



HHS Public Access

Author manuscript

J Occup Environ Med. Author manuscript; available in PMC 2023 May 12.

Published in final edited form as:

J Occup Environ Med. 2023 May 01; 65(5): 419–427. doi:10.1097/JOM.0000000000002802.

Addressing Psychosocial, Organizational, and Environmental Stressors Emerging from the COVID-19 Pandemic and their Effect on Essential Workers' Mental Health and Wellbeing: A Literature Review

Elizabeth H. Woods, MsPH^{1,4}, Ying Zhang, MsPH^{1,4}, Enid Chung Roemer, PhD^{2,4}, Karen B. Kent, MPH^{2,4}, Meghan F. Davis, DVM MPH PhD^{1,3,4}, Ron Z. Goetzel, PhD^{2,4}

¹Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

²Institute for Health and Productivity Studies, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

³Johns Hopkins School of Medicine, Department of Molecular and Comparative Pathobiology, Division of Infectious Diseases, Baltimore, MD

⁴Johns Hopkins P.O.E. Total Worker Health[®] Center in Mental Health, Baltimore, MD

Abstract

Objective: To identify stressors faced by essential workers amid the COVID-19 pandemic and effective interventions mitigating these stressors.

Methods: We reviewed literature on psychosocial, organizational, and environmental stressors faced by essential workers during the pandemic, the consequences of those stressors, and interventions to improve worker health and wellbeing.

Findings: Stressors included elevated risk of COVID-19 exposure, fear of spreading the virus, lack of social and organizational supports, and financial insecurity. Negative outcomes included burnout, depression, and high turnover. Promising interventions included robust safety protocols, increased wages, childcare benefits, enhanced access to mental health services, and frequent leadership communications.

Conclusion: Stress has taken a heavy toll on essential workers' physical and emotional health, productivity, and job satisfaction. To effectively protect Total Worker Health[®], employers should adopt evidence-based interventions promoting psychosocial, organizational, and environmental health and safety.

Keywords

essential worker health; COVID-19 pandemic; work related stress; workplace interventions; essential worker safety; psychosocial organizational and environmental stressors; occupational interventions; workplace mental health and wellbeing

Corresponding Author: Ron Z. Goetzel, PhD., Institute for Health and Productivity Studies, Johns Hopkins Bloomberg School of Public Health, 624 N Broadway, Baltimore, MD 21205, rgoetzel1@jhu.edu.

We declare no conflicts of interest.

Introduction

Background

Given the rapid evolution of who works, how they work, and where they work—developments that have accelerated in response to the COVID-19 pandemic—the workforce and workplace are being transformed in ways that will have lasting consequences post-pandemic.¹ Moreover, given that a substantial proportion of adult life is spent at work, exposed to workplace stressors, hazards, and toxins, one's job and factors surrounding that job can be viewed as social determinants of health and important contributors to larger population health or illness.² Thus, there is a critical need to explore how large-scale disruptions like the COVID-19 pandemic have and will affect the workforce and workplace with specific attention given to mental health, substance use disorders, and wellbeing. Further, it is important to understand the underlying mechanics of resilient workplace structures that support and maintain workforce health, wellbeing, and productivity before, during, and after crises.

Essential workers, in the context of the COVID-19 pandemic, were those whose employers required them to continue to report for work to a location outside the home during mandatory stay-at-home orders rather than to work remotely. Such workers perform jobs critical for the functioning of society and that support a viable infrastructure. Due to the nature of on-site work during the pandemic, essential workers had more contact with co-workers and the public, which likely put them at higher risk for exposure to the SARS-CoV-2 virus.³ Given the added stresses placed on essential workers, we targeted this population to explore which modifiable psychosocial, organizational, and environmental risk factors were associated with negative health outcomes and which existing or novel workplace interventions are available to effectively mitigate these negative impacts of the COVID-19 pandemic or similar public health emergencies.

To this end, we conducted a literature review focused on occupational stressors (either introduced or exacerbated by COVID-19) and their outcomes among essential workers. For the purposes of this review, we reference all essential workers, unless discussing a specific subset of the workforce, such as food service, healthcare, or retail personnel.

Applying a Psychosocial, Organizational, and Environmental (POE) Framework

The interaction of various psychosocial factors (P), organizational conditions (O), and environmental exposures (E) can drive beneficial or detrimental outcomes for individual workers and enterprises (see Figure 1). These are explained below.

Psychosocial and personal factors (P) are aspects of a worker's psychological state, such as mood, stress, cognition, and personality that contribute to physical and emotional health, substance use, safety, and the health and safety of others in the work setting.⁴ Further, one's psychological state of mind is an important consideration when evaluating and tailoring intervention to promote worker or organizational health.⁵

Similarly, social factors provide critical context. For example, experiencing social support inside and outside of work contributes to health, safety behaviors, and workplace interactions.⁶ Other social contexts such as type of job, cultural norms of region or workforce, and experiences of stigma or discrimination play a role.⁷ Work-related and personal trauma are also influential.⁸ Finally, personal characteristics such as demographic features (race, gender, sexual orientation, immigration status, age, and ethnicity) provide critical context given their interplay with social contexts, psychology, and other aspects of POE: organizational conditions and environmental exposures. For example, personal biology, such as illness, genotype, or epigenetic changes, can affect workers' susceptibility and resiliency to exposures or organizational conditions.⁹

Organizational conditions (O) of work include the set of programs, policies, and environmental supports conducive to a healthy and safe workplace culture.¹⁰ Leadership commitment is central to the success of the POE Framework because leaders set the tone for organizational efforts that support Total Worker Health[®] by dedicating the necessary staff, time, expertise, and resources for effective implementation. Most importantly, leading by example personify the types of behaviors desired by officials at an organization.¹¹

Effective leaders understand the trade-offs between their first priority of delivering products and services to customers vs. attending to the personal and interpersonal needs of employees. Leaders at all levels, including supervisors at the unit level, are critical to provide on-the-ground coordination of resources across functions. Supportive organizational policies and newly established cultural norms can facilitate the application of worker safety and health practices. Targeted and appropriately resourced initiatives need to be agreed upon using a participatory based decision-making process that involves front-line workers, supervisors, and functional leaders.¹²

Environmental exposures (E) include biological, chemical, mechanical/ergonomic and physical hazards that are linked to worker illness and injury. For some exposures, these can include neurologic, cognitive, and mental health outcomes. Further, physical comfort (e.g. visual, thermal, noise) has also been linked to productivity gains and losses.¹³ Moreover, workplace and personal strategies to reduce exposure to hazards, including to the SARS-CoV-2 virus, can also impact performance by reducing psychosocial stress and enhancing mental health and well-being.¹¹ At the same time, some strategies to reduce exposure to hazards, such as use of personal protective equipment for long periods during the COVID-19 pandemic or social isolation¹⁴, may have unintended negative impacts on the psychosocial environment or organizational conditions and therefore could paradoxically worsen mental health and well-being.

Methods

A scoping search of the literature was conducted to better understand the stressors faced by essential workers related to the COVID-19 pandemic and to identify associations between these stressors and health and wellbeing outcomes. Organizational interventions and frameworks that can effectively promote and protect essential workers' health and safety were examined. Figure 2 provides a pictorial depiction of the logic model used as part of

the POE framework for this literature review. The search was initiated in October 2021. The databases searched included Google Scholar, PubMed, and Science Direct. The last search was conducted on November 9, 2021. Most of the articles referenced were published in 2020 and 2021 during the height of the COVID-19 pandemic.

