Healthforce Center at UCSF

Healthforce.ucsf.edu
Twitter: @HealthforceUCSF

Advancing Health Worker Well-Being: Trends and Opportunities

by Sunita Mutha, Emily Shen, and Diane Schweitzer

September 2021

Table of Contents

Table of Contents **2**

Executive Summary **3**

Introduction **6**

Approach and Methods **8**

Literature Scan: Promising Approaches and What's Missing **9**

Stakeholder Input **11**

Interview themes 11

Recommendations to Improve Health Worker Wellness **13**

A. Strengthen and expand resources to address mental health and coping challenges 16

B. Address secondary trauma experienced by health workers 17

C. Support development of comprehensive organizational approaches to improve worker well-being 18

D. Grow the knowledge base and tools for improving health worker well-being 20

E. Reduce stigma for health care workers seeking mental health services and supports 22

Conclusion **22**

Appendices **24**

Appendix 1: Summary of Literature Scan Findings 25

Appendix 2: Brief Summary of Secondary Trauma Care 33

Appendix 3: Sample Programs and Resources by Recommendation 34

Appendix 4: References 39

Executive Summary

Health systems are uniquely positioned to advance health equity in communities by ensuring that workers are well, resilient, and equipped to deliver high-quality care. The COVID-19 pandemic has shown how work environments in health systems affects the well-being of workers, whose capacity to deliver safe, patient- and family-centered care plays a central role in achieving health.

The aim of this project was to guide recommendations for future investments with the potential to identify health worker supports, strategies, and efforts to promote well-being, and to strengthen systems that ensure that they advance equity in health care and treat patients as people.

We conducted a scan of peer-reviewed and grey literature and interviewed a diverse set of national stakeholders committed to and responsible for addressing health worker well-being. The literature scan confirmed the need to prioritize multi-pronged organizational interventions over individual interventions to achieve systems change supporting worker wellness. Conversations with stakeholders underscored that the broader context in which health workers live and work affects their health and well-being. The effects on work and work climate of the COVID-19 pandemic, unmet social needs, recent social movements around racism, and larger policy issues around payment, reimbursement, and wages were emphasized as particularly profound.

The pandemic's disproportionate effect on middle skill workers highlights differences in the nature of their work as well as differential access to skills, training, and social supports. These differences point to gaps in our knowledge of the factors that affect well-being for middle skill workers; this understanding is essential for designing effective interventions. The gaps highlight areas that would benefit from investment and strategies to prevent and ease burnout, improve diversity, and inform how to better promote progress toward health equity for a diverse workforce.

The greatest immediate need for improving health workers' well-being is mental health supports to address increases in depression, anxiety, and stress. Acknowledging that there are important policy (e.g., payment reform) and cultural (e.g., reducing stigma) issues that must be addressed, but which exceed the initial scope of this effort, we identified five priority recommendations to pursue:

- **Strengthen and expand resources to address mental health challenges.** The pandemic has magnified mental health challenges for health workers and those on the frontlines, especially in acute care hospitals, have faced sustained daily exposure to suffering and death. The need for immediate and longer-term support includes increased access to counseling, as well as tools and coping resources. Access to culturally- and linguistically-diverse services is especially needed.

- **Address secondary trauma experienced by health workers.** Many health workers experience secondary trauma in their work. The pandemic has added further burdens, such as increased workloads, risk of job loss, and the pressures of dependent care without adequate support structures and services. Secondary trauma is known to be preventable and treatable, but the field is at a nascent stage with few examples of well-evaluated programs or services for addressing secondary trauma in health workers.

- **Support development of comprehensive organizational approaches to improve worker well-being.** The COVID-19 pandemic has emphasized the need for organizations to change or reexamine structures, workflows, and policies that contribute to burnout or a culture of suffering in silence. Given the unique role of safety net organizations in employing diverse workers who are racially, culturally and linguistically concordant with communities they serve, there is an opportunity to further health equity goals by ensuring that safety net organizations have resources and tools to address worker well-being.

- **Grow the knowledge base and tools for improving health worker well-being.** Most well-being efforts to date have focused on clinicians, especially physicians and nurses. There is potential to substantially

further health equity by investing in the large and often overlooked middle skill workforce (e.g., food and nutrition services, environmental services), to understand their unique needs and vulnerabilities, and to test solutions for improving their well-being.

- **Reduce stigma for health care workers seeking mental health services and supports.** Many health workers are reluctant to seek assistance with mental health issues due to concerns around potential stigma, as well as worries about licensing policies and confidentiality. Opportunities to support advocacy to reduce mental health disorder stigma will have significant impact for those looking to access and use resources.

High-quality health care depends on a resilient and well workforce. The pandemic has spurred organizations to recognize the urgent need to improve health worker well-being. It is vital to creatively invest in increasing knowledge, testing solutions, and sharing learning to create systems that treat patients as people and build incentives for advancing equity in health care. No health care system should have to decide if they will care for the individuals that make up their workforce or meet the health needs and goals of communities they serve. Health care systems must be equipped to invest in the wellness of their workers, which in turn will enable them to best meet the needs and goals of the communities they serve for now and for generations to come.

"We are trying to solve the problem by recognizing that wellness is a challenge of culture. Like any institutional response to equity, values, and engagement, there is no organization that is going to say, 'We don't believe in that.' It's a paradigm shift . . . of changing culture. We want to create [a] culture and climate in which speaking up about mental health issues and getting in for care are easy, without fear of push back."

— Health system leader

"The pandemic has shifted expectations of health care. It's proved that we can work remotely and that will be a norm. [These] small variations will focus on convenience and flexibility. Well-being will move from 'good to have' to 'must have'. Well-being will be an expectation and demand of young people in training. And, there will increasingly be inclusion of well-being measures in organizational dashboards."

— Health system leader

Acknowledgements

Funding for this work was provided by the Robert Wood Johnson Foundation (RWJF). The authors wish to express their gratitude to the many organizational leaders who generously shared their insights into trends, needs, and efforts to improve worker well-being, and especially would like to thank Aingyea Fraser (RWJF) and Drs. Elizabeth Mertz and Susan Chapman (Healthforce Center at UCSF) for their guidance and support.

The mission of Healthforce Center at UCSF is to equip health care organizations with the workforce knowledge and leadership skills to effect positive change. This report was written and prepared by Sunita Mutha, MD, FACP, director of Healthforce Center at UCSF and professor of clinical medicine, Emily Shen, BA, research analyst, and Diane Schweitzer, MPPM, consultant to Healthforce Center at UCSF.

Introduction

Health workers are essential to the ability of the US health care system to achieve the goals of better population health, enhanced patient care experience, and lower health care costs. As occupational stress increases, and well-being decreases, there is a risk of erosion of health systems and care delivery. The lack of worker well-being, often visible as burnout, has a high personal cost for individual workers and results in increased rates of work-related injuries, substance use, and risk for suicide.[1] Lack of well-being is associated with risk for errors in care, malpractice, and diminished and ineffective communication between patients and health workers.[1] It puts strain on health care organizations by decreasing workforce capacity through absenteeism, presenteeism (working while sick), turnover, and decreased productivity. All told, the lack of worker well-being results in heavy social and economic costs for health care organizations and for society.

The following definitions are used in this report. Reflecting their usage in the field and literature, we use the terms well-being and wellness interchangeably in this report.

> **Well-Being**: An "integrative concept that characterizes quality of life with respect to an individual's health and work-related environmental, organizational, and psychosocial factors . . . the experience of positive perceptions and the presence of constructive conditions at work and beyond that enables workers to thrive and achieve their full potential."[2]
>
> **Wellness:** An "active process through which people become aware of, and make choices toward, a more successful existence." The National Wellness Institute promotes Six Dimensions of Wellness: emotional, occupational, physical, social, intellectual, and spiritual. Addressing all six dimensions of wellness in our lives builds a holistic sense of wellness and fulfillment.[3]
>
> **Secondary trauma:** Behaviors and emotions "resulting from knowing about a traumatizing event experienced by a client and the stress resulting from helping or wanting to help that client . . . an occupational hazard for service providers who work with traumatized populations. Without adequate self-care and organizational support, secondary traumatic stress impacts not only the affected staff members, but also their clients, their families and friends, and their agencies through organizational dysfunction and costly employee turnover".[4]
>
> **Middle skill worker:** Workers whose jobs "generally require some significant education and training beyond high school but less than a bachelor's degree. These postsecondary education or training requirements can include associate's degrees, vocational certificates, significant on-the-job training, previous work experience, or generally 'some college' less than a bachelor's degree."[5]

Even before the pandemic, there were signals that systems pressures contributed to overwhelming job demands for health workers. Factors such as workloads, time pressures, technology challenges, and moral and ethical dilemmas resulting in secondary trauma continue to be met with insufficient job resources and support. The consequences of the resultant lack of well-being are a strong signal that improvements in work environments must be a national priority.

"The changes to mental health provision that have been made since the outbreak of the crisis have, for the most part, been temporary. They are designed to address the effects of an acute surge on an already burdened system. The sector may consider using the momentum of the current pandemic to fundamentally rethink the long-term mental health provision for health care workers. A new paradigm can help organizations support the mental health needs of their workers in the "next normal."[12]

— McKinsey & Company, 2020

Context

The coronavirus pandemic has exacerbated the imbalance in job demands on health workers (e.g., increased work schedules, moral and ethical dilemmas) and strained access to job resources (e.g., personal protective equipment and ventilators), vividly exposing health workers' vulnerabilities and highlighting the challenges they face in terms of safety and well-being. The pandemic has also amplified existing issues, including:

1. The level of reimbursement for services as a significant determinant of funding for health systems' operations, workforce staffing, and worker pay. The pandemic vastly increased demands for resources (e.g., purchasing personal protective equipment) and increased the need for staffing, including the costly use of per diem workers. This coincided with decreases in revenues due to deferred elective procedures and preventive services. Safety net systems were particularly affected by financial strains.

2. Changes in technology use and shifts in care delivery from in-person to telehealth, resulting in a need for skills training and job losses for health workers. Both trends have been magnified during the pandemic and have been accompanied by the relocation of work from hospitals and clinics to health workers' homes.

3. The ability of workers to be present and fulfill their roles is affected by the access to services and social supports. This has been made more visible by the blurring of boundaries between work and home life as well as loss of access to services (e.g., dependent care, access to transportation) and supports (e.g., flexibility in personal time off, sick and hazard pay) that are especially important for middle skill workers.

4. The vital role of workplace structures and cultures (e.g., access to mental health counseling, transparent communication) in addressing vulnerabilities and personal safety of health workers, as well as influencing job satisfaction and retention.

Project Aim

The intention of this project was to identify promising workforce topics and guide future investments with the potential to ensure the health system is equipped and motivated to provide care that meets the needs of patients. Particular emphasis was placed on identifying health worker efforts to create systems that treat patients as people and build incentives for advancing equity in health care. Health workers in this context are defined as all individuals within the health care system with the potential to connect with individuals seeking care and services.

