to patients (Ma, Shang, & Bott, 2015). In a study of multiple health care positions, both clinical and non-clinical in a diverse nonprofit hospital, supervisor support for frontline health care workers' (i.e. nursing assistants, patient care technicians, mental health counselors, respiratory therapy technicians) participation in the three following dimensions was assessed: care processes, team-based work practices, and flexible work. Supervisor support for all dimensions were all positively associated with front line worker outcomes (Chuang, Dill, Morgan, & Konrad, 2012).

Additional leadership abilities that have a positive association with employee satisfaction were reported in a study by Jackowski (2015), which sampled radiologists in a hospital setting. The five leadership constructs included: (1) "Challenge the Process" defined as seeking challenging opportunities to change, grow, innovate, and improve and having leaders willing to take risks, experiment, and learn from mistakes; (2)"Inspire a Shared Vision" defined as leaders who enlist followers in a shared vision for an uplifting and distinguished future by appealing to their values, interests, hopes, and dreams; (3) "Enable Others to Act" defined as fostering collaboration by promoting cooperative goals and building mutual trust and empowering followers by providing choice, developing competence, assigning critical tasks, and giving visible support; (4) "Encourage the Heart" defined as providing individual recognition for success of projects and regularly celebrates accomplishment; and (5) "Model the Way" defined as modeling behavior consistent with shared values and that achieves small wins for promoting progress and commitment. Each of the five constructs had a positive, statistically significant association indicating that an increase in these leadership abilities would result in an increase in employee job satisfaction (Jackowski & Burroughs, 2015).

Descriptions of available measures

Instruments exist to measure the various leadership constructs. Through the literature review, five leadership instruments were identified and selection for consideration. These are summarized in Table 6 and includes the instrument name, number of items and domains (if available), response categories, and pros and cons of using the instrument in a community health center setting.

Recommendation of measure to use

Two instruments of particular interest are the Multifactor Leadership Questionnaire-5x (MLQ-5x) and the three leadership items developed by Nembhard and Edmondson (2006). The MLQ-5x is a 20item instrument that includes five domains. The domains include influence-attributed (pride in and respect for the leader), idealized influence-behavior (trustworthy and energetic role model), inspirational motivation (leaders vision, optimism, and enthusiasm), intellectual

stimulation (leader encourages questioning and critical thinking to address problems solving), and individual consideration (how the leader meets the needs of individual followers) (Nembhard & Edmondson, 2006). Reasons to consider using the MLQ-5x includes past administration in the United States, the applicability to clinical and non-clinical populations, a high reliability (Cronbach's alpha >=0.7), the use of the instrument in a mental health center, and robust validity having been administered in multiple health care settings. While there are many reasons for including this instrument, one limitation to consider is that the instrument is specific to transformational leadership. Additionally, twenty items will likely be too many to include on the final survey as multiple constructs beyond leadership need to be included (Green et al., 2014; Madathil et al., 2014). The three leadership items developed by Nembhard and Edmondson (2006) provides a more concise leadership instrument. This instrument has been administered in diverse health center settings within the United States. The three items are applicable to clinical and non-clinical populations and have a high reliability (Cronbach's alpha >=0.7) (Brimhall, 2019). In addition, three items is a reasonable number of items to include in the final survey. While this instrument has many strengths, it is necessary to determine whether it comprehensively covers important measures of leadership. In addition, validity of the instrument needs to be confirmed.

Table 6 provides a summary of measures for leadership, including the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 6. Summary of leadership measures.

Measure	Overview	Pros and Cons for Health Center Employee Use
Multifactor Leadership Questionnaire-5x (MLQ-5x) (Green, 2014; Madathil, 2014)	20-items measuring: idealized influence-attributed, idealized influence-behavior, inspirational motivation, intellectual stimulation, and individual consideration on a 5-point scale ranging from 0 (not at all), to 4 (to a very great extent)	Pros: US study; applicable to clinical/non-clinical populations; reliability; mental health center; robust validity Cons: small sample size; specific to transformational leadership
Three leadership items developed by Nembhard and Edmondson (2006) (Brimhall, 2019)	3 items on a 5-point Likert type scale ranging from 1 (not at all) to 5 (to a very great extent)	Pros: health center/primary care setting; large sample size; US study; applicable to clinical/non-clinical populations; reliability; underserved and diverse setting Cons: not a large number of organizations
Leadership support 9 item scale Karasek & Theorell, (1990) (Bakker, van Veldhoven, & Xanthopoulou, 2010)	9 items using a 4-point scale (1 = never, 2 = sometimes, 3 = often, and 4 = always)	Pros: health center/primary care setting; large sample size; applicable to clinical/non-clinical populations; reliability Cons: non-US study; not sure of domains in instrument
Leadership Practice Inventory (LPI) (Jackowski & Burroughs, 2015)	30-items measuring: challenge the process, inspire a shared vision, enable others to act. encourage the heart, model the way on a scale ranging from 1- almost never to 10 - almost always	Pros: large sample size; US study; reliability has been tested many times; mainly on nurses Cons: hospital setting; unsure if tested in non-hospital setting and/or on non-clinical staff
Supportive nursing management scale, a scale adapted from the Practice Environment Scales of Nursing Work Index (PES-NWI) (Ma et al., 2015)	5-items measuring nurse perceptions regarding nurse manager's ability, skills, and styles on a 6-point Likert-type scale from ''strongly disagree'' to ''strongly agree"	Pros: large sample size; US study; national benchmarks available; reliability Cons: small sample size; hospital setting; nurse specific

Interventions

Potential interventions for improving leadership at many levels within a health care organization includes training in positive leadership practices. Training in positive leadership practices can increase frequency of use (of leadership practices) and potentially a positive impact on employees (Jackowski & Burroughs, 2015). Ma (2015) also proposed investments in leadership development programs. Findings relating to the personal accomplishment component of burnout and the association to transformational leadership suggest that supervisors who display transformational leadership behaviors, organizations that present clear, planned objectives for providers and organizations where employees receive support from coworkers and administrators to successfully complete their job are significantly related to the provider's sense of competence and satisfaction with their job. Leadership development and organizational interventions should be created to improve the work context for providers (Green et al., 2014). One example of such an intervention is the ARC (availability, responsiveness, continuity) organizational intervention (Glisson & Schoenwald, 2005). First, The ARC strategy first embeds five principles of service system effectiveness that focuses the organization's priority setting. The ARC strategy then promotes shared models among staff and administrators that support service innovations. Finally, the strategy uses organizational component tools to identify and address barriers to service improvement and effectiveness. The ARC organizational intervention has shown improvements in culture and climate of human service organizations with improvements in staff retention and client outcomes (Glisson & Green, 2011; Glisson et al., 2012, 2008a).

Team Dynamics/Team Structure

Conceptual definition

Improved teamwork in health care settings has been shown to effectively improve patient outcomes and satisfaction as well as reduce costs, sentinel events, and staff/provider burnout (Bower, Campbell, Bojke, & Sibbald, 2003; Davenport, Henderson, Mosca, Khuri, & Mentzer, 2007; Grumbach & Bodenheimer, 2004; Salas, Rosen, & King, 2007). However, implementing a team-based care model and a culture of team cohesiveness in clinical settings is dependent on a number of factors, including leadership buy in, behavioral processes, internal motivations/rewards, and many more (Bodenheimer, Ghorob, Willard-Grace, & Grumbach, 2014). Even compiling a definition for teamwork (also referred to as *teamness* or *team cohesion*, among others) is difficult. Cohen and Bailey's (1997) definition works well for project purposes: "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems, … and who manage their relationships across organizational boundaries" (Cohen & Bailey, 1997).

Relationship to burnout and job satisfaction

The literature on team dynamics makes a clear connection between team cohesion and improved staff and provider satisfaction. For example, one study of nurse practitioners (NPs) in Massachusetts found that "favorable practice environments characterized by collegial relationships between NPs and physicians, NPs and administrators, clear visibility of NP role, and available support for independent NP practice promoted job satisfaction and reduced intent to leave" (Poghosyan, Liu, Shang, & D'Aunno, 2017).

Descriptions of available measures

The measurement of team dynamics is often self-reported and does not consistently satisfy standard psychometric criteria (Valentine, Nembhard, & Edmondson, 2015). This makes it difficult to identify rigorous and reliable surveys of how team interactions affect staff and provider satisfaction, particularly since demographic groups are not regularly compared to each other. When demographic information is used in studies to determine differences between binary genders, for example, small, nonrandom sample sizes in a limited setting (181 people in a Facebook group for women neurologists) make it difficult to make causal or even correlational associations (Moore, Ziegler, Hessler, Singhal, & LaFaver, 2019). Therefore, more research is needed to make relevant comparisons between demographic groups.

Relevant measures are summarized in Table 7 and includes the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 7. Summary of team dynamics measures.

Measure	Description/Overview	Pros and Cons for Health Center Employee Use
Nursing Teamwork Survey (NTS)	33-item questionnaire with a Likert-type scaling system from rarely (1) to always (5). Five domains, including trust, team orientation, backup, shared mental model, and team leadership	Pros: high test–retest reliability; overall internal consistency of the survey Cons: designed specifically for inpatient nursing unit teams
Nurse Practitioner Primary Care Organizational Climate Questionnaire (NP-PCOCQ)	NP-specific survey instrument designed to measure practice environments in primary care. 29 items that ask NPs to rate the degree to which certain characteristics are present in their work settings using a 4-point scale (1 = strongly disagree to 4 = strongly agree). The tool has four subscales, which have high internal consistency reliability: NP-physician relations; NP-administration relations; independent practice and support; and professional visibility	Pros: strong psychometric properties Cons: designed for nurse practitioners only
Mini-Z Survey + additional questions created by the researchers (Moore et al., 2019)	Evaluates burnout and job satisfaction, control over workload, time for documentation, work atmosphere, alignment of professional values with leadership, teamwork, and electronic health record use	Pros: annually validated for reliability and validity; widely used. Cons: specific questions added by the researchers

Interventions

Possible interventions related to improving team dynamics include the following:

- Promote integrating and compromising conflict resolutionskills while discouraging conflict avoidance (Wright, 2011)
- Strengthen teamwork and streamline team workflows (Coplan, McCall, Smith, Gellert, & Essary, 2018)
- Create good work relationships and ensure procedural justice (Djukic, Jun, Kovner, Brewer, & Fletcher, 2017)
- Do not select people with negative affectivity behaviors for management positions or, if selected, coach them on how to manage the negative influence of this personality trait on their job satisfaction (Djukic et al., 2017)

- Promote protective factors, such as group cohesion, organizational commitment, and adaptive coping skills (Li, Early, Mahrer, Klaristenfeld, & Gold, 2014)
- Align team training objectives and safety aims with organizational goals, provide organizational support, encourage participation of frontline leaders, adequately prepare the environment and staff for team training, determine resources and required time commitments. facilitate application of acquired teamwork skills, and measure the effectiveness of the team training program (Salas, et al., 2009)

Workplace Culture

Conceptual definition

Workplace/organizational culture is defined as shared worker expectations for behavior in the organization and shared attitudes and perceptions of the work environment (Glaser, Zamanou, & Hacker, 1987). In the literature, the sum of constructs that affect organizational culture are often referred to by various terms. These terms include organizational culture, ethical environment, ethical climate, and work environment. All are group-level constructs that are measured by aggregating the perceptions of group members, in this case, organizational employees. The concepts often overlap or may even be the same (Parker et al., 2003). Glisson et al., (2008) argues that organizational cultures are characterized by perceptions of opportunities for growth and advancement (a work environment in which the employee perceives opportunities for personal advancement), by high role clarity (a work environment in which the employee has a clear understanding of where they fit and how to work within the organization), and by high levels of cooperation, indicated by a work environment in which the employee receives necessary help from coworkers and administrators to successfully complete their job (Glisson et al., 2008b). Organizational culture is measured using several dimensions, including but not limited to, role overload, role conflict, role clarity, growth and advancement, and cooperation, teamwork, and involvement in organizational decision making (Glaser et al., 1987).

Relationship to burnout and job satisfaction

Favorable organizational cultures, work environments, and organizational climates have been positively associated with employee job satisfaction and negatively associated with burnout and intent to leave. The association between organizational climates and higher job satisfaction and lower burnout and intent to leave is supported by studies of both clinical and non-clinical health care employees within various settings including primary care organizations, public-sector mental health programs, and hospitals (L. Aiken et al., 2011; Green et al., 2014; Hwang & Park, 2014; M. H. Lee et al., 2017; Poghosyan et al., 2017; C. Ulrich et al., 2007). Perceived corporate ethical values, a construct of organizational climate, was positively associated with job satisfaction in a study of clinical and non-clinical health care workers in a large health care organization. Conversely, perceived corporate ethical values were negatively associated with intent to leave (Valentine, Godkin, Fleischman, & Kidwell, 2011). Another organizational climate construct found to be positively associated with job satisfaction and negatively associated with emotional exhaustion, a construct of burnout, was collegial relationships.

Collegial relationships pertain to the teamwork and the relationship between team members (e.g. nurse-physician relationship) as well as employee-administration relationships. A study of nurse practitioners in a primary care organization supports a positive association between collegial relationships and job satisfaction (Poghosyan et al., 2017). Feeling like a respected member of the team was also shown to have a positive association to job satisfaction in a study of social workers and nurses in various settings (C. Ulrich et al., 2007). A negative perception of teamwork was associated with burnout and intent to leave (Cuellar, Krist, Nichols, & Kuzel, 2018; C. Ulrich et al., 2007). Role clarity is another important construct of organizational climate and work environment. Clear visibility of an employee's role is positively associated with job satisfaction and supported by multiple studies investigating various roles and settings (Green et al., 2014; Poghosyan et al., 2017). While role clarity is positively associated with job satisfaction, role conflict is positively associated with burnout and intent to leave (Green et al., 2014). Lastly, support of an employee was associated with both job satisfaction and intent to leave. The type of organizational support an employee can experience includes support from colleagues, management, or institutional leaders. Support of clinical practice, leadership behaviors, and institutional ethics resources were all found to be associated with higher job satisfaction (Green et al., 2014; Poghosyan et al., 2017; C. Ulrich et al., 2007). Lower reported levels of the adequacy of institutional ethics resources were associated with higher intent to leave (C. Ulrich et al., 2007).

Descriptions of available measures

Various workplace culture, organizational climate, and work environment measurement instruments exist and have been administered to a broad range of both clinical and non-clinical health care employees in multiple settings. Table 8 captures a number of these instruments. The table consists of three sections: climate, culture, and environment. Instruments and their respective details are captured within each section. The climate instruments account for the majority of the table. The main categories of climate instruments include ethical climates and organizations climates, as defined by the author. Two workplace culture instruments and two work environment instruments are also presented. Reported alongside the name of each instrument are the domains (if mentioned by the author), number of items, scale, and pros and cons for each instrument relative to the Health Center Workforce Survey.

Recommendation of measure to use

The most plausible measures to be considered include the Organizational Social Context (OSC) instrument and the Professional Practice Work Environment Inventory (PPWEI) instrument, both with high reliability scores. The OSC measures organizational climate. The instrument includes 30 items within five domains relevant to climate including role conflict, role overload, growth and advancement, role clarity, and cooperation. The OSC has been administered in health center and behavioral health settings within the United States. In addition, the instrument is broadly applicable to both clinical and non-clinical health care staff. National benchmarks are available for this instrument (Green et al., 2014). Further research is however needed to determine validity

of the OSC in other health care populations and the breadth of organizational climate covered by the instrument's domains.

The PPWEI is a 72-item instrument that is composed of a wide range of work environment constructs. The constructs include autonomy and control over practice, communication about patients, cultural sensitivity, handling disagreement and conflict, staff relations with physicians, staff, and hospital groups, sufficient staff, time, and resources for quality patient care, supportive leadership, teamwork, and work motivation. While the PPWEI was administered to a large sample size within the United States, the focus was on nurses in the acute care setting. A benefit of the PPWEI is the wide range of work environment constructs, but the large number of instrument items could be a consideration for not using the PPWEI as multiple predictors of burnout and job satisfaction beyond organizational culture must be included in the final survey. A consideration is using certain domains of the PPWEI. In order to do this, information regarding validity and reliability of specific domains must be considered. It is also necessary to determine if the instrument questions can be used on a broad range of health care roles including both clinical and non-clinical positions.

Interventions

Implications for improving workplace culture include interventions at the management and leadership level of an organization. Ulrich (2007) suggests reducing ethics stress, increasing ethics resources in an organization in order to promote job satisfaction (C. Ulrich et al., 2007). Various authors mention greater involvement in and support of ethical discussion and deliberation by a broad range of health care staff (Hwang & Park, 2014; Pugh, 2015). In addition, departments should encourage, support, and even sponsor ethics education events (Pugh, 2015). In research of physicians and nurses, Volpe (2014) suggests organizational leaders can employ the following: do not badmouth; include employees in decision making; be transparent; act with integrity; reduce leadership cynicism; and invest in better working conditions, benefits, and work hours for employees in order to improve workplace climate (Volpe, Mohammed, Hopkins, Shapiro, & Dellasega, 2014).

Table 8. Summary of workplace culture measures

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Climate		
Organizational Social Context (OSC) (Green, 2014)	30 items measuring role conflict (7 items), role overload (7 items), growth and advancement (5 items), role clarity (6 items), cooperation (5 items) on a 5-point scale 0 (not at all), to 4 (to a very great extent)	Pros: health center/primary care setting; US study; national benchmarks available; reliability; behavioral health setting; clinical and nonclinical staff Cons: sample size
Nurse Practitioner Primary Care Organizational Climate Questionnaire (Poghosyan et al., 2017)	29 items measuring professional visibility, NP-administration relations, NP-physician relations, independent practice, support on a 4-point scale 1 (strongly disagree) to 4 (strongly agree)	Pros: health center/primary care setting; US study; reliability Cons: small sample size; NP specific
Survey of Organizational Characteristics (SOC) (Thumin & Thumin, 2011)	Measures organization flexibility, consideration, job satisfaction, structural clarity, future with organization, organizational honesty, community involvement, reward system on a 4-point scale: strongly agree, agree, disagree, strongly disagree	Pros: medical and non-medical; reliability; US study Cons: unknown number of instrument items
Culture		
17 item instrument on workplace culture (Ginossar et al., 2014)	17 items measuring teamwork (8 items), involvement (4 items), critical appraisal (5 items) on a continuous, five-point Likert scales, with strongly agree = 5, agree = 4, neutral = 3, disagree = 2, strongly disagree =1	Pros: US study; reliability; HIV provider population (federally funded HIV clinics); clinical and nonclinical staff Cons: small sample size; unknown validity
Organizational Policies and Practices (OPP) (P. Lee, Miller, Kippenbrock, Rosen, & Emory, n.d.)	17 items measuring safety climate (7 items), ergonomic practices (6 items), people-oriented culture (4 items) on a 5-point Likert scale (1, strongly disagree, to 5, strongly agree)	Pros: US study; statewide random sample Cons: RN specific; small sample size

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Environment		
Professional Practice Work Environment Inventory(PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)	72 items measuring autonomy and control over practice, communication about patients, cultural sensitivity, handling disagreement and conflict, staff relations with physicians, staff, and hospital groups, sufficient staff, time, and resources for quality patient care, supportive leadership, teamwork, work motivation on a 6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, and strongly agree)	Pros: large sample size; US study; reliability (Cronbach's alpha >=0.7); takes approximately 15 minutes to complete; large breadth of domains Cons: acute care setting; nurse only; large number of items
Practice Environment Scale (PES) (L. H. Aiken, Clarke, Sloane, Lake, & Cheney, 2008; L. Aiken et al., 2011; M. Leiter & Spence Laschinger, 2006)	28 items measuring staffing-resource adequacy (4 items), nurse manager ability and leadership (4 items), nurse – physician relations (3 items), nurse participation in hospital affairs (8 items), nursing foundations for quality of care (9 items) on a 4-point scale ranging from 'strongly disagree' (1) to 'strongly agree' (4)	Pros: large sample size; US study; reliability Cons: hospital setting; nurse only population; does not focus on ethics-related factors

Psychological Safety

Conceptual definition

Psychological safety is an individual's perception of the consequences of interpersonal risks in work environments. It encompasses beliefs about how others will respond when one puts oneself on the line, such as by asking a question or reporting a mistake (Edmondson, 2004). Team psychological safety is related to improved communication, and in health care, to fewer medical errors (Yanchus, Periard, Moore, Carle, & Osatuke, 2015).

Relationship to burnout and job satisfaction

The concept of psychological safety is discussed more in terms of effectiveness and safety/quality, based around the need for staff at all levels to feel empowered to vocalize their thoughts and observations regarding the care process. These aspects of care are further associated with the phenomenon of burnout. Linzer found that "The conceptual model linking work conditions, provider outcomes, and error reduction showed significant relationships between work conditions and provider outcomes ($p \leq 0.001$) and a trend toward a reduced error rate in

providers with lower burnout (OR 1.44, 95 % CI 0.94, 2.23, p = 0.09)" (Linzer, Sinsky, Poplau, Brown, & Williams, 2017).

Descriptions of available measures

The instruments to collect measures of psychological safety are varied and do not all focus specifically on a single concept, rather they often incorporate related concepts. Some measure psychological safety in the positive terms that its title implies (ability to disagree, voice concerns, etc.) while others measure it in the negative (opinions not taken seriously, retribution for raising issues, etc.). The relationship of this concept to burnout vs patient safety and practice efficacy may influence the focus of the questions. JSI identified four potential instruments that could be used for the measurement of this aspect of health center work environment.

Recommendation of measure to use

While none of the measures identified provides a cleanly defined, tested, and parsimonious way to measure psychological safety, the AHRQ Medical Office Survey on Patient Safety Culture, (SECTION D: Communication and Follow-up) seems to hold the best promise. The questions, while interspersed with measures of clinical follow up, were highly targeted to the concepts that are embodied in this category and can be easily extracted. The questions provide a range of options in terms of what aspects of the phenomenon would be measured. The questions relate back to the language and concepts embodied in Edmondson's original work on the subject but are more focused on health care and have been implemented in that environment, providing benchmark data.

Interventions

Interventions related to psychological safety are somewhat non-specific and fall generally within the realm of team and interpersonal dynamics, focusing on communications and team empowerment. Edmondson does discuss team leader coaching and context support as antecedents of team psychological safety. She notes that these incorporate a set of structural features –consisting of a clear compelling team goal, an enabling team design (including context support such as adequate resources, information, and rewards), along with team leader behaviors such as coaching and direction setting – as having been shown to increase team effectiveness.

Table 9. Summary of psychological safety measures.

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Psychological safety (Edmondson, 1999)	• Original measure for psychological safety • Not implemented in or specific to health care environment	Pros: foundational work Cons: older; not designed for health care setting
AHRQ Medical Office Survey on Patient Safety Culture SECTION D: Communication and Follow-up	• Cluster randomized controlled trial based on the conceptual model from MEMO.3 This model directly linked clinicians' work conditions to quality of patient care. • 12 questions, 8 of which directly target the concept of psychological safety, with the remaining question focused on patient follow up • Adopts many of the concepts from Edmondson but in more focused language	Pros: widely used and validated; comparison data available; correlations with satisfaction and burnout in literature Cons: not solely intended to measure psychological safety
Psychological Empowerment Instrument (PEI)	• 16-item tool measuring (1) meaning, (2) competence, (3) self-determination, and (4) impact. • Somewhat different from psychological safety	Pros: PEI is highly reliable and valid, with reported reliability coefficients ranging from 0.62 to 0.74 Cons: somewhat different concept
Friedberg FQHC Workplace Conditions survey Practice Culture components	• Built on previously published surveys • 2 versions: One for clinicians (physicians, nurse practitioners, and physician assistants) and a second closely related instrument for other staff (nurses, medical assistants, and technicians) • Cognitively tested • 13 measures of practice culture (for example, adaptive reserve and communication openness)	Pros: developed and implemented with FQHCs; cognitively tested Cons: not specific to psychological safety (questions not included in study)
Yanchus / VA survey	• Specific to topic • Psychological safety measured with one item: "Members in my work group are able to bring up problems and tough issues." • Mental health staff focus	Pros: short measure (single question) Cons: mental health staff focus

Moral Distress

Conceptual definition

Jameton defined moral distress as painful feelings and/or the psychological disequilibrium that occurs when nurses are conscious of the morally appropriate action a situation requires but cannot follow through with that action because of institutional obstacles (T. Thomas & McCullough, 2015). Moral distress was first defined as a phenomenon unique to nursing. Stated more broadly, health care professional moral distress may be felt when a professional (who has taken an oath to serve the good of the patient) believes they know the ethically correct action but cannot follow that action because of some constraint, whether interpersonal (with colleagues, patients, or families) institutional, regulatory, or legal (Houston et al., 2013). Moral distress occurs when persons believe they know the right thing to do but feel unable to pursue that course of action due to organizational and other constraints (Whitehead, Herbertson, Hamric, Epstein, & Fisher, 2015).

Jameton described moral distress as having two parts: initial distress and reactive distress. Initial distress occurs in the moment, as a situation unfolds (from this point forward, JSI will use the phrase moral distress to refer to this acute phase). After the situation that elicited moral distress ends, reactive distress (now referred to as moral residue) remains. Hence, moral distress and moral residue are closely related but separate concepts. Thus far, distinctions between the two have largely not been addressed empirically or conceptually; however, the two phenomena have differing characteristics and their interrelationship poses important implications for members of health care teams. Epstein proposed a preliminary model called the crescendo effect, which describes the interrelationship between moral distress and moral residue (Epstein, 2009). First, moral distress occurs when a provider believes they are doing something ethically wrong and has little power to change the situation (Hamric, 2014; Jameton, 1993; Varcoe, Pauly, Webster, & Storch, 2012). This pressure to act unethically is the defining concept of the phenomenon. Each significant morally distressing situation adds to previous levels of moral residue that may result in a crescendo effect, a gradual increase in moral distress levels over time (E. G. Epstein & Hamric, 2009). The evidence for the crescendo effect is more compelling for nurses than for physicians or other health care providers The concept of moral residue however appears to be universal (E. Epstein, Whitehead, Prompahakul, Thacker, & Hamric, 2019).