Key search terms included (in alphabetical order): burnout; COVID-19; employee health; employee productivity; employee mental health; employee attraction; employee retention; essential worker; essential worker health; food production workers; government employees; healthcare; healthcare workers; low-wage; mental health; occupational health; occupational health and safety; psychosocial health; psychosocial organizational and environmental interventions; restaurant employees; restaurant workers health and safety; service industry; total worker health; turnover; United States; wellbeing; worker health. Inclusion criteria for articles included in this review were as follows: the article addressed at least one POE (psychosocial, organizational, and/or environmental) factor related to total worker health; reviewed a workplace program applicable to essential workers' health and wellbeing; discussed or was applicable to essential worker health in the context of the COVID-19 pandemic.

Seventy (70) articles meeting the inclusion criteria were included in this review.

Results

Workplace Stressors

The COVID-19 pandemic presented many stressors to the essential workforce, interfering with workers' mental health and wellbeing, both in and out of the workplace. Using the POE framework, we grouped the stressors presented and exacerbated by the pandemic into three categories: (1) psychosocial, (2) organizational, and (3) environmental, as shown in Table 1.

Psychosocial Stressors—In many ways, the COVID-19 pandemic presented an enormous challenge to the mental health and psychosocial wellbeing of essential workers. First, it disrupted work-life balance^{15–20} as increased demands and irregular schedules took a heavy toll on workers' productivity, resilience, and emotional capacity. At the same time, school and daycare closures across the country significantly exacerbated work-family conflict.¹⁷ In fact, an estimated one million households had at least one adult who could not work because of childcare challenges during the pandemic,²⁰ and many millions may have kept working but struggled because of inadequate childcare resources.

Many essential workers have low income and live in close quarters with family and community members.³ As such, a major source of stress reported by this group throughout the pandemic was fear of COVID-19 infection and fear of spreading it to others.^{8,16,17,21,22} The fear of COVID-19 infection and concern regarding infecting others also led to interpersonal isolation and fear of stigmatization by their community.^{15,17,21–28}

For many workers, reduced staffing, requirements for social distancing, and use of personal protective equipment (PPE) meant losing a sense of workplace community.^{15,17,21–28}

A lack of professional and personal support from supervisors and organizations during the pandemic was commonly reported.^{9,15,29–32} With perceived and actual job security at an all-time low for many essential industries, many employees did not feel able to communicate needs and express concerns, which made managerial support even more difficult to attain during the pandemic.^{25,30}

Organizational Stressors—As organizations scrambled to respond to new challenges brought by the COVID-19 pandemic, workers faced chaos, fear, and uncertainty in their roles. When employers began experiencing staffing shortages and increased workloads due to workplace COVID-19 outbreaks and employee turnover, workers who remained in their roles reported being overwhelmed with increased job demands and new responsibilities for which they were often underprepared or undertrained.^{9,16,19,25,33,34} Role ambiguity, role conflict, and lack of coordination between worker and supervisor expectations were also frequently reported sources of occupational stress during the pandemic.^{9,15}

Stress over low hourly wages became more pronounced as COVID-19 caused widespread fragility across essential industries – workers already living paycheck-to-paycheck reported fearing for their futures as they watched their career prospects hang in the balance.^{2,3,6,7,13,14,16,17,19,24,25–27} For laid-off workers, COVID-19 government assistance in the form of increased unemployment benefits provided many with more money week-by-week than they were making from work.²⁵

Many workers reported feeling stressed due to irregular shifts or a sudden increase or decrease in hours (depending on staffing levels) during the pandemic, adding to financial insecurities and work-family conflict.^{9,16,20,25,34,36} In some cases, “hazard” pay was discontinued as the pandemic lingered over a longer-than-expected time period.³⁷ For food industry workers in particular, the inconsistency of a tipped wage structure made forecasting week-to-week income extremely difficult, exacerbating existing financial stress.^{20,25} Results from a 2021 survey of restaurant workers revealed that 51% of those put on leave at the start of the pandemic said they would not come back to their jobs unless they were offered higher steady wages and consistent schedules.²⁰

Fear of contracting COVID-19 at work amplified workers’ discontent and worry over a lack of employer-sponsored benefits.²⁵ Lack of employer-sponsored childcare benefits forced many working parents to stay home with children and sacrifice their income as a result. Lack of paid sick leave resulted in many employees reporting that they came to work while sick, fearing they would lose their job if they took time off to recover.²⁵

Poor human and resource management, such as inefficient work process, unfair organizational practices and policies, poor supervisor behavior, shortages of PPE and other safety resources, unsafe working conditions, lack of coordination between supervisor and employee expectations, and overworking or undertraining employees resulted in uncertainty, stress, fear, frustration, and in some cases, physical injury among workers during the pandemic.^{9,15,25,29,32,38}

Workplace harassment, emotional labor, and other interpersonal stressors were also exacerbated by the pandemic, in addition to emotional fatigue from having to “police” the actions of colleagues and customers not following COVID-19 safety protocols.^{9,15,16,25,29,30,39}

Environmental Stressors—Driven by mitigation strategies to limit community and occupational transmission of the SARS-CoV-2 virus, some organizations invested in infrastructure updates to their buildings, such as physical barriers (shields) and air purification systems.¹⁹ However, some work environments remained higher risk due to the nature of the work, such as food service and healthcare, and these hazards posed significant stressors for some workers.¹⁶ Elevated perceived risk in the work environment (*vis a vis* virus transmission) was a major correlate of reporting negative mental health outcomes among essential workers.^{4,15,21,22,24,25} For example, over 75% of respondents in a 2021 survey of restaurant workers reported their mental health had been negatively impacted in the 12 preceding months,²⁰ largely attributed to work environments that contained frequent human contact, potentially infected working surfaces, and poor ventilation, which were inherently conducive to fomite-based, airborne, or aerosol virus transmission.^{4,15,16,19,20,22,24,25,34,40,41} Another example was found in Ceryes et al.’s 2021 cross-sectional study of grocery workers. The authors found an association between heightened psychological distress and the inability to socially distance at work, lack of access to sufficient PPE, and having to commute via public transit throughout the pandemic.¹⁶

Stress Modifiers

The severity of stress experienced by essential workers during the COVID-19 pandemic was associated, in varying degrees, with individual characteristics that may have functioned as occupational stress modifiers. The most common individual occupational stress modifiers identified were gender, age, socioeconomic and sociodemographic status, education level, seniority, pre-existing health conditions, and family status.

Within the essential workforce, females experienced higher levels of occupational stress compared to their male co-workers.^{9,21,24,31,42} Elevated stress in female workers was attributed, in part, to the “double stress” women faced in managing increased responsibilities at home in addition to higher levels of workplace discrimination.⁹ A 2021 report identified that employees with children at home due to school closures had higher levels of anxiety or depression “even when counseling needs [were] met.”¹²

Low-income workers and People of color experienced higher COVID-19 infection rates, discrimination, and occupational stress compared to their White, higher-income counterparts, largely because they represented a higher proportion of the essential workforce and had fewer opportunities to work remotely.^{4,9,40} Workers with one or more preexisting health conditions, either psychological or physical, experienced higher levels of stress than their healthier co-workers.⁴³

While having a higher level of education was associated with higher occupational stress relative to less educated workers, seniority and job tenure were negatively correlated with

stress levels in workers.^{9,26} Young employees (aged 20 – 30 years old) were at the highest risk of any other working age group to experience heightened stress and other negative mental health outcomes.^{9,21,24,26,31} Non-married essential workers also reported higher levels of occupational stress than their married co-workers.³¹

Finally, the pandemic negatively affected many non-healthcare employees working in healthcare settings, such as in food services and maintenance.⁴⁴ These workers were routinely exposed to COVID-19 patients and deaths, yet they were mostly excluded from the widely popular “healthcare heroes” narrative.⁴⁴

Outcomes Associated with COVID-19 Stressors

As new and exacerbated stressors stemming from the COVID-19 pandemic became everyday hurdles for the essential workforce, negative psychosocial and physical outcomes surfaced for individual workers as well as their organizations. Some of these outcomes are listed in Table 2.