To achieve this aim, we conducted a literature scan of types of interventions that increase workforce well-being, garnered the input and engagement of key stakeholders, and synthesized the resulting information to generate a list of recommendations of topics for future research, programming, and other investments. The priorities of the funder of this project, a private foundation, informed the decision to focus recommendations for investments to those under the control of health systems.

Given the desire to advance health equity in health care, the project team chose to focus on the health care safety net (federally qualified health centers, public hospitals, and other systems that disproportionately care for underserved populations), as health workers in the safety net are often more diverse, and their demographics more closely mirror the race, ethnicity, and social needs of communities that experience inequities in health. Additionally, topics and interventions that are beneficial in lower-resourced safety net settings can provide insights for investments that may be ripe for adoption by other health systems.

At the start of this project, we recognized that health systems were consumed by responding to the pandemic. Discussions with stakeholders underscored that health systems' attention would likely remain focused on

recovery well into 2022. This understanding informed thinking about the time frame of investment recommendations into two categories of greatest interest – short-term (next one to two years) and feasible in settings of limited organizational capacity, and medium-term (next two to three years) and needing more time for development or requiring more focused attention and support. Many of these investments can likely be extended or expanded to a longer-term time horizon.

Approach and Methods

The project consisted of three overlapping elements. The **first element** was a literature scan of peer-reviewed and grey literature (reports, materials, and publications produced by agencies, organizations, academic centers, consultants, or others). The peer-reviewed literature search focused on the following research questions:

1. What interventions (for individual health workers or teams of workers) have been tested to improve health worker well-being? What were the findings of these studies?
2. What organizational interventions have been tested to improve health worker well-being? What where the findings of these studies?

PubMed was used to search the peer-reviewed literature. Searches were limited to English-language publications and studies conducted in the United States, ensuring that these studies were conducted in environments and structures relevant to US-based health systems. Search terms included “burnout,” “well-being,” and “wellness,” combined with “interventions,” “impact,” and “outcomes.” References and bibliographies of key reports, such as the National Academies of Sciences, Engineering and Medicine’s (NASEM’s) *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being,* were mannually reviewed. The manual review (of approximately 1,500 articles and reports) began with a scan of the abstract (if available); articles were excluded if they were not interventions (e.g., commentary, opinion pieces, surveys). This search process resulted in approximately 360 articles, which were further narrowed to the articles summarized in Appendix 1. The quality of each article was determined using the following criteria:

Level 1: randomized controlled trial
Level 2: non-randomized trial, cohort (longitudinal) study, or case-control (observational)
Level 3: uncontrolled studies, including observational studies or surveys without intervention or comparison groups.

Only higher-quality (Level 1 and 2) studies and select review articles evaluating article quality were summarized in our tables. Level 3 articles were read for content but were excluded from the tables. The bibliography of each included article (240 articles) was manually reviewed; 12 additional articles that met the criteria listed above were identified in this way. The grey literature was identified through bibliography reviews, website searches using key words, and by scanning publications and electronic newsletters.

The **second element** was stakeholder interviews. To capture evolving and emerging issues and in response to the impact of the pandemic on convening stakeholders, the project team pivoted to interviewing a national array of organizational and thought leaders. Stakeholders were identified based on a funder-provided priority list and to capture a diversity of care delivery settings (e.g., hospitals, clinics), geographies (e.g., urban, rural), level of organizational resource (e.g., academic medical centers, safety net organizations), types of health workers (e.g., community health workers, doctors, medical assistants, dental assistants, nurses, environmental services), and more. Stakeholder interviews were conducted using an interview guide, and began with open-ended questions about worker well-being needs to allow stakeholders to identify what they viewed as the most important issues and to better capture the breadth of emerging issues and interventions (interview guide and interviewees are available upon request). Most interviews were conducted by a two-member team and all were summarized in written notes.

The **third element**, recommendations for investments, resulted from a synthesis of the literature scan and stakeholder interviews. The initial list of investments was narrowed and prioritized through discussions with the funder.

Literature Scan: Promising Approaches and What's Missing

We began the literature scan by identifying and reviewing seminal reports vital to the current understanding of well-being and adjacent topics. These reports are summarized below and provide an introduction to the broader environment and context.

Table 1: Highlights of Reports Informing Understanding of Literature Scan

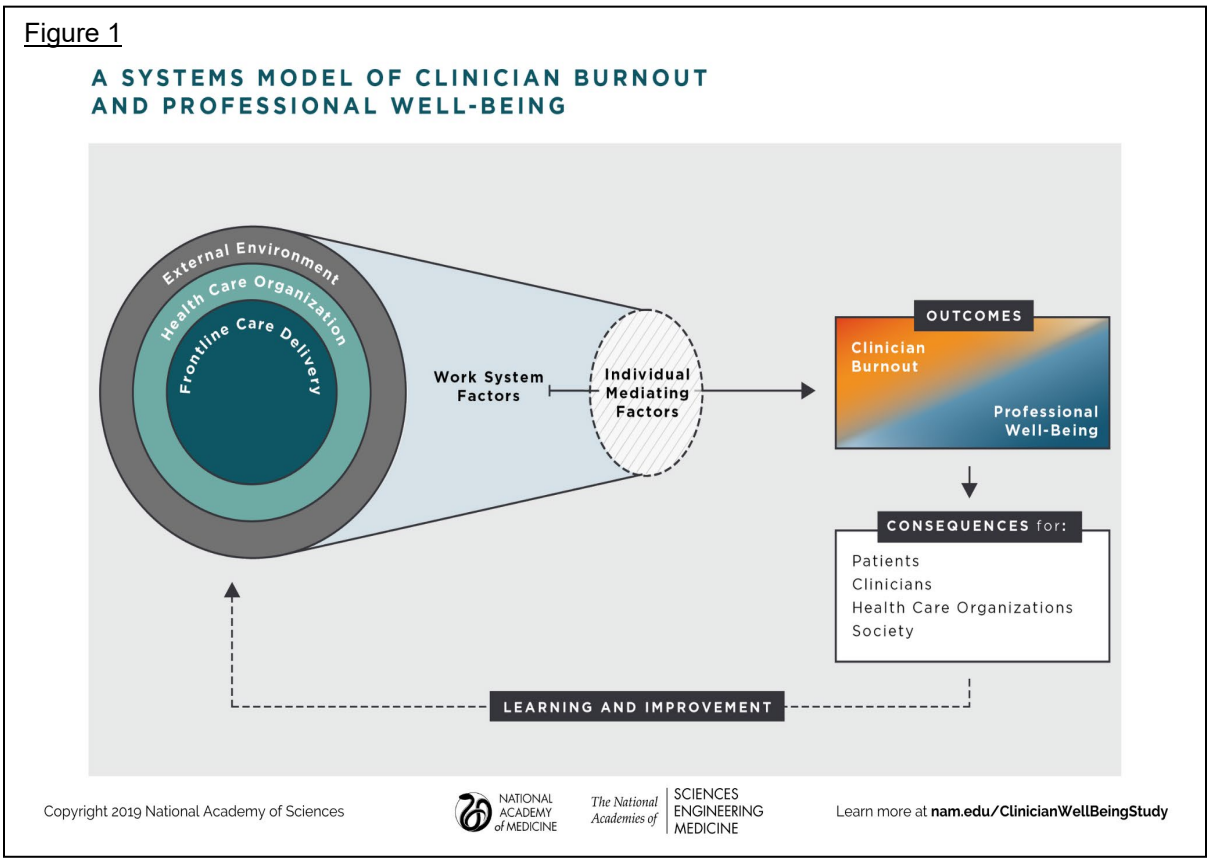
Report	Populations of Focus	Key Takeaways
Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being, National Academies of Sciences, Engineering, and Medicine (NASEM), 2019.[1]	Clinicians. Most data concerns doctors and nurses, but also includes dentist, pharmacist, and physical therapist, among others.	Clinician burnout is increasing and is detrimental to quality of care. Causes are multifactorial but largely due to an imbalance between job demands and resources (e.g., high workloads, administrative burden, poorly designed technologies). Added challenges result from regulatory and institutional policies and payer requirements. Work system transformation is needed to improve well-being.
Strengthening the Entry-Level Health Care Workforce: Finding a Path, Office of the Assistant Secretary for Planning and Evaluation (ASPE), 2020.[6]	Community health workers, behavioral health peer support specialists, long-term care workers, medical assistants, dental assistants, licensed vocational nurses, and respiratory therapist assistants.	Better use of the entry-level health care workforce (EHCW) can be a solution to provider shortages and maldistribution. Short- and longer-term approaches include maximizing the role of the EHCW to expand health care delivery capacity, supporting value-based care, increasing employment, and improving career ladders, working conditions, and wages.
The Future of Work and Its Impact on Health, Institute for the Future (IFTF), 2020.[7]	Workers involved in care work, gig work, split shift work, and the newly economically insecure due to the fissuring of work. Particular attention is paid to women, people of color, first-generation immigrants, and people experiencing homelessness.	As work and health are profoundly linked, health equity can be advanced by restructuring the role work plays in long-term health and well-being. Solutions should address better working conditions, inequalities in wages and benefits, shifts from full-time employment to alternative arrangements, job quality (e.g., predictability, security, advancement), and equitable access to opportunities.
Addressing Secondary Traumatic Stress: Models and Promising Practices, Grantmakers Concerned with Immigrants and Refugees (GCIR), 2020.[4]	Immigrant and refugee service providers.‡	Effective organizational strategies to reduce secondary trauma (ST) include lowered caseloads, balanced work tasks, awareness and destigmatization of ST, and collegial support. Individual strategies include education, stress management training, debriefing, mindfulness practice, coping, social support, counseling, and resilience training. For sustained progress there needs to be investment in leadership, sustainable workloads, comfortable workspaces, effective supervision, peer support, and individualized options.

Report	Populations of Focus	Key Takeaways
Mind the Workplace 2021, Mental Health America (MHA), 2021.[8]	Employees across 17 industries (e.g., education, social services, non-profit, energy, automotive, food and beverage, retail, legal services, manufacturing).	The pandemic has amplified preexisting issues: wage stagnation, financial insecurity, inadequate access to affordable health care, degradation of employee mental health, and increased burnout and exhaustion, especially for employees in industries vulnerable to physical and psychological harm.
Caring for the Future: The Power and Potential of America's Direct Care Workforce, PHI, 2020.[9]	Direct care workers in private homes, nursing homes, and residential care settings.	The need for direct care assistance is increasing as the population grows older with more complex health conditions. Solutions include growing the workforce and improving job quality, and will require investments to change federal regulations, fair compensation, quality training, pipeline and career ladder building, and strengthening of safety net resources (paid sick days, paid leave, childcare, etc.).

‡ Included because stakeholder interviews highlighted addressing secondary trauma as an important intervention for health workers.