Ethics related stress is an occupational stress that is the emotional, physical and psychosocial consequences of moral distress (i.e., knowing the morally right course of action but constrained to carry out the action) (Corley, Minick, Elswick, & Jacobs, 2005; Raines, 2000; C. Ulrich et al., 2007). Jameton's original formulation [of moral distress] implicitly included an ethically significant phenomenon: the judgment that one is not able, to different degrees, to act on one’s moral knowledge about what one ought to do in specific clinical circumstances because of impediments. These impediments are understood to be external to the individual, for example, organizational policies and practices, as well as the behavior of clinicians toward other clinicians. While this judgment surely has important psychological sequelae, ranging from

anxiety through depression to burnout, the judgment itself originates in an ethical concern: not being able, to differing degrees, to act on one's knowledge about what one ought to do. We call this judgment, the ethical origin of the psychological manifestations of moral distress, "ethically significant moral distress" (T. Thomas & McCullough, 2015).

The term moral distress was coined over three decades ago to refer to the anger, frustration, and anxiety of nurses who believed their ability to sustain moral integrity in their work was compromised by institutional pressures and constraints. Moral distress is now recognized as a growing reality across clinical disciplines and roles (Carse & Rushton, 2018).

Relationship to burnout and job satisfaction

Moral distress was studied in relation to ethical stress (not able to provide care consistent with professional training due to institutional or other constraints) and ethical climate (of the health care organization). Moral distress was related to intent to leave job or profession. Health care workers could experience moral distress, however, without job dissatisfaction. Urlich (2007) related moral distress to job satisfaction for nurses and social workers in four census areas across four states, multiple settings. Moral distress was qualitatively related to burnout – the crescendo effect (C. Ulrich et al., 2007).

Descriptions of available measures

Available measures for moral are summarized in Table 10 below and includes the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Recommendation of measure to use

The Measure of Moral Distress for Healthcare Professionals (MMD-HP) seems to be the more relevant measure; it is adapted from Corley's Moral Distress Scale (MDS), which appears to be the standard measure for moral distress. Olson's Hospital Ethical Climate Scale appears to be the standard to measure organizational ethics climate, which has impact on levels of moral distress. One area of exploration (through listening sessions, Technical Advisory Panel (TAP), etc.) for the Health Center Workforce Survey is the applicability MDS/MMD-HP as a measure of moral distress for primary care provider/care teams trying to address health center patients' social determinants of health-related needs (e.g., housing, poverty, etc.).

Our review of the literature on moral distress identified studies conducted in critical care settings (e.g., intensive care units, neonatal intensive care units) where staff were treating critically ill patients with life-threatening conditions. Staff in primary care settings, however, could suffer similar feelings of moral distress if they believe they know the right thing to do but feel unable to do so because of organizational and other constraints, e.g. lack of affordable housing. Although not specifically measuring moral distress, a cross-sectional study of 1,298 family physicians in ambulatory care settings who applied to continue certification of the American Board of Family Medicine, looked at the connection between reported burnout and the physicians perception of their clinic's ability to address patients' social needs (De Marchis, Doekhie, Willard-Grace, &

Olayiwola, 2019). The question read: "My clinic has the resources, such as dedicated staff, community programs, resources or tools to address patients' social needs," with a Likert response scale ranging from strongly disagree to strongly agree (1 to 10). This measure had been used in a prior study of primary care clinicians and found to have both high face- y and content-validity (Olayiwola et al., 2018). In an unadjusted analysis, respondents who reported high clinic capacity to address patients' social needs had lower odds of burnout than those reporting lower capacity to address patients' social needs. Among respondents, individuals working at a recognized PCMH were more likely to report high clinic social needs capacity (De Marchis et al., 2019). The association between PCMH status and clinic social determinants of health capacity is consistent with PCMH criteria that recognize clinics that provide community resources and linkages to assist patients with health related social needs (Wong, Anderson, Dankwa-Mullan, Simon, & Vega, 2012).

Table 10. Summary of moral distress measures.

Measure	Overview	Pros and Cons for Health Center Employee Use
Corley's Moral Distress Scale (MDS)	32-item (later increased to 38) Likert-type scale (1 - 7) individual responsibility; not in the patient's best interest; and deception. Measures both intensity and frequency.	Pros: tested and widely used tool; concept applicable to greater range of staff Cons: studies in critical care settings
Moral Distress Scale-Revised (MDS)	21-items using a Likert scale (0–4) in two dimensions: how often the situation arises (frequency) and how disturbing the situation is when it occurs (intensity)	Pros: tested and widely used tool; concept applicable to greater range of staff Cons: studies in critical care settings
Measure of Moral Distress for Healthcare Professionals (MMD-HP) (E. Epstein et al., 2019)	Developed by Epstein (Epstein 2019) based on MDS, revised to apply to physicians, nurses, and other health care professionals. Scored the same as MDS.	Pros: all occupations - tool may be more relevant to health centers as participants included physicians; nurses; and other health care professionals Cons: somewhat lengthy instrument; some questions not relevant to Health Center functions
Olson's Hospital Ethical Climate Scale, the Hospital Ethical Climate Scale-Shortened (HECS-S;	14-item Likert scale instrument with a score range of 14 to 70, with higher scores indicating a more positive ethical climate	Pros: shorter instrument; ethical climate focus Cons: specific to hospital settings, but questions could potentially be applied to other health care organizations, including health centers

Measure	Overview	Pros and Cons for Health Center Employee Use
Single questionnaire developed (Ulrich 2007) with Center for Research UVA, combining/adapting: Physician Job Satisfaction Scale (William 1999) Ethics Stress Questionnaire (Raines 2000) Hospital Ethical Climate Scale (Olson, 1998)	Items uses 5-point Likert scale. Measures workplace ethical climate, availability/type of organizational resources to assist with ethical issues, type/frequency of ethical issues, ethics stress, job satisfaction, intent-to-leave, sociodemographic/practice characteristics, and the extent to which staffing, salary, scheduling, workload, identification with the institution's mission, feeling like a respected and valued member of the organization, and level of ethical conflict influenced individual retention. Single item to identify the adequacy of the resources available to assist with ethical work issues.	Pros: connects moral distress to job satisfaction using a combination of questionnaires; connects intent to remain with "identification with institution's mission" which is an important component of health centers Cons: very long instrument; some questions do not focus on moral distress

Interventions

Research indicated that it is impossible to address moral distress crescendos without a broader, more systemic or organizational perspective. Suggested interventions included:

- Use mentoring and institutional resources to address moral distress;
- Actively participate in educational activities and discussions regarding the impact of moral distress;
- Design and use forums for interdisciplinary problem solving such as family meetings or interdisciplinary rounds;
- Address root causes in institutional or unit culture that perpetuate moral distress and damage collaboration among team members; and
- Develop policies to encourage any provider to raise ethical concerns or initiate ethics consultation.

Organizations first need to acknowledge moral distress and the crescendo effect and, using root causes analysis, frame the presenting situation and identify the specific constraints that are inhibiting ethical action. Organizations can then invite strategies and solutions that respect the culture and protect the caregiver's integrity and prioritize the identified strategies with staff input; decide where to start and be alert that three levels of intervention may be necessary – patient, unit/team culture, and organization (E. G. Epstein & Hamric, 2009).

Organizations should identify whether the presence of moral distress is an indicator of poor or substandard patient care quality. If the presence of moral distress among staff is a "red flag" for inferior patient care quality, evaluations of moral distress and other indicators may ultimately be useful in improving patient care quality and patient outcomes (E. Epstein et al., 2019).

Starting with the acknowledgment that moral distress is real across the spectrum of health care professionals, formal and informal debriefing sessions following stressful cases (or primary care visits) may help some team members to reduce more distress, as can more in-depth and structured support programs such as Schwartz Center Rounds (Houston et al., 2013).

The leadership of health care organizations—lay and professional alike— should periodically examine organizational policies and practices and critically appraise them vis-à-vis their potential to permit, enable, or even encourage challenges to, threats to, and violations of professional and individual integrity. Leaders should be especially attentive to their willingness to tolerate what should not be tolerated by leaders committed to an organizational culture of professionalism in health care: the behavior of often-powerful clinicians that creates, unchecked, challenges to, threats to, and violations of professional and individual integrity of their clinical colleagues/team members (T. Thomas & McCullough, 2015).

Workload and Job Demands

Conceptual definition

Job demands are defined as job conditions that require a person to exert physical or mental effort (Gaither & Nadkarni, 2012). Job demands can be assessed using multiple variables, including workload. The simple definition of workload is the expected amount of work performed (Liu et al., 2018; Madathil et al., 2014). Although, one must also consider the frequency and duration, work intensity, nature of the work itself, and context of the work being performed to fully understand the impact of workload on job demand (R. J. Holden & Karsh, 2009; R. Holden et al., 2011; T. D. Shanafelt et al., 2015; Weissman et al., 2007). Workload was most often examined at the organization and work unit (team of employees that have been assigned to accomplish specific tasks) levels. Hours worked was the primary variable (Gaither & Nadkarni, 2012; R. Holden et al., 2011; T. D. Shanafelt et al., 2015; Weissman et al., 2007).

Relationship to burnout and job satisfaction

Balanced/manageable job demands and workloads have been positively associated with job satisfaction and negatively associated with burnout and intent to leave. This association is supported by studies of both clinical and non-clinical health care employees within various settings including primary care organizations, public-sector mental health programs, and hospitals (Gaither & Nadkarni, 2012; Lewis et al., 2012; Osborn & Stein, 2016; T. D. Shanafelt et al., 2015; B. Ulrich, Barden, Cassidy, & Varn-Davis, 2019; Weissman et al., 2007). In a study of doctors and non-physician practitioners in rural New York State, it was found that subjective perceptions of workload quantity, rather than objective amounts of workload, drive the feelings of job dissatisfaction and burnout (A. Waddimba, Scribani, Krupa, May, & Jenkins, 2016). Appropriate and adequate staffing were positively associated with job satisfaction in a study of nurses in health care organizations across the United States (B. Ulrich et al., 2019). Conversely, a review of literature on nursing shortages in oncology/hematology settings found that inadequate

staffing was a significant predictor of nurse burnout (Toh, Ang, & Devi, 2012). A study of 6,880 physicians of all specialties in Minnesota, Arizona, and Florida found that, after controlling for age, sex, site, and specialty area, a small increase in a physician's emotional exhaustion and a small decrease in a physician's satisfaction score were independently associated with a higher likelihood of the physician reducing their full time equivalent unit.

Descriptions of available measures

Various job demands and workload instruments exist and have been administered to a broad range of both clinical and non-clinical health care employees in multiple settings. In the literature reviewed, instruments often had specific items related to job demands and workload. Table 11 captures these instruments, providing instrument name and, if given, the domains, items, number of items, scale, and pros and cons for each instrument relative to the Health Center Workforce Survey.

Recommendation of measure to use

The most plausible measures to be considered include the Human Factors Framework (HFFS) Survey and the Burnout, Satisfaction, and Work-Life Balance (BSWLB) survey. The HFFS measures three distinct types of workload (unit-level, job-level, and task-level). The number of items was not specified, but all items were extensively evaluated and deemed reliable (Cronbach's alpha >=0.7). The HFFS was administered to clinical nursing staff in hospital settings in the United States Midwest and South. Limitations of HFFS are that it analyzed a small sample and has not been used in non-clinical settings (R. J. Holden & Karsh, 2009). The benefit of the HFFS is that it explores workload in greater detail compared to other workload instruments. Thus, specific items of the HFFS should be considered to inform/be included in the Health Center Workforce Survey. To do this, information regarding validity and reliability of the measures must be considered. It is also necessary to determine if the instrument questions can be used on a broader range of health care settings and roles, specifically non-hospital settings and non-clinical positions. The BSWLB survey was completed by 6,880 physicians of all specialties at three academic campuses in Rochester, Minnesota; Scottsdale, Arizona; and Jacksonville, Florida. The survey is administered every 24 months (initially administered in 2011), so data is available for longitudinal analysis. Survey measures included validated items on full-time equivalent units, demographics, specialty, job satisfaction, and burnout. The study found a strong positive relationship between job burnout and reduced job satisfaction and reduced full time equivalent (FTE) status, but was not able to definitively determine cause and effect given the many personal reasons to reduce FTE such as personal health reasons, child rearing, etc. (T. D. Shanafelt et al., 2015).

Table 11. Summary of job demands/workload measures.

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Human Factors Framework Survey (Holden, 2009)	Measures: staffing/resource adequacy, job demands, monitoring demands and production responsibility, medication administration concentration/effort/ interruptions, divided attention and rushing, job satisfaction/ dissatisfaction, emotional exhaustion of burnout inventory, perceived likelihood of medication error for past 30 days. 7-point Likert scale.	Pros: US study; reliability (Cronbach's alpha >=0.7) Cons: over 10 years old; small population
Burnout, Satisfaction, and Work-Life Balance Survey (Shanafelt, 2011)	1-item "My work schedule leaves me enough time for my personal/family life" Burnout: Maslach Burnout Inventory (2-items) Likert Scale: strongly agree, agree, neutral, disagree, and strongly disagree.	Pros: large sample size (greater than 400); US study; longitudinal study Cons: cannot definitively determine cause and effect
PCMH Survey (Lewis et al., 2012)	"It is difficult to spend enough time with patients to meet their medical needs." "Care is coordinated well among physicians, nurses, and clinic staff within our clinic." "I typically have adequate control over: My clinic schedule … Work interruptions … Volume of my patient load" Likert scale 5 strongly disagree – 1 strongly agree	Pros: health center/primary care setting; large sample size (greater than 400); US study Cons: similar to other workload/demand instruments; questions organized around 2008 NCQA PCMH standards and guidelines have been updated several times since; specific to Safety Net Medical Home Initiative supported by Commonwealth Fund
NWI-PES (Lakes 2002)	Measures nurse participation in hospital affairs (policy involvement), nursing foundations for quality of care (nursing model), nurse manager ability and support of nurses (leadership), staff and resource adequacy (staffing), collegial nurse physician relationships (physician nurse relationship) 1 strongly disagree – 4 strongly agree	Pros: large sample size (greater than 400) Cons: Canadian study; over 10 years old

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Demographic Questionnaire (Osborn & Stein, 2016)	Collected detailed employment history information and perceived job demand characteristics that included primary service population, current caseload size, length of job tenure, hours spent per week in direct contact with consumers, and income.	Pros: health center/primary care setting; US study Cons: small study population
Survey (Salyers, Rollins, Kelly, Lysaker, & Williams, 2013)	Domains included time management: too much to do, too little time, never feel the job is complete, Likert-type scale	Pros: health center/primary care setting; US study; reliability (Cronbach's alpha >=0.7) Cons: small sample size

Interventions

Interventions for improving job demands and workload include those at the national, organizational, work unit, and individual levels. Efforts to address job demand/workload-related challenges must first recognize that adjustments are very often required at all levels to affect change. One intervention at the individual level is the flexibility to adjust FTE (T. D. Shanafelt et al., 2015; C. West et al., 2018). At the work unit level, Ulrich (2019) suggests that there must be clear productivity expectations and team members should be encouraged to work together to tackle environmental challenges (B. Ulrich et al., 2019). At the organization level, suggested interventions include productivity targets, duty hour limits, and distribution of job roles (C. West et al., 2018). Finally, interventions at the national level must address the structure of the United States' medical system where there is a large burden of reimbursement documentation requirements (C. West et al., 2018).

Control and Flexibility

Job Stress

Conceptual definition

Workplace/job stress is: (1) the physical and emotional response that occurs when job demands are in conflict with the ability, resources or needs of the worker or (2) the adverse reaction people have to excessive pressures or other types of demand placed on them at work. Job stress is frequently manifested as negative feelings about the job and has been inversely associated with job satisfaction. Models of job stress also provide useful guidance on how to reduce burnout and

improve professional well-being as they can be used to identify various job stressors (Cooper and Marshall, 1976; Hurrell and McLaney, 1988).

Recent studies have explored job stress among health care personnel in various countries. According to the Minimizing Error, Maximizing Outcome (MEMO) Study more than half of primary care physicians report feeling stressed because of time pressures and other work conditions. Stressed, burned out, and dissatisfied physicians report a greater likelihood of making errors and more frequent instance of suboptimal patient care (Williams, 2007). Higher levels of burnout have been reported among health care workers that work in emergency departments (ED) and intensive care units (ICUs), as they are exposed to a high level of job stress. Among this group, studies have found various causes of stress, including varied working hours, heavy workload, night shifts resulting in sleep deprivation, imbalance between work and life, isolated feelings, and minimal control over the workplace accompanied by minimal autonomy.

Relationship to burnout and job satisfaction

Wright and colleagues (2011) showed a strong association between perceived stress and job satisfaction as well as perceptions of good physical and mental health. Perceived stress was inversely associated with job satisfaction, mental health, and physical health. They also discussed pathways by which job stress could influence intention to leave. Higher perceived stress was associated with lower satisfaction levels that are related to greater intentions to quit current job, decrease work hours, change specialty, or leave direct patient care. In a cross sectional study of 82 female health care workers (nurses and health care technicians) working in the surgical emergency department and intensive care unit of critical care department at a university hospital, Elshaer and colleagues (2017) showed skill underutilization, intragroup conflict, variation in workload, and job dissatisfaction as potential job stressors that were significantly associated with burnout.

Descriptions of available measures

The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The Global Measure of Perceived Stress scale uses multiple items to assess how often individuals thought of or reacted to daily stressful events, with higher scores indicating greater amounts of perceived stress. Cohen and colleagues' test of this measure found a reliability of .72 and correlations with measures of anxiety and a correlation with smoking behavior. They also showed correlations of PSS with stress measures, self-reported health and health services measures, health behavior measures, and help seeking behavior. Because levels of appraised stress should be influenced by daily hassles, major events, and changes in coping resources, predictive validity of the PSS is expected to fall off rapidly after four to eight weeks.

Table 12. Summary of job stress measures.

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Nursing Stress Scale (NSS) (Gray-Toft and Anderson, 1981)	Examines the frequency and major sources of stress experienced by nurses 34 items, seven factors: death and dying patients (seven items), conflict with physicians (five items), inadequate preparation (three items), lack of staff support (three items), conflict with other nurses (five items), workload (six items) and uncertainty concerning treatment (five items).	Pros: acceptable internal consistency; most popular and widely used instrument to examine stressors in nursing in a variety of work settings (French et al. 2000); generic scale; helpful to compare the level of stress in different wards (Kirkcaldy & Martin 2000), sectors or countries Cons: intensive use of this questionnaire possibly leads to the presence of similar stressors across nursing studies (Wheeler 1997)
Health Professions Stress Inventory (HPSI)	30 items that reflect stressful situations frequently encountered by professionals working in the health care sector. Respondents answer how often they find each situation to be stressful in their work setting. Factors: Professional Recognition (eight items), Patient Care Responsibilities (seven items), Job Conflicts (eight items) and Professional Uncertainty (seven items) respectively	Pros: focus on health care professionals Cons: does not assess stress associated with working with patients' relatives (Spooner-Lane & Patton 2007); lengthy instrument
Perceived Stress Scale (PSS) (Cohen et al., 1983)	Measure perceptions of stress, degree to which situations in one's life are appraised as stressful.	Pros: most widely used; reliable (Cronbach alpha=.75) Cons: more life stress than work stress oriented
Global Measure of Perceived Stress scale (Cohen, Karmack, and Mermelstein's, 1983)	Not specified (multiple items) respondents indicate (on a 5-point scale ranging from 1 never to 5 very often) how often they thought of or reacted to daily stressful events, with higher scores indicating greater amounts of perceived stress	Pros: reliable (Cronbach alpha=.82); correlates well with other measures e.g. anxiety, smoking behavior Cons: not limited to work stress

Decision Latitude

Conceptual definition

Decision latitude refers to the ability of staff to make decisions over patient treatment approaches as well as the workplace and structure of the job. Definitions in the literature range from broad concepts of autonomy, such as ability to work independently (Djukic et al., 2017) and to have influence over the work environment (Sinsky et al., 2013), to narrower constructs such as being able to provide input into decisions (Sellers et al., 2019) and control over workload (Moore et al., 2019). The literature addresses "autonomy" as the general amount of discretion employees have over their jobs (Yanchus et al., 2015).

Relationship to burnout and job satisfaction

Decision latitude (autonomy/control) is found commonly in the literature on job satisfaction and burnout. According to West, et al (2018), "Large national studies of physicians…suggest organizations and leaders that provide physicians with more control over workplace issues are more likely to employ physicians with higher career satisfaction" (C. West et al., 2018). Evidence from diverse work settings supports the notion that a stronger relationship exists between satisfaction and performance when individuals have more job control and fewer constraints. Job satisfaction-performance associations for physicians may only be strong when job settings provide enough individual control and autonomy support to empower the transmutation of job satisfaction to professional effort (A. C. Waddimba, Mohr, Beckman, Mahoney, & Young, 2019).

According to Madathil et al (2014) "job autonomy has emerged as an important characteristic of the [work] environment" (Madathil et al., 2014). The relationship between job satisfaction and work autonomy and control is demonstrated in research on physicians, nurses (Djukic et al., 2017; Lori, Snyder, & Litwiller, 2015; Madathil et al., 2014; Moneke & Umeh, 2013; Sellers et al., 2019; Vardaman, Rogers, & Marler, 2020), mental health providers (Davis, 2013; Salyers et al., 2013; Yanchus et al., 2015), physician assistants (DePalma, Alexander, & Matthews, 2019), and nurse practitioners (Poghosyan et al., 2017).

Lori et al (2015) found similar results in their meta-analysis of 106 research studies on promoting retention of nurses and nurse burnout. They found that autonomy, job control, and decision-making latitude had direct and indirect effects on actual turnover (Lori et al., 2015).

Descriptions of available measures

The measures for decision latitude (autonomy/control) are, at best, subsets of larger instruments. The Practice Environment Scale of the Nursing Work Index (NWI) is widely used for measuring job satisfaction and is very reliable; however, autonomy is measured in terms of leadership support. The NWI-Revised includes a 5-item subscale on autonomy and control. This measure is highly reliable (Cronbach alpha .787) and, although focused on nurses' experiences, could likely be modified to be inclusive of other clinical and non-clinical staff experiences. The Health Care Advisory Board Nursing Engagement Survey Tool includes multiple relevant items with high

reliability that were administered in multiple practice settings. Researcher-developed instruments or items extracted from other measurement tools may include only one question relating to the concept e.g. “I have a lot to say about what happens on my job.”

As noted, the concept of decision latitude, defined most frequently in the literature as autonomy/control, may best be measured by extracting specific items from multiple instruments. Important items include (1) ability to control workload/work flow, (2) ability to make independent practice decisions i.e. decisional control, and (3) involvement in workplace decision-making. Measures for decision latitude (encompassing and control) are summarized in the Table 13 below and includes the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 13. Summary of decision latitude measures.

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Practice Environment Scale of the Nursing Work Index	31-item Likert-type scale measuring organizational features present in the practice setting. Number of items specific to autonomy/control not indicated. Autonomy-control items focus on perceptions of leadership support.	Cons: no specific cluster of items addressing nurses’ ability to make practice decisions based on their knowledge and experience; autonomy measured by leadership support
Nursing Work Index-Revised: Autonomy Subscale	5 items: Likert-type 0=strongly agree 4=strongly disagree	Pros: focuses 5 items on autonomy/control; highly reliable (Cronbach .787) Cons: items are nurse specific but potentially could be adapted to other health care positions
Veterans Health Administration All-Employee Survey	1 item on autonomy “I have a lot to say about what happens on my job.” 5-point Likert 1=strongly disagree; 5=strongly agree	Pros: large sample; multiple types of mental health providers suggesting it is applicable to various staff types and settings Cons: VHA mental health hospitals only; no reliability; only one item
Modified Misener Nurse Practitioner Job Satisfaction Scale	1 item: Level of Autonomy: 6-level – Very satisfied – Very dissatisfied	Cons: the challenge/autonomy measure is a composite measure so it is not possible to identify the autonomy measure discretely; only 1 item

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
Nurse Practitioner Primary Care Organizational Climate Questionnaire: Independence Practice and Support Subscale	9 items Likert-type 1=strongly disagree - 4=strongly agree	Pros: highly reliable (Cronbach .89); focuses on working context not nurse-specific questions; multiple items Cons: items not provided so cannot tell how many relate directly to autonomy/control
Health Care Advisory Board Nursing Engagement Survey Tool	6 items extracted from original survey– Likert-type: 0=strongly disagree 4=strongly agree	Pros: items focus on perception of decisional control; large sample; good reliability; 6 items; relevant to multiple types of settings and staff
Sinsky et al, 2013 – open-ended interview guide	1 item – "To what degree does provider and other team members have influence/control over working conditions: hours, patient volumes, schedule template, patient mix, panel size, support staff, role responsibility among staff?"	Pros: conducted in primary care settings including CHCs; included full team Cons: single item; no reliability or validity testing; small sample of 23 primary care clinics
Mini-Z	1 item – Control over workload: poor/marginal/ satisfactory/good/optimal	Pros: the Mini-Z is very reliable and widely used for measuring burnout. Cons: only 1 item related to autonomy/control; sample only female neurologists.
Wave 5 National Nurses Survey (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012)	3-items on autonomy defined as the perceived ability to be independent in the job. Likert-type 1=none at all, 5=a great deal.	Pros: items applicable to various staff types; more than 1 item Cons: no reliability provided; part of a larger survey that may contextualize the answers
Quality Targets and Incentives Survey:	6-items on a Likert-type scale. Scores were dichotomized into low autonomy support/low job support (0-2) and high autonomy/high job support (3-5)	Cons: items are extracted from several other instruments with additions developed by the researchers; actual items not provided; study focused on Pay4Performance changes.