Psychosocial Outcomes—A majority of studies identified psychological stress, distress, and anxiety as the leading psychosocial outcomes out of all the psychosocial outcomes experienced by essential workers because of stressors caused by the COVID-19 pandemic.^{3,8,9,10,12,13,14,16,17,20, 22,27,31,33,38,39} Essential workers reported experiencing symptoms of burnout due to the added stress and demands that the pandemic brought.^{9,22,24} Burnout is associated with a range of symptoms, including loss of concentration, impaired cognitive function and judgment, and inability to effectively problem-solve.^{9,23,33,38} Depression and related symptoms were also commonly reported due to a host of factors such as feelings of isolation at home and at work, stigmatization, interpersonal conflict, worry for the future, continual exposure to the virus, and regular reminders of death.^{8,9,21–25,28,42,46,47}

Essential workers in healthcare settings (regardless of whether they were in caregiving roles or not) reported feeling symptoms of trauma and PTSD as a result of proximity to death and illness, constantly thinking about death, and witnessing death and severe illness in coworkers and patients.^{26,42,46,48} In some cases, essential workers reported experiencing trauma and deep guilt because they felt responsible for passing the virus to loved ones and community members who either became ill or died.^{26,42,46,48} Essential workers, especially young workers, experienced heightened anger and cynicism because of low wages, low decision latitude, job insecurity, unsafe working conditions, poor management, lack of benefits, overwork, and other pandemic-related stressors at work.^{7,27,33}

COVID-19 stressors also negatively impacted essential workers’ health behaviors, such as increasing alcohol and substance use as a mechanism of self-prescribed stress relief,^{18,23,29} not sleeping enough, and decreasing physical activity.²⁹ Insomnia and other sleep issues were reported by essential workers to be a result of pandemic-related stressors that disrupted their sleep routines. These included long or irregular work hours, loss of consistent routine,^{9,21,22,26,29,33,46} stress, distress, anxiety, depression, and trauma.^{9,21,22,26,29,33,46} Other behavioral impacts such as impaired decision-making and judgment, loss of motivation, antisocial behavior, lateness, reluctance to work, non-compliance with safety protocols, absenteeism, and interpersonal deviance were reported by essential

workers and their employers to be either brought on or worsened by pandemic-related stressors.^{8,9,18,23,33,35,45 49}

Physical Outcomes—Essential workers experienced a higher-than-average burden of many poor physical outcomes during the COVID-19 pandemic. According to a study conducted at the University of Pennsylvania’s Wharton School of Business, essential workers were 55% more likely to contract COVID-19 compared to non-essential workers during the pandemic, disproportionately affecting low-income people and People of color.⁵⁰ Essential workers were also found to experience heightened rates of chronic fatigue, lethargy, headaches, increased blood pressure, and increased risk of cardiovascular disease.^{9,38} Rao et al. found a positive association between per-capita COVID-19 death rates and a community’s concentration of essential workers.³

The change in the pace of work combined with added stress led to a heightened risk of sustaining an injury at work.^{9,29} It was not uncommon for essential workers to also report symptoms of long-COVID and other long-lasting complications such as difficulty breathing, chronic fatigue, and other physical impairments or disability.⁵¹

Organizational Outcomes—Low employee retention and high turnover rates were characteristic of essential industries throughout the pandemic, particularly in food services, healthcare, transportation, and hospitality.^{6,9,20,25,35,52,53} Of note, voluntary resignations in the restaurant industry were at an all-time high during the pandemic’s height;²⁰ in addition, many restaurant workers who had not yet quit their jobs were either contemplating or had the intention of leaving their job in the near future.^{6,9,25,35} A 2021 study of the restaurant industry revealed that full-service restaurants were operating with roughly six fewer employees in the “back of the house” and approximately three fewer employees in the “front of the house” compared to 2019.²⁰ There were also 70% more job vacancies and 10% fewer people looking for work in the U.S. compared to pre-pandemic. This shortage of staff²⁰ meant restaurants had to offer higher wages and incentives to attract new employees.²⁰ According to the same study, 71% of respondents believed higher payment through unemployment benefits or jobs in other industries was the primary driver of the restaurant industry’s labor shortage, along with lack of benefits, inconsistent hours, and low wages.²⁵

Throughout the pandemic, many employers saw a decline in workers’ quality of performance, exhibited by inefficient work practices, absenteeism, non-compliance with safety protocols, lower quality customer or patient services, and other unusual behaviors.^{9,35,38,45,54,55} Employees cited lack of motivation, job dissatisfaction, low decision latitude, inability to concentrate, demands outside of the workplace, and compassion fatigue as reasons for this decline.^{9,35,38,45,54,55}

Occupational Interventions to Address COVID-19 Stressors

The literature search uncovered a range of dynamic, promising, and effective occupational intervention strategies to mitigate the psychosocial, organizational, and environmental outcomes affecting workers’ mental health and wellbeing. Common characteristics of successful occupational interventions are summarized below in Table 3.

Psychosocial Occupational Interventions—Organizational encouragement of employee “self-help” and self-care behaviors, facilitated through organizational policies and employer-sponsored access to digital platforms, has been associated with higher stress management and resilience in employees.^{31,33,34,36,56–58} Supervisors have been found to play an important role in empowering employees to self-advocate and self-monitor.^{36,56} Research has shown that perceived self-efficacy, and having tangible career prospects, along with demonstrated organizational support and high decision latitude, allow workers to become more resilient to occupational stressors.⁴⁸

One of the most powerful indicators of people’s mental health is feeling a sense of support, connectedness, and belonging to one’s family, friends, and community.^{21,23,48,53,58,59} Organizational interventions that facilitate interpersonal support and social connectedness begin with supervisors who lead by example,^{15,21,23,30,58,60} highlighting shared goals and promoting a team growth mindset.^{15,61,62} One-on-one, small group or team meetings aimed at understanding what workers are going through, how the organization can better support employees moving forward, and what experiences employees share among each other are reported to be effective in achieving supervisory support goals.^{33,34,61,63} Some employers implemented “buddy” systems, encouraging employees to regularly check-in with colleagues for mutual support at work. This has been shown to reduce workers’ psychological distress and feelings of isolation in times of high stress as well as enhancing perceived organizational and interpersonal support.^{27,34,63} Organizations used communication platforms (such as Slack or Teams) and allowed employees to check-in with one another outside of work.^{33,34,61,63}

Promoting a positive and cohesive workplace culture is essential to optimizing organizational functioning and maintaining high morale amid crises such as the COVID-19 pandemic.^{20,25,27} Organizations and supervisors have done so by integrating informal aspects of fun into the workplace, such as light-hearted team challenges and employee social events.⁵³ Further, supervisors promoted camaraderie, teamwork, and adoption of leadership and growth mindsets.^{27,57} Research has shown that when teams learn and grow together, overall workplace functioning, collaboration, and performance improve substantially, which promotes individual resilience and organizational sustainability during uncertain times.^{27,57}

The pandemic has underscored the need for organizations to provide pandemic-specific education programs and trainings to equip workers with essential emotional, practical, and cognitive skills and supports necessary to effectively cope with heightened occupational stress. Some employers have adopted psychological trainings informed by employees who worked throughout the pandemic,¹² and emotional “inoculation” techniques – employers educate employees on the potential impact of forthcoming stressors and allow them to develop coping plans before the stressors occur, so that employees will be prepared and equipped with resources to quickly act upon stress-producing situations. These techniques have been shown effective in protecting healthcare workers’ psychological well-being during the 2014–2015 Ebola epidemic and the 2003 SARS outbreak in Canada.⁴⁸

Organizations also worked to destigmatize employees who are seeking mental health resources through awareness and education programs (e.g., inviting expert speakers, holding

trainings, and providing tools in the form of mental health first aid).^{12,15,36,42,64} Regularly messaging employees about what mental health resources are available to them has also been a successful means of raising awareness and destigmatizing mental health care.¹²