The NASEM systems model of burnout and well-being (see Figure 1) informed the organization of our literature scan. This model was developed to articulate systems aspects of clinician burnout and professional well-being, describe interactions of the system levels, and identify work system factors that influence burnout and well-being. It is adapted from various models of multi-level systems in health care and workplace safety and is inclusive of clinicians and learners across health care disciplines.

Figure 1



Findings from the peer-reviewed literature scan are included in Appendix 1, organized in tables according to primary focus (individual, team, or organizational level changes). Each table includes author, publication year,

type of study, populations of focus (if available), interventions tested, measures used to assess impact, and key findings.

The literature scan underscores that health worker well-being is vital to organizational function, stability, and quality of care. The preponderance of literature focuses on interventions for individual health workers (n = 11; most interventions are for nurses and physicians) including stress reduction methods and other types of education and training. Studies of team-focused interventions (n = 5) are less prevalent and focus on strategies and tactics to increase insight, communication skills, and capacity to improve well-being. Studies of organization level interventions (n = 11) have become more prevalent over time. These studies are generally multipronged, with several simultaneous interventions (e.g., leadership, workflows, electronic health record modifications), and offer promising insights about effective strategies for improving the well-being of health workers that need to be further investigated.

There is promising evidence (not included in our literature scan as it did not meet the criteria for study quality) about relational coordination[10] as a mechanism for increasing workers' job satisfaction, well-being, and patient outcomes. There is a need for more studies of relational coordination interventions in health care settings that include measures of worker well-being and consider the diversity of workers.

Several additional areas for exploration remain, given a paucity (or lack) of evidence. First, there is a need to understand and define factors that influence the well-being of middle skill health workers as well as interventions that target this population. Second, there is need to identify and define which organizational or systems strategies are most promising for improving health worker well-being. Some literature suggests benefits from improvements in leadership skills, while an alternate approach focuses on improvement in workflows and electronic health record functionality. An additional area for exploration is assessing the duration of benefits from interventions (whether individual, team, or organizational). Despite the growing recognition of secondary trauma and its effect on health worker well-being, we are not aware of studies of interventions designed using these principles. No studies were found regarding interventions targeting work systems factors, such as increasing workers' wages, which could have particular relevance for low-income health workers who are disproportionately people of color. In fact, none of the studies looked at how the impact of interventions to increase well-being differed based on health worker race, ethnicity, or other factors that affect health equity.

Overall, current evidence is insufficient to support strong recommendations for specific system interventions that significantly address health worker well-being. We agree with the NASEM report's recommendation of the need for organizations to create, implement, and evaluate interventions by using a systematic approach, rigorous evaluation methods, and to openly share lessons learned.

Stakeholder Input

The stakeholder process is described above. Two project team members independently reviewed and coded each interview for themes using a constant comparative approach, comparing as many similarities and differences as possible in the data to generate coding categories and definitions.[11] The coding was reviewed twice to identify and reconcile differences until consensus on the coding categories and results was reached.

Interview themes

Stakeholders identified that the most urgent issues affecting workers' well-being were increases in depression, anxiety, and stress, and noted that these resulted in a significant need for mental health counseling and supports. Some organizations, mostly well-resourced (e.g., with access to philanthropic or other funds) or of larger size, described comprehensive well-being programs, but most other organizations struggled to meet workers' needs with a patchwork of services, depending on availability of staff and financial resources.

Many interviewees acknowledged that the broader context in which health workers live and work affects their health and well-being. Most often noted were:

- The COVID-19 pandemic and resulting job loss, emotional stress, and concerns for physical safety due to inadequate personal protective equipment or job-related exposure to infection;
- Unmet social needs, including access and affordability of housing, food insecurity, lack of transportation, and lack of childcare;
- Increased awareness of racism and racial inequities spurred by recent social movements, and action to address structural changes;
- Reimbursement rates of health care services affecting delivery systems' revenues and financial health, and in turn influencing worker staffing, workloads, and organizational resources; and
- Low and inequitable wages reflecting broader economic forces and salary inequities.

The table below summarizes the key issues, themes, and examples identified from stakeholder interviews.

Table 2: Themes Identified from Stakeholder Interviews

Issue	Themes and Examples
Why are organizations interested in addressing worker well-being?	Reasons for investing in worker well-being include: • Improved worker well-being helps **improve patient care** • Supporting workers' needs **reduces turnover** • Prioritizing well-being **aligns with leadership and organizational values**
What are the most critical worker well-being issues today?	The pandemic has substantially magnified challenges around **mental health and coping**: • **Stress** is high, due to burnout, acceleration of telework and telehealth, new roles, and the financial impact of workforce reduction, job loss, and retraining • **Fear** about safety from infection and illness exposure has improved since the beginning of the pandemic • Need for support for dealing with **family issues** (e.g., time off for illness, bereavement leave, mental health, child and family care) is high, especially for middle skill workers
What has been the impact of COVID-19 on worker well-being?	The pandemic has: • Increased economic challenges and **turnover** for middle skill workers • Raised the visibility of **mental health** challenges among workers • Expanded efforts already underway, including mental health support, **paid leave, and job training** for workers • Reduced workforce due to financial losses, **transition to telehealth**, and **burnout** resulting in workers taking leave or early retirement
What are health care organizations doing to address well-being now?	In better resourced organizations, efforts focus on organizational supports and include: • Use of **different strategies for different groups** based on worker type and level of need (e.g., pay, support groups, individual counseling) • **Self-care** on worker's own time, as relatively few organizations are putting robust systems into place or in allowing for release time

Issue	Themes and Examples
	• **Individual supports** focusing on techniques to increase resilience, manage stress, and encourage physical exercise • **Mental health resources** ranging from self-help to therapy for employees • **Organizational supports** such as a living wage, paid leave, hazard pay, temporary housing, and illness support • Use of varied **communication strategies** to disseminate information and supports, including town halls, intranet resources, and dashboards to monitor availability of PPE; these reflect organizational commitment to information sharing and may or may not be accompanied by other systems interventions
What are the barriers for workers participating in for comprehensive wellness programs?	Factors limiting ability or willingness to address worker well-being include: • Professional and middle skill workers may experience **stigma** associated with mental health disorders and be reluctant to seek help • Employees concerned with **confidentiality** may be more likely to seek out third-party resources • **Lack of resources** and funding for well-being programs and counseling and lack of access to behaviorists • **Lack of time** for workers to access resources and supports, needing to do so when not working (potentially facing daunting personal and family obligations) • Difficulty in finding services or trainings in **languages other than English**

The project team was cognizant of the growing public dialogue about the pressing and immediate needs of health workers as the pandemic progressed. These immediate needs initially focused on safety (access to personal protective equipment and information about coronavirus transmission) and the uptick in stress and mental health issues. This surfaced in the interviews, where a broad question ("What programs or activities have been most effective in improving worker well-being at your organization or others that you have heard about?") consistently narrowed to focus on issues that were perceived as immediate or the urgent need for mental health resources. At the same time interviewees noted a longer-term need to identify and address root causes (e.g., organizational structure and function, payment and policy reforms, advocacy to reduce stigma of mental health needs). The pandemic has brought attention to the intersecting and complex set of longstanding issues in our dynamic social environment including race, ethnicity, and gender; this increasing awareness appears to be influencing approaches to health worker wellness.

Recommendations to Improve Health Worker Wellness

Health worker well-being is vital to ensuring a stable and effective workforce that can deliver high-quality care. Our literature scan found that interventions focused on individual workers (e.g., cognitive behavioral therapy and mindfulness-based stress reduction) may be beneficial, but that multidimensional organizational interventions (e.g., workflow changes, modifications to electronic health records, trainings, and structures) are needed to achieve transformative systems change to support worker well-being. Stakeholder interviews highlighted the pandemic's toll on worker mental health, uncovered the role of social determinants (e.g., affordability of housing and food, lack of childcare) for middle skill workers, and underscored the need to address policies, resources, and power dynamics in health care organizations.

Structural change happens within systems, often with specific cultural, geographic, and economic factors in play. Therefore, our recommendations focus on health care employers and delivery systems as key levers for change.

Employers have many incentives to invest in worker well-being: the business case includes improvements in turnover, absenteeism, and presenteeism, as well as efficiencies and improved patient care.

These recommendations may offer opportunities to leverage worker organizations, such as unions, as partners in the work. It seems likely that working through a coalition of partners will be necessary to achieve widespread impact because the recommendations do not address policy levers such as changes to wages, payments, or reimbursement for health services which play a critical role but are outside the scope of this project.

The opportunities for investment are summarized in Table 3 and Table 4 and described in detail below.

Table 3. Summary Ideas for Investments to Improve Well-Being of Health Workers

Description	Worker Group Target(s)	Timeframe to Impact
A: Strengthen and expand resources to support mental health and coping		
Increase access to counseling for health workers	Any, possibly prioritize frontline workers and/or acute care workers	Short-term (1-2 years)
Spread resource portals and tools developed by well-resourced health systems to other health organizations	Any, possibly prioritize low-resourced organizations	Short-term (1-2 years)
Encourage all health organizations to include counseling benefits for employees	All	Short- to Medium-term (1-3 years)
Increase availability of culturally- and linguistically-diverse mental health counselors and therapists	All	Medium- and longer-term (3+ years)
B: Address secondary trauma experienced by health workers		
Support health care organizations' work with field experts to develop internal capacity	Any, possibly prioritize safety net workers	Short- to Medium-term (1-3 years)
Award a prize to raise awareness and build the field, including a focus on safety net organizations	All	Short-term (1-2 years)
C: Support development of comprehensive organizational approaches to improve worker well-being		
Support evaluation of comprehensive approaches to improve worker well-being	Any, possibly prioritize middle skill workers	Short-term (1-2 years)
Raise awareness and foster actions by executive health care leaders	Executive leaders	Short-term (1-2 years)
Create a wellness officer forum or roundtable for low-resourced and rural health care organizations	All	Short-term (1-2 years)
Create a national learning collaborative for safety net organizations	All	Medium-term (2-3 years)
D: Grow the knowledge base and tools for improving health worker well-being		
Expand understanding of middle skill health worker well-being	Middle skill workers	Short-term (1-2 years)
Develop toolkit of promising practices for low-resource organizations	All, possibly prioritize middle skill workers	Short-term (1-2 years)
Create a set of resources to track (measure) effectiveness of well-being programs	All	Short-term (1-3 years)
E: Reduce stigma for health care workers seeking mental health services and supports		
Support advocacy to reduce stigma of mental health disorders	All	Medium- and longer-term (3+ years)
Support advocacy to change physician licensing requirements	Physicians	Medium- and longer-term (3+ years)

Table 4. High Level Summary of Recommendations by Level of Intervention and Timeframe for Impact