Interventions

The research indicates that job satisfaction and burnout are related to the amount of autonomy and control staff have. The studies included physicians (primary care and subspecialty), mental health professionals (physician and non-physician) nurse practitioners, physician assistants, and clinical teams. The research suggests that increasing staff engagement in establishing work requirements and structure, allowing for shared decision-making and giving staff the ability to make decisions independently of supervisors contribute positively to job satisfaction and reduce burnout. Waddimba et al (2019) conclude: "There is a need for workflow redesign strategies that promote clinical autonomy and improve job control" (A. C. Waddimba et al., 2019).

Efficiency and Resources

Workflow

Conceptual definition

The literature did not provide a specific definition for workflow. In general, articles that included discussion of workflow were based in systems theory. Systems theory in health care research is the structure-process-outcome model that describes the manner in which patient care is delivered. Structure, in Donabedian's (1966) model, encompasses all the inputs involved, such as hospitals, clinics, building design, staffing levels, equipment, resources and more (Donabedian, 1966). Process illustrates the means by which patient care is accomplished, including communication, diagnosis, treatment, and patient care processes. Outcomes refer to the effect of inputs and processes on the delivery of patient care and are typically concerned with patient morbidity and mortality but can also include patient safety, staff satisfaction, and other factors (Real, Bardach, & Bardach, 2017).

Relationship to burnout and job satisfaction

Workflows, as part of working condition or defined by built environment, were related to job satisfaction as an influencing factor. Many of the studies published in the literature review were conducted within a hospital setting, and therefore identified structures and processes were specific to inpatient care. As an example, a study of emergency department (ED) health care staff, found that all the structure and process factors examined in this emergency department were significantly correlated with perceptions of efficiency and staff satisfaction with design. This suggests that the structure of the built environment can shape health care processes occurring within it and ultimately improve the delivery of efficient care, thus increasing both patient and staff satisfaction. The pod concept also was found to be successful in affecting satisfaction relating to teamwork. Research has found that an integrated team approach, which positions members of the care team in close physical proximity to one another, and nursing station design contribute to caregiver efficiency and satisfaction. Having supplies, technology,

and colleagues close-at-hand all helped to reduce stress among emergency nurses. Higher levels of stress lead to lower job satisfaction and higher turnover (Fay, Carll-White, & Real, 2018).

Research also indicated that health care staff group could experience workflows (defined by build environment) differently. One study qualitatively investigated how the built environment affects communication, patient care processes, and patient outcomes. The researchers drew upon systems theory and health care professionals' insights to investigate decentralized nursing stations (DNS) in a new hospital. Nurses reaction to the DNS differed from other staff involved in patient care. Researchers believe the answer to this involves three important contributions of this study that go beyond the mixed results of earlier studies. First, the DNS design fundamentally altered systems interdependencies for nursing communication and teamwork. Second, the DNS was a major system redesign yet many nursing-related processes did not change in tandem. Third, nursing communities of practice were adversely affected by the new design (Real et al., 2017).

Workflows (as part of structure and process factors) can also influence patient satisfaction and outcomes. For example, in one study, hospitals in which the work environment improved showed large increases in the average percentage of nurses reporting excellent quality of care (15%), giving high patient safety grades (15%), and indicating that they were satisfied with their jobs (16%) and not burned out (12%), with increases in all but two of the other safety indicators as well. On all nine of these indicators, the differences in the changes between the three groups of hospitals were significant (Linda H. Aiken et al., 2018).

Work inefficiency (related to poor workflows) contributed to physician burnout, although not as the sole factor (C. West et al., 2018).

Other specific areas of research and findings related to workflows included:

- Incorporating use of scribes into workflow for patient visit – one study showed the use of scribes improved academic primary care physician satisfaction without negatively affecting patient satisfaction. The benefits for primary care physicians working with scribes may include reduction of EHR burden, reduced stress, and improvements in clinical workflow (Pozdnyakova et al., 2018).
- Aligning workflows and EHR - In one study, for both study sites, functionality and workflow mismatch introduced inefficiency. At the PACE site, this mismatch was a barrier to clinician access to the EHR during patient visits (Sockolow, Liao, Chittams, & Bowles, 2012).

Descriptions of available measures

Workflow measures identified in the literature include the Systems Theory: structure, process, outcome measures, the Consumer Assessment of Healthcare Physicians and Systems Clinician & Group Survey (CG-CAHPS), and the HIT Reference-based Evaluation Framework (HITREF). Each instrument captures a different aspect of workflow and different participants in the workflow process. For example, the HITREF captures clinician HIT workflow measures, while the CG-CAHPS captures the outcome of patient satisfaction in relation to workflow and scribe

use. The Systems Theory- structure, process, outcome measures – captures a broader range of both staff and patient satisfaction in relation to structure and process. Additional details of each instrument are captured in Table 14.

Recommendation of measure to use

In order to determine the most relevant instrument, additional conversations and input from both HRSA and key stakeholders must be had in order to determine which aspect(s) of workflow are most important to capture within the final survey. Measures related to systems theory seem to be the most relevant for workflows in general. The HITREF is for EHR overall, but it is important to link EHR to workflows. CAHPS would be used to measure patient satisfaction and while not directly incorporated into the Health Center Workforce Survey, shifts in patient satisfaction could be part of the evaluation of a workforce well-being intervention.

Table 14. Summary of workflow measures.

Measure	Overview	Pros and Cons for Health Center Employee Use
Systems theory: structure, process, outcome measures	Staff satisfaction and patient outcomes (satisfaction, quality of care) correlated to structure (build environment) and process (work flows)	Pros: able to define structure and process specific to health centers; and correlate to common outcomes of staff satisfaction and patient outcomes Cons: need to define specific measures of structure and process; research conducted in a hospital (inpatient) setting
Consumer Assessment of Healthcare Physicians and Systems Clinician & Group Survey (CG-CAHPS)	Patient satisfaction (used to assess change in satisfaction when scribe used in patient visit, pre and post)	Pros: widely used patient satisfaction survey; used by Health Centers; national benchmarks and comparison with peer organizations Cons: costs of using CAHPS survey
HIT Reference-based Evaluation Framework (HITREF)	HITREF provides a comprehensive list of 20 criteria as themes for the mixed methods analysis of EHR and was operationalized in the clinician satisfaction survey. Workflow was assessed using time-to-completion of clinical documentation data in the EHR	Pros: connect workflow to EHR use Cons: organizational-level measure

Interventions

The following suggested interventions related workflows were noted in the research based on findings from the research study. The interventions themselves were not part of the study design or assessed.

- A design concept for enhancing teamwork within a health care setting includes flexible workspaces that support an integrated team approach, where members of the care team are located in close physical proximity using pods. All staff should have the opportunity to provide input into design.
- Workflow related interventions developed based upon findings from site visits to selected practices. Include: pre-visit planning, pre-appointment lab tests, share care (spread responsibility and authority across team), scribing, assistant order entry, standardized prescription renewal, in-box management, verbal messaging, team huddles and co-location, workflow mapping/systems planning (Sinsky et al., 2013).
- Provide scribes to work with primary care physicians to reduce EHR burden, reduce stress, and improvements in clinical workflow (Pozdnyakova et al., 2018).
- Assess the EHR's functionality and usability in regard to the site's workflow before and during the implementation; matching system functionality and usability to workflow (Sockolow et al., 2012).
- To reduce work inefficiency and lack of work support: (1) organizational level solutions: optimized electronic medical records (EMR), non-physician staff support to offload clerical burdens, appropriate interpretation of regulatory requirements (2) individual level solutions: efficiency and skills training, prioritize tasks and delegate work appropriately (C. West et al., 2018).

Administrative Burdens

Conceptual definition

Administrative work is acknowledged as an integral part of clinical care, yet it is also viewed as the work that takes time away from more meaningful tasks, primarily the direct face-to face contact with patients. Administrative tasks range from documenting patient encounters, care coordination, recording of admissions and discharges, consultations with sub-specialist, responding to messages from patients, tracking/ reporting quality indicators, or ordering supplies, to name only a few.

Relationship to burnout and job satisfaction

Efforts to improve health care quality, contain rising cost resulted in pay-for-performance measures (e.g., Meaningful Use, Physician Quality Reporting System), and each change seems to add a new task to a list that is perceived by providers as already too long. A nationally representative sample of physicians found that on average they spend 8.7 hours per week on administration and that physicians spending more time on administration had lower job satisfaction (Woolhandler & Himmelstein, 2014). Physicians satisfied with their careers spent on average 16.1% of their time on administration, versus 20.6% for those who were dissatisfied with their work. Even after controlling for other factors, time spent on administration remained a

significant predictor of job satisfaction (Woolhandler & Himmelstein, 2014). While it was originally hoped that shifting away from paper based documentation would improve the quality of care and reduce administrative burden, available evidence suggests that the widespread use of electronic health records has increased clerical tasks or made it possible for providers to bring work home, further contributing to the sense of overload that frontline practitioners of clinical services often experience (Liselotte N. Dyrbye, West, Burriss, & Shanafelt, 2012).

Descriptions of available measures

In a recent study using measures adopted from the Mini z burnout assessment tool, over 50 percent of advance practice registered nurses (APRN) agreed or strongly agreed that the EHR added to their daily levels of frustration with administrative tasks and over 30 percent reported insufficient time to complete documentation (Harris, Haskell, Cooper, Crouse, & Gardner, 2018). In the same study, APRNs who reported moderately high or excessive use of the EHR at home had five times the odds of burnout, although this finding did not remain significant after adjusting for demographic characteristics. A large national study found that physicians who used EHRs or computerized physician order entry (CPOE) had lower satisfaction with the amount of time spent on administrative tasks and had higher rates of burnout (T. Shanafelt et al., 2016).

Recommendation of measure to use

JSI recommends that the Workforce Survey include some level of assessment for administrative burden, including time spent doing administrative tasks, types of administrative and clerical work, use of EHR/CPOE, amount of administrative work done at home and/or perceived level of satisfaction with the amount and types of clerical tasks staff are required to perform.

Health Information Technology

Conceptual definition

Health Information Technology (HIT) is a broad term, encompassing a range of electronic tools that have been incorporated into medical practice in recent years. Beginning with the Electronic Medical Record (EMR) and then the more encompassing Electronic Health Record (EHR), HIT now incorporates many functions beyond the tracking of information, including decision support, e-prescribing and referrals, computerized physician order entry (CPOE), patient portals, and greatly enhanced ability to mine and analyze the data related to clinical practice. As such, the use of these tools is increasingly linked to evaluation of clinical performance and ultimately to reimbursement.

Relationship to burnout and job satisfaction

HIT is intended to increase efficiency, consistency, and utility of medical information gathering and analysis, but the evidence is clear that it has also had a range of negative consequences on the practice of medicine which can be seen as directly relating to increased stress, depersonalization, inefficiency, and ultimately to burnout among providers. In a 2017 study,

Arndt, et. al., documented that primary care physicians spend more than one-half of their workday, nearly six hours, interacting with the EHR during and after clinic hours (Arndt et al., 2017). In their 2018 article, 'Physician burnout: contributors, consequences and solutions', West and colleagues noted inefficient work practices first in the factors contributing to physician burnout, focusing on a range of HIT related factors including increased need for documentation and computerized order entry keeping them from working at the "top of their license" and longer work hours including time working electronically at home (C. West et al., 2018). Shanafelt (2016) found that "physicians who used EHRs and CPOE had lower satisfaction with the amount of time spent on clerical tasks and higher rates of burnout," even after adjusting for age, sex, specialty, practice setting, and hours worked per week (T. Shanafelt et al., 2016). The study found that 44 percent of physicians were dissatisfied with their EHR system, 41 percent disagreed that it improved patient care, and 62.5 percent disagreed that it improved their efficiency with nearly 37 percent strongly disagreeing with that proposition, while only 23 percent agreed. The study found that "Physicians who used EHRs, CPOE, and patient portals had lower satisfaction with clerical burden directly and indirectly related to patient care. Those who used EHRs and CPOE also had higher rates of burnout." While this paints a negative picture of the impact of EHR technology on job satisfaction and burnout, there is also evidence that improving the EHR experience can have a positive impact in this area (T. Shanafelt et al., 2016). Jones (2013) found that EHR satisfaction was associated with job satisfaction in a cross-sectional survey of primary care providers ; for each point increase in EHR satisfaction, job satisfaction increased by ~0.36 points both in an unadjusted model and in a model adjusted for gender, years since graduating medical school, race/ethnicity, and practice setting (Jones et al., 2013). Further, there is a range of interventions that promote improved satisfaction with EHRs.

Descriptions of available measures

No standard method of assessing HIT was found in the literature, but several potential question sets were identified. Question sets focused on different aspects of HIT. Some delve deeply into the many potential functions of an EHR and the degree to which they are utilized, while others focus on satisfaction and experience with the provider/staff interaction with the EHR. While a full combination of these two concepts would provide ideal information (satisfaction/value of each function), that would prove excessive in data collection. The table below sets forth three approaches from the literature that can be used to assess HIT. The most promising focus on the latter dimension – provider and staff experience – as this has been found to be the key connection to satisfaction and burnout.

Recommendation of measure to use

Extracting questions from the Mayo Clinic / Shanafelt tools would appear to be the most valuable approach for several reasons. First, it provides flexible content that can assess both the dimension of EHR/HIT in use as well as the degree of satisfaction with these. The tool was widely administered, with a significant response from primary care providers, and the results are available correlated with satisfaction and burnout measures for benchmarking. While the Jones /

Informatics in Primary Care questions are succinct and parsimonious, and have been tried with clinical and non-clinical staff, they may be more useful as a guide in selecting which aspects to focus on when paring down a question set such as those suggested by Shanafelt and colleagues. Table 15 provides a summary of the potential measures related to HIT.

Table 15. Summary of HIT measures.

Measure	Description /Overview	Pros and Cons for Health Center Employee Use
RI DOH 2017 Physician stress and burnout - the impact of health information technology survey Section D: EHR Use (Office/EHR)	• A series of questions that assess: • System functionality used • Proficiency and time availability • Use of scribes • Q34 – multi level Likert agree/disagree scale on EHR impact on aspects of practice • Home/remote use	Pros: assesses multiple aspects/dimensions of EHR relationship; questions can stand alone, allowing partial adoption Cons: unclear where/how questions were developed/tested
Mayo Clinic / Shanafelt 2016	• Promising tool for assessing EHR use and satisfaction, including specifics on CPOE and patient portal functions • Nearly 25 percent of responses from PCPs • A complete list of questions, along with the response options, is provided in report Appendix (also available online at http://www.mayoclinicproceedings.org) • Unclear how EHR questions were developed / tested	Pros: large sample study; study provides benchmark relationships to satisfaction and burnout; assesses several dimensions of hit engagement and examines both use and satisfaction Cons: physicians only
Jones / Informatics in Primary Care 2013	• Simple 3 question tool • Focused on EHR experience rather than components: 1) value in care, 2) integration into workflow, 3) trust/validity of data	Pros: NIH/HRSA funded study; quick/focused with good dimensions; responses from physicians, non-physician clinicians, and administrative staff Cons: older study – 2013

Interventions

The literature does provide strong evidence for a range of interventions that can be employed to address the drivers of burnout and loss of satisfaction from HIT related causes. In the paper 'Tethered to the EHR…,', Brian G. Arndt provides support for workflow redesignand delegation of tasks as solutions (Arndt et al., 2017). Sinsky's 2013 paper, 'In Search of Joy in Practice…' also suggest solutions focused on team based "sharing of care," and direct interventions such as assistant order entry and in-visit scribing, which are noted as having very positive impacts across several studies (Sinsky et al., 2013). A study by Pozdnyakova, though small, showed greatly increased provider satisfaction and reduced documentation time with the use of scribes. While the use of scribes had no overall impact on patient satisfaction, younger and female patients felt providers were more attentive (Pozdnyakova et al., 2018).

Training

Conceptual definition

Training encompasses the quality of and/or opportunities for orientation, onboarding, professional expertise, and ongoing professional development.

Relationship to burnout and job satisfaction

While literature on the concept of training is limited, research shows that training is a contributing factor for job satisfaction. Govardhan (2012) found job satisfaction among obstetrician-gynecologists residents was correlated with training satisfaction. For residents with higher levels of training, the study also found lower rates of depression (Govardhan, Pinelli, & Schnatz, 2012). In a study focused on public health central office staff across 37 states, Harper (2015) states "informal and incidental training opportunities, including coaching and mentoring, were more associated with overall [job] satisfaction." Although the direct relationship between job satisfaction and training was not assessed, the evaluation of training was encompassed by survey questions relating to organizational support. Organizational support was found to have a significant, positive relationship with Bowling Green State University JIG Scale (abridged), a measurement tool for job satisfaction (Harper, Castrucci, Bharthapudi, & Sellers, 2015). Brown (2013) also studied the relationship between job satisfaction and advanced training for nurses, but found no significant differences in surveys conducted before and after a training intervention. However, Demographic differences, however, were notable in the study and suggested that training may be effective for younger populations of certified nursing assistants with less experience (Brown, Redfern, Bressler, Swicegood, & Molnar, 2013).

Descriptions of available measures

There are a limited number of tools that measure training. Measures available were easy to interpret and used the Likert scale (Harper et al., 2015), 1-10 point scale (Brown et al., 2013), or a yes/no response (Govardhan et al., 2012). The measures were all conducted in the United States within the last 10 years and do not have reliability metrics. The research with certified

nursing assistants (Brown et al., 2013) and residents (Govardhan et al., 2012) were completed with small samples, whereas Harper (2015) surveyed a large population of 10,246 state health agency staff (Harper et al., 2015). Govardhan's (2012) job satisfaction questions focused on the organization's existing level of training and commitment to training. This survey is centered on residents and their educational training, which would be less applicable to the primary care setting and nonclinical staff (Govardhan et al., 2012). Similarly, the 2014 Public Health Workforce Interests and Needs Survey asked questions relating to the organization's assessment of training needs and existing training (Harper et al., 2015). The Nursing Home Nurse Aide Job Satisfaction Questionnaire asked respondents to rate their existing skills, quality of training, and opportunities for more training (Brown et al., 2013). Overall, the assessments are similar in content. A summary of these measures is provided in Table 16, including the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 16. Summary of training measures.

Measure	Description/Overview	Pros and Cons for Health Center Employee Use
2014 Public Health Workforce Interests and Needs Survey (PH WINS) (Harper, 2015)	20-items that were categorized into organizational support (training, communication, workload) and supervisory support, on a 5-point Likert scale "Employees have sufficient training to fully utilize technology needed for their work" "My training needs are assessed"	Pros: large sample size (n = 10246); US study; within last 10 years Cons: no reliability measures; not primary care setting; narrow target population (public health staff)
Nursing Home Nurse Aide Job Satisfaction Questionnaire (Brown, 2013)	3-items, scored on a scale of 1-10 "Rate whether your skills are adequate for the job" "Rate the training you have had to perform your job" "Rate chances you have for more training"	Pros: US study; within last 10 years Cons: no reliability measures; not primary care setting; small sample size (n = 47); narrow target population (nursing assistants)
US	3-items in the job satisfaction section, measured by yes/no "Are you satisfied with the amount of training in procedural skills?" "Is the faculty committed to teaching?" "Do you feel that resident education is a high priority?	Pros: US study; within last 10 years Cons: no reliability measures; not primary care setting; small sample size (n = 124); narrow target population (residents)

Recommendation of measure to use

Given the lack of available literature, there is no strong recommendation for a specific measure to use for assessing training. A strong measure should encompass an assessment of skills for one's role, quality of existing training opportunities, ongoing assessment for training needs, and possibility of future training opportunities.

Interventions

The reviewed articles primarily supported orientation and onboarding programs to support staff (Harper et al., 2015; Valente, 2011). The Transforming Care at the Bedside program used a rapid change cycle model to work on implementing orientations for trainees that rotate units. The study found that the overall program and interventions increased patient and staff satisfaction (Valente, 2011). Although no interventions were tested, Harper (2015) found that "the greatest impact and mechanism for improving organizational support and therefore job satisfaction are through assessing training needs and allowing [state health agency] employees to work in creative and innovative ways." A few recommendations from the study include: investing time and money into addressing training needs, offering orientation or onboarding programs to promote assimilation into and comfort within the work environment, and providing management and diversity training to also emphasize active listening and open communication (Harper et al., 2015).

Research studies suggest that more attention in regards to training should be geared towards populations that are young and new to the health care workforce (Brown et al., 2013; Govardhan et al., 2012). In addition, advanced training was more likely to improve job satisfaction amongst younger, less experienced certified nursing assistants than compared to the population sample as a whole (Brown et al., 2013).

Social Support and Community at Work

Conceptual definition

Social support is defined as formal and informal assistance within the workplace environment, including relationships to coworkers, supervisors, and the organization. Kim (2019) describes how support in relationships can take the form of "psychological or emotional support, concern, guidance, aid, information, feedback, appraisal, and motivation." Research related to social support included the broader concepts of relatedness and patient care environments (Kim, Liu, Ishikawa, & Park, 2019).

Relationship to burnout and job satisfaction

A lack of support from colleagues and from the organizational climate is a common factor in physician burnout (C. West et al., 2018). Appelbaum (2019) found that workplace climate, including a measure for collegial relationships, negatively predicted variance burnout (beta =0.32; SE 0.14, 95% CI [0.59, -0.04]) (Appelbaum, Lee, Amendola, Dodson, & Kaplan, 2019).

The negative relationship is further supported by Aiken (2008) who conducted a statewide survey and found that poor care environments, including nurse care manager support and collegial relations, had a significant effect on burnout for nurses. Social support also serves as a mediator for burnout (L. H. Aiken et al., 2008). In a study focused on long-term care workers, Kim (2019) found significant indirect effects of social support on burnout via job satisfaction and job autonomy. By reducing stressors, social support serves as a factor that could reduce the outcome of burnout (Kim et al., 2019).

Social support may be a stronger factor for job satisfaction; seven of the eight prioritized articles supported a positive relationship between social support and job satisfaction. In a national study with 1,354 certified pediatric nurses, 82 percent reported that relationships with colleagues were very important to their level of job satisfaction and 79.7 percent reported that a supportive work environment was very important to their levels of job satisfaction (Wyatt & Harrison, 2010). Peer relationships were also found to be statistically significant and positively related to job satisfaction (Purpora & Blegen, 2015). This positive relationship between social support and job satisfaction is further upheld by Kim (2019) who found an indirect effect of social support on job satisfaction via job autonomy (Kim et al., 2019). Another study on general surgery residents found that workplace climates directly affected job satisfaction (direct effect = 0.37, 95% CI [0.19, 0.55], as well as indirectly (specific indirect effect = 0.07, 95% CI [0.01, 0.13]) through perceived organizational support and burnout (Appelbaum et al., 2019). In this review, gender was the only demographic variable with significant findings. While workplace climate positively predicted perceived organizational support (b = 0.91; SE 0.07, 95% CI [0.77, 1.06]), male general surgery residents reported greater perceptions of organizational support compared to their female counterparts t(92) = 2.65, P= 0.01 95% CI [0.09, 0.61] (Appelbaum et al., 2019). Organizational support was also found to be a mediating factor for stressful workloads on professional satisfaction, according to a study done by Waddimba (2016) that focused on rural New York practitioners. Practitioners who reported more fulfilled relatedness were significantly more likely to report frequent professional satisfaction (A. Waddimba et al., 2016). The research found that relatedness served as both a motivator and hygiene factor (A. Waddimba et al., 2016). The indirect relationship of social support on job satisfaction is further matched by Purpora (2015), who noted that peer relationships significantly helped lessen the factor of horizontal violence on job satisfaction (Purpora & Blegen, 2015).

Work relationships and support impact patient and staff outcomes. According to Aiken (2008), care environments affect patient outcomes; better care environments were found to have a 14 percent less chance of patients dying within 30 days of admission. The statewide study focused on aspects extending beyond social support, but included nurse manager support and collegial nurse/physician relations that might affect procedures such as reporting concerns with patient care quality. The care environment was the only factor that had a significant effect on intentions to leave (L. H. Aiken et al., 2008). The attention to turnover is also supported by Waddimba (2016) who states that the quality of relationships in the workplace are related to attrition from

clinical practice. Compared to staff support, job control, and income or time pressure, positive peer relationships hold the greatest influence on the quality of work life (A. Waddimba et al., 2016).

Descriptions of available measures

Of the articles reviewed, none surveyed both clinical and non-clinical personnel. The majority of measures surveyed sample sizes of less than 400 participants and nearly all measures were conducted in the United States within the last 10 years. Scoring across measures were easy to interpret and primarily utilized the Likert scale. A detailed overview of the different measures are listed in Table 17.

The Survey of Perceived Organizational Support shows reliability (Cronbach's alpha = 0.96) and potential applicability to the population of interest (Appelbaum et al., 2019). The 16-items are not entirely specific to the concept of social support, as it includes measures of autonomy and workload (Appelbaum et al., 2019). Similarly, the 22-item survey conducted by the Pediatric Nursing Certification Board would be too extensive to include and the items are not focused on researching the breadth of social support (Wyatt & Harrison, 2010). The nurse-specific survey used in Wyatt's (2010)'s research and the Practice Environment Scale of the Nursing Work Index (L. H. Aiken et al., 2008) would not be broadly applicable to non-clinical staff. The two studies also did not include reliability or validity measures. The Relatedness Subscales of the Basic Psychological Needs at Work Scale was completed within a primary care setting, but also offers no reliability measures (A. Waddimba et al., 2016).