Much of the existing literature supports expansion of employee assistance programs (EAPs) to offer online mental health resources,^{12,61} such as free counseling or other mental health services via telehealth platforms.^{12,31,33,61} Organizations have also removed barriers to mental health resources by providing free subscriptions to mental health applications.^{12,31,33,61} Nicksic and IBI¹² strongly recommended giving employees unlimited visits to mental health providers to foster continuity of care.^{42,47,58,61,63} Some employers made free counseling available in employee rest areas, allowing staff to decompress during the workday.⁴⁸ Employers also informed employees of available emergency counseling services, mental health crisis hotlines, drop-in mental health clinics,^{31,33,63} and Psychological First Aid (PFA) programs for employees experiencing acute trauma symptoms.⁶¹

While many of the above resources have been made available to employees, there is inadequate research focused on the impact these interventions had on employee mental health and wellbeing.¹²

Organizational Interventions—The most effective strategy for organizations and supervisors to implement highlighted in the literature was to regularly engage with workers in clear and coordinated communication.^{5,19,25,27,30,33,39,42,46,58,62,65,66} Effective virtual and in-person communication structures were shown to increase organizational efficiency and achieve employee buy-in (adherence) more likely.^{5,19,25,27,30,33,39,42,46,58,62,65,66}

Social and family-specific supervisory support was a major influence on employee health and wellbeing resulting in reduced work-family conflict, increased job satisfaction and improved perceptions of organizational support.^{8,27,59,67,68} Supervisors were encouraged to make themselves available to their staff, be transparent, welcome constructive criticism, listen empathetically in times of grief or high stress,²⁷ give positive employee feedback,⁶¹ recognize employees' hard work, and inform workers of alternative work arrangements, resources, and career growth opportunities available to them.^{15,20,12}

Flexible work arrangements,^{19,20,29,61} such as flexible hours, condensed work weeks, cross-training, offering low-exposure positions to high-risk workers, and implementing “core [availability] periods”⁶¹ (outside of which hours can be flexible), were found to reduce work-family conflict and lower levels of anxiety and depression in workers.²⁹ Organizations also introduced less punitive absence policies so that employees did not fear reprisals for not attending work if they felt unwell.^{19,69} Organizations also developed reintegration protocols, including reassimilation training, education programs, and resources that provided emotional and physical support for employees returning after pandemic-related leaves-of-absence.²⁷

Some organizations included workers in the development, implementation, and ongoing evaluation of interventions through focus groups, employee feedback surveys, and individual health risk assessments.^{12,15,19,57,60,61,66} Research shows that giving workers the opportunity and authority to participate in decision-making processes increased

organizational efficiency, led to more effective interventions, gave employees a sense of ownership (incentive to “buy-in”), and, in general, achieved positive outcomes for employees’ mental health and organizational performance during the pandemic.^{12,15,19,57,60,61,66}

Some employers responded to organizational imbalance caused by the pandemic by reallocating resources and finding ways to improve organizational resiliency. To provide additional assistance to employees in roles with lower job security, organizations arranged for pay-cuts in executive and management (low-risk) roles.^{25,61} In some cases, organizations provided furlough leave to employees who could not work due to temporary organizational insolvency or personal health reasons, which improved reported job security. Others established work-sharing arrangements, trained employees to perform tasks outside of their normal duties,^{19,61} and developed contingency plans to deploy in the event of staff shortages so as not to overburden remaining employees.¹⁹

Organizations found other ways to rethink their business models to better serve the interest of workers during the pandemic.^{28,61} For example, one food service organization phased out structured tipping models and instead put in place a more consistent payment model to stabilize employees’ income.^{20,25,70} Offering higher, livable wages has been shown to effectively support employee retention and attraction.^{20,25,52,68,70} Alternatively, some employers offered ongoing “hazard pay” for high-risk roles.²⁰ Offering workers opportunities for career growth has also been shown to improve employee retention.^{52,70}

Many organizations expanded health benefits^{20,25,61,68,70} and offered free access to EAPs^{12,61} to support workers and their families during the pandemic. These benefits included mental health care, COVID-19-related medical expenses (for workers and their family members), childcare,⁶¹ eldercare,⁶¹ trauma counseling, additional PTO and sick leave, and generous unemployment packages,^{3,6,7,13,37,55,65} as well as tangible supports, such as food delivery, and alternative housing to protect family members.^{25,27,61} Lippert et al.’s survey of food service workers during the pandemic found a strong desire among respondents for employers to extend full-time benefits to part-time workers.²⁵ Expanding benefits and making employees feel supported has been shown to produce lower levels of health-related anxiety, work-family conflict, and strengthen organizational loyalty.²⁵

Environmental Interventions—To promote environmental safety during the pandemic, many organizations regularly and clearly communicated required safety protocols, provided up-to-date safety recommendations,^{16,19,20,25,26,39,47,57,61,66,71} offered ample safety resources and PPE to all employees,^{16,19–21,26,27,47,72} and diligently implemented environmental COVID-19 safety controls.^{16,19,20,25,26,39,47,57,61,66,71} To enhance engagement and compliance with safety rules, employers consulted with their workers on the types of environmental interventions that would make employees feel safer at work and then the employers committed to implementing those policies.⁷¹

Employers also reduced physical and ambient COVID-19 hazards by ensuring workspaces were well-ventilated, facilitate social distancing, and were installed with appropriate physical barriers.^{19,59} To proactively prevent disease spread, organizations engaged in

activities such as safety planning, training, workshops, and developing participatory safety protocols for employees.^{16,19,26,27,66,72}

Discussion

The COVID-19 pandemic has forced organizations to quickly adapt to the stressors negatively impacting the health and wellbeing of workers. While different enterprises face unique challenges to the pandemic and its aftermath, there are multiple interventions available within the POE framework.^{12,29} For large organizations especially, it may be difficult to standardize intervention implementation and resource allocation across multiple departments and locations. For implementation efforts to take hold, it is important that effective communication, continual alignment, and buy-in from all levels of the organization are in place to support effective uptake of available resources and successful implementation.^{12,73}

There are many barriers standing in the way of successful interventions and they include financial constraints, scarcity of PPE and other supplies, supervisor and worker turnover, lack of continuity, job demands, and lack of employee time, knowledge, and required skills to facilitate intervention implementation.^{12,73} Further, less is known about how environmental and administrative controls to prevent transmission of infectious agents or manage exposure to other workplace hazards may enhance or detract from the psychosocial environment or workplace culture, which could influence mental health and well-being.

Lack of employee awareness and utilization of resources has been shown to be a significant barrier to effective occupational interventions,^{12,31} tying back to ineffective organizational communication. Some employers addressed this by speaking directly to workers one-to-one or through town hall meetings with groups of employees. They also strengthened their managerial training, emphasizing the importance of mental wellbeing, internally networking to better understand how to reach the right people, developing stronger marketing and communication strategies, and creating incentives for employee engagement.¹²

Many employers faced reluctance or refusal from their employees to acknowledge and communicate when they are experiencing mental health issues, even when showing signs of psychological stress.^{12,48,64} Employees often prefer to emphasize tangible problems in the workplace, such as lack of sufficient PPE, over the need for psychological support.⁴⁸ However, the two sets of needs are not mutually exclusive; instead, they are often complementary of each other.

Not discussed in this review is the political blowback experienced by employers and their workers from misinformation and disinformation campaigns directed at public health prevention measures such as mask wearing, social distancing, vaccination, and clinically effective treatments. The hesitancy in adopting recommended public health policies, and in some cases outright resistance to such policies, likely influenced individuals' physical health as well as their mental health. Such challenges faced by businesses in their public response to the pandemic are beyond the scope of this paper but would be worth exploring in future studies. Of particular interest would be identifying effective strategies employers have

used to negate pseudo-science advice offered on the internet and counter such efforts with credible and easily consumed information regarding COVID-19 prevention and treatment.