<table>
<tr><th>Level of intervention</th><th colspan="3">Time Frame for Impact</th></tr>
<tr><th></th><th>Short-term
(1-2 years)</th><th>Medium-term
(2-3 years)</th><th>Longer-term
(>3 years)</th></tr>
<tr><td>Individual</td><td>▪ Increase access to counseling for health workers</td><td></td><td></td></tr>
<tr><td rowspan="2">Organization</td><td>▪ Spread resource portals developed by well-resourced health systems to other health organizations
▪ Award a prize to raise awareness and build the field, including a focus on safety net organizations
▪ Raise awareness and foster actions by executive health care leaders</td><td></td><td></td></tr>
<tr><td colspan="2">▪ Encourage all health organizations to include counseling benefits for employees
▪ Support health care organizations’ work with field experts to develop internal capacity</td><td></td></tr>
<tr><td rowspan="3">Field</td><td>▪ Support evaluation of comprehensive approaches to improve worker well-being
▪ Create a wellness officer forum or roundtable for low-resourced and rural health care organizations
▪ Expand understanding of middle skill health worker well-being
▪ Develop toolkit of promising practices for low-resource organizations
▪ Create a set of resources to track (measure) effectiveness of well-being programs</td><td></td><td></td></tr>
<tr><td></td><td>▪ Create a national learning collaborative for safety net organizations</td><td></td></tr>
<tr><td></td><td colspan="2">▪ Increase availability of culturally- and linguistically-diverse mental health counselors and therapists
▪ Support advocacy to reduce stigma of mental health disorders
▪ Support advocacy to change physician licensing requirements</td></tr>
</table>

Recommendation Descriptions

A. Strengthen and expand resources to address mental health and coping challenges

Background: Mental health and coping have always been challenges for health workers and this has been magnified by the pandemic. Worker stress is high due to clinical needs, new work streams, financial impact of the pandemic, and acceleration of telehealth. These have resulted in change in roles, workforce retraining, staff reductions, job loss, and burnout. Those on the frontlines, especially in acute care hospitals, have also faced sustained exposure to suffering and death on a daily basis. The need for support for dealing with family issues (e.g., time off for illness, bereavement, mental health, child and family care) is high, especially for entry level and middle skill workers. This need has always been present, but it has been magnified by the pandemic. Beyond the immediate need for services, health workers require robust and accessible resources for addressing mental health issues. In addition to counseling, other mental health and coping resources can be helpful. Some (large and/or better resourced) organizations have created websites and portals with a range of resources for employees, including, for example, links to pre-screened apps for self-directed care, links to community resources, chatbot or artificial intelligence interfaces to assess needs, and, in some cases, access to counseling or therapy. Appendix 3 provides some examples of programs.

"Most large organization employees have access to counseling through insurance, but small [organizations] can't afford it. If someone is isolated, they need be able to call someone who is a counselor, [have] someone to talk to through an Employee Assistance Program. Again, smaller facilities like clinics may not have [programs] for employees."

— Nonprofit leader

"Often people such as CHWs, themselves need a case manager, social services. We often thought that. To what degree can HR depts and systems offer more of that? It's complicated. Crossing lines you are not supposed to cross in an organization if you offer support to your workers from your own staff. But there are third-party ways to buy those services."

— Health care foundation staff

"[Our program] does not have bandwidth to reach out to health care workers of all types… we have difficulty in finding volunteer therapists who speak languages other than English."

— Counseling program leader

Opportunity 1: Increase access to counseling for health workers. As noted above, the pandemic amplified the long-standing need for more and better mental health resources for health workers at all levels. This addition of resources and access could have an immediate impact, with longer-term goals focusing on sustaining these structures and efforts. Appendix 3 includes examples of programs designed to increase access that were identified during this project.

Opportunity 2: Spread resource portals and tools developed by well-resourced health systems to other health organization. For example, sharing by replicating technology-based solutions and sharing relevant, non-geographic-specific information and resources could reduce cost and time to build new portals in areas of need. Also, open access to the portals so that mental health and coping resources are made available to employees of organizations in the same geography. This could be particularly helpful to less well-resourced organizations.

Opportunity 3: Encourage all health organizations to include counseling benefits for employees. While some health organizations provide access to third-party counseling as a benefit (through an employee assistance program or other means), many do not.

Opportunity 4: Increase availability of culturally- and linguistically-diverse mental health counselors and therapists. There is an acute need to address gaps in access and to meet the needs of a diverse health workforce desiring counseling, particularly middle skill workers. As noted in section E below, health workers may be reluctant to seek counseling; making available a diverse set of counselors and therapists may offer better cultural concordance in meeting workers' needs and encourage them to seek help.

B. Address secondary trauma experienced by health workers

Background: A recent report, *Addressing Secondary Traumatic Stress: Models and Promising Practices* (2020) is briefly summarized in Appendix 2. It defines secondary trauma as "behaviors and emotions resulting from knowing about a traumatizing event experienced by a client and the stress resulting from helping or wanting to help that client," and contextualizes it as "an occupational hazard for service providers who work with traumatized populations. Without adequate self-care and organizational support, secondary traumatic stress impacts not only the affected staff members, but also their clients, their families and friends, and their agencies through organizational dysfunction and costly employee turnover."[4]

There is a growing recognition that secondary trauma, shown to affect health professionals such as social workers,[12] results in similar challenges across health care (e.g., screening and management of adverse childhood events). Some organizations, including community health centers, are at the leading edge of addressing secondary trauma among health workers through organization-level change (e.g., institutional policies and practices and raising awareness) as well as individualized support for workers. Trauma-informed care and secondary trauma care are related, but not the same (see Appendix 2 for details). While trauma-informed care is an established field, secondary trauma care for health workers is at an early stage.

Many health workers experience secondary trauma, which has been exacerbated by the stressors of the COVID-19 pandemic such as increased workload, job loss, and increased pressures of caring for dependents at home. Secondary trauma is preventable and treatable. However, if not addressed, it can result in problems with mental and physical health, strained personal relationships, and poor work performance. The scope and prevalence of secondary trauma in health workers is not well-documented, and the evaluation of programs addressing secondary trauma appears limited. Some stakeholder interviewees observed:

"While frontline health care workers experience the same issues that we all have, they also experience the constant pressure and vicarious trauma – slow cumulative exposure to difficult situations, and absorbing others' difficult situations. Institutions are not dealing with the vicarious trauma and traumatic aspects of work. There is very much a culture of 'be tough, suck it up.'"

— Counseling program leader

"Patients keep coming back to the clinic for the same thing [related to social determinants], [which] is sometimes frustrating for staff [and can contribute to burnout]. Staff need skills to manage [issues that they can't address] and need to understand available resources. They can make referrals out – but never know what happens to [the patients]."

— Regional care association leader

"We have wanted to promote a new model of trauma-informed care . . . to transform the organizational culture of the clinic. Clearly, one aim is to provide better care for patients, but [another is to address] vicarious trauma for staff. We got pushback from clinics – 'we can't handle one more thing on our plate.' We believe this is not about adding one more thing to the plate, this becomes the plate. It affects and impacts all aspects of the work."

— Regional care association leader

Opportunity 1: Support health care organizations' work with field experts to develop internal capacity. Invest in testing, scaling, or spreading programs that address secondary trauma may demonstrably improve well-being of health workers. Such investments would be at the organization-level, helping health care organizations assess workers' needs and design and implement policies, procedures, and supports. Given that there has been limited assessment of these tools and programs to date, evaluation efforts could inform understanding of conditions and requirements for impact.

This opportunity relies on partnering with experts to address secondary trauma at the organizational level. Initial research shows that there are not many such groups (see Appendix 3 for list), and that evaluation of impact is limited. There may be a need to invest in the capacity and reach of such experts to successfully adapt, spread, and evaluate the tools and programs to address secondary trauma among health workers.

Opportunity 2: Award a prize to raise awareness and build the field, including a focus on safety net organizations. A prize that identifies and recognizes one or more organizations that do an exceptional job of improving worker well-being by addressing secondary trauma could: (1) raise awareness of the importance of this emerging field; (2) catalyze organizations that are contemplating or are at early stages of taking action; or (3) increase access to training resources for health care systems by strengthening existing organizations focused on addressing secondary trauma.

The organization awarding the prize would likely need an advisory group to assist in developing criteria, identifying outreach strategies, evaluating applicants, and recommending finalists. Promotional activities could support the prize process and increase awareness of secondary trauma and potential approaches for addressing it among health workers. There could be several categories for the competition such as innovation, evaluation of impact, focus on specific types of workers, etc. Given the investment in infrastructure needed to support a prize, the awarding organization may consider a multi-year program; for example, an annual prize for three to five years.

C. Support development of comprehensive organizational approaches to improve worker well-being

Background: Rapid changes in societal, policy, regulatory, and technology trends have created a stressful environment for health workers. The pandemic has presented further challenges for health workers, highlighting critical vulnerabilities and raising concern about the long-term ramifications of worker well-being on the quality and delivery of care. The National Academy of Sciences, Engineering and Medicine (NASEM) report, *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being,* drew attention to the harm caused by a lack of well-being for clinicians and patients. It also compiled evidence of the organizational cost due to workforce shortages, difficulty retaining workers, and the ripple effects on learners. While other groups of health workers were not the focus of this report, the observations have relevancy for the broader set of health workers.

Given multiple factors that contribute to lack of well-being (e.g., administrative burden, high workload, poorly designed technologies), the NASEM report recommends multidimensional organizational approaches to improving well-being, noting, "Clinician burnout affects all members of the care team and has a substantial impact on the efficiency and effectiveness of the health care system. Many organizational factors play a role in clinician burnout – including bureaucracy, workload, compensation, organizational culture and mission, and diversity and

inclusion, among others . . . organizations have an obligation to systematically address the drivers of clinician burnout. Any single intervention is unlikely to be effective in addressing burnout, rather a multidimensional approach that addresses the work environment is likely to be most successful."[1] The report, and our literature scan, underscore the paucity of evidence about the effectiveness and impact of organizational approaches, and suggest that the field is ripe for development.

The COVID-19 pandemic has emphasized the need for health care organizations to build out or reexamine their approaches to the well-being of health workers, including organizational factors (e.g., policies, workflows, workloads) that contribute to burnout or a culture of suffering in silence. In health care, well-being is often regarded as a task of individual improvement or, worse yet, considered a sign of personal weakness. While there has been more recognition in recent years of the need to promote worker well-being, these efforts are frequently relegated to the periphery in organizational decisions and discussions. Our stakeholder interviews found that while some well-resourced organizations are actively creating comprehensive well-being programs, safety net organizations rely on a lean or patchwork approach. Ideally, all organizations would have access to a core set of strategies and resources to improve worker well-being. Appendix 3 lists examples of existing well-being programs.

"Many clinics are making a concerted effort [to provide individual staff wellness resources]. Employers are mostly providing professional development dollars – allowing them to be used for staff members' health and mental health . . . [and] supporting personal growth and stability. Now, centers are looking at comprehensive approaches due to COVID. For example, some are allowing time off – if the staff member is sick, a family member is sick, or even if the staff member is just concerned. These include temporary leave policies, more work at home, more flexibility overall."