Research by Perkins (2014) and Kim (2019) offer insight into reliable measures completed outside of the primary care setting and with different populations of interest (Kim et al., 2019). The Social Support Measurement Tool by Poulin and Walter (1992) was completed by a small sample of care workers in long-term care facilities (Kim et al., 2019). This tool offers a breadth of data including emotional support from peers and supervisors, as well as instrumental support from supervisors. Although the measure provides insight into both collegial and managerial relationships, the survey tool centers on emotional support, which may be more pertinent to the survey's population of long-term care workers. The National Criminal Justice Treatment Practices Survey focuses on affective relationships and measures the degree to which employees feel committed to, supported by, and attached to their employer (Perkins & Oser, 2014). These measures relate to issues of turnover and burnout, but do not offer extensive insight into areas of intervention from organizational leadership. The survey sample included substance use counselors in prisons and community treatment providers, which also deviates from the primary care health setting. Lastly, the Abbreviated Workplace Climate Questionnaire measures the affective relationship between surgical residents and their training program (Appelbaum et al., 2019). Although the tool offers strong reliability (Cronbach's alpha = 0.96), it also does not offer strong insights into areas for organizational intervention.

Recommendation of measure to use

With social support encompassing a broad range of concepts, it would best to incorporate measures that address both support from peers and from the organization or management. Based on the available literature, the Social Support Measurement Tool and Blegen et al.'s (2004) Peer Relations Subscale of Work Environment are the best possible measures for this concept. The Social Support Measurement Tool provides insight into the affective relationship with supervisors and more importantly documents the degree of instrumental support. The latter is an actionable measure for organizational leadership to respond to and be reassessed over time. The tool is reliable (Cronbach's alpha = 0.89) and has been studied within the last year (Blegen, Spector, Lynn, Barnsteiner, & Ulrich, 2017; Kim et al., 2019). Although the study population and setting is not specific to community health centers, the tool can be broadly applicable particularly to non-clinical staff. The 18-items could be abbreviated to include only the sections relating to organizational support. To measure collegial support, Blegen et al.'s (2004) Peer Relations Subscale of Work Environment is a reliable tool (internal consistency 0.75) that has been used within a hospital setting, which is closer to the target population than Kim's (2019) work in long-term care facilities (Purpora & Blegen, 2015).

Table 17. Summary of social support measures.

Measure	Description/Overview	Pros and Cons for Health Center Employee Use
Short form of the Survey of Perceived Organizational Support (Appelbaum, 2019)	16-items measuring autonomy, collegial relationships, and workload, on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree)	Pros: reliability; US study; within last 10 years Cons: not primary care setting; small sample size (160); narrow target population (surgical residents)
Abbreviated Workplace Climate Questionnaire (Appelbaum, 2019)	9-items measuring the affective relationship between a resident and his/her training program, on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree)	Pros: reliability; US study; within last 10 years Cons: not primary care setting; small sample size (n = 160); narrow target population (surgical residents)
Blegen et al.'s (2004) peer relations subscale of work environment (Purpora, 2015)	4-items measuring peer relations, on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree)	Pros: reliability; US study; within last 10 years Cons: not primary care setting; small sample size (n = 234); narrow target population (nurses)
Pediatric Nursing Certification Board's 2008 national survey (Wyatt, 2010)	22-items measuring perceptions of certification on job satisfaction and other factors, on a 4-point Likert scale	Pros: large sample size (n = 1354); includes primary care setting; US study; within last 10 years Cons: no reliability measures; narrow target population (nurses)

Measure	Description/Overview	Pros and Cons for Health Center Employee Use
Relatedness Subscales of the Basic Psychological Needs at Work Scale (Waddimba, 2016)	4-items measuring gratification of relatedness, on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree)	Pros: includes primary care setting; US study; within last 10 years Cons: no reliability measures; small sample size (n = 308); narrow target population (physicians in rural setting)
Social Support Measurement Tool by Poulin and Walter (1992) (Kim, 2019)	5-items measuring instrumental support from supervisors, 6-items measuring emotional support from supervisors, 7-items measuring emotional support from peers, on a 4-point Likert scale (very agreeable, agreeable, almost not agreeable, not agreeable)	Pros: reliability; US study; within last 10 years Cons: not primary care setting; small sample size (n = 170); narrow target population (long-term care workers)
Practice Environment scale of the Nursing Work Index (PES-NWI) (Aiken, 2008)	7-items measuring nursing foundations for quality of care (dealing primarily with issues of staff development and quality management, 4-items measuring nurse manager ability, leadership, and support, 3-items measuring collegial nurse/physician relations, on a 1-4 scoring	Pros: reliability; large sample size (n = 10,814); US study Cons: not primary care setting; narrow target population (nurses); over 10 years old
National Criminal Justice Treatment Practices (NCJTP) Survey 4, items for organizational support developed by Balfour and Wechsler (1996) (Perkins, 2014)	6-items measuring degree to which employee felt committed to, supported by, and attached to their employer, on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree)	Pros: reliability; US study; within last 10 years Cons: small sample size (n = 267); not primary care setting; narrow target population (substance use counselors)

Interventions /implications

Social support is an interpersonal concept, but can be supported by institutions and organizations. On an individual level, health care staff can focus their time in building their work community by actively defining supportive relationships with their peers and acting on the examples they described together (Purpora, 2015). At the structural level, organizations can "redesign systems to enhance interprofessional, multidisciplinary teamwork" (Waddimba, 2016) and create a work climate that supports open communication via "regular team meetings, trainings, or event group lunches," with the financial assistance of the agency when possible

(Kim, 2019). Notably, organizational interventions should not be "mandated nor motivated by external forces, such as legal or accreditation requirements" because research indicates that individuals value these actions less (Appelbaum, 2019). Encouraging honest communication would promote sharing concerns without fear of repercussions and enhance effective mentorship, as well as perceived organizational support (Appelbaum, 2019). In the context of rural settings, institutional support in establishing peer networks or professional communities could "increase social capital and reduce loneliness/isolation" (Waddimba, 2016). Additionally, organizations may target their interventions based on gender. Appelbaum (2019) supports this with the research finding that female surgical residents perceive less organizational support compared to their male counterparts.

Organizations would greatly benefit from prioritizing social support, given its relationship to burnout, job satisfaction, turnover, patient outcomes, and other factors. Waddimba (2016) states that the "social support of their peers satisfies practitioners more than employee assistance programs initiated by managers."

Meaning in Work/Psychological Empowerment

Conceptual definition

Thomas and Velthouse (1990) argue that empowerment is multifaceted and that its essence cannot be captured by a single concept. They defined psychological empowerment as a motivational construct manifested in four cognitions reflecting an individual's orientation to their work role: (1) meaning; (2) competence (which is synonymous with Conger and Kanungo's self-efficacy); (3) self-determination; and (4) impact. Meaning is the value of a work goal or purpose, judged in relation to an individual's own ideals or standards (Thomas & Velthouse, 1990). Meaning involves a fit between the requirements of a work role and beliefs, values, and behaviors (Brief & Nord, 1990; Hackman & Oldham, 1980). Competence, or self-efficacy, is an individual's belief in his or her capability to perform activities with skill (Gist, 1987). Competence is analogous to agency beliefs, personal mastery, or effort performance expectancy (Bandura, 1989). This dimension is labeled competence here rather than self-esteem, specific to a work role rather than on global efficacy. Self-determination is an individual's sense of having choice in initiating and regulating actions (Deci, Connell, & Ryan, 1989). Self-determination reflects autonomy in the initiation and continuation of work behaviors and processes; examples are making decisions about work methods, pace, and effort (Bell & Staw, 1989; Spector, 1986). Impact is the degree to which an individual can influence strategic, administrative, or operating outcomes at work (Ashforth, 1989). Impact is the converse of learned helplessness (Martinko & Gardner, 1982). Further, impact is different from locus of control; whereas impact is influenced by the work context, locus of control is a global personality characteristic that endures across situations (Wolfe & Robertshaw, 1982).

Together, these four cognitions reflect an active, rather than a passive, orientation to a work role. Active orientation means an orientation in which an individual wishes and feels able to shape their work role and context. The four dimensions can be combined to create an overall construct of psychological empowerment. The lack of any single dimension will deflate, although not eliminate, the overall degree of felt empowerment. Hence, the four dimensions specify a "nearly complete or sufficient set of cognitions" for understanding psychological empowerment (Thomas & Velthouse, 1990).

Importance of the concept

Research has shown across multiple settings among multiple occupation groups that psychological empowerment is strongly related to both burnout and job satisfaction.

Description of available measures

The Empowerment Scale Developed by Spreitzer is a 12-item measure with four subscales that are presented with a seven-point strongly agree to strongly disagree response options. The wording of the items are applicable to a variety of occupations. The coefficient alpha of reliability was reasonable at .72. The four subscales align with the four cognitions of psychological empowerment as outlined in Table 18.

Table 18. Summary of Spreitzer's Empowerment Scale.

Measure	Description/Overview	Pros and Cons for Health Center Employees
Spreitzer's Empowerment Scale	12 item measure with 4 subscales and a 7-point strongly agree to strongly disagree response scale. **Meaning** The work I do is very important to me. My job activities are personally meaningful to me. The work I do is meaningful to me. **Competence** I am confident about my ability to do my job. I am self-assured about my capabilities to perform my work activities. I have mastered the skills necessary for my job. **Self-Determination** I have significant autonomy in determining how I do my job. I can decide on my own how to go about doing my work. I have considerable opportunity for independence and freedom in how I do my job.	Pros: short measure Cons: mixes meaning of work with other dimensions

Measure	Description/Overview	Pros and Cons for Health Center Employees
	Impact My impact on what happens in my department is large. I have a great deal of control over what happens in my department. I have significant influence over what happens in my department.	

Work-Life Integration

Conceptual definition and importance

Work-life integration, balance and conflict are concepts with are labelled differently, but which many researchers tend to use these terms interchangeably. In contrast to work–life balance, a concept that refers to the segmentation of one's life, work–life integration combines both personal and professional responsibilities and activities (Burkus, 2016; Smit et al., 2016). In a study by Shanafelt et al., 2012, physicians were shown to work longer hours and less likely to be satisfied with their work-life integration compared to the general population (T D Shanafelt et al., 2012). In a similar study after adjusting for age, sex, relationship status, and hours worked per week, physicians were less likely to be satisfied with work-life-balance compared with the general population (T. D. Shanafelt et al., 2015). Among physicians, satisfaction with work-life balance has been shown to vary by medical specialty with general surgeons and obstetricians/gynecologists indicating they are the least satisfied with work-life balance. Another important concept related to work-life integration is work-home conflict. Work– home conflicts (i.e., the need to perform both work and personal related tasks/responsibilities simultaneously resulting in conflict between work and home) are a key challenge to work–life balance (Drybye, 2015).

Relationship to burnout and job satisfaction

Lack of satisfaction with work-life integration can lead to burnout and impact performance and increase the likelihood of turnover. Notably, after adjusting for other personal and professional characteristics, physicians who were burned out, dissatisfied with work-life integration, and dissatisfied with EHR use were more likely to report intent to reduce clinical work in the next 12 months and intent to leave their current position in the next 24 months.

Shanafelt and colleagues found that medical specialties with the lowest rates of burnout were more likely to be satisfied with work-life balance. In a study by Flynn (2018), mid-level academic nurse leaders who were dissatisfied with work–life balance were over six times more likely to be experiencing burnout, compared with those who were satisfied with work–life balance. Heavy workloads, long workweeks, and dissatisfaction with work–life balance were significant contributors to an unacceptably high prevalence of occupational burnout among

midlevel academic nurse leaders, which in turn was a significant predictor of their intent to leave.

Work-home conflicts are known to impact work-life balance and are prevalent among United States physicians and their employed partners. Long work-hours, younger age, female sex, and work within an academic medical center increase the risk for work-home conflicts among physicians, while for their partners, work-home conflicts appear to be driven in large part by work hours. These conflicts are strongly associated with distress and relationship dissatisfaction (Dyrbye, 2013). Early career physicians had the lowest satisfaction with overall career choice (being a physician), the highest frequency of work-home conflicts, and the highest rates of depersonalization. Physicians in middle careers worked more hours, took more overnight calls, had the lowest satisfaction with their specialty choice and their work-life balance, and had the highest rates of emotional exhaustion and burnout.

Descriptions of available measures

Various measures have been identified assessing individual satisfaction with work-life integration (WLI). In their longitudinal study evaluating the prevalence of burnout and satisfaction with work-life integration among physicians and other US workers, Shanafelt and colleagues (2019) assessed satisfaction with WLI using the item, “My work schedule leaves me enough time for my personal/family life” (response options: strongly agree, agree, neutral, disagree, strongly disagree).Individuals who indicated “strongly agree” or “agree” were considered to be satisfied with their WLI, whereas those who indicated “disagree” or “strongly disagree” were considered to be dissatisfied with their WLI. The same measure was used to assess for work-life balance in a previous similar study by the authors (Shanafelt et al., 2015). In a study assessing predictors of burnout among female neurologists, Moore and colleagues adopted two items to assess family life and work-life balance among respondents. Respondents were asked to rate their average daily stress level at home on a scale from zero to 100, and then were asked, ‘‘how satisfied are you with your current work–life balance?’’ (response options very satisfied, mostly satisfied, neither satisfied nor unsatisfied, mostly unsatisfied, or very unsatisfied). To determine the effects of family time, the researchers also inquired about the number of children and age of the youngest child, and family disruptions due to childcare emergencies (Moore, 2015). Pololi (2015) uses a four-item measure of work-life integration that assesses institutional support for managing work and personal responsibilities adopted from the C-change qualitative studies questionnaire. Psychometrics for this 4-item work-life integration measure were acceptable. Finally, Dasgupta (2019) used the Areas of Work-Life Survey to assess perceptions of work-life balance in a single center study looking at work-life balance and burnout among pediatric cardiologists. The Areas of Work-Life Survey assesses employees’ perceptions of work-setting qualities that play a role in whether they experience work engagement or burnout and is a companion piece to the Maslach Burnout Inventory (MBI). The Areas of Work-Life Survey is a short questionnaire with demonstrated reliability and validity across a variety of occupational settings (Leiter & Maslach, 2003). It produces a profile of scores

that permits users to identify key areas of strength or weaknesses in their organizational settings. It applies to small workgroups or summary profiles across large organizations. The Areas of Work-Life Survey evaluates six areas of work-life including workload, control, reward, community, fairness, and values (Dasgupta et al., 2019). Measures for work-life integration/balance/conflict are summarized in Table 19, including the instrument name, number of items and domains (if available), response categories (if available), and pros and cons of using the instrument in a community health center setting.

Table 19. Summary of work-life integration measures.

Measure	Description/Overview	Pros and Cons for Health Center Employee
Shanafelt 2012; Shanafelt 2015; Shanafelt et al., 2019 Dyrbye, 2013; Sinsky, 2017	Single item: "My work schedule leaves me enough time for my personal/ family life." Response options were strongly agree, agree, neutral, disagree, or strongly disagree	Pros: large sample - used with a large sample of physicians in the US Cons: physician oriented
(Moore et al., 2019)	2 items: Respondents were asked to rate their average daily stress level at home on a scale from 0 to 100; How satisfied are you with your current work–life balance? (very satisfied, mostly satisfied, neither satisfied nor unsatisfied, mostly unsatisfied, or very unsatisfied)	Pros: short measure; US study done on the female neurologists population Cons: Nurse based; home life stress
(Beckett, Nettiksimmons, Howell, & Villablanca, 2015)	satisfaction with work–life balance rated on a scale of 1 = very dissatisfied to 5 = very satisfied; overall career satisfaction rated on a scale of 1–5; satisfaction with existing family friendly policies rated on a scale of 1–5; whether or not the respondent has concerns about the way they would be viewed by colleagues if they were to make use of family friendly policies (yes/no); and whether or not the respondent thought that existing family friendly policies were fairly implemented in their department (yes/no).	Pros: health center/primary care setting; US study; applicable to clinical/non-clinical populations; national benchmarks available Cons: change (yes/no responses for some items, 5 point Likert for others)
MS Physician Workforce Neurologist Survey (Teixeira-Poit, Halpern, Kane, Keating, & Olmsted, 2017)	Single item used to survey a sample of United States neurologists about their professional life satisfaction.	Pros: large sample size (greater than 400); US study Cons: narrow population (neurologists)

Measure	Description/Overview	Pros and Cons for Health Center Employee
C – Change qualitative studies	74-item survey includes a work-life integration section measuring: institutional support for managing for work and personal responsibilities, family-friendly workplace, time for personal/family issues when needed, difficulties to succeed without sacrificing personal/family commitments, reasonable balance on 5-point Likert scale	Pros: large sample; good reliability (Cronbach alpha =0.76) Cons: very lengthy; cost for use
Areas of Worklife Scale (AWS) (Dasgupta et al., 2019)	28-items measuring workload, control, reward, community, fairness, and values, response options are "strongly disagree," "disagree," "hard to decide," "agree," or "strongly agree." Statements such as "Working here forces me to compromise my values" or "My values and the organization's values are alike" are rated on a scale indicating degrees of agreement and disagreement	Pros: measures several concepts Cons: more a moral distress scale; small sample
(Clemen, Blacker, Floen, Schweinle, & Huber, 2018)	2 checklists related to strategies and interventions for work-life balance and 2 open-ended questions at the end of the survey titled "other" to share additional strategies utilized for successful work-life balance and "share additional comments regarding your home and work life	Pros: health center/primary care setting; large sample size; US study; applicable to clinical/non-clinical populations Cons: uses yes/no responses; has 2 open-ended questions

Interventions

Interventions to improve work-life integration and work-life balance and reduce work-life conflict operate at the individual, work unit (team), and organizational levels. One intervention is simply for organizations to establish principles that facilitate work-life integration/balance and/or reduce conflict. Interventions must address contributing factors in the practice/organizational environment rather than focusing exclusively on helping physicians and health care workers to care for themselves, such as training them to be more resilient. Physicians and health care workers can also take steps at the individual level to promote their own wellness. This often begins by identifying personal and professional values and determining priorities when conflicts between personal and professional responsibilities arise.

Reducing work hours or working a reduced schedule can be used as a strategy to improve work-life balance for individuals. When asked to rank the importance of workplace policies that would improve work–life balance for female neurologists, most respondents (97.7%) ranked a flexible work schedule as the most important measure, followed by paid maternity leave (83.7%) and the

option to work part time (83.2%). Common themes in qualitative survey comments on other measures to reduce burnout and enhance job satisfaction were demands for greater administrative support, more time during work to take care of non-billable clerical burdens, and more time to see patients.

Health care organizations should focus on improving the efficiency and support in the practice environment, select and develop leaders with the skills to foster physician engagement, help physicians optimize "career fit," and create an environment that nurtures community, flexibility, and control, all of which help cultivate meaning in work. The current challenge for organizational leaders is finding new ways to make a cultural shift in how their organizations think about work–life integration. A myriad of human resource functions that are intimately connected to corporate work–life programs include: employee recruitment, total rewards programs, job design, diversity and inclusion, approaches to career advancement and leadership development, employee relocation and travel policies, leave taking and corporate social responsibility (Harrington & Ladge, 2009).

Summary

Health care professions are inherently demanding and stressful, and as such, burnout among medical practitioners is on the rise. Physicians have been found to have higher rates of burnout compared to the general population. In addition, high rates of physician addiction, depression, dissatisfaction, and stress have been documented. Burnout among health care professionals, particularly among physicians, has become a key issue not only in terms of their individual well-being, but also in terms of quality of health services they provide (Shanafelt et al., 2012). In other words, potential effects of high burnout and dissatisfaction on the job could have a negative impact on health outcomes, such as increased medical errors, longer patient recovery times, diminishing health services quality, and lower patient satisfaction (Newman, 2012).

Burnout is a known antecedent of job satisfaction. A study by Sarmiento and others demonstrated that emotional burnout was a strong determinant of job satisfaction, and job satisfaction and burnout are dramatically affected by the type of work in which one is engaged (Sarmiento, Laschinger, & Iwasiw, 2004). Both burnout and job satisfaction are influenced by multiple factors. These factors may occur at the individual, environmental or organizational and psychosocial level. A review of the literature presented in this report identified multiple factors shown to impact burnout and job satisfaction, and which in turn produce negative consequences for both the individual employees and health center organizations.

Impact on Staff Retention, Quality of Care, and Patient Outcomes

Maintaining high levels of job satisfaction and avoiding burnout are both considered important for providing high quality patient care (Rosales, Labrague, & Rosales, 2013). Burnout and job dissatisfaction, especially among health care providers, can affect the implementation of evidence-based practices (Chang 2014; Suárez et al. 2017) and result in increased medical errors, longer patient recovery times, and lower patient care and patients' satisfaction (Tarcan, Hikmet, Schooley, Top, & Tarcan, 2017). Clinicians who are burned out may become cynically detached from their work, develop negative attitudes toward patients that promote a lack of investment in the clinician–provider interaction, poor communication, and loss of pertinent information for decision-making (Lyndon, 2016).

Understanding the key antecedents of burnout and job satisfaction while assessing their roles on organizational commitment is a crucial process for administrators and managers. Such knowledge could help reduce the risk of turnover by informing the implementation of proper measures to increase employee job satisfaction and reduce burnout (Lambert, Hogan, & Barton, 2001).

High rates of turnover and lack of retention for health care professionals is of great concern, especially in rural areas (Adams, 2016; Barrett, Terry, Lê, & Hoang, 2016; Mbemba, Gagnon, & Hamelin-Brabant, 2016). Factors such as lower compensation, chronic understaffing, issues with the professional work environment and lifestyle issues such as lack of adequate housing, employment opportunities for spouses, and childcare options, present unique challenges that impact recruitment and retention for rural workers (BAERNHOLDT & MARK, 2009; Jackman, Olive J., & Myrick, 2010; Rohatinsky & Jahner, 2016).

In a network wide survey of RNs and LPNs employed by a rural hospital network in the northeast of the United States, better rural fit predicted less intention of leaving the current unit in the next 6 months and less intent to leave the organization in the next 3 years (Sellers, 2019).

Sociodemographic Factors

Socio-demographic factors of employees such as age, gender, marital status, income, position, education, and ethnicity have been linked to job burnout (Chiron et al., 2010; McMurray et al., 2000; Senter et al., 2010; T D Shanafelt et al., 2012; M. Thomas et al., 2014). Though results have varied, a majority of studies have shown that burnout occurs less in men, younger people, and married individuals compared to others (Chiron et al., 2010).

According to the Medscape National Physician Burnout and Suicide Report 2020, there is a "generational divide" among physicians with Generation X (ages 40-54) physicians reporting noticeably more burnout than other age groups. In the report, 48 percent of Gen Xers said they were burned out compared with 39 percent of baby boomers (ages 55-73), and 38 percent of

millennials (ages 25-39) (Kane, 2020). The higher percentage for Gen Xers may be related to the fact that burnout rates are higher among mid-career physicians and most generation Xers are currently at this stage in their career (Frellick, 2020).

A high prevalence of burnout among women physicians has been documented. Female physicians have consistently reported higher percentage of burnout than males. According to the Medscape survey, 48 percent of female physicians experienced burnout compared with 37 percent of male physicians (Kane, 2020).

Similarly, while studies have shown demographic differences in job satisfaction among health care professionals, findings have also not been consistent. In a cross-sectional survey by Chiron and colleagues, female anesthetists reported being less satisfied with their jobs. This job dissatisfaction among females was associated with supervision, moral values, authority, creativity and compensation. Job satisfaction was also shown to increase with age and tenure (Chiron et al., 2010). In another cross-sectional survey of two hundred and fifty emergency department employees, Tarcan and colleagues found a positive association between annual income and household economic-well-being with job satisfaction. Gender, age, education, marital status however had no significant effect on job satisfaction (Tarcan et al., 2017).

Both clinical and family responsibilities for children under age 18 play a major and interacting role in satisfaction with career and work–life balance (Beckett, 2015). Caring for children and working in a clinical position were individually associated with substantially improved reported work–life balance as long as they were not combined. The dual responsibility of caring for children plus working in a clinical position led to less reported satisfaction with work–life balance. No other personal characteristics (age, gender, marital status, or reported family demand) were significantly associated with reported satisfaction or work–life balance (Tarcan et al., 2017).

Because demographic differences can affect individual experiences with burnout and job satisfaction, it is important to include such information as part of any burnout or job satisfaction assessment.

Interventions to Improve Satisfaction and Reduce Burnout

Burnout and job satisfaction have significant influence on the well-being of the health care workforce. To reduce the occurrence and severity of burnout, improve job satisfaction, and positively influence well-being, it is necessary to examine the individual drivers of burnout and job satisfaction and interventions that target these drivers. Interventions explored in the literature occur at various levels of health care organizations and systems and target various roles and relationships. Many of the interventions found in the research, target similar outcomes with the overall goal of improving workforce well-being, overlapping between drivers of burnout and job satisfaction. This is unsurprising as the drivers of burnout and job satisfaction influence and are

influenced by one another in the health center space. Therefore, interventions targeting elements of a specific driver often include elements of another driver. An example of overlap are interventions that include leadership. Leadership is a distinct driver of burnout and job satisfaction, but it also has a major impact on team dynamics, workplace culture, and moral distress, and others (Volpe et al., 2014; Jackowski & Burroughs, 2015; Djukic et al., 2017). This demonstrates the importance of understanding the interaction and influence between drivers of burnout and of job satisfaction in the creation of actionable and effective interventions.

It is important to note that extracted interventions are sourced from a robust literature review on the drivers and outcomes of workforce burnout and job satisfaction. The interventions mentioned are suggestions from authors based on the authors' research findings. Interventions cited are not necessarily tested and proven as effective. A report by the National Academies of Science strongly recommends that health care organizations create, implement and evaluate their own interventions by using a systematic approach to reducing clinician burnout, use rigorous methods of evaluating burnout and burnout risk, and do so while openly sharing their lessons learned with other health care organizations. The report also calls for investment in research on organizational interventions (National Academies of Sciences, Engineering, 2019). The Health Center Workforce Survey will provide powerful information for HRSA and individual health centers to determine necessary interventions and evaluate their effectiveness overtime, Interventions included in the previous sections under each concept are combined and summarized below.