Finally, there is disconnect between existing research and organizational interventions that consider a POE framework.^{21,64} Most existing psychosocial interventions place emphasis on individual psychopathology and not enough emphasis on systemic, structural, social, and environmental factors contributing to poor mental health outcomes. This is concerning as many workers see tangible and structural organizational changes as central in affecting their mental health, more so than individual psychological counseling or therapy.¹²

Conclusions

The COVID-19 pandemic uncovered numerous psychosocial, organizational, and environmental stressors affecting essential workers. This has led to increases in work-life imbalance, fear of infection, difficulties in navigating a new work environment, and a lack of managerial support as compounding psychosocial stressors. Organizational stressors included increased job demands, low wages, irregular shifts, and poor human resources. Working in an environment with insufficient protection and loosely administered safety controls added stressors to these workers.

Perhaps central to the success of any intervention is vocal and consistent leadership messaging in addressing workforce mental health and wellbeing. This is achieved when leadership, at all levels of the organization from the CEO to the supervisor, is intentional and unapologetic in its advocacy of individual, organizational, and environmental health, with a clear link to how these factors are inherently tied to organizational resilience and success.

This paper has identified several evidence-based interventions available to employers, classified under the broad categories of psychosocial, organizational, and environmental, that have produced promising results and may be effectively deployed in future crises. There is much that can be learned and applied from the current literature as well from research underway that examines the most effective ways employers can protect and promote the health and wellbeing of the essential workforce moving forward.

Acknowledgments

Funding provided by the National Institute for Occupational Health and Safety (NIOSH): #U19OH012297

Special acknowledgments to the team at Johns Hopkins P.O.E. Total Worker Health® Center in Mental Health whose work provided the foundation for this study and the development of the POE Framework. We would also like to thank Erni Peterson for her assistance in preparing Figure 1.

References

1. Igoe Katherine J. The Changing Face of Worker Safety, Health, and Well-Being in a Post-Pandemic Future. Health. <https://www.hsph.harvard.edu/ecpe/the-changing-face-of-worker-safety-health-and-well-being-in-a-post-pandemic-future/>
2. Moure-Eraso R, Flum M, Lahiri S, Tilly C, Massawe E. A Review of Employment Conditions as Social Determinants of Health Part II: The Workplace. *NEW Solut J Environ Occup Health Policy.* 2007;16(4):429–448. doi:10.2190/r8q2-4115-h4w5-7838

3. Rao A, Ma H, Moloney G, et al. A disproportionate epidemic: COVID-19 cases and deaths among essential workers in Toronto, Canada. *Ann Epidemiol.* 2021;63:63–67. doi:10.1016/j.annepidem.2021.07.010 [PubMed: 34314847]
4. Rigotti T, Yang L, Jiang Z, Newman A, De Cuyper N, Sekiguchi T. Work-Related Psychosocial Risk Factors and Coping Resources during the COVID-19 Crisis. *Appl Psychol Psychol Appl.* 2021;70(1):3–15. doi:10.1111/apps.12307
5. Rangachari P, L. Woods J. Preserving Organizational Resilience, Patient Safety, and Staff Retention during COVID-19 Requires a Holistic Consideration of the Psychological Safety of Healthcare Workers. *Int J Environ Res Public Health.* 2020;17(12):4267. doi:10.3390/ijerph17124267 [PubMed: 32549273]
6. Labrague LJ, De Los Santos JAA. COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. *J Nurs Manag.* 2020;28(7):1653–1661. doi:10.1111/jonm.13121 [PubMed: 32770780]
7. Quratulain S, Al-Hawari MA. Interactive effects of supervisor support, diversity climate, and employee cynicism on work adjustment and performance. *Int J Hosp Manag.* 2021;93:102803. doi:10.1016/j.ijhm.2020.102803
8. Barelo S, Falcó-Pegueroles A, Rosa D, Tolotti A, Graffigna G, Bonetti L. The psychosocial impact of flu influenza pandemics on healthcare workers and lessons learnt for the COVID-19 emergency: a rapid review. *Int J Public Health.* 2020;65(7):1205–1216. doi:10.1007/s00038-020-01463-7 [PubMed: 32888048]
9. Mohammad Mosadeghrad A Occupational stress and its consequences: Implications for health policy and management. *Leadersh Health Serv.* 2014;27(3):224–239. doi:10.1108/LHS-07-2013-0032
10. Levis-Peralta M, González M del R, Stalmeijer R, Dolmans D, de Nooijer J. Organizational Conditions That Impact the Implementation of Effective Team-Based Models for the Treatment of Diabetes for Low Income Patients—A Scoping Review. *Front Endocrinol.* 2020;11:352. doi:10.3389/fendo.2020.00352
11. Hu X, Yan H, Casey T, Wu CH. Creating a safe haven during the crisis: How organizations can achieve deep compliance with COVID-19 safety measures in the hospitality industry. *Int J Hosp Manag.* 2021;92:102662. doi:10.1016/j.ijhm.2020.102662 [PubMed: 32904503]
12. Nicksic N Impact of COVID-19 on Employee Mental Health: Executive Summary and Employer Guidance. Integrated Benefits Institute. Accessed January 17, 2022. <https://www.ibiweb.org/resource/impact-of-covid-19-on-employee-mental-health-report/>
13. Bloomer E The impact of physical environments on employee wellbeing. :23.
14. Ardebili ME, Naserbakht M, Bernstein C, Alazmani-Noodeh F, Hakimi H, Ranjbar H. Healthcare providers experience of working during the COVID-19 pandemic: a qualitative study. *Am J Infect Control.* 2021;49(5):547–554. [PubMed: 33031864]
15. NIOSH. Exposure to stress: occupational hazards in hospitals. Published online July 7, 2020. doi:10.26616/NIOSH PUB2008136
16. Ceryes C, Robinson J, Biehl E, Wirtz AL, Barnett DJ, Neff R. Frequency of Workplace Controls and Associations With Safety Perceptions Among a National Sample of US Food Retail Workers During the COVID-19 Pandemic. *J Occup Environ Med.* 2021;63(7):557–564. doi:10.1097/JOM.0000000000002218 [PubMed: 34184650]
17. Carnevale JB, Hatak I. Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. *J Bus Res.* 2020;116:183–187. doi:10.1016/j.jbusres.2020.05.037 [PubMed: 32501303]
18. Bufquin D, Park JY, Back RM, de Souza Meira JV, Hight SK. Employee work status, mental health, substance use, and career turnover intentions: An examination of restaurant employees during COVID-19. *Int J Hosp Manag.* 2021;93:102764. doi:10.1016/j.ijhm.2020.102764 [PubMed: 36919175]
19. Sinclair RR, Allen T, Barber L, et al. Occupational Health Science in the Time of COVID-19: Now more than Ever. *Occup Health Sci.* Published online June 1, 2020:1–22. doi:10.1007/s41542-020-00064-3 [PubMed: 32838031]