— Regional care association leader

"There is a clear correlation between employee, physician, and patient engagement – it is perfectly mirrored . . . What we create for clinicians [only sort of] trickles down to entry level workers. Entry level workers experience societal problems – there are work issues, but with financial instability, you take work to home and home to work."

— Human resources organization leader

"There is a lot of transformation going on, especially on the topic of wellness, and especially in FQHCs, but the topic has been difficult to address. When the pandemic hit, one of the things that was different in [our] approach [from previous efforts] was that the issue of employee wellness was upfront. There was a lot of recognition from leadership that the care of staff was in the administration's hands. C-suite messaging focused on being honest about the struggle that lots of people were sick or lost family members."

— Community health center leader

Opportunity 1: Support evaluation of comprehensive approaches to improve worker well-being. While some organizations have developed comprehensive well-being programs, few, if any, have robust evaluations. Investment in evaluating promising programs contributes to refining these programs for greater impact. In addition, the dissemination of evaluations can serve to raise awareness, not just of the need for such programs, but of specific approaches that might be adopted by others.

Organizations can use such evaluations to improve programs and channel scarce organizational resources into the most impactful approaches to improving worker well-being.

Opportunity 2: Raise awareness and foster actions by executive health care leaders. Organizational leaders play a vital role in promoting employee well-being. Leadership buy-in and engagement is needed to shape culture,

champion change, ensure that well-being efforts are integrated into strategy, and to allocate resources for implementation. Our stakeholder interviews suggest varying levels of awareness and engagement in improvement efforts among leaders. This may reflect competing priorities, lack of awareness of the business case, and/or lack of effective data about organizational actions to improve the well-being of health workers. Efforts to lead change might be catalyzed by creating forums for leaders to exchange information and resources, share experiences and peer support, and influence commitment to action. Many existing structures (e.g., leadership roundtables and learning collaboratives) are designed to bring leaders together, to foster trust and reflection, and to catalyze learning and action. Leaders gathering in such settings need access to information making the case for action (e.g., why the issue is important, the consequences of lack of well-being on patient care, errors, costs, etc.), plus strategies for implementation.

Investing in use of such structures and resources for leaders can be beneficial, not only for those participating in forums, but for leaders of low-resourced or geographically insulated settings who benefit from access to materials, tools, and connection to networks of other leaders. Bringing together leaders from specific regions and specific types of organizations might attract regional or local funding partners as well as those committed to certain types of care delivery settings.

Opportunity 3: Create a wellness officer forum or roundtable for low-resourced or rural health care organizations. Similar to the National Chief Wellness Officer Forum, which focused on hospitals, a new forum for low-resourced settings (e.g., community health centers) might share findings, resources, and promising practices that are suitable and appropriate for their organizations.

Opportunity 4: Create a national learning collaborative for safety net organizations. Such a collaborative might share information, learn promising practices, and share resources for developing organizational wellness programs for all workers (example: Institute for Healthcare Improvement's collaborative projects in other areas).

D. Grow the knowledge base and tools for improving health worker well-being

Background: The pandemic has shined a spotlight on challenges to health worker well-being and raised concerns about the long-term ramifications for our health system of inaction. The NASEM report compiles evidence of the organizational consequences of lack of well-being among health workers, including workforce shortages, difficulty with recruitment and retention, and deleterious effects on patient access and quality of care. This report, coupled with our literature scan, highlights the gaps in knowledge about well-being for health workers who are not clinicians (or more specifically, who are not nurses and physicians), and the paucity of evidence about the effectiveness and impact of organizational approaches. The field is ripe for a more comprehensive understanding of well-being across a broader range of health workers, and for the identification of tools to monitor the effectiveness of interventions.

Our literature scan reveals a lack of knowledge about the well-being of middle skill workers. Stakeholder interviews suggest that social needs (e.g., distance traveled to work, food insecurity) may contribute to diminished well-being for low-wage workers in ways not seen in the clinical workforce. It is also unclear how well-being interventions in use before the pandemic (mostly targeting physicians and nurses) have changed, and what will emerge as worker needs in the post-pandemic environment. To develop more effective strategies for monitoring the benefits of organizational interventions, it is important to understand what has been learned from previous well-being interventions and what conditions are necessary for success.

The COVID-19 pandemic has underscored the urgent need for health care organizations to address the well-being of health workers. Solutions to improve well-being must be informed by evidence. Most of the evidence to date has been generated by studying physicians and nurses, and by looking at individual-level interventions, resulting in gaps in understanding well-being among other types of health workers (e.g., low-wage workers), as well as those who work outside hospital settings (the locus of most published literature). There is also little

information about how team interactions affect worker well-being – this area is ripe for study given promising research on the benefits of relational coordination.[10] Appendix 3 lists possible partners for this work.

"[We've] heard about a lot of approaches regarding mental health – accessible therapy, phone lines, groups, peer support networks – [but we're] not sure anyone knows the degree to which these have been effective. There's not time to evaluate them. We are trying to get things up and running quickly in response to immediate need."

— Nonprofit leader

"Workers are affected by societal issues and challenges that make it difficult to follow health system rules, which are often rigid due to staffing levels, attendance, [and work] hours. When you [earn] a lower income, you are more reliant on family, friends, and neighbors for childcare and use of public transportation or vanpools. So, attendance policies turn into corrective actions which turn into terminations. Food insecurity [means] . . . [it takes time] to get to the cafeteria to . . . heat up food brought from home. If you have limited time for a meal, [you] have to rely on quick solutions [such as] convenience and junk foods."

— Human resources organization leader

"Hospital systems have recently taken more of an interest in the lives of lower-wage workers, mostly around risk reduction related to COVID-19. This interest has highlighted the vulnerabilities of these workers, and questions of access to resources. Many hospitals provide housing assistance to residents – why not provide such assistance for other workers who clearly could use it? Some hospitals have opened food pantries for patients. Do workers have access, too? Hospitals have 'discovered' how social determinants affect lower-wage workers."

— Health policy researcher

Opportunity 1: Expand understanding of middle skill health worker well-being. The literature scan and stakeholder interviews highlight that what is known about health worker well-being is mostly extrapolated from studies of nurses and physicians, and that much of this research has been conducted in hospital settings. Anecdotal information suggests that social determinants (e.g., transportation access, food security, housing stability) are a prominent source of stress for middle skill workers. Better knowledge of the factors that affect well-being among such workers would help inform additional solutions for improving well-being.

Investments could support research on specific settings (e.g., safety net clinics or long-term care settings) and/or groups of workers (e.g., non-licensed workers in the hospital) to augment the existing literature. These efforts could then inform solutions, interventions, and measures of impact.

Opportunity 2: Develop toolkit of promising practices for low-resource organizations**.** This might include how to assess readiness for organizational change and how to develop, implement, and evaluate health worker wellness programs. Many low-resource organizations need comprehensive solutions that are well-tested in similar environments with step-by-step implementation guides.

Opportunity 3: Create a set of resources to track (measure) effectiveness of well-being programs. Increased awareness and concern, especially during the pandemic, has spawned a marked increase in new programs to improve health worker well-being. These efforts range in size and scope and yet nearly all are challenged to measure and assess the benefit of their interventions for workers and organizations. Our literature scan and stakeholder interviews reveal that the current state of the science is focused on process measures that require significant resources to implement (e.g., multiple surveys, specialized analyses) and are not readily adaptable to use in organizational settings. Further, there is an overall lack of instruments beyond monitoring of use (process) measures, omitting benefits (outcomes). The field would benefit from a core set of recommended measures to evaluate the impact of well-being programs.

Investments could focus on identifying measures of value to organizations, generating consensus on core measures from existing tools, and identifying future areas of research. Alternatively, investments could focus on creating a roadmap for what is needed, to be led by a commission or panel that includes the perspectives of key stakeholders such as employers and workers. This roadmap could serve as a plan toward achieving health worker well-being and inform the use and development of core measures.

E. Reduce stigma for health care workers seeking mental health services and supports

Background: Many health workers are reluctant to seek assistance with mental health issues. Some prioritize the needs of others over their own and minimize or dismiss their own challenges. Others are concerned about potential stigma should employers or colleagues find out or due to worries about licensing policies. Some health workers are more willing to use supports via third-party options than through their organizations' employee assistance programs, though concerns about confidentiality still exist. In addition, some professions, such as physicians, require disclosure of mental health counseling or therapy received by the applicant during initial and/or subsequent state licensing applications. This can further discourage health workers from seeking help.

"Employers are not aware [of workers' needs] in part because they don't see them at risk, and in part because promotoras are not willing to openly say they are experiencing hardships."

— Advocacy organization leader

"[We] need more awareness because there is so much stigma. A lot of residents think that their own issues are not as serious as other people's due to 'caretaker mentality.' [There is] shame around not being tough enough."

— Counseling program leader

"Residents will be asked whether they've sought out mental help support and may not attain their license because of this. Seasoned professionals have expressed that they do not want to create barriers for their future, and do not want to be seen as unfit for duty."

— Hospital system wellness leader

Opportunity 1: Support advocacy to reduce stigma of mental health disorders. Providing access to mental health resources is not enough. Stigma of mental health concerns and conditions has significant implications for accessing and using resources. Stigma is informed by culture, whether culture of families of origin or professions. To increase acceptability and use of resources and supports described above, there is a need for public campaigns to reduce stigma, plus targeted campaigns aimed at health workers. This could be specific to a particular type of worker (e.g., frontline) or more broadly aimed at all.

Opportunity 2: Support advocacy to change physician licensing requirements. Physicians' unwillingness to engage with mental health treatment is multifactorial,[13] and one source of this reluctance appears to be closely related to concerns around licensure and the stigma of mental illness within the medical community. Medical licensure boards have asked applicants questions about whether they have any psychiatric history and advocacy is needed to change this requirement and avoid discouraging care seeking behaviors.

Conclusion

The pandemic has both raised the visibility of health worker well-being and exacerbated existing issues that contribute to an imbalance between job demands and job resources. This environment has exposed the common vulnerabilities of health workers of all types. Those vulnerabilities are overwhelming related to mental health and risk to personal safety. Mental health issues include increased stress, depression, anxiety, and secondary trauma.

Concern for personal safety is due to exposure to infection in the course of job duties and can be mitigated by preventing exposure (e.g., using technology to deliver care remotely) or using protective equipment.

Some workers, particularly middle skill earners, have distinct vulnerabilities that have come to light during the pandemic. Options for remote work are rarely possible for these workers given their job roles and duties, and they experienced more job losses over the course of the pandemic than other groups. The low-wage workforce shares demographic characteristics with the communities they serve and experiences many of the same social needs (e.g., food insecurity) that are known to contribute to health inequities. The need to invest in retraining these workers for new roles or for new ways of delivering care (e.g., skills training needed for medical assistants to do telehealth) is stark.