Management and Leadership

Improvements to leadership and management requires action at multiple levels of an organization. A potential intervention that can be implemented at various organizational levels is training in positive leadership practices. Training in positive practices can increase frequency of use and have a positive impact on employees (Jackowski & Burroughs, 2015). Ma (2015) proposed investment in leadership development programs. Findings relating to the personal accomplishment component of burnout and the association to transformational leadership suggest that supervisors who display transformational leadership behaviors; organizations that present clear, planned objectives for providers; and organizations where employees receive support from coworkers and administrators to successfully complete their job are significantly related to the provider's sense of competence and satisfaction with their job. Leadership development and organizational interventions should be created to improve the work context for providers and other staff (Green, 2014). One example of such an intervention is the ARC (Availability, Responsiveness, and Continuity) organizational intervention (Glisson & Schoenwald, 2005). The ARC strategy embeds five principles of service system effectiveness that focuses the organizations' priority setting. Next, the ARC strategy then promotes shared models among staff and administrators that support service innovations. Finally, the strategy uses organizational component tools to identify and address barriers to service improvement and effectiveness. The ARC organizational intervention has shown improvements in culture and

climate of human service organizations with improvements in staff retention and client outcomes (Glisson et al., 2008; Glisson & Green, 2011; Glisson et al., 2012).

Team Dynamics and Team Structure

Interventions to improve team dynamics and structure often overlap with leadership and management interventions. An integral part of team function are the individuals who lead and manage other staff. In addition, team leaders and managers are often in a position to implement team improvement interventions. Djukic (2017) suggests avoiding individuals with negative affectivity behaviors for management positions, or coaching them about how to manage the negative influence of this personality trait on their job satisfaction. Many authors suggest interventions that incorporate strengthening teamwork, workflows, and emphasizing procedural justice within an organization (Coplan et al., 2018). This includes the promotion of integrating and compromising conflict resolution skills while discouraging conflict avoidance as well as promoting adaptive coping skills at the individual level (Wright, 2011; Li et al., 2014). Salas (2009) summarizes various elements essential to improve team dynamics and structure including interventions that align team training objectives and safety aims with organizational goals; provide organizational support; encourage participation of frontline leaders; adequately prepare the environment and staff for team training; determine resources and required time commitments; facilitate application of acquired teamwork skills; and to measure the effectiveness of the team training program.

Psychological Safety

Psychological safety, team dynamics and leadership are all interconnected concepts. Psychological safety interventions focus on communications and team empowerment and, therefore, are somewhat non-specific and fall generally within the realm of team and interpersonal dynamics. Edmondson (2004) argues the importance of incorporating a set of structural features consisting of a clear compelling team goal, an enabling team design including context support such as adequate resources, information, and rewards, along with team leader behaviors such as coaching and direction setting as having been shown to increase team effectiveness.

Workplace Culture

Workplace culture impacts, and is impacted by various drivers of burnout and job satisfaction including leadership and management, team structure, and psychological safety, to name a few. Therefore, interventions to improve workplace culture often include actions that will improve other drivers, and vice versa. For example, improving workplace culture often includes interventions at the management and leadership level of an organization. Volpe (2014) suggests organizational leaders can employ the following: do not badmouth; include employees in decision making; be transparent; act with integrity; reduce leadership cynicism; and invest in better working conditions, benefits, and work hours for employees in order to improve workplace climate. In addition to leaders, many authors mention greater involvement in and support of ethical discussion and deliberation by a broad range of health care staff (Hwang et al.,

2014; Pugh et al., 2015). Departments should encourage, support, and even sponsor ethics education events (Pugh et al., 2015). Ulrich (2007) suggests reducing ethics stress by increasing ethics resources in an organization in order to promote job satisfaction. An organization can also adopt a culture of supporting positive individual change including the promotion of mindfulness, positive psychology training, stress and resiliency training, and exercise (Panagioti et al., 2017).

Moral Distress

Research indicated that it is impossible to address moral distress crescendos without a broader, more systemic or organizational perspective. Organizations first need to acknowledge moral distress and the crescendo effect and, using root causes of moral distress, help frame the presenting situation in the context of patient, unit/team, and/or system-level breakdowns and name the constraints that are inhibiting ethical action. It is important to invite strategies and solutions that respect the culture and protect the caregiver's integrity. Prioritize the identified strategies with staff input; decide where to start and be alert that three levels of intervention may be necessary: patient, unit/team culture, and organization (Epstein & Hamric, 2009). Formal and informal debriefing sessions following stressful cases may help some team members, as can more in-depth and structured support programs such as Schwartz Center Rounds. It is also important to dedicate space for provider-patient time (Houston et al., 2013). At the organizational level, leadership should periodically examine organizationalpolicies and practices and critically appraise them vis-à-vis their potential to permit, enable, or even encourage challenges to, threats to, and violations of professional and individual integrity. Leaders should be especially attentive to their willingness to tolerate what should not be tolerated by leaders committed to an organizational culture of professionalism in health care: the behavior of often-powerful clinicians that creates, unchecked, challenges to, threats to, and violations of professional and individual integrity of their clinical colleagues (Thomas & McCullough, 2015).

Workload and Job Demands

Implications for improving job demands and workload include interventions at the national, organizational, work unit, and individual level. In commonality with other drivers of burnout and job satisfaction, efforts to address these challenges must first recognize that changes must be made at all levels to effect change. One proposed intervention at the individual level is the flexibility to adjust FTE (Shanafelt et al., 2015; West et al., 2018). At the work unit level, Ulrich (2019) suggests that there must be clear productivity expectations and team members should be encouraged to work together to tackle environmental challenges. At the organization level, suggested interventions include productivity targets, duty hour limits, and appropriate distribution of job roles (West et al., 2018). Finally, interventions at the national level must address the structure of the United States' medical system where there is a large burden of reimbursement documentation requirements (West et al., 2018). No solutions to this issue were proposed in the reviewed literature, and should be explored further.

Decision Latitude

The research indicates that job satisfaction and burnout are related to the amount of autonomy and control staff have. Increasing staff engagement in establishing work requirements and structure, allowing for shared decision-making, and giving staff the ability to make decisions independently of supervisors contribute positively to job satisfaction and reduce burnout (Waddimba et al., 2019). While decision latitude significantly influences burnout and job satisfaction, there is a dearth of relevant interventions mentioned in the literature and points to the need for additional research on the concept and related interventions.

Workflow and HIT

Workflow and HIT are a core component of the clinical workforce experience and can be impacted in a variety of ways. A physical design concept for enhancing teamwork within a health care setting includes flexible workspaces that support an integrated team approach, where members of the care team are located in close proximity through the use of pods. Staff input into the design is a vital element in this type of intervention. Beyond physical design, there are a multitude of potential interventions to improve workflow. Ideas include pre-visit planning, pre-appointment lab tests, share care (spread responsibility and authority across team), assistant order entry, standardized prescription renewal, in-box management, verbal messaging, team huddles and co-location, and workflow mapping/systems planning, and scribing (Sinsky et al., 2013). Scribing such as assistant order entry and in-visit scribing can reduce EHR burden, reduce stress, and improve clinical workflow (Pozdnyakova et al., 2018).

HIT is an essential component of clinical workflow. Organizations need to assess the EHR's functionality and usability in regard to the site's workflow before and during the implementation; matching system functionality and usability to workflow. In order to reduce work inefficiency and lack of work support at the organization level, interventions include optimized electronic medical records, recruiting non-physician staff support to offload clerical burdens, and the appropriate interpretation of regulatory requirements (Sockolow et al., 2012). Individual level solutions include efficiency and skills training, prioritization of tasks and delegating work appropriately (West et al., 2018).

Social Support

Social support is an interpersonal concept, but can be greatly supported by institutions and organizations. On an individual level, health care staff can focus their time in building their work community by actively defining supportive relationships with their peers and acting on the examples they described together (Purpora & Blegen, 2015). At the structural level, organizations can "redesign systems to enhance interprofessional, multidisciplinary teamwork" (Waddimba et al., 2016) and create a work climate that supports open communication via "regular team meetings, trainings, or event group lunches," with the financial assistance of the agency when possible (Kim et al., 2019). Notably, organizational interventions should not be "mandated nor motivated by external forces, such as legal or accreditation requirements" because research indicates that individuals value these actions less (Appelbaum et al., 2019). In a

nod to psychological safety, encouraging honest communication would promote sharing concerns without fear of repercussions and enhance effective mentorship, as well as perceived organizational support (Appelbaum et al., 2019). In the context of rural settings, institutional support in establishing peer networks or professional communities could "increase social capital and reduce loneliness/isolation" (Waddimba et al., 2016). Additionally, organizations may target their interventions based on gender. Appelbaum supports this with the research finding that female surgical residents perceive less organizational support compared to their male counterparts. Organizations would greatly benefit from prioritizing social support, given its relationship to burnout, job satisfaction, turnover, patient outcomes, and other factors. Waddimba states that the "social support of their peers satisfies practitioners more than employee assistance programs initiated by managers."

Work-Life Integration

Health care organizations should establish principles that help facilitate work-life integration. These interventions must address contributing factors in the practice environment rather than focusing exclusively on helping physicians and other health care workers care for themselves, such as, training them to be more resilient. Reducing work hours or working a reduced schedule, supporting a flexible work schedule, and allowing for part time work can be used as strategies to improve work-life balance for individuals. Additionally, health care organizations should focus on improving the efficiency and support in the practice environment by selecting and developing leaders with the skills to foster physician engagement, help physicians optimize "career fit," and create an environment that nurtures community, flexibility, and control, all of which help cultivate meaning in work. A myriad of human resources functions that are intimately connected to work–life programs include: employee recruitment, total rewards programs, job design, diversity and inclusion, approaches to career advancement and leadership development, employee relocation and travel policies, leave taking and corporate social responsibility (Harrington & Ladge, 2009). Staff can also take steps at the individual level to promote their own wellness. This often begins by identifying personal and professional values and determining how to prioritize when conflicts between personal and professional responsibilities arise.

Use of the Literature Review Findings to Support Learning Communities

The literature on workforce well-being and methods to reduce burnout and improve job satisfaction in health care workers is extensive. Like many industries, health centers around the United States are realizing the value of improving staff satisfaction and are using both proven and innovative methods to engage and retain employees. Health centers are also uniquely positioned (and incentivized) to improve in their work, not just for patient outcomes and costs but the satisfaction of all. With the majority of health centers obtaining Patient Centered Medical

Home recognition, they are continuously working to improve and transform into learning-oriented organizations.

The literature review conducted by JSI gathered extensive research related to job satisfaction and burnout, specifically within health care settings and for health care workers. The literature review also uncovered various interventions and initiatives health care organizations can adopt to improve job satisfaction and reduce burnout. Collectively, these findings will inform learning community development in multiple ways: (1) inform content for the learning collaborative, including topics for didactic learning and discussion on effective interventions to improve workforce wellness; (2) integrated into listening session questions/probes; (3) support development of a workforce wellness survey instrument that can be used across health centers and the results of which to identify areas for learning communities; and (4) support the development of a compendium of effective workforce wellness initiatives.

Looking ahead, ongoing results from the Health Center Workforce Survey can help direct health center leadership as to which initiatives are of greatest need for their workforce. Taking the steps to implement meaningful change presents its own challenges, however. Creating learning communities modeled after this project's learning collaborative may help practices keep up with the ongoing work of retaining satisfied staff. Using a coaching and mentoring model to provide compassionate, organization-directed technical assistance and support may drive learning that is more robust and encourage accountability. Local, regional, or even national communities of practice can keep the work grounded and motivating, a vital step in the success and longevity of these sometimes efforts.

Documentation of Alternative Measures and Rationale for the Preliminary Recommendation for Selection

The appendix to this literature summary lists the alternative measures with details of question wording and response options considered for each concept and the rationale for the recommended selection for the draft survey to use in the cognitive testing phase.

Next Steps

Moving from the Literature Summary to a Draft Survey for Cognitive Testing

JSI will undertake several steps to use findings from the literature review to develop a draft survey instrument to undergo cognitive testing and pilot testing before preparation for full implementation. The key next steps are discussed below.

Further evaluating alternative options for measures of a concept

The final choice of which measure to use in the Health Center Workforce Survey (survey instrument) will require an evaluation process to select the specific measures to incorporate into the first draft of the survey. The decision as to which measures will balance several potentially competing elements: how important is the concept as it relates to burnout and/or job satisfaction; the length of the measure; whether the current wordings can be used for all health center employees or whether some modifications may be justified; whether the wordings of the measure utilizes language specific to the health center work environment or uses more generic workplace wordings; the psychometric properties of the measure (reliability, response distributions, etc.); and the cost of using the measure. It would also be useful if there were national benchmarks for the measure, however this would not be a priority consideration, since when implemented the Health Center Workforce Survey will generate its own national benchmarks. The goal of this evaluation process is to select the most effective yet efficient measures to capture all of the key concepts.

Overall, the target for the survey instrument will be to include solid measures of the two central concepts – burnout and job satisfaction – as well as efficient and reliable measures of concepts that drive these two central concepts. The survey instrument will also include measures of individual consequences of burnout and job satisfaction as well as a few measures of perceptions of organizational consequences where it is reasonable to expect employees to have such information. Finally, the survey instrument will include select demographic characteristics of the respondents. The goal will be to construct an initial draft survey instrument for cognitive testing that is approximately 30-35 minutes in length and that will subsequently shortened to 25-30 minutes in length through further pilot testing.

Soliciting input from other subject matter experts and key stakeholders

As JSI proceeds, JSI will gather input and feedback from the TAP members, HRSA staff, and thought partners (NACHC, NCQA), for example, soliciting reactions/considerations on competing measures of a concept as initial choices are being finalized. When the initial draft of the full survey instrument is available, an additional round of feedback will be solicited from TAP members and HRSA staff. Listening session discussion will also inform the survey instrument design. Listening sessions will allow JSI to hear directly from health center staff, identifying the most important concepts to include in the survey, etc.

Obtaining OMB clearance for cognitive testing and the cognitive testing process

A clearance package will be prepared to gain OMB approval to proceed with cognitive testing. When OMB clearance is obtained, the cognitive testing will proceed in three to four “rounds” so that early feedback can aid in revising the instrument or individual measures. This will then allow later rounds the opportunity to confirm that the measures or instrument has been improved. More specifically, the initial round of cognitive interviews will focus on comparing alternative measures of one or more concepts for which a clear selection decision could not be made. The

testing will help us to determine which of the alternatives would be best to use. Based on this process, subsequent rounds of cognitive testing would focus on the selected measures. After results of the cognitive testing are considered, revisions to the draft survey will be made. The Pilot testing (dress rehearsal) will follow with this revised draft instrument after approval from OMB to proceed.

Other Project Activities that Literature Searches will Support

The literature search will support two other project activities: (1) the listening sessions and (2) the learning collaborative. As part of the listening session, participants will be asked to provide feedback on various interventions to decrease burnout or increase job satisfaction, as "good idea" or "bad idea." The listening sessions will also provide an opportunity to insure that important causes of burnout or low job satisfaction have not been overlooked. The literature searches and extraction from selected articles supported the identification ofthose ideas for interventions. One of the main elements in planning for the learning collaborative is to identify didactic components. The literature search will be used to determine topics for the didactics sessions, including burnout and job satisfaction concepts and interventions to reduce burnout and improve job satisfaction.

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Health Resources and Administration (HRSA)
Health Center Workforce Survey

LITERATURE REVIEW SUMMARY

Appendix A: Instruments

June 4, 2020

Revised Version Updated July 9, 2020

Submitted By:

John Snow, Inc.
44 Farnsworth St
Boston, MA 02210

Appendix A: Instruments - Table of Contents

Introduction

The Appendix provides a compilation of instruments relevant to the concepts of burnout, job satisfaction as well as drivers and outcomes of these concepts. The instruments were identified in the literature review process which included review of national surveys and instruments provided by the project's Technical Advisory Panel, many of which are multiple-concept surveys. The Appendix begins with instruments related to the two central concepts – burnout and job satisfaction. Instruments presented for the concepts which the literature review found to be drivers of burnout and/or job satisfaction appear next and are listed in alphabetical order. Lastly, the Appendix provides measures of consequences of burnout and/or job satisfaction.

Within each table, JSI has identified specific measures that we are recommending as a starting point to build a draft workforce survey that can be cognitively tested. After any necessary revisions the survey will be prepared for pilot testing and after possible further revisions will be compiled as the recommended workforce survey for national administration. The recommended measures appear at the beginning of each table and are bolded and highlighted grey. Items without this designation are alternative measures that were explored. Measure recommendations are based on a multitude of factors. The primary criteria is that the measure addresses and targets the research team's general understanding of each concept. Additionally, the following criteria were considered for each measure suggestion: ability to be measured in health care personnel both clinical and non-clinical; potential for implementation in primary health care settings including a reduced burden of implementation; ease of measurement and interpretation including the availability of benchmarks; sensitive to change and thus can be used for longitudinal assessments; having strong psychometrics; is broadly applicable to a variety of occupations and is in the public domain.

Instruments

Burnout

Question	Concept name in instrument	Response categories
Stanford Professional Fulfillment Index (Trockel, Bohman, Lesure, et al., 2018)		
During the past two weeks my job has contributed to me feeling...		
Less empathetic with my patients	**Interpersonal Disengagement**	**5 point scale (Not at all - Extremely)**
Less empathetic with my colleagues	**Interpersonal Disengagement**	**5 point scale (Not at all - Extremely)**
Less sensitive to others' feelings/emotions	**Interpersonal Disengagement**	**5 point scale (Not at all - Extremely)**
Less interested in talking with my patients	**Interpersonal Disengagement**	**5 point scale (Not at all - Extremely)**
Less connected with my patients	**Interpersonal Disengagement**	**5 point scale (Not at all - Extremely)**
Less connected with my colleagues	**Interpersonal Disengagement**	**5 point scale (Not at all - Extremely)**
How true do you feel the following statements are about you at work during the past two weeks?		
I feel happy at work	Professional Fulfillment	5 point scale (Not at all true - Completely true)
I feel worthwhile at work	Professional Fulfillment	5 point scale (Not at all true - Completely true)
My work is satisfying to me	Professional Fulfillment	5 point scale (Not at all true - Completely true)
I feel in control when dealing with difficult problems at work	Professional Fulfillment	5 point scale (Not at all true - Completely true)
My work is meaningful to me	Professional Fulfillment	5 point scale (Not at all true - Completely true)
I'm contributing professionally (e.g. patient care, teaching, research, and leadership) in the ways I value most	Professional Fulfillment	5 point scale (Not at all true - Completely true)
To what degree have you experienced the following? During the past two weeks I have felt...		
A sense of dread when I think about work I have to do	Work Exhaustion	5 point scale (Not at all - Extremely)
Physically exhausted at work	Work Exhaustion	5 point scale (Not at all - Extremely)
Lacking in enthusiasm at work	Work Exhaustion	5 point scale (Not at all - Extremely)
Emotionally exhausted at work	Work Exhaustion	5 point scale (Not at all - Extremely)
Oldenburg Measure of Burnout (Demerouti et al., 2000)		
There are days when I feel tired before I arrive at work	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
After work, I tend to need more time than in the past in order to relax and feel better	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
I can tolerate the pressure of my work very well	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
During my work, I often feel emotionally drained	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
After working, I have enough energy for my leisure activities	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
After my work, I usually feel worn out and weary	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**

Question	Concept name in instrument	Response categories
Usually, I can manage the amount of my work well	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
When I work, I usually feel energized	**Exhaustion**	**5 point scale (Strongly Disagree - Strongly Agree)**
I always find new and interesting aspects in my work	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
It happens more and more often that I talk about my work in a negative way	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
Lately, I tend to think less at work and do my job almost mechanically	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
I find my work to be a positive challenge	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
Over time, one can become disconnected from this type of work	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
Sometimes I feel sickened by my work tasks	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
This is the only type of work that I can imagine myself doing	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
I feel more and more engaged in my work	**Disengagement**	**5 point scale (Strongly Disagree - Strongly Agree)**
Copenhagen Burnout Index (Kirstensen, 2007)		
Do you feel worn out at the end of the working day?	**Work Related Exhaustion**	**5 point scale (Never/Almost Never - Always)**
Are you exhausted in the morning at the thought of another day at work?	**Work Related Exhaustion**	**5 point scale (Never/Almost Never - Always)**
Do you feel that every working hour is tiring for you?	**Work Related Exhaustion**	**5 point scale (Never/Almost Never - Always)**
Do you have enough energy for family and friends during leisure time?	**Work Related Exhaustion**	**5 point scale (Never/Almost Never - Always)**
Is your work emotionally exhausting?	**Work Related Exhaustion**	**5 point scale (To a Very Low Degree-To a Very High Degree)**
Does your work frustrate you?	**Work Related Exhaustion**	**5 point scale (To a Very Low Degree-To a Very High Degree)**
Do you feel burnt out because of your work?	**Work Related Exhaustion**	**5 point scale (To a Very Low Degree-To a Very High Degree)**
How often do you feel tired?	Personal Burnout	5 point scale (Never/Almost Never - Always)
How often are you physically exhausted?	Personal Burnout	5 point scale (Never/Almost Never - Always)
How often are you emotionally exhausted?	Personal Burnout	5 point scale (Never/Almost Never - Always)
How often do you think: ''I can't take it anymore''?	Personal Burnout	5 point scale (Never/Almost Never - Always)
How often do you feel worn out?	Personal Burnout	5 point scale (Never/Almost Never - Always)
How often do you feel weak and susceptible to illness?	Personal Burnout	5 point scale (Never/Almost Never - Always)
Do you find it hard to work with clients?	Client Related Exhaustion	5 point scale (Never/Almost Never - Always)
Does it drain your energy to work with clients?	Client Related Exhaustion	5 point scale (Never/Almost Never - Always)
Do you find it frustrating to work with clients?	Client Related Exhaustion	5 point scale (Never/Almost Never - Always)
Do you feel that you give more than you get back when you work with clients?	Client Related Exhaustion	5 point scale (Never/Almost Never - Always)
Are you tired of working with clients?	Client Related Exhaustion	5 point scale (To a Very Low Degree-To a Very High Degree)
Do you sometimes wonder how long you will be able to continue working with clients?	Client Related Exhaustion	5 point scale (To a Very Low Degree-To a Very High Degree)

Question	Concept name in instrument	Response categories
Maslach Burnout Inventory (Maslach et al., 2016)		
I feel emotionally drained from my work.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I feel used up at the end of the workday.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I feel fatigued when I get up in the morning and have to face another day on the job.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
Working with people all day is really a strain for me.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I feel burned out from my work.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I feel I'm working too hard on my job.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
Working with people directly puts too much stress on me.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I feel like I'm at the end of my rope.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I feel recipients blame me for some of their problems.	Emotional Exhaustion	7 point Likert Scale (Never - Daily)
I don't really care what happens to some recipients.	Depersonalization	7 point Likert Scale (Never - Daily)
I feel I treat some recipients as if they were impersonal objects.	Depersonalization	7 point Likert Scale (Never - Daily)
I've become more callous toward people since I took this job.	Depersonalization	7 point Likert Scale (Never - Daily)
I worry that this job is hardening me emotionally.	Depersonalization	7 point Likert Scale (Never - Daily)
I feel frustrated by my job.	Depersonalization	7 point Likert Scale (Never - Daily)
I deal very effectively with the problems of my recipients.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
I feel I'm positively influencing other people's lives through my work.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
I feel very energetic.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
I can easily create a relaxed atmosphere with my recipients.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
I feel exhilarated after working closely with my recipients.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
I have accomplished many worthwhile things in this job.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
I can easily understand how my recipients feel about things.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
In my work, I deal with emotional problems very calmly.	Personal Accomplishment	7 point Likert Scale (Never - Daily)
Physician Worklife Survey (Mini-Z) (Linzer, 2007)		
Overall, based on your definition of burnout, how would you rate your level of burnout?	Burnout	unknown
Physician Well-Being Index (PWBI) (Dyrbye, Satele, Sloan, & Shanafelt, 2012)		
After taking care of patients who are dying, how often do you feel emotionally exhausted?	exhaustion	Never, rarely, sometimes, often, always
After taking care of patients who are dying, how often do you feel emotionally energized?	exhaustion	Never, rarely, sometimes, often, always
I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion	burnout	Agree, disagree

Question	Concept name in instrument	Response categories
The symptoms of burnout that I'm experiencing won't go away. I thought about frustration at work a lot	burnout	Agree, disagree
I feel completely burned out and often wonder if I can go on. I am at the point where I may need some changes or may need to seek some sort of help.	burnout	Agree, disagree
I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion.	burnout	Agree, disagree
Occasionally, I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out	burnout	Agree, disagree
I feel called to take care of patients who are dying	Intrinsic factors	agree strongly, agree somewhat, disagree somewhat, disagree strongly
My clinical environment prioritizes the need of the patient over maximizing revenue.	management	agree strongly, agree somewhat, disagree somewhat, disagree strongly