20. Snagajob + Black Box Intelligence™ Restaurant Hourly Worker Report | Black Box Intelligence. Accessed January 17, 2022. <https://blackboxintelligence.com/snagajob-black-box-intelligence-restaurant-hourly-worker-report/>
21. Muller AE, Hafstad EV, Himmels JPW, et al. The mental health impact of the covid-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review. *Psychiatry Res.* 2020;293:113441. doi:10.1016/j.psychres.2020.113441 [PubMed: 32898840]
22. Sritharan J, Jegathesan T, Vimaleswaran D, Sritharan A. Mental Health Concerns of Frontline Workers During the COVID-19 Pandemic: A Scoping Review. Published online 2020. doi:10.5539/GJHS.V12N11P89
23. Nisar QA, Haider S, Ali F, Naz S, Ryu K. Depletion of psychological, financial, and social resources in the hospitality sector during the pandemic. *Int J Hosp Manag.* 2021;93:102794. doi:10.1016/j.ijhm.2020.102794 [PubMed: 33519016]
24. Serrano-Ripoll MJ, Meneses-Echavez JF, Ricci-Cabello I, et al. Impact of viral epidemic outbreaks on mental health of healthcare workers: a rapid systematic review and meta-analysis. *J Affect Disord.* 2020;277:347–357. doi:10.1016/j.jad.2020.08.034 [PubMed: 32861835]
25. Lippert JF, Furnari MB, Kriebel CW. The Impact of the COVID-19 Pandemic on Occupational Stress in Restaurant Work: A Qualitative Study. *Int J Environ Res Public Health.* 2021;18(19):10378. doi:10.3390/ijerph181910378 [PubMed: 34639678]
26. Giorgi G, Lecca LI, Alessio F, et al. COVID-19-Related Mental Health Effects in the Workplace: A Narrative Review. *Int J Environ Res Public Health.* 2020;17(21):E7857. doi:10.3390/ijerph17217857
27. Morganstein JC, Flynn BW. Enhancing Psychological Sustainment & Promoting Resilience in Healthcare Workers During COVID-19 & Beyond. *J Occup Environ Med.* 2021;63(6):482–489. doi:10.1097/JOM.0000000000002184 [PubMed: 33710105]
28. Sarwar A, Maqsood U, Mujtaba BG. Impact of Job Insecurity due to COVID-19 on the Psychological Wellbeing and Resiliency of Food Delivery Personnel. *Int J Hum Resour Stud.* 2020;11:24–4. doi:10.5296/ijhrs.v11i1.18075
29. Sorensen G, McLellan DL, Sabbath EL, et al. Integrating worksite health protection and health promotion: A conceptual model for intervention and research. *Prev Med.* 2016;91:188–196. doi:10.1016/j.ypmed.2016.08.005 [PubMed: 27527576]
30. Baylina P, Barros C, Fonte C, Alves S, Rocha Á. Healthcare Workers: Occupational Health Promotion and Patient Safety. *J Med Syst.* 2018;42(9):159. doi:10.1007/s10916-018-1013-7 [PubMed: 30019171]
31. Sriharan. *Frontiers | Occupational Stress, Burnout, and Depression in Women in Healthcare During COVID-19 Pandemic: Rapid Scoping Review | Global Women’s Health.* Accessed January 17, 2022. 10.3389/fgwh.2020.596690/full
32. Petrie K, Gayed A, Bryan BT, et al. The importance of manager support for the mental health and well-being of ambulance personnel. *PloS One.* 2018;13(5):e0197802. doi:10.1371/journal.pone.0197802 [PubMed: 29791510]
33. Ye J Advancing Mental Health and Psychological Support for Health Care Workers Using Digital Technologies and Platforms. *JMIR Form Res.* 2021;5(6):e22075. doi:10.2196/22075 [PubMed: 34106874]
34. Visagie N MITIGATING THE PSYCHOLOGICAL AND MENTAL HEALTH IMPACT ON FRONTLINE WORKERS DURING COVID-19. In:; 2020. doi:10.33546/bnj.1171
35. Wong AKF, Kim S (Sam), Kim J, Han H. How the COVID-19 pandemic affected hotel Employee stress: Employee perceptions of occupational stressors and their consequences. *Int J Hosp Manag.* 2021;93:102798. doi:10.1016/j.ijhm.2020.102798 [PubMed: 36919180]
36. Blake H, Bermingham F, Johnson G, Tabner A. Mitigating the Psychological Impact of COVID-19 on Healthcare Workers: A Digital Learning Package. *Int J Environ Res Public Health.* 2020;17(9):E2997. doi:10.3390/ijerph17092997
37. Du MK Stateler Laura, and Julia. The COVID-19 hazard continues, but the hazard pay does not: Why America’s essential workers need a raise. *Brookings.* Published October 29, 2020. Accessed March 9, 2022. <https://www.brookings.edu/research/the-covid-19-hazard-continues-but-the-hazard-pay-does-not-why-americas-frontline-workers-need-a-raise/>

38. Clements-Croome D, Turner B, Pallaris K. Flourishing workplaces: a multisensory approach to design and POE. *Intell Build Int*. 2019;11(3–4):131–144. doi:10.1080/17508975.2019.1569491
39. Northington WM, Gillison ST, Beatty SE, Vivek S. I don't want to be a rule enforcer during the COVID-19 pandemic: Frontline employees' plight. *J Retail Consum Serv*. 2021;63:102723. doi:10.1016/j.jretconser.2021.102723
40. Roberts JD, Dickinson KL, Koebele E, et al. Clinicians, cooks, and cashiers: Examining health equity and the COVID-19 risks to essential workers. *Toxicol Ind Health*. 2020;36(9):689–702. doi:10.1177/0748233720970439 [PubMed: 33241763]
41. Luan R, Pu W, Dai L, Yang R, Wang P. Comparison of Psychological Stress Levels and Associated Factors Among Healthcare Workers, Frontline Workers, and the General Public During the Novel Coronavirus Pandemic. *Front Psychiatry*. 2020;11. Accessed January 17, 2022. <https://www.frontiersin.org/article/10.3389/fpsy.2020.583971>
42. Cabarkapa S, Nadjidai SE, Murgier J, Ng CH. The psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers and ways to address it: A rapid systematic review. *Brain Behav Immun - Health*. 2020;8:100144. doi:10.1016/j.bbih.2020.100144 [PubMed: 32959031]
43. De Kock JH, Latham HA, Leslie SJ, et al. A rapid review of the impact of COVID-19 on the mental health of healthcare workers: implications for supporting psychological well-being. *BMC Public Health*. 2021;21(1):104. doi:10.1186/s12889-020-10070-3 [PubMed: 33422039]
44. Public Health On Call - 391 - Underappreciated: The COVID-19 Pandemic's Mental Health Effects On Non-Clinical Health Care Workers on Stitcher. Accessed January 25, 2022. <https://www.stitcher.com/show/public-health-on-call/episode/391-underappreciated-the-covid-19-pandemics-mental-health-effects-on-non-clinical-health-care-workers-87946857>
45. Karatepe OM, Saydam MB, Okumus F. COVID-19, mental health problems, and their detrimental effects on hotel employees' propensity to be late for work, absenteeism, and life satisfaction. *Curr Issues Tour*. 2021;24(7):934–951. doi:10.1080/13683500.2021.1884665
46. Jordan JA, Shannon C, Browne D, et al. COVID-19 Staff Wellbeing Survey: longitudinal survey of psychological well-being among health and social care staff in Northern Ireland during the COVID-19 pandemic. *BJPsych Open*. 2021;7(5):e159. doi:10.1192/bjo.2021.988 [PubMed: 34493960]
47. Khajuria A, Tomaszewski W, Liu Z, et al. Workplace factors associated with mental health of healthcare workers during the COVID-19 pandemic: an international cross-sectional study. *BMC Health Serv Res*. 2021;21(1):262. doi:10.1186/s12913-021-06279-6 [PubMed: 33743674]
48. Albott CS, Wozniak JR, McGlinch BP, Wall MH, Gold BS, Vinogradov S. Battle Buddies: Rapid Deployment of a Psychological Resilience Intervention for Health Care Workers During the Coronavirus Disease 2019 Pandemic. *Anesth Analg*. Published online May 4, 2020:10.1213/ANE.0000000000004912. doi:10.1213/ANE.0000000000004912
49. Panchal N, Kamal R, Feb 10 RGP, 2021. The Implications of COVID-19 for Mental Health and Substance Use. KFF. Published February 10, 2021. Accessed February 4, 2022. <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>
50. Podcasts, Research, America N. Keeping Workers Safe: What Do the Numbers Say? Knowledge@Wharton. Accessed January 25, 2022. <https://knowledge.wharton.upenn.edu/article/keeping-workers-safe-what-do-the-numbers-say/>
51. Gaber TAZK, Ashish A, Unsworth A. Persistent post-covid symptoms in healthcare workers. *Occup Med Oxf Engl*. Published online April 8, 2021:kqab043. doi:10.1093/occmed/kqab043
52. Davidson M, Wang Y. Sustainable Labor Practices? Hotel Human Resource Managers Views on Turnover and Skill Shortages. *J Hum Resour Hosp Tour*. 2011;10:235–253. doi:10.1080/15332845.2011.555731
53. Tews MJ, Hoefnagels A, Jolly PM, Stafford K. Turnover among young adults in the hospitality industry: examining the impact of fun in the workplace and training climate. *Empl Relat Int J*. 2020;43(1):245–261. doi:10.1108/ER-11-2019-0432