The evidence for what works, what is needed, and what is being tried to improve worker wellness points to a field in evolution. One change has been the shift from targeting solutions at the level of individual workers (e.g., stress reduction skills) to focusing on identifying and testing ideas for systems change (e.g., changes in work environments, employee support services). This step suggests an opportunity to identify, create, and test possible organizational and systems solutions, evaluate their impact, and ensure that organizational leaders openly share lessons learned to help advance the field.

Another change is the recognition that our understanding of factors affecting well-being are based on studies that largely focus on clinicians. The pandemic's differential effect on low-wage workers highlights differences in the nature of their work as well as differential access to skills, training, and social supports. These difference point to the gaps in our knowledge of the factors that affect well-being for low wage workers; this understanding is essential for designing effective interventions. The gaps highlight areas that would benefit from investment, and where results and learning can generate strategies to prevent and ease burnout, improve diversity, and inform how to better promote progress toward health equity in a diverse workforce.

Health systems in the United States are in a precarious position as they grapple with how to ensure an adequate and healthy workforce. While the pandemic has underscored the vulnerable state of health workers, it offers the opportunity to reimagine and invest in strategies for supporting their well-being and to make progress toward health equity. Individual health systems differ enormously – as do health workers – which means there is no simple, one-size-fits-all solution. No health care system should have to decide if they should care for the individuals that make up their workforce or meet the health needs and goals of the communities they serve. Health care systems should be equipped to do both. The recommendations found here reflect the need to use different levers for sustainable systems change and recognize that there is a place for strategies that can be put into action now and for those that require planning, coalitions, and partners.

Appendices

Appendix 1: Summary of Literature Scan Findings

Table A: Well-Being Interventions Targeting Individual Health Workers

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
Berkland et al	2017	Non-randomized cohorts	110 participants (academic health center employees, spouses/same-sex domestic partners, volunteers, retirees, and students)	60-90 min educational and participatory sessions for 12 consecutive weeks Stress Management and Resiliency Training program (SMART)	Self-reported measures of happiness, life satisfaction, gratitude, mindfulness, spirituality, and stress measured at three set time intervals	Observed statistically significant improvements in: subjective happiness, life satisfaction, gratitude, mindfulness, Functional Assessment of Chronic Illness Therapy - Spiritual Well-Being, and percentage of people reporting high stress.
Chesak et al	2015	Randomized controlled trial	55 nurses	90 min educational and participatory SMART session at orientation, 60 min follow up session at 4 weeks, and biweekly handouts over 12 weeks	Self-reported measures of stress, mindfulness, anxiety, and resilience	Mindfulness and resilience scores improved in the intervention group and declined in the control group, while stress and anxiety scores decreased in the intervention group and increased in the control group. The between-group change in each outcome, however, was not statistically significant
Dharmawardene et al	2016	Systematic review	27 studies involving health professional (physicians, residents, nurses, nursing aides and nursing staff) and Informal or untrained caregivers	Interventions (duration 4 to 8 weeks) including MBSR, modified MBSR other mindfulness-based programs	Job satisfaction, burnout, mood, caregiver burden, quality of life.	Statistically significant improvement in depression, anxiety, stress, and self-efficacy at an average of 8 weeks after intervention. Health professionals showed improved burnout at an average of 8 weeks following intervention initiation.

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
Dyrbye et al	2019	Randomized controlled trial	88 physicians	6 coaching sessions (total 3.5 hours) every 2-3 weeks over 6 months	Burnout, quality of life, resilience, job satisfaction, engagement, and meaning at work using established metrics	Burnout decreased, quality of life and resilience scores improved in intervention group compared with control group. No statistically significant differences in depersonalization, job satisfaction, engagement, or meaning in work were observed.
Fortney et al	2013	Non-randomized cohort	30 primary care clinicians	Abbreviated mindfulness-based stress reduction (MBSR) program (total 14 hours) in mindfulness practices and their applications	Burnout, anxiety, stress, resilience, and compassion measured at baseline and at 1 day, 8 months, and 9 months	Statistically significant improvements in burnout, depression, anxiety, and stress. No significant changes in resilience or compassion.
Joyce et al	2017	Systematic review and meta-analysis	17 studies	Either cognitive behavioral therapy (CBT)-based interventions or mindfulness-based interventions or mixed Interventions combining CBT and mindfulness training.	Resilience scales and response to stressful experiences scale	Moderate positive effect of resilience interventions; subgroup analysis suggesting CBT-based, mindfulness and mixed interventions were effective.
Krasner et al	2009	Cohort study	70 primary care physicians in CME course	8 week intensive (2.5 h/wk, 7-hour retreat) followed by a 10-month maintenance (2.5 h/mo.) educational in mindfulness, communication, and self-awareness	Mindfulness, burnout, empathy, psychosocial orientation, personality and mood measured at baseline and at 2, 12, and 15 months	Improvements in mindfulness were correlated with improvements in burnout.
Luken et al	2016	Systematic review	8 studies of health care providers	Modified, abbreviated, and non-traditional MBSR	Burnout scores	Six of the 8 studies demonstrated statistically

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
						significant decreases in job burnout after training.
Ruotsalainen et al	2015	Systematic review of RCTs	7188 participants	CBT, mental and physical relaxation, combined CBT and relaxation and organizational interventions	Maslach Burnout Inventory (MBI) or one of its subscales, Perceived Stress Scale	Low-quality evidence that CBT and relaxation training decreased job stress. Low- to moderate-quality evidence that both mental and physical relaxation led to a reduction in job stress.
West et al	2014	Randomized controlled trial	74 physicians	19 biweekly facilitated discussion groups incorporating mindfulness, reflection, shared experience, and small-group learning for 9 months. Protected time (1 hour of paid time every other week) for participants was provided by the institution.	Meaning in work, empowerment and engagement in work, burnout, symptoms of depression, quality of life, and job satisfaction	Empowerment and engagement at work increased and was sustained at 12 months. No statistically significant differences in stress, depression, overall quality of life, or job satisfaction. Overall burnout decreased substantially in the intervention while it increased in the non-trial cohort.
West et al	2016	Systematic review	15 randomized trials (n = 716) and 37 cohort studies (n=2914) of physicians	Mindfulness-based approaches, stress management training, and small group curricula.	Burnout subscales	Statistically significant decrease in burnout

Table B: Well-Being Interventions Targeting Health Workers Teams

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
Hung et al	2018	Cohort study	1164 physicians and non-physician staff in 46 primary care departments	Lean-based workflow redesigns (co-locating physician and medical assistant dyads, delegating significant responsibilities to non-physician staff, and	Physician and staff engagement (motivation, work engagement, ownership), perception of work environment	Higher levels of engagement and teamwork after redesigns along with higher levels of burnout and perceptions of the workplace as stressful. Trends were the same for both occupational groups, but

				mandating greater coordination and communication among all care team members)	(teamwork, participation in decision-making, workplace stress), job-related burnout (emotional exhaustion, depersonalization, personal accomplishment)	reports of stress were greater among physicians. All clinics, except for the pilot site that developed the new workflows, reported higher burnout, while perceptions of workplace stress increased in all clinics after the redesign.
Lown et al	2010	Retrospective and prospective cohort	413 clinical and non-clinical staff (nurses, physicians, social workers, clergy, or other care team members)	Schwartz rounds (interdisciplinary forum where attendees discuss psychosocial and emotional aspects of patient care)	Psychosocial and emotional aspects of clinical care on patient interactions (empathy), teamwork, and support for providers (stress)	Attending rounds enhanced likelihood of attending to psychosocial and emotional aspects of care and beliefs about importance of empathy. Better teamwork, appreciation of colleagues. Significant decreases in perceived stress and improved ability to cope with the psychosocial demands of care. The more Rounds attended, the greater the impact. Respondents described changes in institutional culture and greater focus on patient-centered care and institution-specific initiatives.
Sood et al	2011	Randomized controlled trial	40 physicians	90-min one-on-one tress Management and Resiliency Training (SMART) session	Resilience, stress, anxiety, and quality of life measured at baseline and at 8 weeks	Statistically significant improvement in resiliency, perceived stress, anxiety, and overall quality of life
Sood et al	2014	Randomized controlled trial	26 radiology physicians	Single 90-min group session in SMART program with two follow-up phone calls over 12 weeks	Stress, anxiety, resilience, mindfulness, and quality of life	Statistically significant and clinically meaningful improvement in anxiety,

					measured at baseline and at 12 weeks	stress, quality of life, and mindful attention
Weight et al	2013	Cohort study	245 residents at academic medical center	Elective, team-based, 12-week, incentivized exercise program	Physical activity, quality of life, and burnout measured at baseline and at 12 weeks	Participants were significantly more likely than nonparticipants to meet the Department of Health and Human Services recommendations for exercise and have higher quality of life. Burnout was lower in participants than in nonparticipants, although not statistically significant

Table C: Well-Being Interventions Targeting Organizations

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
Busireddy et al	2017	Systematic review	19 studies (6 RCTs, 13 cohort studies); 2030 medical and surgical residents	12 interventions; 9 focused on Accreditation Council for Graduate Medical Education (ACGME) duty hour restrictions and others on stress management, Balint training, meditation, exercise program, self-care program, support groups	Burnout	Work hour reductions were associated with statistically significant decrease in emotional exhaustion
DeChant et al	2019	Systematic review	50 studies focused on physicians	Teamwork (scribes, expand team responsibilities, communication), Time (duty hour limits, schedule changes, time banking) Transitions (workflow	Burnout, job satisfaction, work life measures	Organization-directed workplace interventions that improve processes, optimize EHRs, reduce clerical burden by the use of scribes, and implement team-based care lessen physician burnout.

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
				changes, process improvement, policy changes), and Technology (EHRs).		
Hastings et al	2014	Systematic review	113 studies	governance mechanisms: shared governance, Magnet accreditation, professional development and education, quality-focused initiatives, reorganization of health care delivery	Governance and workforce measures	Shared governance, Magnet accreditation, and professional development initiatives are associated with improved outcomes for workforce; change to team-based care is accompanied by stress and concerns about role clarity. Outcomes vary for private versus public organizations
Gidwani et al	2017	Randomized controlled trial	4 family medicine physicians and 2 scribes in academic medical center	medical scribes (randomized to 1 week with a scribe then 1 week without a scribe for the course of 1 year)	Physician satisfaction, perceptions of chart quality and accuracy, patient satisfaction, charting efficiency	Scribes resulted in statistically significant improvement in physician satisfaction. Scribes had no effect on patient satisfaction.
Kutney-Lee et al	2015	Case controlled retrospective	136 Pennsylvania hospitals (11 “emerging” Magnets and 125 non-Magnets)	effective nursing leadership, (2) staff participation in organizational affairs, (3) adequate staffing for quality care, (4) support for a nursing (vs medical) model of patient care, and (5) effective nurse–physician relationships, 6) patient outcomes and other nurse outcomes)	American Nurses Credentialing Center (ANCC) Magnet recognition; Practice Environment Scale of the Nursing Work Index. Nurse job outcomes including burnout, job dissatisfaction, and intentions to leave	Undergoing Magnet designation process is associated with improvements workforce stability and decrease in worker intention to leave

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
Linzer et al	2015	Cluster randomized controlled trial	168 primary care clinicians (including general internists, family physicians, nurse practitioners and physician assistants) in 34 clinics in NY and upper Midwest	Three categories: 1) improved communication; 2) changes in workflow, and 3) targeted quality improvement (QI) projects.	Stress, burnout, perceptions of work conditions, and organizational culture	Statistical improvements in burnout and satisfaction. Burnout improved with workflow interventions and with targeted QI projects. Satisfaction improved with communication or workflow changes.
Linzer et al	2017	Cluster randomized controlled trial	168 clinicians (146 physicians, 22 advanced practice providers) in 34 clinics in NY and upper Midwest	Three categories: 1) improved communication; 2) changes in workflow, and 3) targeted quality improvement (QI) projects.	Validated clinician job satisfaction measure	Increases in satisfaction (associated with improved burnout scores) and reduced intention to leave their practices
Mishra et al	2018	Crossover study (4 periods, 2 sequences, 2 treatments)	24 primary care physicians (PCPs) in 2 medical centers within an integrated health care system	medical scribes	Physician surveys assessing time spent on EHR, duration and quality of patient interaction, and work satisfaction	Scribes associated with significant improvements in work satisfaction.
Panagioti et al	2017	Meta analysis	19 studies; 1550 physicians	MBSR, organization interventions (rescheduling hourly shifts and reducing workload, meetings to enhance teamwork and leadership, structural changes, communication skills training) Duration ranged from 2 weeks to 9 months.	Burnout scores	Significantly improved effects for organization-directed interventions compared with physician-directed interventions.
Reid et al	2010	Cohort study	40 staff with care responsibilities at the prototype clinic	medical home	staff burnout was measured with the Maslach Burnout	Mean emotional exhaustion scores for the prototype medical home were

Author	Year	Type of Study	Population	Intervention	Measures	Key Findings
			and two control clinics		Inventory (MBI, health services version)	statistically significantly lower aspect of burnout
Shultz et al	2015	Systematic review and meta-analysis	5 articles	Medical scribes	patient satisfaction, clinician satisfaction; productivity measures	improved clinician satisfaction and productivity

Appendix 2: Brief Summary of Secondary Trauma Care

A recent report, *Addressing Secondary Traumatic Stress: Models and Promising Practices* defines secondary trauma (see page 6) and identifies examples of best practices to address secondary trauma, including:

- Improved work schedules, lower caseloads, more diverse caseloads, job rotation, organizational support, improved work environment, collegial support, and teambuilding
- Individual interventions included education about stress, trauma, and secondary trauma stress
- Interventions also included stress management training; reflection communication skills; relaxation and mindfulness; coping strategies; social support; counseling; and resiliency training.

Trauma-informed care and secondary trauma care are related, but not the same. A trauma-informed approach to care "… acknowledges that health care organizations and care teams need to have a complete picture of a patient's life situation — past and present — to provide effective health care services with a healing orientation. Adopting trauma-informed practices can potentially improve patient engagement, treatment adherence, and health outcomes, as well as provider and staff well-being."[41]

Trauma-informed efforts focus on helping health workers and organizations to holistically understand and address patients' issues. In contrast, secondary trauma efforts focus on the well-being of the health workers who "hear tales of extreme human suffering and observe the emotions of fear, helplessness and horror registered by survivors on a consistent basis".[42] While trauma-informed care is an established field, secondary trauma care for health workers is at an early stage.

According to Trauma Transformed, "trauma and chronic stress is a pervasive public health issue that affects community residents and our human services workforce. Like people, organizations are susceptible to trauma and structural oppression in ways that contribute to fragmentation, reactivity and depersonalization. The effects of trauma are also pernicious and lead to systems that are trauma-inducing instead of healing and relationship-centered."

Tools to address secondary trauma are already available, include self-assessments, trainings, and consultations for changing systems by modifying policies and procedures. Investments can help support efforts to spread these tools to additional settings or adapt tools for use in health care organizations. Increasing the use of these tools could increase awareness about secondary trauma in health care while also helping to improve the well-being of workers. *Addressing Secondary Traumatic Stress* recommends dedicating funding and programmatic support to enhance the pillars best aligned with an organization's needs and current practices in areas such as [4]:

1. Leadership: Senior leaders are educated and engaged on the need to address secondary traumatic stress (STS)
2. Workload: Staff workloads are at a sustainable level
3. Workspace: Workspaces are comfortable and confidential
4. Supervision: Supervisors practice proactive, trauma-informed supervision
5. Peer Support: The organization provides opportunities for peer support
6. Individualization: The STS approach is individualized for each staff member by honoring preferences and providing options

Appendix 3: Sample Programs and Resources by Recommendation

Note: Most example were obtained from stakeholder interviews.

A. Strengthen and expand resources to address mental health and coping challenges

Featured programs:

Frontline Workers Counseling Project: Free mental health counseling available to all frontline and essential workers in the Bay Area and nearby counties, supported by California Health Care Foundation, Blue Shield of California Foundation, and others. Frontline workers get free access to confidential counseling, at their convenience. FWCP recruits private practice psychologists and psychiatrists to donate time (e.g., one hour per week, nights, weekends) for pro bono counseling. The organization reaches out to frontline workers (in FWCP's case, not just health care), sets up the website, vets clinicians and keeps track of their availability, manages scheduling, sets parameters (e.g., how many sessions, etc.).

UCSF COPE: Emotional health assessment and treatment for University of California, San Francisco (UCSF) employees. The UCSF Department of Psychiatry and Behavioral Sciences, in partnership with UCSF Human Resources and the Center for Digital Health Innovation, launched a new program specifically for UCSF faculty, staff, and trainees to provide additional mental health assessment, treatment, and referral resources to our valued colleagues who are experiencing distress related to the COVID-19 pandemic. These services are available to all UCSF employees, regardless of their personal health insurance carrier or status. The UCSF Employee Coping and Resiliency Program uses a simple and confidential online screening tool to connect UCSF employees with a wide array of emotional support services, including:

- A curated collection of online self-management tools (webinars, apps, videos, and other resources)
- Timely access to assessment and ongoing clinical care as needed for those experiencing moderate to severe symptoms, including individual and group therapy
- Interventions for specific groups in need of specialized support (front-line providers, staff who have tested positive for COVID-19, etc.)

Employees requesting assessment and ongoing care through the COPE Program will have the option to be treated by UCSF Psychiatry and Behavioral Sciences clinicians or, if they prefer, to be connected with their existing health provider. In addition, employees seeking help with substance use issues will be connected with Bright Heart Health, a telehealth treatment program not affiliated with UCSF. (Please note that this a referral only; UCSF does not control costs or ensure insurance coverage for services provided by Bright Heart Health.)

UCLA Venice Family Clinic collaboration: Through the clinic's affiliation with University of California, Los Angeles (UCLA), staff have access to the robust well-being programs that UCLA has the infrastructure to support. (personal communication.)

B. Address secondary trauma experienced by health workers

We culled examples of existing efforts to address secondary trauma from our literature scan, stakeholder interviews, and preliminary internet searches. These efforts may or may not yet have been tested in health care settings. Evaluation of the impact of these efforts appears to be at a nascent stage. Funders who have already invested in this area may be a source for additional information.

Featured programs:

A Thousand Joys: A Thousand Joys provides trauma-informed care training for Venice Family Clinic. A Thousand Joys began to serve community organizations by providing training and coaching focused on self-care, organizational well-being, and leadership development as a means to prevent vicarious trauma and burnout. They specialize in helping community mental health agencies and other human service organizations to fulfill their missions by providing trauma-informed, resilience-focused training and organizational development services. Their services help organizations to strengthen their capacity to ensure the empowerment, needs and positive outcomes of trauma survivors, while supporting the professional growth and well-being of their staff. When agencies are healthy and thriving, the benefits to the children and families they serve, increases exponentially.

Trauma Transformed: Trauma Transformed advances trauma-informed and healing-centered system change through community- and cross-system collaboration that mitigates stress, trauma and oppression impacting our communities. Trauma and chronic stress are pervasive public health issues that affect community residents and our human services workforce. Like people, organizations are susceptible to trauma and structural oppression in ways that contribute to fragmentation, reactivity and depersonalization. The effects of trauma are also pernicious and lead to systems that are trauma-inducing instead of healing and relationship-centered. Trauma Transformed recognizes that systems induce stress and our work focuses on creating healing environments, policies and practices that mitigate the impact of stress and trauma for our workforce and all of us impacted by systems. (Funded by the Blue Shield of California Foundation to work with immigration advocacy organizations, per Carolyn Wang Kong, Chief Program Officer.)

Regional associations such as the Northwest Regional Primary Care Association and the California Primary Care Association have long supported community health centers by offering leadership, management, and operations resources. These entities have extensive experience working with philanthropy. Regional partners could also include workforce boards or large employers with wide geographic reach. Such organizations have credibility, training infrastructure, and are reliable sources for developing and delivering training, coaching – alone or in partnership with field experts – and evaluation of impact.

California Primary Care Association: CPCA represents more than 1,380 not-for-profit community health centers (CHCs) and Regional Clinic Associations who provide comprehensive, quality health care services, particularly for low-income, uninsured and underserved Californians, who might otherwise not have access to health care. The term "CHCs" includes federally designated community health centers, migrant health centers, rural health centers, and frontier health centers. CHCs meeting federal requirements and definitions for purposes of Medicaid reimbursement may also be referred to as federally qualified health centers (FQHCs) or FQHC look-alikes.

Northwest Regional Primary Care Association: NWRCPA is piloting well-being training programs. For example, in January 2020 they offered an “Employer of Choice” two-day training. There were three tiers: individual, organizational, and systems level.

Other programs:

- See RWJF-supported report *Addressing Secondary Traumatic Stress: Philanthropy’s Role in Fostering Grantee Resilience*

- American Institute of Stress
- Center On Trauma and Adversity, Case Western Reserve University
- Compassion Fatigue Awareness Project
- International Institute for Psychosocial Trauma
- National Child Traumatic Stress Network
- Trauma Stewardship Institute
- Traumatic Stress Institute
- VitalHearts: The Resiliency Training Initiative
- Nationally, there is an opportunity to explore partnerships with the National Association of Community Health Centers or HRSA's Bureau of Health Workforce to explore integrating secondary trauma approaches into existing programming or to develop new programs.

C. Support development of comprehensive organizational approaches to improve worker well-being
We culled examples of existing efforts from the literature scan, stakeholder interviews, and preliminary internet searches. Some programs have a more traditional focus on workplace wellness (prevention of injury and chronic conditions), rather than well-being as defined for this effort. Data demonstrating the impact of well-being efforts are not widely published (or are proprietary) and may best be ascertained in conversation with leaders of these organizational efforts. While we recognize that most existing programs are focused on clinicians, sample programs would ideally demonstrate organizational well-being programming for all staff — clinical and non-clinical.

Featured program:

> **The Collaborative for Healing and Renewal in Medicine (Chief Well-being Officers Forum):** A national gathering of medical educators, leaders at academic medical centers and experts in burnout research and interventions designed to promote learner well-being, which is formed with the support of the Alliance for Academic Internal Medicine. CHARM's mission is to gather best practices; promote investigation of the impact of learner burnout; develop tools for educators to address learners in distress; and advocate for the recognition and inclusion of initiatives that foster well-being among learners. An existing program for training individuals for this role is described here.

Other programs:

- ChristianaCare
- Institute for Healthcare Improvement (IHI)
- Mount Sinai Hospital
- National Academy of Medicine Action Collaborative on Clinician Well-Being and Resilience
- Rush University System for Health
- Society for Human Resource Management (SHRM)

- Stanford Medicine WellMD
- Wellness Council of America (WELCOA)
- Professional associations with aligned interests such as American Medical Association Joy in Medicine™ Health System Recognition Program.
- Existing organizations, such as the National Academies of Science, Engineering, and Medicine, professional associations of health of workers in medicine, nursing, and community health, and quality improvement associations such as the Institute for Health Care Improvement (given the link between the well-being of health workers and patient outcomes), are also resources and potential partners.

D. Grow the knowledge base and tools for improving health worker well-being

Examples of existing efforts are culled from our literature scan, stakeholder interviews, and from a preliminary internet search. As noted above, most focus on clinicians, although some touch on adjacent fields, such as human resources. We were unable to identify any that represent the efforts of worker unions. Data demonstrating the impact of these efforts are not widely published (or are proprietary) and may best be ascertained in conversation with organizational leaders of these efforts.

- American Medical Association STEPs Forward Modules
- American Nurses Association
- American Society for Healthcare Human Resources Administration
- Brookings Institution
- Business Group on Health
- Clinician Well-Being Knowledge Hub
- Collaborative for Healing and Renewal in Medicine (CHARM)
- Health Resources and Services Administration Workforce Research Centers (multiple)
- HRSA funded workforce centers, professional associations with research capacity, research institutes, and academic institutions such as UC San Francisco and UC Berkeley
- Institute for Healthcare Improvement
- The Joint Commission
- Labor Center at UC Berkeley
- National Academy of Medicine Action Collaborative on Clinician Well-Being and Resilience
- National Academies of Sciences, Engineering, and Medicine

- Society for Human Resource Management (SHRM)
- Stanford Medicine WellMD

E. Reduce stigma for health care workers around seeking mental health services and supports

- Physician licensing example: Increasing number of publications are raising awareness (also here and here) and identifying potential solutions.

Appendix 4: References

1. National Academies of Sciences, E., and Medicine, *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being*. 2019, The National Academies Press: Washington, D.C.
2. Chari, R., et al., *Expanding the Paradigm of Occupational Safety and Health A New Framework for Worker Well-Being.* Journal of Occupational and Environmental Medicine, 2018. **60**(7): p. 589-593.
3. National Wellness Institute. *The Six Dimensions of Wellness*. 1976; Available from: https://nationalwellness.org/resources/six-dimensions-of-wellness/.
4. Potocky, M.G., K. L., *Addressing Secondary Traumatic Stress: Models and Promising Practices*. 2020, Grantmakers Concerned with Immigrants and Refugees.
5. Holzer, H.J. and R.I. Lerman, *America's Forgotten Middle-Skill Jobs: Education and Training Requirements in the Next Decade and Beyond*. 2007, Urban Institute: Washington, D.C.
6. Office of the Assistant Secretary for Planning and Evaluation, *Strengthening the Entry-Level Health Care Work Force: Finding a Path*. 2020, U.S. Department of Health and Human Services: Washington, D.C.
7. Institute for the Future, *The Future of Work and Its Impact on Health*. 2020: Palo Alto, CA.
8. Mental Health America, *Mind the Workplace*. 2021: Alexandria, VA.
9. PHI, *Caring for the Future: The Power and Potential of America's Direct Care Workforce*. 2021: New York City, NY.
10. Relational Coordination Collaborative. *What is RC?* 2021; Available from: https://relationalcoordination.org/what-is-rc/.
11. Glaser, B.G., *The Constant Comparative Method of Qualitative-Analysis.* Social Problems, 1965. **12**(4): p. 436-445.
12. Social Work License Map. *Resource Guide for Coping with Secondhand Trauma*. 2020; Available from: https://socialworklicensemap.com/blog/coping-with-secondary-trauma/.
13. Mehta, S.S. and M.L. Edwards, *Suffering in Silence: Mental Health Stigma and Physicians' Licensing Fears.* American Journal of Psychiatry Residents' Journal, 2018. **13**(11): p. 2-4.
14. Berkland, B.E., et al., *A Worksite Wellness Intervention: Improving Happiness, Life Satisfaction, and Gratitude in Health Care Workers.* Mayo Clin Proc Innov Qual Outcomes, 2017. **1**(3): p. 203-210.
15. Chesak, S.S., et al., *Enhancing Resilience Among New Nurses: Feasibility and Efficacy of a Pilot Intervention.* Ochsner Journal, 2015. **15**(1): p. 38-44.
16. Dharmawardene, M., et al., *A systematic review and meta-analysis of meditative interventions for informal caregivers and health professionals.* Bmj Supportive & Palliative Care, 2016. **6**(2): p. 160-169.
17. Dyrbye, L.N., et al., *Effect of a Professional Coaching Intervention on the Well-being and Distress of Physicians: A Pilot Randomized Clinical Trial.* JAMA Intern Med, 2019. **179**(10): p. 1406-1414.
18. Fortney, L., et al., *Abbreviated Mindfulness Intervention for Job Satisfaction, Quality of Life, and Compassion in Primary Care Clinicians: A Pilot Study.* Annals of Family Medicine, 2013. **11**(5): p. 412-420.
19. Joyce, S., et al., *Road to resilience: a systematic review and meta-analysis of resilience training programmes and interventions.* Bmj Open, 2018. **8**(6).
20. Krasner, M.S., et al., *Association of an Educational Program in Mindful Communication With Burnout, Empathy, and Attitudes Among Primary Care Physicians.* Jama-Journal of the American Medical Association, 2009. **302**(12): p. 1284-1293.
21. Luken, M. and A. Sammons, *Systematic Review of Mindfulness Practice for Reducing Job Burnout.* American Journal of Occupational Therapy, 2016. **70**(2).
22. Ruotsalainen, J.H., et al., *Preventing occupational stress in healthcare workers.* Cochrane Database of Systematic Reviews, 2015(4).
23. West, C.P., et al., *Intervention to Promote Physician Well-being, Job Satisfaction, and Professionalism A Randomized Clinical Trial.* Jama Internal Medicine, 2014. **174**(4): p. 527-533.
24. West, C.P., et al., *Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis.* Lancet, 2016. **388**(10057): p. 2272-2281.
25. Hung, D.Y., et al., *Experiences of primary care physicians and staff following lean workflow redesign.* Bmc Health Services Research, 2018. **18**.
26. Lown, B.A. and C.F. Manning, *The Schwartz Center Rounds: Evaluation of an Interdisciplinary Approach to Enhancing Patient-Centered Communication, Teamwork, and Provider Support.* Academic Medicine, 2010. **85**(6): p. 1073-1081.

27. Sood, A., et al., *Stress Management and Resilience Training Among Department of Medicine Faculty: A Pilot Randomized Clinical Trial.* Journal of General Internal Medicine, 2011. **26**(8): p. 858-861.
28. Sood, A., et al., *Stress Management and Resiliency Training (Smart) Program among Department of Radiology Faculty: A Pilot Randomized Clinical Trial.* Explore-the Journal of Science and Healing, 2014. **10**(6): p. 358-363.
29. Weight, C.J., et al., *Physical Activity, Quality of Life, and Burnout Among Physician Trainees: The Effect of a Team-Based, Incentivized Exercise Program.* Mayo Clinic Proceedings, 2013. **88**(12): p. 1435-1442.
30. Busireddy, K.R., et al., *Efficacy of Interventions to Reduce Resident Physician Burnout: A Systematic Review.* J Grad Med Educ, 2017. **9**(3): p. 294-301.
31. DeChant, P.F., et al., *Effect of Organization-Directed Workplace Interventions on Physician Burnout: A Systematic Review.* Mayo Clin Proc Innov Qual Outcomes, 2019. **3**(4): p. 384-408.
32. Hastings, S.E., et al., *Exploring the relationship between governance mechanisms in healthcare and health workforce outcomes: a systematic review.* Bmc Health Services Research, 2014. **14**.
33. Gidwani, R., et al., *Impact of Scribes on Physician Satisfaction, Patient Satisfaction, and Charting Efficiency: A Randomized Controlled Trial.* Ann Fam Med, 2017. **15**(5): p. 427-433.
34. Kutney-Lee, A., et al., *Changes in patient and nurse outcomes associated with magnet hospital recognition.* Med Care, 2015. **53**(6): p. 550-7.
35. Linzer, M., et al., *A Cluster Randomized Trial of Interventions to Improve Work Conditions and Clinician Burnout in Primary Care: Results from the Healthy Work Place (HWP) Study.* J Gen Intern Med, 2015. **30**(8): p. 1105-11.
36. Linzer, M., et al., *Joy In Medical Practice: Clinician Satisfaction In The Healthy Work Place Trial.* Health Aff (Millwood), 2017. **36**(10): p. 1808-1814.
37. Mishra, P.K., J. C. Grant, R. W., *Association of Medical Scribes in Primary Care With Physician Workflow and Patient Experience.* JAMA Intern Med, 2018. **178**(11): p. 1467-1472.
38. Panagioti, M., et al., *Controlled Interventions to Reduce Burnout in Physicians A Systematic Review and Meta-analysis.* Jama Internal Medicine, 2017. **177**(2): p. 195-205.
39. Reid, R.J., et al., *The Group Health Medical Home At Year Two: Cost Savings, Higher Patient Satisfaction, And Less Burnout For Providers.* Health Affairs, 2010. **29**(5): p. 835-843.
40. Shultz, C.G. and H.L. Holmstrom, *The Use of Medical Scribes in Health Care Settings: A Systematic Review and Future Directions.* Journal of the American Board of Family Medicine, 2015. **28**(3): p. 371-381.
41. Trauma-Informed Care Implementation Resource Center. *What is Trauma-Informed Care?* ; Available from: https://www.traumainformedcare.chcs.org/what-is-trauma-informed-care/.
42. Zimering, R. and S.B. Gulliver, *Secondary Traumatization in Mental Health Care Providers.* 2003. **20**(4).