Job Satisfaction

Question	Concept name in instrument	Response categories
The Ponds & Geyer Global Job Satisfaction Measure (Pond & Geyer, 1991)		
If you had to decide all over again whether to take the job you now have, what would you decide?	**Job satisfaction**	**(1 = definitely not take the job, 5 = definitely take the job)**
If a friend asked if he/she should apply for a job like yours with your employer, what would you recommend?	**Job satisfaction**	**(1 = recommend not at all, 5 = recommend strongly)**
How does this job compare to your ideal job?	**Job satisfaction**	**(1 = very far from ideal, 5 = very close to ideal)**
How does your job measure up to the sort of job you wanted when you took it?	**Job satisfaction**	**(1 = not at all like what I wanted, 5 = just like what I wanted)**
All things considered, how satisfied are you with your current job?	**Job satisfaction**	**(1 = not at all satisfied, 5 = completely satisfied)**
In general, how much do you like your job?	**Job satisfaction**	**(1 = not at all, 5 = a great deal)**
Quality of Employment Facet-Free Measure of Job Satisfaction (Quinn & Staines, 1979)		
All in all, how satisfied would you say you are with your job?	Job satisfaction	unknown
If you were free to go into any type of job you wanted what would your choice be?	Job satisfaction	unknown
Knowing what you know now, if you had to decide all over again whether to take the same job again or not, what would you decide?	Job satisfaction	unknown
In general, how well would you say that your job measures up to the sort of job you wanted when you took it?	Job satisfaction	unknown
If a good friend of yours told you they were interested in working in a job like yours for your employer, what would you tell them?	Job satisfaction	unknown
Single Item Satisfaction Question		
All in all how satisfied are you with your job?	Job satisfaction	5 Completely dissatisfied - 1 completely satisfied

Administrative Burden / HIT

Question	Concept name in instrument	Response categories
Mayo Clinic Electronic Environment Questionnaire (Shanafelt, Dyrbye, Sinsky, Hasan et al., 2016)		
The EMR has improved patient care	**electronic environment**	**5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree, don't know/not applicable)**
The EMR has improved my efficiency:	**electronic environment**	**5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree, don't know/not applicable)**
Please rate your satisfaction with your electronic medical record (EMR):	**electronic environment**	**5 point scale (very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied)**
Do you personally enter orders in using a computerized order entry system?	**electronic environment**	**(not al all, clinic only, hospital only, both clinic hospital, not applicable to my specialty)**
Please rate your satisfaction with computerized order entry	**electronic environment**	**5 point scale (very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied)**
How do you record the majority of your clinical notes?	**electronic environment**	**(dictate with transcription service, self-enter with voice recognition software, self-enter - hand written, someone else (e.g. a scribe) enters for me, other:)**
Do you communicate with patients directly via an electronic patient portal?	**electronic environment**	**yes/no**
Please rate your satisfaction with your electronic patient portal	**electronic environment**	**5 point scale (very dissatisfied, dissatisfied, neither satisfied nor dissatisfied, satisfied, very satisfied)**
The amount of time I spend on clerical tasks related to the following is reasonable:		
A. Tasks directly related to patient care (e.g. order entry, dictation, lab results review, communicating with patients via the patient portal, etc).	**electronic environment**	**5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree, don't know/not applicable)**
B.Tasks indirectly related to patient care (e.g. correspondence, completion of forms, answering phone calls, etc).	**electronic environment**	**5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree, don't know/not applicable)**
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
I have too much administrative work to do.	**administration**	**5-point scale (agree-disagree)**
My role in managing the business aspects of my practice is not a burden to me.	administration	5-point scale (agree-disagree)
Paperwork required by payers is a burden to me.	administration	5-point scale (agree-disagree)
Single Questionnaire (Ulrich, 2007)		
The role in managing the business aspects of my practice is not a burden to me.	administrative responsibilities and support	unspecified
Paperwork required by payers is a burden to me.	administrative responsibilities and support	unspecified

Question	Concept name in instrument	Response categories
I have too much administrative work to do.	administrative responsibilities and support	unspecified
Misener Nurse Practitioners Job Satisfaction Scale (Misener & Cox, 2001)		
Time allotted for answering messages	time	6-point Likert-type from "very satisfied" to "very dissatisfied"
Time allocation for seeing patients	time	6-point Likert-type from "very satisfied" to "very dissatisfied"
Patient scheduling policies and practices	time	6-point Likert-type from "very satisfied" to "very dissatisfied"

Benefits and Pay

Question	Concept name in instrument	Response categories
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
My total compensation package is fair.	**income**	**5-point, agree-disagree Likert scale.**
I am well compensated given my training and experience.	**income**	**5-point, agree-disagree Likert scale.**
I am well compensated compared to similar jobs in this area	**income**	**5-point, agree-disagree Likert scale.**
Work rarely encroaches on my personal time.	personal time	5-point, agree-disagree Likert scale.
My work schedule leaves me enough time for my family life.	personal time	5-point, agree-disagree Likert scale.
The interruption of my personal life by work is a problem.	personal time	5-point, agree-disagree Likert scale.
The amount of call I am required to take is not excessive.	personal time	5-point, agree-disagree Likert scale.
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
I feel I am compensated fairly for the work I do.	unspecified	unspecified

Decision Latitude

Question	Concept name in instrument	Response categories
Psychological Empowerment Instrument (Spreitzer & Quinn, 2001)		
I have significant autonomy in determining how I do my job.	**self-determination**	**7 point scale 1(very strongly disagree) - 7(very strongly agree)**
I can decide on my own how to go about doing my own work.	**self-determination**	**7 point scale 1(very strongly disagree) - 7(very strongly agree)**
I have considerable opportunity for independence and freedom in how I do my job.	**self-determination**	**7 point scale 1(very strongly disagree) - 7(very strongly agree)**
I have significant influence over what happens in my department.	**self-determination**	**7 point scale 1(very strongly disagree) - 7(very strongly agree)**
Areas of Work Life survey (Dasgupta, 2019)		
I have control over how I do my work	**control**	**Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree**
I can influence management to obtain the equipment and space I need for my work	**control**	**Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree**
I have professional autonomy/ independence in my work	**control**	**Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree**
I have influence in the decisions affecting my work	**control**	**Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree**
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
I have the capability to make changes in my unit/department.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I participate in making changes in my unit/department.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I have freedom to make important patient care and work decisions.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I am given the opportunity to implement organizational goals.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
In my unit/department, I have access to all of the resources necessary to implement the changes.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I am motivated to do well because I am empowered by my work environment.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I receive information about what happens in my unit/department.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I am able to implement changes at the bedside to provide safe patient care.	Autonomy and control over practice	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
The Physician Wellness Inventory (PWI) (Eckleberry-Hunt, Kirkpatrick, Taku, & Hunt, 2016)		
Feeling compassion for others is a regular part of how I work.	Cognitive flexibility	5 point scale 1 (strongly disagree) - 5 (strongly agree)

Question	Concept name in instrument	Response categories
I spend time reflecting on things I can improve about myself, my life, and my professional role.	Cognitive flexibility	5 point scale 1 (strongly disagree) - 5 (strongly agree)
I am open to new ideas and ways of doing things in the workplace.	Cognitive flexibility	5 point scale 1 (strongly disagree) - 5 (strongly agree)
I often see more than one side to an issue.	Cognitive flexibility	5 point scale 1 (strongly disagree) - 5 (strongly agree)
Federal Employment Viewpoint Survey (FEVS) Leider (Leider, Harper, Won Shon, Sellers, & Castrucci, 2016)		
Employees have a feeling of personal empowerment with respect to work processes.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Employees are recognized for providing high quality products and services.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Creativity and innovation are rewarded.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Pay raises depend on how well employees perform their jobs.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring).	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Employees are protected from health and safety hazards on the job.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
My organization has prepared employees for potential security threats.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Arbitrary action, personal favoritism and coercion for partisan political purposes are not tolerated.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
Prohibited Personnel Practices are not tolerated.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
My agency is successful at accomplishing its mission.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
I recommend my organization as a good place to work.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
I believe the results of this survey will be used to make my agency a better place to work.	agency	5 point scale 1(very dissatisfied) - 5(very satisfied)
The Nurse Practitioner Primary Care Organizational Climate Questionnaire (PCOCQ) (Poghosyan, Nannini, Finkelstein, Mason, & Shaffer, 2013)		
Physicians support my patient care decisions.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
NPs are an integral part of the organization.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
I do not have to discuss every patient care detail with a physician.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
In my organization, I freely apply all my knowledge and skills to provide patient care.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
My organization does not restrict my abilities to practice within my scope of practice.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
In my organization, I can provide all patient care within my scope of practice.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
Physicians and NPs have similar support for care management (e.g., help with patient follow-up, referrals, laboratories, etc.)	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
My organization creates an environment where I can practice independently.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)

Question	Concept name in instrument	Response categories
There are enough ancillary staff to prepare my patients (e.g., height, weight, bring patient to examining room) for their visit.	Independent practice and support	4 point scale (strongly agree, agree, disagree, strongly disagree)
RN Work Survey (Djukic, 2017)		
To what extent are you able to act independently of your immediate supervisor in performing your job?	autonomy	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
How much freedom do you have to do pretty much what you want on your job?	autonomy	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
To what extent are you able to do your job independently of others?	autonomy	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
People involved in implementing decisions have a say in making the decisions	distributive and procedural justice	5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)
Members of my work unit are involved in making decisions that directly affect their work	distributive and procedural justice	5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)
Decisions are made based on research, data, and technical criteria, as opposed to political concerns	distributive and procedural justice	5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)
People with the most knowledge are involved in the resolution of problems	distributive and procedural justice	5 point scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
Clinical guidelines restrict my freedom to practice.	autonomy	5-point scale (agree-disagree)
Outside reviewers rarely question my professional judgments.	autonomy	5-point scale (agree-disagree)
Formularies or prescription limits restrict the quality of care I provide.	autonomy	5-point scale (agree-disagree)
I am able to refer patients or receive referrals when necessary.	autonomy	5-point scale (agree-disagree)
Gatekeeping requirements seldom conflict with my clinical judgment.	autonomy	5-point scale (agree-disagree)
Misener Nurse Practitioners Job Satisfaction Scale (Misener & Cox, 2001)		
Level of autonomy	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Challenge in work	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Percentage of time spent in direct patient care	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Sense of accomplishment	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Ability to deliver quality care	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Expanding skill levels/procedures within your scope of practice	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Sense of value for what you do	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"

Question	Concept name in instrument	Response categories
Opportunity to expand your scope of practice	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Variety in patient load	challenge/autonomy	6-point Likert-type from "very satisfied" to "very dissatisfied"
Copenhagen Psychosocial Questionnaire (COPSOQ-II) (Pejtersen, Kristensen, Borg, & Bjorner, 2009)		
Do you have a large degree of influence concerning your work?	Psychosocial factors at work	5 point scale (always, often, sometimes, seldom, hardly ever/never)
Do you have a say in choosing who you work with?	Psychosocial factors at work	5 point scale (always, often, sometimes, seldom, hardly ever/never)
Do you have any influence on what you do at work?	Psychosocial factors at work	5 point scale (always, often, sometimes, seldom, hardly ever/never)
Can you influence the amount of work assigned to you?	Psychosocial factors at work	5 point scale (always, often, sometimes, seldom, hardly ever/never)
Basic Psychological Needs at Work Scale (Waddimba, 2016)		
My work allows me to make decisions	autonomy	6-point Likert-type scale, 1 (Strongly disagree) - 6 (Strongly agree)
I can use my judgement when solving work-related problems	autonomy	6-point Likert-type scale, 1 (Strongly disagree) - 6 (Strongly agree)
I can take on responsibilities at my job	autonomy	6-point Likert-type scale, 1 (Strongly disagree) - 6 (Strongly agree)
At my work, I feel free to execute my tasks in my own way	autonomy	6-point Likert-type scale, 1 (Strongly disagree) - 6 (Strongly agree)
Approaches to Work Questionnaire (Appelaum, 2019)		
There is a real opportunity in my job for me to choose the particular things I work on	choice independence	(Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree)
I have a lot of choice about the work I do	choice independence	(Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree)
I pretty much decide how to do my work	choice independence	(Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree)
National Criminal Justice Treatment Practices (NCJTP) Survey (Balfour, 2007)		
The management of this organization usually seeks my input into decisions that directly affect my work.	Participation in decision making	N/A
The management of this organization usually makes decisions without consulting knowledgeable employees. (-)	Participation in decision making	N/A

Job Stress

Question	Concept name in instrument	Response categories
Copenhagen Psychosocial Questionnaire (COPSOQ-II) (Pejtersen, Kristensen, Borg, & Bjorner, 2009)		
Have you been exposed to undesired sexual attention at your workplace during the last 12 months?	**Conflicts and offensive behaviours**	**Yes, daily Yes, weekly Yes, monthly Yes, a few times No**
If yes, from whom? (You may tick off more than one)	**Conflicts and offensive behaviours**	**Colleagues, Manager/superior, Subordinates, Clients/customers/patients**
Have you been exposed to threats of violence at your workplace during the last 12 months?	**Conflicts and offensive behaviours**	**Yes, daily Yes, weekly Yes, monthly Yes, a few times No**
If yes, from whom? (You may tick off more than one)	**Conflicts and offensive behaviours**	**Colleagues, Manager/superior, Subordinates, Clients/customers/patients**
Have you been exposed to physical violence at your workplace during the last 12 months?	**Conflicts and offensive behaviours**	**Yes, daily Yes, weekly Yes, monthly Yes, a few times No**
If yes, from whom? (You may tick off more than one)	**Conflicts and offensive behaviours**	**Colleagues, Manager/superior, Subordinates, Clients/customers/patients**
Bullying means that a person repeatedly is exposed to unpleasant or degrading treatment, and that the person finds it difficult to defend himself or herself against it.Have you been exposed to bullying at your workplace during the last 12 months?	**Conflicts and offensive behaviours**	**Yes, daily Yes, weekly Yes, monthly Yes, a few times No**
If yes, from whom? (You may tick off more than one)	**Conflicts and offensive behaviours**	**Colleagues, Manager/superior, Subordinates, Clients/customers/patients**
Perceived Stress Scale (PSS) (Cohen et al., 1983)		
In the last month, how often have you been upset because of something that happened unexpectedly?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you felt that you were unable to control the important things in your life?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you felt nervous and “stressed”?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you felt confident about your ability to handle your personal problems?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you felt that things were going your way?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you found that you could not cope with all the things that you had to do?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you been able to control irritations in your life?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you felt that you were on top of things?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)

Question	Concept name in instrument	Response categories
In the last month, how often have you been angered because of things that were outside of your control?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	Perceived stress	5 point scale (never, almost never, sometimes, fairly often, very often)

Management and Leadership

Question	Concept name in instrument	Response categories
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
The leader in my unit/department inspires staff members to participate in change.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
Leaders in my unit/department value my opinion about unit/department-related issues.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
I feel valued by the leader in my unit/department.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
Leadership in this unit/department is supportive of unit/department staff.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
Unit/department leadership values my opinion about unit/department-related issues.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
Supportive leadership in my unit/department influences my decision-making.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
I am encouraged by staff leaders to voice my opinion on patient issues.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
My unit/department head is a good manager and leader.	**supportive leadership**	**6-point scale (strongly disagree-strongly agree)**
My unit/department head supports staff even if the conflict is with a doctor.	supportive leadership	6-point scale (strongly disagree-strongly agree)
Leaders in my unit/department encourage staff to contribute to decisions about our unit/department.	supportive leadership	6-point scale (strongly disagree-strongly agree)
Federal Employment Viewpoint Survey (FEVS) (Leider, Harper, Won Shon, Sellers, & Castrucci, 2016)		
My supervisor supports my need to balance work and other life issues.	**supervisor**	**5 point scale 1(very dissatisfied) - 5(very satisfied)**
My supervisor provides me with opportunities to demonstrate my leadership skills.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
Discussions with my supervisor about my performance are worthwhile.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
My supervisor is committed to a workforce representative of all segments of society.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
My supervisor provides me with constructive suggestions to improve my job performance.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
Supervisors in my work unit support employee development.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
My supervisor listens to what I have to say.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
My supervisor treats me with respect.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
In the last six months, my supervisor has talked with me about my performance.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)

Question	Concept name in instrument	Response categories
I have trust and confidence in my supervisor.	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
Overall, how good a job do you feel is being done by your immediate supervisor?	supervisor	5 point scale 1(very dissatisfied) - 5(very satisfied)
In my organization, senior leaders generate high levels of motivation and commitment in the workforce.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
My organization's senior leaders maintain high standards of honesty and integrity.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Supervisors work well with employees of different backgrounds.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Managers communicate the goals of the organization.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Managers review and evaluate the organization's progress toward meeting its goals and objectives.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Managers promote communication among different work units (for example, about projects, goals, needed resources).	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Managers support collaboration across work units to accomplish work objectives.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Overall, how good a job do you feel is being done by the manager directly above your immediate supervisor?	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
I have a high level of respect for my organization’s senior leaders.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
Senior leaders demonstrate support for Work-Life programs.	leadership	5 point scale 1(very dissatisfied) - 5(very satisfied)
How much access to information do you have in your present job? The current state of the company	information	5 point scale 1 (None) - 5 (A Lot)
How much access to information do you have in your present job? The values of top management	information	5 point scale 1 (None) - 5 (A Lot)
How much access to information do you have in your present job? The goals of top management	information	5 point scale 1 (None) - 5 (A Lot)
Nursing Teamwork Survey (NTS) (Kalisch, Lee, & Rochman, 2010)		
The nurses who serve as charge nurses or team leaders monitor the progress of the staff members throughout the shift.	team leadership	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
When changes in the workload occur during the shift (admissions, discharges, patients problems etc.), a plan is made to deal with these changes.	team leadership	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
The nurses who serve as charge nurses or team leaders balance workload within the team.	team leadership	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
The nurses who serve as charge nurses or team leaders give clear and relevant directions as to what needs to be done and how to do it.	team leadership	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
The Nurse Practitioner Primary Care Organizational Climate Questionnaire (PCOCQ) (Poghosyan, Nannini, Finkelstein, Mason, & Shaffer, 2013)		
I feel valued by my organization.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
I regularly get feedback about my performance from my organization.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
Administration is open to NP ideas to improve patient care.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
Administration takes NP concerns seriously.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
Administration shares information equally with NPs and physicians.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)

Question	Concept name in instrument	Response categories
Administration treats NPs and physicians equally.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
Administration informs NPs about changes taking place in the organization.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
Administration makes efforts to improve working conditions for NPs.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
In my organization, there is constant communication between NPs and administration.	NP-administration relations	(strongly agree, agree, disagree, strongly disagree)
2007 National Home Health Aide Survey (Bercovitz, Moss, Sengupta et al., 2017)		
My supervisor provides clear instructions when assigning work	management and supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
My supervisor is supportive of progress in my career, such as further training	management and supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
My supervisor listens to me when I am worried about a patient's care	management and supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
My supervisor tells me when I am doing a good job	management and supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
2014 Public Health Workforce Interests and Needs Survey (PH WINS), measured by Bowling Green State University JIG Scale (abridged) (Harper, Castrucci, Bharthapudi, & Sellers, 2015)		
Supervisors/team leaders work well with employees of different backgrounds.	supervisory support	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Supervisors/team leaders in my work unit support employee development.	supervisory support	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
My supervisor supports my need to balance work and family issues	supervisory support	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
My supervisor/team leader provides me with opportunities to demonstrate my leadership skills.	supervisory support	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
My supervisor/team leader treats me with respect.	supervisory support	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
My co-workers and I have a good working relationship.	supervisory support	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
2004 National Nursing Home Survey (Probst, Baek, & Laditka, 2010)		
How strongly does NA agree/disagree with the following statements about their supervisor...	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Provides clear instructions when assigning work	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Treats all NAs equally	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Deals with NAs' complaints and concerns	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Is open to new and different ideas	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)

Question	Concept name in instrument	Response categories
Is supportive of progress in NA's career	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Helps NA with job tasks when needed	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Listens when NA is worried about resident's care	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Supports NAs working in teams with other health care workers	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Disciplines/removes NAs not performing well	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Tells NA when doing a good job	management/supervision	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
Satisfaction of Employees in Health Care (SEHC) Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
The management makes changes based on my suggestions and feedback.	not specified	strongly disagree, disagree, agree, strongly agree
My work is evaluated based on a fair system of performance standards.	not specified	strongly disagree, disagree, agree, strongly agree
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
I understand the long-term strategy of the organization.	not specified	not specified
I have confidence in the leadership of this organization.	not specified	not specified
The leaders of this organization care about the employees' well-being.	not specified	not specified
The leaders live the core values of the organization.	not specified	not specified
My manager/supervisor treats me with respect and listens to what I have to say.	not specified	not specified
My manager/supervisor does a good job of communicating and sharing information.	not specified	not specified
I feel that my manager/supervisor at _____ health center maintains a high level of enthusiasm even when things are difficult.	not specified	not specified
I feel that my manager/supervisor is a strong leader and works to help me obtain my goals.	not specified	not specified
I have a good understanding of the strategic direction of the _____ Health Center.	not specified	not specified
I feel I get the necessary coaching and/or recognition on a regular basis from my manager.	not specified	not specified
National Criminal Justice Treatment Practices (NCJTP) Survey (Balfour, 2007)		
My supervisor treats me with concern and respect.	Quality of supervision	N/A
My supervisor is "always on my back." (-)	Quality of supervision	
My supervisor gives me the support and guidance I need to be effective in my work.	Quality of supervision	N/A
Hiring and promotion decisions in this organization are often politically motivated.	ation in management practices	N/A

Question	Concept name in instrument	Response categories
This organization often treats citizens or clients differently depending on their political connections.	Political penetration in management practices	N/A

Meaning in Work / Psychological Empowerment

Question	Concept name in instrument	Response categories
Work and Meaning Inventory Steger, Dik, & Duffy, 2012)		
I have found a meaningful career.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
I view my work as contributing to my personal growth.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
My work really makes a difference in the world.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
I understand how my work contributes to my life's meaning.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
I have a good sense of what makes my job meaningful.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
I know my work makes a positive difference in the world.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
My work helps me better understand myself.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
I have discovered work that has a satisfying purpose.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
My work helps me make sense of the world around me.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
The work I do serves a greater purpose.	**meaning of work**	**5 point Absolutely Untrue To Absolutely True**
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
I feel a great sense of personal satisfaction when I do this job well.	work motivation	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I have challenging work that motivates me to do the best job I can.	work motivation	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
Working in this environment increases my sense of professional growth.	work motivation	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
Working in this unit/department gives me the opportunity to gain new knowledge and skills.	work motivation	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I feel a high degree of personal responsibility for the work that I do.	work motivation	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
My opinion of myself goes up when I work in this unit/department.	work motivation	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
The Physician Wellness Inventory (PWI) (Eckleberry-Hunt, Kirkpatrick, Taku, & Hunt, 2016)		
Positive patient relationships outweigh negative patient relationships.	career purpose	5 point scale 1 (strongly disagree) - 5 (strongly agree)
I am generally satisfied with my career choice.	career purpose	5 point scale 1 (strongly disagree) - 5 (strongly agree)
My work brings joy to my life.	career purpose	5 point scale 1 (strongly disagree) - 5 (strongly agree)
I feel a spiritual purpose or connection in my life's work.	career purpose	5 point scale 1 (strongly disagree) - 5 (strongly agree)

Question	Concept name in instrument	Response categories
Working with patients brings me satisfaction.	career purpose	5 point scale 1 (strongly disagree) - 5 (strongly agree)
2014 Public Health Workforce Interests and Needs Survey (PH WINS), measured by Bowling Green State University JIG Scale (abridged) (Harper, Castrucci, Bharthapudi, & Sellers, 2015)		
I always find new and interesting aspects in my work.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
There are days when I feel tired before I arrive at work.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
More and more often I find that I am distancing myself from my job.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
After work, I tend to need more time than in the past to relax and recover.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
I can tolerate the pressure of my work very well.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
Lately, I tend to think less at work and do my job almost mechanically.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
I find my work to be a positive challenge.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
During my work, I often feel emotionally drained.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
Over time I've lost my personal engagement with my work.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
After working, I have enough energy for my leisure activities.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
Sometimes I feel fed up by my work tasks.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
After my work, I usually feel worn out and weary.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
Usually I can manage my workload well.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
This is the only type of work that I can imagine myself doing.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
When I work, I usually feel energized.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
I feel more and more engaged with my work.	feelings and attitudes	5 point scale 1(strongly disagree) - 5(strongly agree)
Psychological Empowerment Instrument (Spreitzer & Quinn, 2001)		
The work that I do is important to me.	meaning	7 point scale 1(very strongly disagree) - 7(very strongly agree)
My job activities are personally meaningful to me.	meaning	7 point scale 1(very strongly disagree) - 7(very strongly agree)
The work I do is meaningful to me.	meaning	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I am confident about my ability to do my job.	competence	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I have mastered the skills necessary for my job.	competence	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I am self-assured about my capabilities to perform my work activities.	competence	7 point scale 1(very strongly disagree) - 7(very strongly agree)
My impact on what happens in my department is large.	impact	7 point scale 1(very strongly disagree) - 7(very strongly agree)

Question	Concept name in instrument	Response categories
I have a great deal of control over what happens in my department	impact	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I would be very happy to spend the rest of my career with this organization	continuance commitment to the organization	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I really feel as if this organizations problems are my own	continuance commitment to the organization	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I do not feel a strong sense of "belonging" to my organization	continuance commitment to the organization	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I do not feel "emotionally attached" to this organization	continuance commitment to the organization	7 point scale 1(very strongly disagree) - 7(very strongly agree)
I do not feel like "part of the family" at my organization	continuance commitment to the organization	7 point scale 1(very strongly disagree) - 7(very strongly agree)
This organization has a great deal of personal meaning for me	continuance commitment to the organization	7 point scale 1(very strongly disagree) - 7(very strongly agree)
Areas of Work Life survey (Dasgupta, 2019)		
I receive recognition from others for my work	reward	Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree
My work is appreciated	reward	Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree
My efforts usually go unnoticed	reward	Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree
I do not get recognized for all the things I contribute	reward	Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree
2014 Public Health Workforce Interests and Needs Survey (PH WINS), measured by Bowling Green State University JIG Scale (abridged) (Harper, Castrucci, Bharthapudi, & Sellers, 2015)		
I know how my work relates to the agency's goals and priorities.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
The work I do is important	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
Employees learn from one another as they do their work.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
I am inspired to meet my goals at work.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
I feel completely involved in my work.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
I am determined to give my best effort at work every day.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
I am satisfied that I have the opportunities to apply my talents and expertise.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
My supervisor and I have a good working relationship.	employee engagement	5 point scale 1(strongly disagree) - 5(strongly agree)
RN Work Survey (Djukic, 2017)		
I live a very interesting life	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
I usually find ways to liven up my day	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree

Question	Concept name in instrument	Response categories
Most days I have moments of real fun	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Everyday interesting things happen to me	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
For me, life is a great adventure	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Often I get irritated at little annoyances	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
I suffer from nervousness	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
My mood often goes up and down	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Minor setbacks sometimes irritate me too much	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
There are days when I am "on edge" aft the time	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
The most important things that happen in life involve work	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Work should be considered central to life	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
In my view, an individual's personal life goals should be work-oriented	personal characteristics	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
I understand how my work directly contributes to the overall success of the _____ Health Center.	not specified	not specified
I feel valued at work.	not specified	not specified
Stanford Professional Fulfillment Index (Trockel, Bohman, Lesure, et al., 2018)		
I feel happy at work	professional fulfillment	5 point (0) not at all true - (4) completely true
I feel worthwhile at work	professional fulfillment	5 point (0) not at all true - (4) completely true
My work is satisfying to me	professional fulfillment	5 point (0) not at all true - (4) completely true
I feel in control when dealing with difficult problems at work	professional fulfillment	5 point (0) not at all true - (4) completely true
My work is meaningful to me	professional fulfillment	5 point (0) not at all true - (4) completely true
I'm contributing professionally (e.g. patient care, teaching, research, and leadership) in the ways I value most	professional fulfillment	5 point (0) not at all true - (4) completely true
Organizational Commitment Questionnaire (Mowday, 1979)		
I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)

Question	Concept name in instrument	Response categories
I talk up this organization to my friends as a great organization to work for.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I feel very little loyalty to this organization. (R)	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I would accept almost any type of job assignment in order to keep working for this organization.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I find that my values and the organization's values are very similar.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I am proud to tell others that I am part of this organization.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I could just as well be working for a different organization as long as the type of work was similar. (R)	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
This organization really inspires the very best in me in the way of job performance.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
It would take very little change in my present circumstances to cause me to leave this organization. (R)	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
There's not too much to be gained by sticking with this organization indefinitely. (R)	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
Often, I find it difficult to agree with this organization's policies on important matters relating to its employees. (R)	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
I really care about the fate of this organization.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
For me this is the best of all possible organizations for which to work.	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
Deciding to work for this organization was a definite mistake on my part. (R)	Organizational commitment	(strongly disagree, moderately disagree, slightly disagree, neither disagree nor agree, slightly agree, moderately agree, strongly agree)
National Criminal Justice Treatment Practices (NCJTP) Survey (Balfour, 2007)		

Question	Concept name in instrument	Response categories
I volunteer for tasks that are not required.	extra-role behaviors	N/A
I make suggestions to improve the organization.	extra-role behaviors	N/A
I am willing to put in a great deal of effort beyond what is normally expected in order to help the organization be successful	extra-role behaviors	N/A
In my work, I often have the opportunity to provide an important service to the public.	Direct service	N/A
In my job, I have little or no contact with the public or clients of the organization	Direct service	N/A
In my job, I often have the opportunity to help citizens or clients solve difficult or important problems.	Direct service	N/A
I can see how my work is part of "the big picture"-how my work contributes to the mission of the organization.	Job scope	N/A
Generally speaking, I feel that my work is not very significant or important in the broader scheme of things. (-)	Job scope	N/A

Mission Orientation

Question	Concept name in instrument	Response categories
Mission Attachment and Employee Retention Survey (Kim & Lee, 2007)		
I am well aware of the direction and mission of this organization	**mission attachment**	**5-point Likert-type scale (strongly disagree - strongly agree)**
The programs and staff at my work unit support the mission of this organization.	**mission attachment**	**5-point Likert-type scale (strongly disagree - strongly agree)**
I like to work for this organization because I believe in its mission and values.	**mission attachment**	**5-point Likert-type scale (strongly disagree - strongly agree)**
My work contributes to carrying out the mission of this organization.	**mission attachment**	**5-point Likert-type scale (strongly disagree - strongly agree)**
Meaningful community service is very important to me.	**public service motivation**	**5-point Likert-type scale (strongly disagree - strongly agree)**
I am not afraid to go to bat for the rights of others even if it means I will be ridiculed.	**public service motivation**	**5-point Likert-type scale (strongly disagree - strongly agree)**
Making a difference in society means more to me than personal achievements	**public service motivation**	**5-point Likert-type scale (strongly disagree - strongly agree)**
I am prepared to make enormous sacrifices for the good of society	**public service motivation**	**5-point Likert-type scale (strongly disagree - strongly agree)**
I am often reminded by daily events about how dependent we are on one another	**public service motivation**	**5-point Likert-type scale (strongly disagree - strongly agree)**
Public Service Motivation Items by Subscale (Perry, 1996)		

Question	Concept name in instrument	Response categories
People may talk about the public interest, but they are really concerned only about their self-interest. (Reversed)	commitment to the public interest	5 point Likert scale (agree - disagree)
It is hard for me to get intensely interested in what is going on in my community.	commitment to the public interest	5 point Likert scale (agree - disagree)
I unselfishly contribute to my community.	commitment to the public interest	5 point Likert scale (agree - disagree)
Meaningful public service is very important to me.	commitment to the public interest	5 point Likert scale (agree - disagree)
I would prefer seeing public officials do what is best for the whole community even if it harmed my interests.	commitment to the public interest	5 point Likert scale (agree - disagree)
An official's obligation to the public should always come before loyalty to	commitment to the public interest	5 point Likert scale (agree - disagree)
I consider public service my civic duty.	commitment to the public interest	5 point Likert scale (agree - disagree)
I am rarely moved by the plight of the underprivileged. (Reversed)	compassion	5 point Likert scale (agree - disagree)
Most social programs are too vital to do without.	compassion	5 point Likert scale (agree - disagree)
It is difficult for me to contain my feelings when I see people in distress.	compassion	5 point Likert scale (agree - disagree)
To me, patriotism includes seeing to the welfare of others.	compassion	5 point Likert scale (agree - disagree)
I seldom think about the welfare of people whom I don't know personally. (Reversed)	compassion	5 point Likert scale (agree - disagree)
I am often reminded by daily events about how dependent we are on one another.	compassion	5 point Likert scale (agree - disagree)
I have little compassion for people in need who are unwilling to take the first step to help themselves.	compassion	5 point Likert scale (agree - disagree)
There are few public programs that I wholeheartedly support. (Reversed)	compassion	5 point Likert scale (agree - disagree)
Making a difference in society means more to me than personal achievements.	self-sacrifice	5 point Likert scale (agree - disagree)
I believe in putting duty before self.	self-sacrifice	5 point Likert scale (agree - disagree)
Doing well financially is definitely more important to me than doing good deeds.	self-sacrifice	5 point Likert scale (agree - disagree)
Much of what I do is for a cause bigger than myself.	self-sacrifice	5 point Likert scale (agree - disagree)
Serving citizens would give me a good feeling even if no one paid me for	self-sacrifice	5 point Likert scale (agree - disagree)
I feel people should give back to society more than they get from	self-sacrifice	5 point Likert scale (agree - disagree)
I am one of those rare people who would risk personal loss to help someone else.	self-sacrifice	5 point Likert scale (agree - disagree)
I am prepared to make enormous sacrifices for the good of society.	self-sacrifice	5 point Likert scale (agree - disagree)

Moral Distress

Question	Concept name in instrument	Response categories
RN Work Survey (Djukic, 2017)		
How often do you find it difficult or impossible to do your job because of … Organizational rules and procedures?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Your supervisor?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Lack of equipment or supplies?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Interruptions by other people?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Lack of necessary information about what to do or how to do it?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Conflicting job demands?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Inadequate help from others?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
How often do you find it difficult or impossible to do your job because of … Incorrect instructions?	**organizational constraints**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
The Physician Wellness Inventory (PWI) (Eckleberry-Hunt, Kirkpatrick, Taku, & Hunt, 2016)		
Over the last month, I have been bothered by feeling nervous, anxious or on edge.	distress	5 point scale 1 (strongly disagree) - 5 (strongly agree)
During the last month, I have been bothered by little interest or pleasure in doing things.	distress	5 point scale 1 (strongly disagree) - 5 (strongly agree)
During the past month, my inability to control my distress has negatively affected the care I give patients.	distress	5 point scale 1 (strongly disagree) - 5 (strongly agree)
Over the past month, there has been a patient encounter that distresses me.	distress	5 point scale 1 (strongly disagree) - 5 (strongly agree)
During the past month, I have often been distressed by administrative demands that compete with clinical duties.	distress	5 point scale 1 (strongly disagree) - 5 (strongly agree)
Moral Distress Scale (MDS-R) Fernandez-Parsons, Rodriguez, & Goyal, 2013)		
Provide less than optimal care due to pressures from administrators or insurers to reduce costs.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Witness healthcare providers giving "false hope" to a patient or family.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently

Question	Concept name in instrument	Response categories
		Level of disturbance 0(none) - 4(great extent)
Follow the family's wishes to continue life support even though I believe it is not in the best interest of the patient.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Initiate extensive life-saving actions when I think they only prolong death.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Follow the family's request not to discuss death with a dying patient who asks about dying.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Continue to participate in care for a hopelessly ill person who is being sustained on a ventilator, when no one will make a decision to withdraw support.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Assist a physician who, in my opinion, is providing incompetent care.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Be required to care for patients I don't feel qualified to care for.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Witness medical students perform painful procedures on patients solely to increase their skill.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Follow the physician's request not to discuss the patient's prognosis with the patient or family.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Increase the dose of sedatives/opiates for an unconscious patient that I believe could hasten the patient's death.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Follow the family's wishes for the patient's care when I do not agree with them, but do so because of fears of a lawsuit.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Work with nurses or other healthcare providers who are not as competent as the patient care requires.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Witness diminished patient care quality due to poor team communication.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Ignore situations in which patients have not been given adequate information to insure informed consent.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Watch patient care suffer because of a lack of provider continuity.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Work with levels of nurse or other care provider staffing that I consider unsafe.	moral distress	Two 4 point scales: Frequency 0(never) - (4) very frequently Level of disturbance 0(none) - 4(great extent)
Areas of Work Life survey (Dasgupta, 2019)		
My values and the Organization's values are alike	Values	5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)

Question	Concept name in instrument	Response categories
The Organization's goals influence my day to day work activities	Values	5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)
My personal career goals are consistent with the Organization's stated goals	Values	5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)
The Organization is committed to quality	Values	5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
Patient needs are the top priority of _____ Health Center.	not specified	not specified

Patient-Provider Relationship

Question	Concept name in instrument	Response categories
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
I feel a strong personal connection with patients.	**relationship with patients**	**5-point, agree-disagree Likert scale.**
The gratitude displayed by patients keeps me going.	**relationship with patients**	**5-point, agree-disagree Likert scale.**
2007 National home health aide survey (Weng, 2017)		
To what degree do you feel patients respect you, as part of their health care team?	Patient relations	a great deal, somewhat, not at all
In general, how often do the patients you care for let you know when you are doing a good job?	Patient relations	always or most the time, sometimes, never happens
To what degree do you feel your supervisor respect you, as part of their health care team?	Patient relations	a great deal, somewhat, not at all
2004 National Nursing Home Survey (Probst, Baek, & Laditka, 2010)		
How much time does NA have to provide ADLs to residents in a typical work week?	client relations	more than enough time/enough time/not enough time
How much time does NA have to complete duties not related to residents?	client relations	more than enough time/enough time/not enough time
Does supervisor encourage NA to discuss residents care and well-being with families?	client relations	yes/no
Is NA assigned to care for the same residents?	client relations	same residents/residents change/combination
Is NA respected by residents as part of their health care team?	client relations	a great deal/somewhat/not at all/not applicable
Is NA respected by residents' families as part of the health care team?	client relations	a great deal/somewhat/not at all/residents' families don't know me
Is NA respected by supervisors as part of the health care team?	client relations	a great deal/somewhat/not at all
How often do residents let NA know doing a good job?	client relations	always or most of the time/sometimes/that never happens

Personal Growth

Question	Concept name in instrument	Response categories
Satisfaction of Employees in Health Care (SEHC) Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
I have learned many new job skills in this position.	**not specified**	**strongly disagree, disagree, agree, strongly agree**
I am satisfied with my chances for promotion.	**not specified**	**strongly disagree, disagree, agree, strongly agree**
I have adequate opportunities to develop my professional skills.	**not specified**	**strongly disagree, disagree, agree, strongly agree**
RN Work Survey (Djukic, 2017)		
There is a good chance to get ahead	**promotional opportunities**	**strongly disagree, disagree, neither agree nor disagree, agree, strongly agree**
Please indicate the extent to which you are fairly or unfairly rewarded. FAIRNESS in the following question means the extent to which a person's contributions are related to the reward received. Money, recognition, and physical facilities (e.g. nice office space, windows, nice furniture, parking space) are examples of rewards. To what extent are you fairly rewarded?	promotional opportunities	
Considering the responsibilities that you have?	promotional opportunities	Not at all, to a little extent, to some extent, to a great extent, to a very great extent
Taking into account the amount of education and training that you had?	promotional opportunities	Not at all, to a little extent, to some extent, to a great extent, to a very great extent
for the amount of effort that you put forth?	promotional opportunities	Not at all, to a little extent, to some extent, to a great extent, to a very great extent
In view of the amount of experience that you have had?	promotional opportunities	Not at all, to a little extent, to some extent, to a great extent, to a very great extent
Promotions are regular	promotional opportunities	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
I'm in a dead end job	promotional opportunities	strongly disagree, disagree, neither agree nor disagree, agree, strongly agree
Misener Nurse Practitioners Job Satisfaction Scale (Misener & Cox, 2001)		
Opportunities to expand your scope of practice and time to seek advanced education	professional growth	6-point Likert-type from "very satisfied" to "very dissatisfied"
Support for continuing education	professional growth	6-point Likert-type from "very satisfied" to "very dissatisfied"
Opportunity for professional growth	professional growth	6-point Likert-type from "very satisfied" to "very dissatisfied"
Time off to serve on professional committees	professional growth	6-point Likert-type from "very satisfied" to "very dissatisfied"

Question	Concept name in instrument	Response categories
Involvement in research	professional growth	6-point Likert-type from "very satisfied" to "very dissatisfied"
Time allotted for review of lab and other test results	professional growth	6-point Likert-type from "very satisfied" to "very dissatisfied"
National Criminal Justice Treatment Practices (NCJTP) Survey (Balfour, 2007)		
Generally speaking, my work is exciting and challenging.	Learning and personal growth on the job	N/A
Doing my job is often a learning experience.	Learning and personal growth on the job	N/A
My job is quite simple and repetitive. (-)	Learning and personal growth on the job	N/A
This organization provides me with a fair opportunity for advancement or promotion.	Opportunities for advancement	N/A
I can see little opportunity for advancement in this organization. (-)	Opportunities for advancement	N/A
Federal Employment Viewpoint Survey (FEVS) (Leider, Harper, Won Shon, Sellers, & Castrucci, 2016)		
Currently, in my work unit poor performers usually: Remain in the work unit and improve their performance over time	performance	5 point scale 1(very dissatisfied) - 5(very satisfied)
Currently, in my work unit poor performers usually: Remain in the work unit and continue to underperform	performance	5 point scale 1(very dissatisfied) - 5(very satisfied)
Currently, in my work unit poor performers usually: Leave the work unit - removed or transferred	performance	5 point scale 1(very dissatisfied) - 5(very satisfied)
Currently, in my work unit poor performers usually: Leave the work unit - quit	performance	5 point scale 1(very dissatisfied) - 5(very satisfied)
Currently, in my work unit poor performers usually: There are no poor performers in my work unit	performance	5 point scale 1(very dissatisfied) - 5(very satisfied)
Conditions of Work Effectiveness Questionnaire (CWEQ-II) (Laschinger, 1996)		
How much of each kind of opportunity do you have in your present job? Challenging work	opportunity	1-5, where 1 means "None" and 5 means "A lot".
How much of each kind of opportunity do you have in your present job? The chance to gain new skills and knowledge on the job	opportunity	1-5, where 1 means "None" and 5 means "A lot".
How much of each kind of opportunity do you have in your present job? Tasks that use all of your own skills and knowledge	opportunity	1-5, where 1 means "None" and 5 means "A lot".

Psych Safety

Question	Concept name in instrument	Response categories
Psychological Safety and Learning Behavior in Work Teams (Edmondson, 1999)		
If you make a mistake on this team, it is often held against you.	**Psychological safety**	**5 point Agree-Disagree**
Members of this team are able to bring up problems and tough issues.	**Psychological safety**	**5 point Agree-Disagree**
People on this team sometimes reject others for being different.	**Psychological safety**	**5 point Agree-Disagree**
It is safe to take a risk on this team.	**Psychological safety**	**5 point Agree-Disagree**
It is difficult to ask other members of this team for help.	**Psychological safety**	**5 point Agree-Disagree**
No one on this team would deliberately act in a way that undermines my efforts.	**Psychological safety**	**5 point Agree-Disagree**
Working with members of this team, my unique skills and talents are valued and utilized.	**Psychological safety**	**5 point Agree-Disagree**

Resources

Question	Concept name in instrument	Response categories
Satisfaction of Employees in Health Care (SEHC)Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
I am provided with all trainings necessary for me to perform my job.	**not specified**	**strongly disagree, disagree, agree, strongly agree**
My department provides all the equipment, supplies, and resources necessary for me to perform my duties.	**not specified**	**strongly disagree, disagree, agree, strongly agree**
The buildings, grounds, and layout of this facility are adequate for me to perform my duties.	**not specified**	**strongly disagree, disagree, agree, strongly agree**
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
There are enough staff members to provide quality patient care.	sufficient staff, time, and resources	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
We have enough staff to get the work done.	sufficient staff, time, and resources	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I have adequate support services to allow me to spend time with patients.	sufficient staff, time, and resources	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
I have enough time and opportunity to discuss patient care problems with other staff.	sufficient staff, time, and resources	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)
Conditions of Work Effectiveness Questionnaire (CWEQ-II) (Laschinger, 1996)		
How much access to resources do you have in your present job? Time available to do necessary paperwork	resources	5 point scale, 1 "None" - 5 "A lot"
How much access to resources do you have in your present job? Time available	resources	5 point scale, 1 "None" - 5 "A lot"

Question	Concept name in instrument	Response categories
to accomplish job requirements		
How much access to resources do you have in your present job? Acquiring temporary help when needed	resources	5 point scale, 1 "None" - 5 "A lot"
2004 National Nursing Home Survey (Probst, Baek, & Laditka, 2010)		
Has NA received training to use lifting devices	work-related injuries	yes/no
Is other equipment needed in facility to make job safer	work-related injuries	yes/no
Does facility provide training to reduce workplace injuries	work-related injuries	yes/no
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
I receive the training I need to do my job well.	not specified	not specified
I have the resources I need to do my job well.	not specified	not specified
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
Medical supplies are available when I need them.	resources	5-point scale (agree-disagree)
I have sufficient exam room space to see my patients.	resources	5-point scale (agree-disagree)
I have adequate equipment for office procedures.	resources	5-point scale (agree-disagree)
There are not enough support staff in my practice.	resources	5-point scale (agree-disagree)

Social Support/Work Community

Question	Concept name in instrument	Response categories
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
I do not feel at home in the community where I practice.	**relationships with community**	**5-point, agree-disagree Likert scale.**
I feel a sense of belonging to the community where I practice.	**relationships with community**	**5-point, agree-disagree Likert scale.**
My family and I are strongly connected to the community where I work.	**relationships with community**	**5-point, agree-disagree Likert scale.**
Areas of Work Life survey (Dasgupta, 2019)		
People trust one another to fulfill their roles	**community**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
I am a member of a supportive work group	**community**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
Members of my work group cooperate with one another	**community**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
Members of my work group communicate openly	**community**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**

Question	Concept name in instrument	Response categories
I don't feel close to my colleagues	**community**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
Copenhagen Psychosocial Questionnaire (COPSOQ-II) (Pejtersen, Kristensen, Borg, & Bjorner, 2009)		
Is there a good atmosphere between you and your colleagues?	**Psychosocial factors at work Social Support**	**4 point scale (always, often, sometimes, seldom, hardly ever/never)**
Is there good cooperation between the colleagues at work?	**Psychosocial factors at work Social Support**	**4 point scale (always, often, sometimes, seldom, hardly ever/never)**
How often do you get help and support from your colleagues?	**Psychosocial factors at work Social Support**	**4 point scale (always, often, sometimes, seldom, hardly ever/never)**
How often are your colleagues willing to listen to your problems at work?	**Psychosocial factors at work Social Support**	**4 point scale (always, often, sometimes, seldom, hardly ever/never)**
How often do your colleagues talk with you about how well you carry out your work?	**Psychosocial factors at work Social Support**	**4 point scale (always, often, sometimes, seldom, hardly ever/never)**
Is your work recognised and appreciated by the management?	**Psychosocial factors at work Social Support**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Does the management at your workplace respect you?	**Psychosocial factors at work Social Support**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Do you do things at work, which are accepted by some people but not by others?	**Psychosocial factors at work Social Support**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Conditions of Work Effectiveness Questionnaire (CWEQ-II) (Laschinger, 1996)		
How much access to support do you have in your present job? Specific information about things you do well	support	5 point scale, 1 "None" - 5 "A lot"
How much access to support do you have in your present job? Specific comments about things you could improve	support	5 point scale, 1 "None" - 5 "A lot"
How much access to support do you have in your present job? Helpful hints or problem solving advice	support	5 point scale, 1 "None" - 5 "A lot"
RN Work Survey (Djukic, 2017)		
To what extent do the following statements accurately describe your immediate supervisor?	supervisor support	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
Pays attention to what I am saying	supervisor support	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
Willing to listen to job-related difficulties	supervisor support	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
Seeks out thoughts and feeling of others	supervisor support	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
Encourages those supervised to express their opinions	supervisor support	5 point scale (None at all, only a little, a moderate amount, quite a bit, a great deal)
How often does someone at your workplace perform these functions for you?	mentor support	5 point scale (never, seldom, sometimes, often, very often)
Show you how to work successfully within the organization	mentor support	5 point scale (never, seldom, sometimes, often, very often)

Question	Concept name in instrument	Response categories
Help open doors toward meeting your career goals (sponsorship)	mentor support	5 point scale (never, seldom, sometimes, often, very often)
Give you honest feedback	mentor support	5 point scale (never, seldom, sometimes, often, very often)
Encourage you	mentor support	5 point scale (never, seldom, sometimes, often, very often)
Stimulate and challenge you	mentor support	5 point scale (never, seldom, sometimes, often, very often)
Satisfaction of Employees in Health Care (SEHC)Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
The management of this organization is supportive of me.	not specified	strongly disagree, disagree, agree, strongly agree
I receive the right amount of support and guidance from my direct supervisor.	not specified	strongly disagree, disagree, agree, strongly agree
I feel encouraged by my supervisor to offer suggestions and improvements.	not specified	strongly disagree, disagree, agree, strongly agree
Misener Nurse Practitioners Job Satisfaction Scale (Misener & Cox, 2001)		
Flexibility in practice protocols	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Social contact with colleagues after work	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Professional interaction with other disciplines	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Social contact at work	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Status in the community	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Recognition of your work from peers	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Acceptance and attitude of physicians outside of your practice	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Interaction with other NPs including faculty	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Quality of assistive personnel	professional, social, and community interaction	6-point Likert-type from "very satisfied" to "very dissatisfied"
Four-item peer relations subscale of work environment Blegen et al.'s (2004)		
I feel comfortable asking nurses on my unit for assistance	peer relationships	5 point scale 1 (strongly disagree) - 5 (strongly agree)
nurses on my unit do not help one another care for individual patients	peer relationships	5 point scale 1 (strongly disagree) - 5 (strongly agree)
on my unit, I can openly discuss my opinions about patient care problems with peers	peer relationships	5 point scale 1 (strongly disagree) - 5 (strongly agree)
I do not trust the people with whom I work	peer relationships	5 point scale 1 (strongly disagree) - 5 (strongly agree)
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
My unit/department does not get the cooperation that it needs from other hospital units/departments.	staff relationships with physicians, staff, and hospital	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, and strongly agree)

Question	Concept name in instrument	Response categories
	groups	
There is effective teamwork between our unit/department and other hospital units/departments.	staff relationships with physicians, staff, and hospital groups	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, and strongly agree)
Inadequate working relationships with other hospital groups limit the effectiveness of work in this unit/department.	staff relationships with physicians, staff, and hospital groups	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, and strongly agree)
Other hospital units/departments seem to have a low opinion of my unit/department.	staff relationships with physicians, staff, and hospital groups	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, and strongly agree)
My unit/department has constructive relationships with other groups in this hospital.	staff relationships with physicians, staff, and hospital groups	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, and strongly agree)
The staff members in my unit/department have positive relationships with other disciplines in the hospital.	staff relationships with physicians, staff, and hospital groups	6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, and strongly agree)
Basic Psychological Needs at Work Scale (Waddimba, 2016)		
When I'm with the people from my work environment, I feel understood	relatedness	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
When I'm with the people from my work environment, I feel heard	relatedness	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
When I'm with the people from my work environment,I feel as though I can trust them	relatedness	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
When I'm with the people from my work environment, I feel I am a friend to them	relatedness	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
Approaches to Work Questionnaire (Appelaum, 2019)		
My work colleagues really try hard to get to know one another	supportive-receptive	Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree
The non-medical people I work with make a real effort to understand the difficulties doctors have with their work	supportive-receptive	Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree
My coworkers are supportive and friendly towards me	supportive-receptive	Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree

Team Dynamics/Team Structure

Question	Concept name in instrument	Response categories
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
Staff works well together in my unit/department.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
There is effective teamwork in my unit/department.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
Other staff members support me in the work that I do.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
I get help from other staff without asking for it.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
When I ask for help from other staff members, I get the help that I need.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
Teamwork is valued in my unit/department.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
I am a valued member of my team.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
I know I am an important person on my team.	**teamwork**	**6-point scale (strongly disagree, moderately disagree, dis-agree, agree, moderately agree, strongly agree)**
Nursing Teamwork Survey (NTS) (Kalisch, Lee, & Rochman, 2010)		
All team members understand what their responsibilities are throughout the shift.	shared mental model	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members know that other members of their team follow through on their commitment.	shared mental model	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
My team believes that to do a quality job, all of the members need to work together.	shared mental model	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
The shift change reports contain the information needed to care for the patients.	shared mental model	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members respect one another.	shared mental model	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members are aware of the strengths and weaknesses of other team members they work with most often.	shared mental model	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members understand the role and responsibilities of each other.	shared mental model	e time, 50% of the time, 75% of the time, always)
The Nurse Practitioner Primary Care Organizational Climate Questionnaire (PCOCQ) (Poghosyan, Nannini, Finkelstein, Mason, & Shaffer, 2013)		
In my organization, NP role is well understood.	professional visibility	4 point scale (strongly agree, agree, disagree, strongly disagree)
NPs are represented in important committees in my organization.	professional visibility	4 point scale (strongly agree, agree, disagree, strongly disagree)
In my practice setting, staff members have a good understanding about NP	professional visibility	4 point scale (strongly agree, agree, disagree, strongly disagree)

Question	Concept name in instrument	Response categories
roles in the organization.		
Administration is well informed of the skills and competencies of NPs.	professional visibility	4 point scale (strongly agree, agree, disagree, strongly disagree)
Federal Employment Viewpoint Survey (FEVS) Leider (Leider, Harper, Won Shon, Sellers, & Castrucci, 2016)		
The people I work with cooperate to get the job done.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
My work unit is able to recruit people with the right skills.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
Promotions in my work unit are based on merit.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
In my work unit, differences in performance are recognized in a meaningful way.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
Awards in my work unit depend on how well employees perform their jobs.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
Employees in my work unit share job knowledge with each other.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
The skill level in my work unit has improved in the past year.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
How would you rate the overall quality of work done by your work unit?	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
My work unit has the job-relevant knowledge and skills necessary to accomplish organizational goals.	work unit	5 point scale 1(very dissatisfied) - 5(very satisfied)
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
There is a strong feeling of teamwork at _____ Health Center.	not specified	not specified
RN Work Survey (Djukic, 2017)		
Are individuals in your work group friendly?	Work group cohesion	5 point scale (not at all, only a little, a moderate amount, quite a bit, a great deal)
Are individuals in your work group helpful to you in getting your job done?	Work group cohesion	5 point scale (not at all, only a little, a moderate amount, quite a bit, a great deal)
Do individuals in your work group take an interest in you?	Work group cohesion	5 point scale (not at all, only a little, a moderate amount, quite a bit, a great deal)
SOPS Medical Office Survey (Sorra, Gray, Famolaro et al., 2016)		
When someone in this office gets really busy, others help out.	teamwork	6 point scale (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
In this office, there is a good working relationship between staff and providers.	teamwork	6 point scale (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
In this office, we treat each other with respect.	teamwork	6 point scale (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
This office emphasizes teamwork in taking care of patients.	teamwork	6 point scale (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)

Work-Life Integration

Question	Concept name in instrument	Response categories
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
_____ Health Center supports a balance between my work and personal life.	**not specified**	**not specified**
Copenhagen Psychosocial Questionnaire (COPSOQ-II) (Pejtersen, Kristensen, Borg, & Bjorner, 2009)		
Do you often feel a conflict between your work and your private life, making you want to be in both places at the same time?	**Work and private life**	**Yes/often, Yes/sometimes, rarely, no/never**
Do you feel that your work drains so much of your energy that it has a negative effect on your private life?	**Work and private life**	**yes/certainly, yes/to a certain degree, yes/but only very little, no/not at all**
Do you feel that your work takes so much of your time that it has a negative effect on your private life?	**Work and private life**	**yes/certainly, yes/to a certain degree, yes/but only very little, no/not at all**
Do your friends or family tell you that you work too much?	**Work and private life**	**yes/certainly, yes/to a certain degree, yes/but only very little, no/not at all**

Workflow

Question	Concept name in instrument	Response categories
Copenhagen Psychosocial Questionnaire (COPSOQ-II) (Pejtersen, Kristensen, Borg, & Bjorner, 2009)		
Does your work have clear objectives?	**Psychosocial factors at work**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Do you know exactly which areas are your responsibility?	**Psychosocial factors at work**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Can you use your skills or expertise in your work?	**Psychosocial factors at work**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Do you receive all the information you need in order to do your work well?	**Psychosocial factors at work**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Do you know exactly what is expected of you at work?	**Psychosocial factors at work**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Do you sometimes have to do things, which seem to be unnecessary?	**Psychosocial factors at work**	**5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)**
Is your work unevenly distributed so it piles up?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Does your work put you in emotionally disturbing situations?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Do you have to work very fast?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)

Question	Concept name in instrument	Response categories
Do you have to relate to other people's personal problems as part of your work?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Do you get behind with your work?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Is there good co-operation between the colleagues at work?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often do you not have time to complete all your work tasks?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Do you have enough time for your work tasks?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Do you feel part of a community at your place of work?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often do you consider looking for work elsewhere?	Psychosocial factors at work	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Is it necessary to keep working at a high pace?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Is your work emotionally demanding?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Does your work require you to take the initiative?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Is your work meaningful?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
At your place of work, are you informed well in advance concerning for example important decisions, changes, or plans for the future?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Are contradictory demands placed on you at work?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you feel that the work you do is important?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Would you recommend a good friend to apply for a position at your workplace?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you get emotionally involved in your work?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you enjoy telling others about your place of work?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Are you treated fairly at your workplace?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you sometimes have to do things, which ought to have been done in a different way?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you have the possibility of learning new things through your work?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you feel motivated and involved in your work?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you work at a high pace throughout the day?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)

Question	Concept name in instrument	Response categories
Does your work give you the opportunity to develop your skills?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you feel that your place of work is of great importance to you?	Psychosocial factors at work	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Regarding your work in general. How pleased are you with:		
- your work prospects?	Psychosocial factors at work	4 point scale (very satisfied, satisfied, unsatisfied, very unsatisfied)
- the physical working conditions?	Psychosocial factors at work	4 point scale (very satisfied, satisfied, unsatisfied, very unsatisfied)
- the way your abilities are used?	Psychosocial factors at work	4 point scale (very satisfied, satisfied, unsatisfied, very unsatisfied)
- your job as a whole, everything taken into consideration?	Psychosocial factors at work	4 point scale (very satisfied, satisfied, unsatisfied, very unsatisfied)
Is there a good atmosphere between you and your colleagues?	Psychosocial factors at work Social Support	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Is there good cooperation between the colleagues at work?	Psychosocial factors at work Social Support	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often do you get help and support from your colleagues?	Psychosocial factors at work Social Support	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often are your colleagues willing to listen to your problems at work?	Psychosocial factors at work Social Support	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often do your colleagues talk with you about how well you carry out your work?	Psychosocial factors at work Social Support	4 point scale (always, often, sometimes, seldom, hardly ever/never)
Is your work recognised and appreciated by the management?	Psychosocial factors at work Social Support	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Does the management at your workplace respect you?	Psychosocial factors at work Social Support	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do you do things at work, which are accepted by some people but not by others?	Psychosocial factors at work Social Support	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
Information regarding patient care is relayed without delays.	communication about patients	6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)
Information on the status of patients is available when I need it.	communication about patients	6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)
I receive information quickly when a patient_s status changes.	communication about patients	6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)
Staff communicates clearly about patient care.	communication about patients	6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)
Staff provides clear directions about caring for patients.	communication about patients	6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)
Nursing Teamwork Survey (NTS) (Kalisch, Lee, & Rochman, 2010)		

Question	Concept name in instrument	Response categories
Team members communicate clearly what their expectations are of others.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
My team readily engages in changes in order to make improvements and new methods of practice.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members readily share ideas and information with each other.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members clarify with one another what was said to be sure that what was heard is the same as the intended message.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members value, seek and give each other constructive feedback.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
When someone does not report to work or someone is pulled to another unit, we reallocate responsibilities fairly among the remaining team members.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Team members trust each other.	Trust	5 point scale (rarely, 25% of the time, 50% of the time, 75% of the time, always)
Satisfaction of Employees in Health Care (SEHC)Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
The organization rules make it easy for me to do a good job.	not specified	4 point scale (strongly disagree, disagree, agree, strongly agree)
My work assignments are always clearly explained to me.	not specified	4 point scale (strongly disagree, disagree, agree, strongly agree)
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
I feel communications have improved since the last survey.	not specified	not specified
SOPS Medical Office Survey (Sorra, Gray, Famolaro et al., 2016)		
This office reminds patients when they need to schedule an appointment for preventive or routine care	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
This office documents how well our chronic-care patients follow their treatment plans.	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
Our office follows up when we do not receive a report we are expecting from an outside provider	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
This office follows up with patients who need monitoring.	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)

Workload/Job Demands

Question	Concept name in instrument	Response categories
Areas of Work Life survey (Dasgupta, 2019)		
I do not have time to do the work that must be done	**workload**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
I work intensely for prolonged periods of time	**workload**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
I have so much work to do on the job that it takes me away from my personal interests	**workload**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
I have enough time to do what's important in my job	**workload**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
I leave my work behind when I go home at the end of the workday	**workload**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
RN Work Survey (Djukic, 2017)		
Does your job require you to work very fast?	**quantitative workload**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
Does your job require you to work very hard?	**quantitative workload**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
Does your job leave you with tittle time to get things done?	**quantitative workload**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
Do you have to do more than you can do well?	**quantitative workload**	**(never, less than once a month, 1-3 days a month, 1-2 days per week 3-4 days per week, 5 or more days per week)**
Satisfaction of Employees in Health Care (SEHC)Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
I have an accurate written job description.	not specified	4 point scale (strongly disagree, disagree, agree, strongly agree)
The amount of work I am expected to finish each week is reasonable.	not specified	4 point scale (strongly disagree, disagree, agree, strongly agree)
Linzer National Survey 2001 (Linzer, Konrad, Douglas, McMurray, Pathman et al., 2001)		
My relationship with patients is more adversarial than it used to be.	patient care issues	5-point scale (agree-disagree)
I am overwhelmed by the needs of my patients.	patient care issues	5-point scale (agree-disagree)
Many patients demand potentially unnecessary treatments.	patient care issues	5-point scale (agree-disagree)
Time pressures keep me from developing good patient relationships.	patient care issues	5-point scale (agree-disagree)
SOPS Medical Office Survey (Sorra, Gray, Famolaro et al., 2016)		

In this office, we often feel rushed when taking care of patients. (negatively worded)	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
We have too many patients for the number of providers in this office. (negatively worded)	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
We have enough staff to handle our patient load.	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
This office has too many patients to be able to handle everything effectively. (negatively worded)	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
Approaches to Work Questionnaire (Appelaum, 2019)		
My work load is too heavy	workload	(Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree)
My job requires me to do too many different things	workload	(Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree)
There seems to be too much work to get through in my job	workload	(Definitely disagree, Somewhat disagree, Somewhat agree, and Definitely agree)

Workplace Culture

Question	Concept name in instrument	Response categories
Professional Practice Work Environment Inventory (PPWEI) (Ives-Erickson, Duffy, & Jones, 2015)		
Staff members are respectful to all members of the team regardless of race, ethnicity, and sexual preference.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
Staff members respect the diversity of their healthcare team.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
Staff members are sensitive to diverse patient populations for whom they serve.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
Staff members are respectful to family members and integrate them into the care of their patients.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
Staff members provide the same high quality care to all patients.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
Staff members use interpreter services or technology to communicate with non-English-speaking patients.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
Staff members have access to the necessary resources to provide culturally competent care.	**cultural sensitivity**	**6-point scale (strongly disagree, moderately disagree, disagree, agree, moderately agree, strongly agree)**
2014 Public Health Workforce Interests and Needs Survey (PH WINS), measured by Bowling Green State University JIG Scale (abridged) (Harper, Castrucci, Bharthapudi, & Sellers, 2015)		
Communication between senior leadership and employees is good in my organization.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Supervisors/team leaders work well with employees of different backgrounds.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**

Question	Concept name in instrument	Response categories
Areas of Work Life survey (Dasgupta, 2019)		
Resources are allocated fairly here	**Fairness**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
Opportunities are decided solely on merit	**Fairness**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
There are effective appeal procedures available when I question the fairness of a decision	**Fairness**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
Management treats all employees fairly	**Fairness**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
Favoritism determines how decisions are made at work	**Fairness**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
It's not what you know but who you know that determines a career here	**Fairness**	**5 point scale (Strongly disagree, Disagree, Hard to decide, Agree, Strongly agree)**
SOPS Medical Office Survey (Sorra, Gray, Famolaro et al., 2016)		
Our office processes are good at preventing mistakes that could affect patients.	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
Mistakes happen more than they should in this office. (negatively worded)	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
It is just by chance that we don't make more mistakes that affect our patients. (negatively worded)	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
In this office, getting more work done is more important than quality of care. (negatively worded)	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
I know how my work relates to the agency's goals and priorities.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
The work I do is important.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Creativity and innovation are rewarded.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Supervisors/team leaders in my work unit support employee development.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
My training needs are assessed.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Employees have sufficient training to fully utilize technology needed for their work.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Employees learn from one another as they do their work.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
My supervisor/ provides me with opportunities to demonstrate my leadership skills.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
I have had opportunities to learn and grow in my position over the past year.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
I feel completely involved in my work.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**

Question	Concept name in instrument	Response categories
I am determined to give my best effort at work every day.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
I am satisfied that I have the opportunities to apply my talents and expertise.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
My supervisor and I have a good working relationship.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
My supervisor treats me with respect.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
I recommend my organization as a good place to work.	**workplace environment**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
I recommend my organization as a good place to work.	**organizational support**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
My workload is reasonable.	**organizational support**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
My training needs are assessed.	**organizational support**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Employees have sufficient training to fully utilize technology needed for their work.	**organizational support**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Creativity and innovation are rewarded.	**organizational support**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Communication between senior leadership and employees is good in my organization.	**organizational support**	**5 point scale 1(strongly disagree) - 5(strongly agree)**
Hospital Ethical Climate (Allari, 2016)		
My peers listen to my concerns about patient care.	ethical climate	Likert scale - not further defined
My peers help me with difficult patient care issues/problems.	ethical climate	Likert scale - not further defined
I work with competent colleagues.	ethical climate	Likert scale - not further defined
Safe patient care is given on my unit.	ethical climate	Likert scale - not further defined
Patients know what to expect from their care.	ethical climate	Likert scale - not further defined
Nurses have access to the information necessary to solve a patient care issue/problem.	ethical climate	Likert scale - not further defined
Nurses use the information necessary to solve a patient care issue/problem.	ethical climate	Likert scale - not further defined
The patient's wishes are respected.	ethical climate	Likert scale - not further defined
When I'm unable to decide what's right or wrong in a patient care situation, my manager helps me.	ethical climate	Likert scale - not further defined
My manager supports me in my decisions about patient care.	ethical climate	Likert scale - not further defined
My manager listens to me talk about patient care issues/problems	ethical climate	Likert scale - not further defined
My manager is someone I can trust.	ethical climate	Likert scale - not further defined
When my peers are unable to decide what's right or wrong in a particular patient care situation, I have observed that my manager helps them.	ethical climate	Likert scale - not further defined
My manager is someone I respect.	ethical climate	Likert scale - not further defined
Hospital policies help me with difficult patient care issues/problems .	ethical climate	Likert scale - not further defined
A clear sense of the hospital's mission is shared with nurses.	ethical climate	Likert scale - not further defined

Question	Concept name in instrument	Response categories
The feelings and values of all parties involved in a patient care issue/problem are taken into account when choosing a course of actions.	ethical climate	Likert scale - not further defined
Conflict is openly dealt with, not avoided.	ethical climate	Likert scale - not further defined
There is a sense of questioning, learning, and seeking creative responses to patient care problems.	ethical climate	Likert scale - not further defined
I am able to practice nursing on my unit as I believe it should be practiced.	ethical climate	Likert scale - not further defined
Nurses and physicians trust one another.	ethical climate	Likert scale - not further defined
Physicians ask nurses for their opinions about treatment decisions.	ethical climate	Likert scale - not further defined
I participate in treatment decisions for my patients.	ethical climate	Likert scale - not further defined
Nurses and physicians here respect each other's opinions, even when they disagree about what is best for patients.	ethical climate	Likert scale - not further defined
Nurses and physicians respect one another.	ethical climate	Likert scale - not further defined
Nurses are supported and respected in this hospital.	ethical climate	Likert scale - not further defined
2004 National Nursing Home Survey (Probst, Baek, & Laditka, 2010)		
NA is respected/rewarded for their work	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
NA can decide how to do their work	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
NA is involved in challenging work	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
NA can gain new skills/knowledge on the job	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
NA is trusted to make resident care decisions	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
NA has opportunity to work in teams	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
NA is confident in their ability to do their job	workplace environment	4 point scale (strongly agree, somewhat agree, somewhat disagree, strongly disagree)
How much does society value their work as a NA	workplace environment	(very much, somewhat, not at all)
How much does supervisor value their NA work	workplace environment	(very much, somewhat, not at all)
How much does organization at their facility value their NA work	workplace environment	(very much, somewhat, not at all)
How important does NA think their work is	workplace environment	(very important, somewhat important, not at all)
How often NA asks other NAs for help with job-related problems	workplace environment	(frequently, sometimes, once in awhile, never)
How often NA asks employees (besides NAs) for help with job-related problems	workplace environment	(frequently, sometimes, once in awhile, never)

Question	Concept name in instrument	Response categories
Has NA ever been discriminated against on current job because of race/ethnicity	workplace environment	yes/no
Satisfaction of Employees in Health Care (SEHC)Survey (Chang, Cohen, Koethe, Smith, & Bir, 2017)		
I am appropriately recognized when I perform well at my regular work duties.	not specified	4 point scale (strongly disagree, disagree, agree, strongly agree)
Health Center Staff Satisfaction/Engagement Survey Questions (TAP resource)		
Employees of _____ Health Center are held accountable for the quality of work they produce.	not specified	not specified
Copenhagen Psychosocial Questionnaire (COPSOQ-II) (Pejtersen, Kristensen, Borg, & Bjorner, 2009)		
Does the management trust the employees to do their work well?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Can you trust the information that comes from the management?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Are conflicts resolved in a fair way?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Does the management withhold important information from the employees?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Are employees appreciated when they have done a good job?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do the employees withhold information from each other?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do the employees withhold information from the management?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Do the employees in general trust each other?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Are all suggestions from employees treated seriously by the management?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Are the employees able to express their views and feelings?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
Is the work distributed fairly?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
How often is your nearest superior willing to listen to your problems at work?	The workplace as a whole	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often do you get help and support from your nearest superior?	The workplace as a whole	4 point scale (always, often, sometimes, seldom, hardly ever/never)
How often does your nearest superior talk with you about how well you carry out your work?	The workplace as a whole	4 point scale (always, often, sometimes, seldom, hardly ever/never)
To what extent would you say that your immediate superior…		
- makes sure that the individual member of staff has good development opportunities?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)

Question	Concept name in instrument	Response categories
- gives high priority to job satisfaction?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
is good at work planning?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
- is good at solving conflicts?	The workplace as a whole	5 point scale (to a very large extent, to a large extent, somewhat, to a small extent, to a very small extent)
In this office, we often feel rushed when taking care of patients. (negatively worded)	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
We have too many patients for the number of providers in this office. (negatively worded)	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
We have enough staff to handle our patient load.	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
This office has too many patients to be able to handle everything effectively. (negatively worded)	Work pressure and pace	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
This office reminds patients when they need to schedule an appointment for preventive or routine care	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
This office documents how well our chronic-care patients follow their treatment plans.	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
Our office follows up when we do not receive a report we are expecting from an outside provider	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
This office follows up with patients who need monitoring.	Patient Care Tracking/Followup	(Never, Rarely, Sometimes, Most of the time, Always, Does Not Apply or Don't Know)
When someone in this office gets really busy, others help out.	Teamwork	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
In this office, there is a good working relationship between staff and providers.	Teamwork	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
In this office, we treat each other with respect.	Teamwork	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
This office emphasizes teamwork in taking care of patients.	Teamwork	(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)
Patient-centered Is responsive to individual patient preferences, needs, and values.	Overall Ratings on Quality and Patient Safety	(Poor, Fair, Good, Very good, Excellent)
Effective Is based on scientific knowledge.	Overall Ratings on Quality and Patient Safety	(Poor, Fair, Good, Very good, Excellent)
Timely Minimizes waits and potentially harmful delays.	Overall Ratings on Quality and Patient Safety	(Poor, Fair, Good, Very good, Excellent)
Efficient Ensures cost-effective care (avoids waste, overuse, and misuse of services).	Overall Ratings on Quality and Patient Safety	(Poor, Fair, Good, Very good, Excellent)
Equitable Provides the same quality of care to all individuals regardless of gender, race, ethnicity, socioeconomic status, language, etc.	Overall Ratings on Quality and Patient Safety	(Poor, Fair, Good, Very good, Excellent)
Overall, how would you rate the systems and clinical processes your medical office has in place to prevent, catch, and correct problems that have the potential to affect patients?	Overall Ratings on Quality and Patient Safety	(Poor, Fair, Good, Very good, Excellent)

Outcomes – Engagement

Question	Concept name in instrument	Response categories
Perceived Organizational Support (Eisenberger & Huntington 1986; Appelbaum, 2019)		
The organization wishes to give me the best possible job for which I am qualified.	**full use of employment status**	**7-point Likert scale (I = strongly disagree, 7 = strongly agree; R = reverse scored**
The organization tries to make my job as interesting as possible.	**job enrichment**	**7-point Likert scale (I = strongly disagree, 7 = strongly agree; R = reverse scored**
Stanford Professional Fulfillment Index (Trockel, Bohman, Lesure, et al., 2018)		
I feel happy at work	**professional fulfilment**	**How true do you feel the following statements are about you at work during the past two weeks? Not at all true Somewhat true Moderately true Very True Completely true**
I feel worthwhile at work	**professional fulfilment**	**How true do you feel the following statements are about you at work during the past two weeks? Not at all true Somewhat true Moderately true Very True Completely true**
My work is satisfying to me	**professional fulfilment**	**How true do you feel the following statements are about you at work during the past two weeks? Not at all true Somewhat true Moderately true Very True Completely true**
I feel in control when dealing with difficult problems at work	**professional fulfilment**	**How true do you feel the following statements are about you at work during the past two weeks? Not at all true Somewhat true Moderately true Very True Completely true**
My work is meaningful to me	**professional fulfilment**	**How true do you feel the following statements are about you at work during the past two weeks? Not at all true Somewhat true Moderately true Very True Completely true**
I'm contributing professionally (e.g. patient care, teaching, research, and leadership) in the ways I value most	**professional fulfilment**	**How true do you feel the following statements are about you at work during the past two weeks? Not at all true Somewhat true Moderately true Very True Completely true**
Basic Psychological Needs at Work Scale (Waddimba, 2016)		
I have the ability to do my work well	competence	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
I feel competent at work	competence	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
I am able to solve problems at work	competence	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)
I succeed in my work	competence	6-point Likert-type scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree)

Outcomes - Intent to Turnover

Question	Concept name in instrument	Response categories
National Criminal Justice Treatment Practices (NCJTP) Survey (Balfour, 2007)		
I would accept almost any type of job assignment in order to keep working for this organization.	**Intent to turnover**	**N/A**
I could just as well be working for a different organization as long as the work was similar. (-)	**Intent to turnover**	**N/A**

It would take very little change in my present circumstances to cause me to leave this organization.	**Intent to turnover**	**N/A**
I often think about quitting this job.	**Intent to turnover**	**N/A**
I will probably look for a job during the next year.	**Intent to turnover**	**N/A**

Outcomes - Quality of Care / Patient Safety

Question	Concept name in instrument	Response categories
SOPS Medical Office Survey (Sorra, Gray, Famolaro et al., 2016)		
Our office processes are good at preventing mistakes that could affect patients.	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
Mistakes happen more than they should in this office. (negatively worded)	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
It is just by chance that we don't make more mistakes that affect our patients. (negatively worded)	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
In this office, getting more work done is more important than quality of care. (negatively worded)	**Patient Safety and Quality**	**(Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree, Does Not Apply or Don't Know)**
Patient-centered Is responsive to individual patient preferences, needs, and values.	**Overall Ratings on Quality and Patient Safety**	**(Poor, Fair, Good, Very good, Excellent)**
Effective Is based on scientific knowledge.	**Overall Ratings on Quality and Patient Safety**	**(Poor, Fair, Good, Very good, Excellent)**
Minimizes waits and potentially harmful delays.	**Overall Ratings on Quality and Patient Safety**	**(Poor, Fair, Good, Very good, Excellent)**
Ensures cost-effective care (avoids waste, overuse, and misuse of services).	**Overall Ratings on Quality and Patient Safety**	**(Poor, Fair, Good, Very good, Excellent)**
Provides the same quality of care to all individuals regardless of gender, race, ethnicity, socioeconomic status, language, etc.	**Overall Ratings on Quality and Patient Safety**	**(Poor, Fair, Good, Very good, Excellent)**
Overall, how would you rate the systems and clinical processes your medical office has in place to prevent, catch, and correct problems that have the potential to affect patients?	**Overall Ratings on Quality and Patient Safety**	**(Poor, Fair, Good, Very good, Excellent)**