54. Labrague LJ, de Los Santos JAA. Fear of COVID-19, psychological distress, work satisfaction and turnover intention among frontline nurses. *J Nurs Manag.* 2021;29(3):395–403. doi:10.1111/jonm.13168 [PubMed: 32985046]
55. Peker en Y, Tugay O. Professional Satisfaction as a Key Factor in Employee Retention: A case of the Service Sector: Peker en Y, Tugay O (2020). Professional Satisfaction as a Key Factor in Employee Retention: A case of the Service Sector. *Journal of Tourism and Services*, 20(11), 1–27. doi: 10.29036/jots.v11i20.123. *J Tour Serv.* 2020;11:1–27. doi:10.29036/jots.v11i20.123
56. Gerber M, Jonsdottir IH, Lindwall M, Ahlborg G. Physical activity in employees with differing occupational stress and mental health profiles: A latent profile analysis. *Psychol Sport Exerc.* 2014;15(6):649–658. doi:10.1016/j.psychsport.2014.07.012
57. Sorensen G, Sparer E, Williams JAR, et al. Measuring best practices for workplace safety, health and wellbeing: The Workplace Integrated Safety and Health Assessment. *J Occup Environ Med.* 2018;60(5):430–439. doi:10.1097/JOM.0000000000001286 [PubMed: 29389812]
58. Slavin S, Konopasek L, Ripp J, Brigham TP. Supporting Resident and Health Care Worker Mental Health in a Pandemic: A Multifaceted Approach. *J Grad Med Educ.* 2020;12(5):641–643. doi:10.4300/JGME-D-20-01016.1 [PubMed: 33149841]
59. Vera San Juan N, Aceituno D, Djellouli N, et al. Mental health and well-being of healthcare workers during the COVID-19 pandemic in the UK: contrasting guidelines with experiences in practice. *BJPsych Open.* 2020;7(1):e15. doi:10.1192/bjo.2020.148 [PubMed: 33298229]
60. Billings J, Abou Seif N, Hegarty S, et al. What support do frontline workers want? A qualitative study of health and social care workers' experiences and views of psychosocial support during the COVID-19 pandemic. *PloS One.* 2021;16(9):e0256454. doi:10.1371/journal.pone.0256454 [PubMed: 34473755]
61. Chang CH, Shao R, Wang M, Baker NM. Workplace Interventions in Response to COVID-19: an Occupational Health Psychology Perspective. *Occup Health Sci.* Published online April 6, 2021:1–23. doi:10.1007/s41542-021-00080-x
62. Pollock A, Campbell P, Cheyne J, et al. Interventions to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic or pandemic: a mixed methods systematic review. *Cochrane Database Syst Rev.* 2020;11:CD013779. doi:10.1002/14651858.CD013779 [PubMed: 33150970]
63. Tracy D What should be done to support the mental health of healthcare staff treating COVID-19 patients? Accessed January 17, 2022. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7294074/>
64. Buselli R, Corsi M, Veltri A, et al. Mental health of Health Care Workers (HCWs): a review of organizational interventions put in place by local institutions to cope with new psychosocial challenges resulting from COVID-19. *Psychiatry Res.* 2021;299:113847. doi:10.1016/j.psychres.2021.113847 [PubMed: 33721785]
65. Loeppke RR, Hohn T, Baase C, et al. Integrating health and safety in the workplace: how closely aligning health and safety strategies can yield measurable benefits. *J Occup Environ Med.* 2015;57(5):585–597. doi:10.1097/JOM.0000000000000467 [PubMed: 25951422]
66. Dennerlein JT, Burke L, Sabbath EL, et al. An Integrative Total Worker Health Framework for Keeping Workers Safe and Healthy During the COVID-19 Pandemic. *Hum Factors.* 2020;62(5):689–696. doi:10.1177/0018720820932699 [PubMed: 32515231]
67. Evanoff BA, Strickland JR, Dale AM, et al. Work-Related and Personal Factors Associated With Mental Well-Being During the COVID-19 Response: Survey of Health Care and Other Workers. *J Med Internet Res.* 2020;22(8):e21366. doi:10.2196/21366 [PubMed: 32763891]
68. Cobb R The Effects of Individual and Employer Characteristics on Hourly Employee Retention: an Empirical Study. Masters Theses. Published online December 1, 2015. https://trace.tennessee.edu/utk_gradthes/3572
69. Schneider D, Harknett K, Vivas-Portillo E. Olive Garden's Expansion Of Paid Sick Leave During COVID-19 Reduced The Share Of Employees Working While Sick. *Health Aff Proj Hope.* 2021;40(8):1328–1336. doi:10.1377/hlthaff.2020.02320
70. Bradley DM, Elenis T, Hoyer G, Martin D, Waller J. Human capital challenges in the food and beverage service industry of Canada: Finding innovative solutions. *Worldw Hosp Tour Themes.* 2017;9(4):411–423. doi:10.1108/WHATT-04-2017-0017

71. Lan FY, Christophi CA, Buley J, et al. Effects of universal masking on Massachusetts healthcare workers' COVID-19 incidence. *Occup Med Oxf Engl.* 2020;70(8):606–609. doi:10.1093/occmed/kqaa179
72. Greenberg N, Tracy D. What healthcare leaders need to do to protect the psychological well-being of frontline staff in the COVID-19 pandemic. *BMJ Lead.* Published online May 2020:leader-2020-000273. doi:10.1136/leader-2020-000273
73. Sorensen G, Peters SE, Nielsen K, et al. Implementation of an organizational intervention to improve low-wage food service workers' safety, health and wellbeing: findings from the Workplace Organizational Health Study. *BMC Public Health.* 2021;21(1):1869. doi:10.1186/s12889-021-11937-9 [PubMed: 34656090]

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Learning Outcomes

- Readers will list three psychosocial, organizational, and environmental (POE) *stressors* faced by workers as a consequence of the COVID-19 pandemic.
- Readers will list three psychosocial, organizational, and environmental (POE) *outcomes* resulting from their experience with the COVID-19 pandemic.
- Readers will list three psychosocial, organizational, and environmental (POE) *interventions* available to employers to address mental health and wellbeing challenges faced by workers as a consequence of the COVID-19 pandemic.

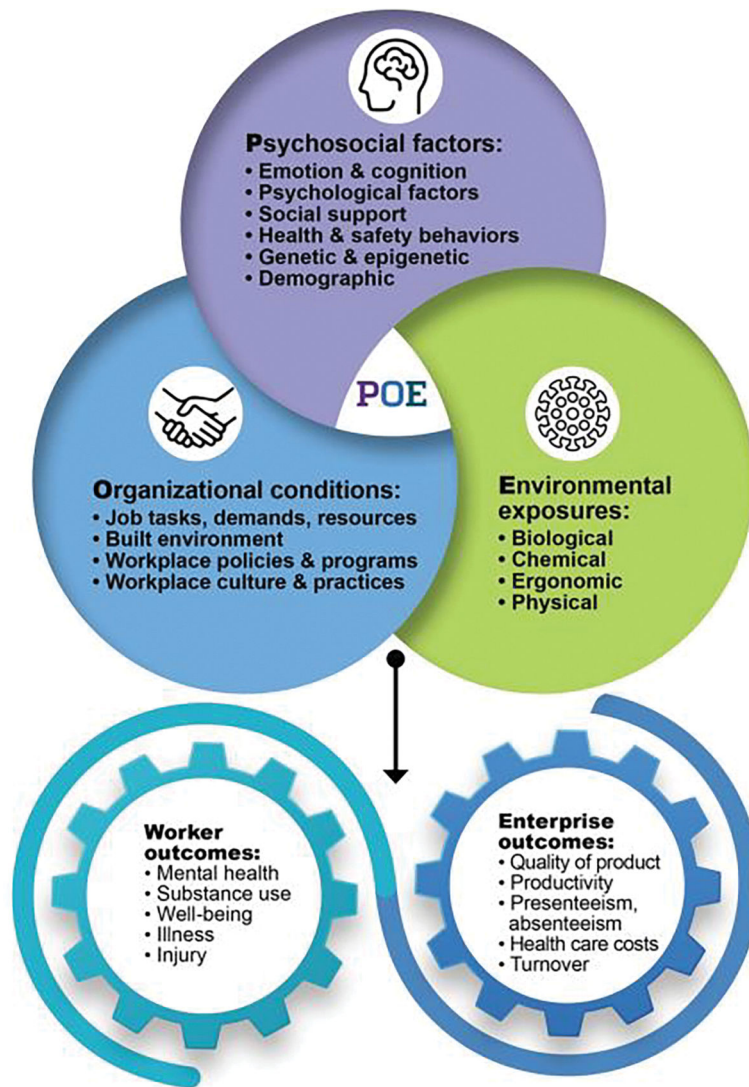


Figure 1:
 POE Domains Featuring Psychosocial Factors, Organizational Conditions, and Environmental Exposures Affecting Worker and Enterprise Outcomes

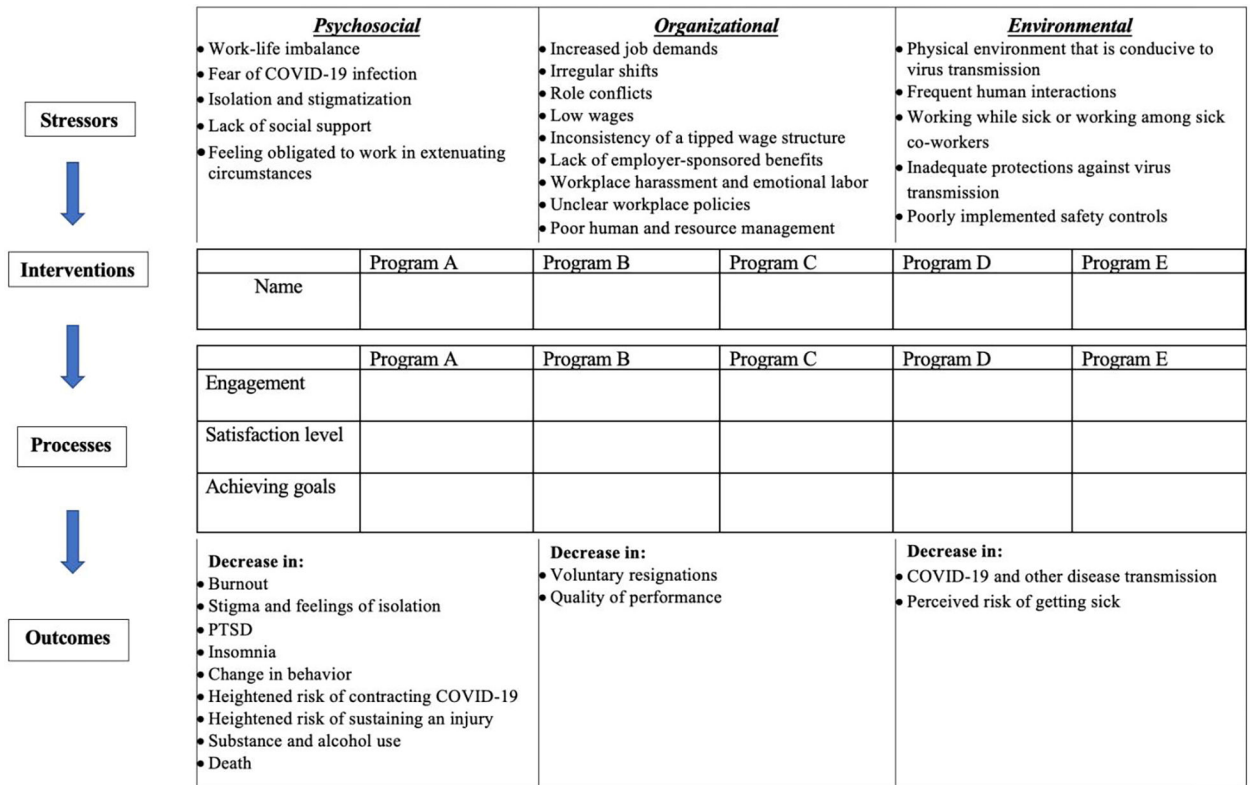


Figure 2: Logic Model Depicting Ways POE Stressors Can be Addressed by Interventions and the Process and Outcomes Affected

Table 1.

COVID-19 Stressors Faced by Essential Workers

Psychosocial Stressors	Organizational Stressors	Environmental Stressors
<ul style="list-style-type: none"> • Work-life imbalance • Fear of COVID-19 infection • Isolation and stigmatization • Lack of social support • Feeling obligated to work in extenuating circumstances, including when sick 	<ul style="list-style-type: none"> • Increased job demands without better compensation • Staffing shortages • Irregular shifts • Role conflicts • Low wages • Inconsistency of wage structures • Lack of employer-sponsored benefits • Unhealthy built environment • Workplace harassment and emotional labor • Unclear workplace policies • Poor human and resource management 	<ul style="list-style-type: none"> • Physical environment that is conducive to virus transmission • Frequent human interactions • Exposure to co-workers, clients or patients, or members of the public who have symptoms of illness • Inadequate protections against virus transmission

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2.

COVID-19 Related Outcomes

Psychosocial Outcomes	Physical Outcomes	Organizational Outcomes
<ul style="list-style-type: none"> • Psychological stress, distress, and anxiety • Burnout • Stigma and feelings of isolation • Post-traumatic and other stress disorders • Insomnia • Anger and cynicism • Behavioral deviance 	<ul style="list-style-type: none"> • Heightened risk of contracting COVID-19 • Heightened risk of sustaining an injury • Substance and alcohol use • Death 	<ul style="list-style-type: none"> • High employee turnover rates and voluntary resignations • Inability to fill job vacancies • Decreased employee productivity

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 3.

Occupational Interventions to Address COVID-19 Stressors

Psychosocial Interventions	Organizational Interventions	Environmental Interventions
<ul style="list-style-type: none"> • Facilitating employee resiliency and self-help behaviors • Promoting interpersonal support and social connectedness • Utilizing digital mental health resources and apps • Promoting workplace culture, camaraderie, and morale • Administering education, training, and stigma reduction • Providing robust and accessible professional mental health services • Offering psychological first aid (PFA), crisis counseling, and other rapidly accessible mental health services • Measuring impact of COVID-19 and making changes to mental health strategies 	<ul style="list-style-type: none"> • Regular, clear, and coordinated communication • Supportive leadership and management practices • Flexibility and supporting work-life balance • Participatory interventions and problem-solving • Organizational resiliency and job security through re-allocation of resources • Increased wages and benefits • Emergency benefits, services, and additional COVID-19 assistance 	<ul style="list-style-type: none"> • Implementation and enforcement of robust safety measures • Supplying sufficient PPE to all employees

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript