The Mental Health of Healthcare Workers During the COVID-19 Pandemic

A Review of the Physical, Psychological, and Professional Perspectives

Charles Joseph Salvo

SLAS 6013: Qualifying Seminar

PhD in Strategic Leadership and Administrative Studies

Marywood University

Fall 2021

Dedication

I dedicate this paper to my immediate family. To my parents, Joyce and Charles Salvo, who instilled in me the value of an education and the grit to accomplish the goals I set for myself. To both of my grandmothers, Theresa Rachkowski, and the late Carmella Salvo, who both made sacrifices in their own lives to allow me to have a successful future. To my sister and brother-in-law, Dr. Marissa Salvo and Seth Korn, who, to me, are both professional role models. And to my fiancé, Bryanne Caruso, and soon to be daughter, Emery, who have both been by my side providing me with endless support since the first day of my doctoral studies. I love you all and could not have made it to this point of my educational career without all of you.

Abstract

Healthcare workers serve their communities throughout an extensive number of independent and specific medical professions as well as in various healthcare settings. When considering the healthcare worker, we most frequently refer to them by the patients or clients they serve. Seldom does one refer to the actual well-being of the worker themselves. With the introduction of the novel coronavirus, COVID-19, into the United States of America in January 2020, healthcare workers across the country were placed on the front lines of battling this understudied virus. These workers were ambushed with an alteration, not only from their prior weekly or daily operations, but also, in many instances, from their prior hourly operations. As a result, healthcare workers have been impacted on a psychological, physical, and professional level. This article explores the stressors on the American healthcare worker, since the beginning of the COVID-19 pandemic, and the effects the stressors created on their mental health.

Keywords: mental health, COVID-19 pandemic, healthcare worker, stressors.

Table of Contents

The Mental Health of Healthcare Workers During the COVID-19 Pandemic: A Review of the

Physical, Psychological, and Professional Perspectives

Introduction

The novel coronavirus, hereafter referred to as COVID-19, was first identified by

Chinese health authorities on January 7, 2020. Shortly after, on January 20, 2020, in the state of

Washington, the first positive case of COVID-19 was identified in the United States (Holshue et

al., 2020). The first individual positively identified with COVID-19 in the United States traveled

to Wuhan, China to visit family during the time which Chinese health authorities identified the

virus. When this individual sought medical treatment after their return to the United States, the

American healthcare worker experienced their first interaction with the virus. Many unknowns

surfaced and the initiation of fear, stress, anxiety, depression, and an overall decline in mental

health among most healthcare workers began. More than one and a half years later, as of August

31, 2021, there were 216,867,420 globally confirmed cases and 4,507,837 globally confirmed

deaths (World Health Organization, 2021). Thus, the COVID-19 pandemic rapidly impacted the

entirety of all health communities, health agencies, and health organizations, along with their

workers, across the United States. As a result, the direct and indirect battle between the COVID-

19 pandemic and the American healthcare worker has the potential to create a significant risk of

negative mental health outcomes for the workers themselves (Hennein, Mew, & Lowe, 2021).

The term mental health is used to describe an individual's emotions, social well-being,

and their psychological state of mind. Experiencing a deficit in mental health is frequently

common throughout one's lifetime. During times of distress, a person's problem-solving skills,

mood, and behavior can be negatively altered, both personally and professionally ("Mental

Health," 2020). Mental health disorders typically stem from the occurrence of change in a

person's environmental stability. This results in feeling anxious and unsafe (Usher, Durkin, & Bhullar, 2020). Individuals respond differently to mental health disorders. Yet, signs and symptoms frequently surface to hint towards the identification that one is undergoing a mental change. When classifying a mental health disorder, different types include anxiety disorders, behavioral disorders, eating disorders, mental health and substance use disorders, mood disorders, obsessive-compulsive disorder, personality disorders, psychotic disorders, suicidal behavior, and trauma and stress related disorders. Further evaluation of the above categorical types of mental health disorders, lies more specific mental health diagnoses.

When speaking in terms of the COVID-19 pandemic, especially during the initial months of its discovery, there was no clear understanding on the cause of the virus, transmission of the virus, or recovery from the virus. This added the element of fear into society and heightened the potential risk of mental health abnormalities, including anxiety, in healthy individuals and in those with pre-existing mental health conditions (Ren, Gao, & Chen, 2020, Rubin and Wessley, 2020). Specifically, to healthcare workers, the extra elements of exposure and vulnerability placed them at an even higher risk of developing a mental health disorder, during the COVID-19 pandemic. This was also the scenario in historical sudden emergent pandemics (Chong et al., 2004). Therefore, the risk to healthcare workers was formally recognized by the World Health Organization. Recognition for the increased risk to healthcare workers was of great importance. These are the individuals that, on a daily basis, are on the frontlines battling the virus and caring for those that the virus infected. Also, it is important to note, that recognition of this increased potential impact would allow for mediations to occur to manage stress and anxiety, help prevent burnout, and decrease the risk of long-term depression and post-traumatic stress disorder (Cullen, Gulati, & Kelly 2020). Overall, a clear-minded, focused, and concentrated healthcare worker

would be a greater asset to the communities they serve because they would be more capable of providing optimal care to their patients and clients. This would ultimately assist in the establishment a stronger and more secure foundation for overcoming a global pandemic.

The central question of this paper is: "What are the stressors and mental health effects, on the healthcare worker, as a result of the COVID-19 pandemic?" Investigation of the literature concerning the physical, psychological, and professional perspectives of the stressors and their effects on healthcare workers will be explored to suggest evidenced-based improvements in mental health.

Literature Review

The literature involving healthcare workers, during the COVID-19 pandemic, and their mental health is new and limited. Yet, where available, it is informative. Since the beginning of the pandemic, researchers focused on areas including social distancing and isolation and the impacts they have on physical health, social interactions, unemployment and professional fluctuations, and alterations in mental health that resulted due to the substantial changes that occurred in society. Data referenced throughout the review was consistently composed within the last two years. However, an additional reference was made, for comparison, to a prior pandemic (Sever Acute Respiratory Syndrome). This reference was composed 17 years ago. Search engines of scholarly databases utilized in this literature review included: Marywood University library website, PubMed/Medline, EBSCOhost Research Databases, Wiley Online Library, CINAHL, government websites and Google Scholar. Keywords utilized in the literature review included: mental health, COVID-19 pandemic, healthcare worker, stress, employment satisfaction, physical activity, and social distancing.

Conducting this literature review identified the lack of scholarly data available on the stressors that impacted healthcare workers, as a result of the COVID-19 pandemic, and the effect the stressors had on their mental health. Therefore, for the purposes of advancing the medical community, the objective of this literature review was to fill this gap and improve upon the mental health of the workers that compose the health fields, as it is not yet fully described. The physical, psychological, and professional perspectives identify that each has significantly impacted the mental health of the healthcare worker on a unique and distinctive level. Therefore, due to this impact, each is deserving of a further, in-depth, review.

Psychological Perspective

An abrupt shift in daily routine functions and operational differences frequently results in psychological distress and the inability to adequately and efficiently continue contributing to society as a frontline healthcare worker (Shechter, et al., 2020). Frustration, exposure, potential transmission to loved ones, long hours, and isolation, along with an initial unclear and unknown objective to battling COVID-19, are leading to symptoms of depression, anxiety, post-traumatic stress disorder, insomnia, and distress amongst these workers (Liu, et al., 2020). This is alarming as the long-term impact of depression and anxiety are well established with decreasing outcomes as conditions prolong. Not only are these medical conditions resulting in an altered mental state, but they are also contributing to employee burnout, higher rates of suicide, and a significant reduction in the work-life balance and overall quality of life (Pearman, et al., 2020).

As time passes, the COVID-19 pandemic has evolved both from a social and medical perspective. Healthcare workers have witnessed various stages of the pandemic including initial onset, pre-vaccination, and post vaccination. For reference purposes, with the arrival of the vaccination, healthcare workers in one study were found to have an alarming 79.6% approval

rating for recommending their patients to receive the vaccine. The same study noted that 72.4%

of the healthcare workers agreed to receive the vaccine (Verger, et al., 2021). The high

percentages identified in this study indicate healthcare workers being pushed to their limits and

the need for change within the medical community to shift towards global control of the virus.

This need was met with the arrival of the vaccine. However, most recently, with the

identification of the COVID-19 delta variant, vaccination breakthrough cases have occurred

within communities and healthcare workers themselves (Bergwerk, et al., 2021). Thus, continued

stressors on the psychological health of the healthcare worker are set to resurface. The

reoccurrence can lead to both progressive mental manifestations and debilitating physical

symptoms (Chew, et al., 2020).

Physical Perspective

Mental health considerations should always coincide any discussion on human physical

changes. In order to ensure the health and safety of healthcare workers, both physical and mental

health must be of high importance to the occupational healthcare of medical agencies and

organizations (Namikawa, et al., 2021). As the pandemic progresses, physical demands on

healthcare workers also advance. This includes their workload and caseload (Zhang, et al., 2020).

Physical complaints based off of these demands include fever, intense fatigue, gastrointestinal

symptoms, headaches, irritability, reduced appetite, and nasal symptoms (Verger, et al., 2021).

Identification of these symptoms in healthcare workers has been studied and deemed to not be

specifically from the COVID-19 virus, but yet from psychological stress that has resulted from

physical demands and other factors including potential exposure as a result of lacking personal

protective equipment (Namikawa, et al., 2021).

Due to these increasing demands, healthcare workers are being forced to be more active and productive for greater amounts of time. As noted above, this is limiting their work-life balance, causing physical distress, and limiting their ability to function at a higher level of care, and ultimately leading to mental health disorders. To react against these issues, coping mechanism are utilized for improvement in function. Oddly enough, physical activity/exercise has been studied to be the most common coping method for mental health distress (Shechter, et al., 2020). Therefore, the healthcare workers, who are already experiencing physical exhaustion, are limited to participating in the most common coping method for mental health improvements due to their energy sources being depleted while working at their place of employment. This leads to the transition on how, from a professional perspective, healthcare workers are experiencing higher levels of stress and are then forced with decisions to make regarding their own general health.

Professional Perspective

With the immediate onset of COVID-19 into the professional health community, fluctuations in employment and professional statuses began. From changes in daily operations, to acute and long-term physical effects on healthcare workers, job security, availability, retention of employees, and trajectory of employment were all effected (Godderis, Boone, & Bakusic, 2020). Healthcare workers experienced, and continue to experience, throughout the pandemic, "major simultaneous shifts" in their work environments (Verger, et al., 2021). In the earlier months of 2020, from a professional standpoint, few changes in healthcare occurred. However, as many employers began to swallow the impact COVID-19 was having on their businesses, changes began to occur. Many healthcare professionals were furloughed due to a decline in patient/client census and to protect a business' financial future. Being deemed an essential or nonessential

worker did not secure your employment. This major uncertainty played a large role in the increase of work-related stress and a decline of mental health for healthcare workers (Galbraith, N., et al., 2021). Employment is not just a source of income, but also an important aspect to provide an individual with a sense of confidence and self-esteem (Mimoun, Ari, & Margalit, 2020).

One option for many employers, due to the COVID-19 pandemic, was to offer their employees a work-from-home opportunity. Although this work setting may be suitable for certain professions within the medical field, the majority of professional healthcare interactions are required to occur in person. Despite this, telehealth appointments became the norm and there appears to be no end in sight for this method of providing certain health services (Doraiswamy, et al., 2020). With this comes the further lack of social interaction and the increased likelihood of developing mental illnesses (Beutial, Klein, Brahler, Reiner, Junger, Michal, & Tibubos, 2017).

Analysis

In-depth analysis of the literature, during the review above, identified four major and unique psychological theories, in conjunction with the current research, on the COVID-19 pandemic and the stressors that affect healthcare workers. The emerging four theories include: social cognitive theory, theory of planned behavior, protection motivation theory, and self-determination theory. Social cognitive theory explains the interactions between the behavioral and personal factors of the healthcare worker, with the fluid changes that occur in their environmental factors, and the important role that coping self-efficacy plays in their reactions toward stress. Next, the components of the theory of planned behavior explain the changes in behaviors of healthcare workers, during the COVID-19 pandemic. These changes include preventative measures they adopted to avoid contracting the virus and the perception of control

of not contracting the virus, due to their prior medical training. The protection motivation theory describes the intention (motivation) of healthcare workers to engage in protective measures based off of their appraisal on COVID-19 as a threat. Lastly, self-determination theory focuses on the autonomous and controlled motivation, work functioning, and occupational health, of the healthcare worker, during the COVID-19 pandemic, and how it relates to their mental health and well-being.

Social Cognitive Theory

One of the primary constructs of social cognitive theory (SCT) is self-efficacy. Self-efficacy is described as "one's conviction in his or her ability to successfully execute a behavior in order to achieve a desired outcome despite obstacles or barriers" (Joseph, et al., 2016). When speaking about healthcare workers during the COVID-19 pandemic, and referring to SCT, one term that frequently surfaces is coping self-efficacy. Coping self-efficacy is described as the perceived capacity to control one's daily functions and activities while adapting to alterations in environmental demands under stressful conditions (Benight & Bandura, 2004). As COVID-19 transitioned into the United States and citizens across the country were becoming infected with the virus, alternations in environmental factors within the healthcare setting rapidly occurred. For example, prior to COVID-19, masks were not required to be worn within medical facilities, adherence to social distancing was abnormal, hand sanitizer stations were present, but not as populated throughout an area, and the absence of vaccination verification documentation or a vaccination passport did not prohibit an individual from entering a facility. However, once COVID-19 was a major concern for health officials in the United States, and still to this day, all of the above descriptions are accurate for the current social environment.

Specifically, for healthcare workers, the immediate shift in their daily operations was the use of required personal protective equipment (PPE). Especially in the early onset of COVID-19, PPE was in short supply and healthcare facilities and organizations were frantically seeking to obtain appropriate PPE for their workers. As the virus progressed, changes in required PPE for healthcare workers also changed. Various PPE tiers were drafted and dependent on the potential, or known, severity level of the interaction between the healthcare worker and COVID-19, the appropriate tiered level PPE would be worn. This ranged from a simple surgical/comfort mask to a full face-piece self-contained breathing apparatus with a totally encapsulated chemical and vapor protective suit and an inner and outer chemical-resistant hand and foot covering.

Although there eventually became a universal protocol for PPE, for the healthcare professionals who were working at the beginning of the pandemic, fluctuations in their PPE requirement changed daily. This, along with unknown transmission pathways and witnessing critically ill patients, and even death, led to an overload of work-related stress. As a result, post-traumatic stress then became an additional mental health concern. SCT and coping self-efficacy explains that an individual's control over the threat (stress) greatly influences their ability to combat the experienced environmental changes. Elevated self-efficacy (control over the threat) tends to lead towards less experienced stress. Decreased self-efficacy (neglect over a threat) tends to lead towards higher experienced stress due to the overestimation of the threat and thus increased worriedness of a negative outcome (Zhou, Guan, & Sun, 2021).

Theory of Planned Behavior

The theory of planned behavior (TPB) indicates that behavioral intention is the closest predictor to actual behavior. Breaking down behavioral intention reveals three main constructs: (*a*) attitudes toward the behavior (value an individual places on a belief), (*b*) subjective norms

(external pressure experienced by an individual to perform, or not to perform, an action based on the social acceptance or disapproval), and (*c*) perceived behavioral control (ability to perform an action after considering the facilitators or barriers associated with it) (Joseph, et al., 2016). Individual evaluation of these constructs and personal analysis leads to a conclusion of the individual's intention and then the behavioral response.

Healthcare workers experienced a copious number of interactions (direct and indirect) with the coronavirus throughout the pandemic. As a result, their health, as well as the health of their families, was at risk. This led to drastic preventative measures that aided in decreasing their risk of infection. To begin, healthcare workers were experiencing a first-hand account on the magnitude COVID-19 had on infected individuals. Therefore, as a majority, they were aware of the severity of the virus and placed a high value of importance on preventative measure to decrease their risk of contraction (Shubayr et al., 2020).

In addition to the above, throughout the nation there was an initial push for social distancing and quarantine to decrease transmission rates. In the early months of the coronavirus being present in the United States, health officials mandated a two-week stay-at-home quarantine order to help "slow the spread." Even though this later turned into a much longer mandate of social distancing and the wearing of facial mask coverings, the agenda to decrease person-to-person interactions and to practice sanitation techniques were generally accepted and expected among all citizens. As a result, healthcare workers experienced social support and understanding to practice preventative measures within their healthcare clinics.

Next, based off of their prior medical knowledge, and from practicing sanitation and clean techniques before the novel coronavirus, many healthcare professionals may have felt adequately prepared to treat those infected with the virus. However, despite this, most healthcare

workers were experiencing fear and anxiety and were overloaded with patients in their clinics who either contracted the virus or were suspected to have contracted the virus. This led to long hours and the subsequent burn-out effect. Therefore, healthcare workers had very little control over the facilitators and barriers of overcoming the virus.

Overall, in accordance with TPB, healthcare workers experience favorable and unfavorable attitudes towards performing their professional functions as a healthcare provider, during the COVID-19 pandemic. Ultimately, this was an individual decision based on each healthcare workers determined value of their beliefs on the virus and their responsibility to uphold their medical oaths. Social norms were in support of healthcare workers during the pandemic. In fact, healthcare workers were often referred to as "heroes." Lastly, healthcare workers had a minimal, or possibly nonexistent, ability to control the path of the virus. Therefore, in keeping with the constructs of TPB, and as studied in prior pandemics, healthcare workers tended to experience lower behavioral intention and thus placed them at a higher risk of developing or experiencing mental health disorders (Kim, C. J. et al, 2006).

Protection Motivation Theory

Protection Motivation Theory (PMT) stands on the basis that individuals participate in methods (behavioral intentions) to protect themselves from a threat based off of their evaluation of the threat (threat appraisal) and their ability to overcome the threat (coping appraisal). Following the assumptions of PMT, in a period of a potential harmful situation, the severity of a threat is first appraised by an individual. Next, when a threat is deemed to be dangerous, an individual performs a second evaluation to which they determine the effectiveness of a potential solution. At the same time, the individual performs a self-evaluation to determine their ability to perform the actions to produce a potential solution. According to PMT, both of these processes

occur in equal fashion and in order for an individual to determine their next step forward in a situation. However, it has been studied that in health-related behaviors, threat appraisal, or evaluation, has an increased ability to predict a behavior rather than the coping appraisal (Huang, et al., 2020). Despite which may have a more lasting effect on the individual, if the threat is perceived to be of low susceptibility and severity, there would be low motivation to act on the present situation. In addition, if a threat is deemed to be of high susceptibility and severity, but the coping appraisal determines insufficient or ineffective recommended strategies, along with low self-efficacy and a poor forecasting for a favorable outcome, fear will result. Therefore, in terms of COVID-19 and PMT, it has been studied and recommended that increasing perceived efficacy of protective behaviors by healthcare workers should be a priority (Bashirian, et al., 2020).

In the case of many healthcare workers, appraisal on the threat of COVID-19 was determined to be of high perceived severity and extremely vulnerability to the situation. Differences among healthcare workers occurred when performing a coping appraisal. Many tended to find themselves incapable of protecting their own health from the virus due to the frequent shifts in personal protective equipment requirements as well as with the inconsistent and unclear government and health official recommendations and guidelines. As a result of the fluctuations in policy and procedures, healthcare professionals experienced phases of security, when they perceived the pandemic to be under control, and phase of insecurity, when they felt desperate for the answers to an effective solution. This shift in thought processes, from one extreme end to the other, led to resulting fear and ultimately the potential for a decline in mental health.

Due to the above, it would be plausible for healthcare professionals to step away from the threat, as this seemed to be the most effective recommendation (social distance and stay at home). However, due to their professional duties, many were unable to continue to work without being present in their respective places of business. With the introduction of the COVID-19 vaccination, a sense of security was established across the country. This allowed those who were fully vaccinated to safely regain their social functions. For the healthcare workers, it allowed them to sense a foreseeable end to the stressors they have been battling.

Self-Determination Theory

The self-determination theory (SDT) is another theory based on human motivation and behavior. However, the difference is that SDT suggests that an individual's behavior is dependent on the type of motivation one needs to perform. Types of motivation are classified as intrinsic or intrapersonal (when an individual is most likely to engage in a behavior), amotivation (no motivation), and extrinsic or external (when an individual is least likely to engage in a behavior). Ultimately, behaviors are said to be performed following a mixture of the three types of motivation (Joseph, et al., 2016).

During the unprecedented times of a pandemic, it is important for businesses and organizations to focus on intrinsic motivators, towards their employees, to improve and sustain operations. This was found to be true for healthcare workers during the COVID-19 pandemic. It has been studied that rewarding an employee with recognition or praise increases their motivation and job satisfaction. Also, positive constructive feedback on job performance and potential improvement will result in similar positive outcomes. Thus, there would be an increase in an employee's intrinsic motivation and a decrease in their extrinsic motivation. The result would be an employee who is more likely to engage in their professional responsibilities

(Camilleri, 2021). For healthcare workers, during the COVID-19 pandemic, an example of this would be the nationally accepted reference of a "healthcare hero." This also includes the abundant ads, billboards, and posters with the same reference posted and displayed throughout multiple media and outlet sources including television, radio, social media, and personal home signs that stated "a healthcare hero lives here." These sources were utilized to improve the healthcare worker's environment, provide them with a sense of belonging and purpose, and aid in helping them identify their successes as a healthcare provider to their respective communities and divisions of healthcare (Moller, et al., 2021). Regardless of their intentions for a positive outcome, employers were not always successful. In the event that negative feedback was provided, poor employment conditions were present, or a sense of job insecurity was present, a decrease in intrinsic motivation, as well as job satisfaction, occurred (Camilleri, 2021).

In addition to the above, many employers applied for federal monetary aid to provide their employees with an increased rate of pay for treating patients with a positive COVID-19 diagnosis. This type of pay increase was most commonly referred to as "hazard pay." This, in addition to the above, supplied healthcare workers with the intentions to enhance their motivation during the stressful times. Despite extrinsic motivators, such as incentives of rewards, having a tendency to decrease intrinsic motivators, this is not always the case. The latter occurs when an individual internalizes the extrinsic regulations when they feel secure and cared for (Camilleri, 2021). Thus, individuals would then tend to perform preferred activities because they perceive their utilitarian value. This was also true for healthcare workers during the COVID-19 pandemic.

The presence of various types of motivators (intrinsic and extrinsic) aimed at healthcare workers not only assisted them individually but also as a whole. Interdisciplinary communication

and care are major functions of healthcare. Thus, a team of healthcare providers assisted

COVID-19 positive patients. This provided the sense of morale and belonging to each member

of the team. Another words, the fight was not being fought alone. According to the constructs of

SDT, these motivators would aid in progressive and high-quality job performance and

satisfaction. Although this may be true, healthcare workers are not invincible and many mental

health deficits, and even occupational health deficits, occurred across the healthcare provider

community (Moller, et al., 2021).

Ethical Implications

Throughout the current pandemic, healthcare workers have been on the frontlines battling

the novel coronavirus and navigating their way through the fluctuations that have occurred along

the way. These efforts continued, despite the opportunities to step away, due to their professional

obligations of restoring health and alleviating suffering and due to the principles of

nonmaleficence and beneficence. Nonmaleficence is described as the obligation of healthcare

workers to not harm their patients. Beneficence is described as the obligation of healthcare

workers to prevent harm, or "do good," for their patients. Opportunities for healthcare workers to

step away include instances where adequate personal protective equipment (PPE) was not

available and they would be placing themselves, and their own families, at risk if they cared for

COVID-19 positive patients. Another opportunity includes the ability to simply stay home or

refuse to treat individuals who were identified as being COVID-19 positive patients or those

suspected of being positive. In addition, all healthcare workers must balance the care of their

patients with the care for themselves. Placing themselves in an unsafe situation can ultimately

cause unnecessary stress in their own personal lives, trigger serious moral stress, and have a

lasting negative effect on their mental health. Recently, as an example of the potential impacts

these stressors have on healthcare workers, a New York physician took her own life following the requirement to uphold her professional obligation to treating COVID-19 positive patients in the emergency room setting (Watkins, et al., 2020). Although the options to reduce risk and exposure, as described above, were available, the ethical principles of nonmaleficence and beneficence would apply. A violation of these ethical principles could ultimately result in the loss of licensure.

Another ethical implication includes the healthcare workers' responsibility to ensure justice in equity and fairness for their patients being treated for COVID-19. Not only were PPE supplies lacking in availability, but also an insufficient number of intensive care beds and ventilators were available for the patients that required them. This occurred as a result of the surge in positively identified individuals, in need of critical care, within healthcare facilities. This then placed healthcare workers in positions to decide which patients, in order, obtained access to their medical needs. The weight of these decisions placed an enormous amount of stress on the healthcare providers. It should be noted, that under legal terms, the ultimate decision is made with the senior medical provider within the healthcare team. However, all clinicians do have the potential to impact the decision based on their respective professional assessments of the patients.

A third ethical implication includes the rights of the patients. COVID-19 is a highly infectious virus that spreads throughout a community extremely rapidly. Thus, one method to combat the transmission is that of social distancing. For those patients who are living in assistive care facilities, personal care facilities, admitted to hospitals, or skilled nursing homes, visiting rights were altered. Although this may not first appear as an issue for healthcare workers, after a closer investigation, the inability for family members to visit their loved ones placed an

additional stress and burden on healthcare workers. This can be illustrated by reports that family members asking nurses to speak their last words to their dying relatives (McKenna, 2020). As a result, healthcare workers were then placed in a position to not only fulfill their patients' medical needs, but also their emotional needs.

Policy Recommendations

Several related stress items should be considered when discussing the mental health of healthcare workers during the COVID-19 pandemic. Examples of stress items include insomnia, guilt, compulsive attention to COVID-19 related news, irritability, nightmares, avoidance of returning to work, and bereavement, to name a few. Thus, to avoid a long-term mental health impact and to decrease the potential for burnout and functional impairments at the workplace, it is suggested that several policies should be installed to protect the health of those that protect the health of their communities.

The first recommended policy is to install mechanisms to support the mental health of the healthcare workers. Suggestions include the approval of paid mental health day(s), decreasing shift lengths, providing the ability for healthcare workers to speak to mental health professionals, including therapists and psychologists, and an increase in pay rate or salary. By providing staff with one or multiple paid mental health day(s), healthcare workers can step aside from their place of employment without the guilt of using paid time off, vacation days, time off without pay, or personal time. This would allow the worker to regain their sanity and/or composure from the stressors involved at their place of employment. After their time away, they would return back to work with a clearer mind and a fresh start to perform the job functions. In addition, speaking to a mental health professional would open the opportunity for a healthcare worker to openly express the stressors they are experiencing in a safe and understanding environment

(Santaron, McKenney, & Elkbuli, 2020). Mental health professionals would then be able to prescribe stress-relief methods and interventions for the healthcare worker to follow and practice during the performance of a job function and outside of their workplace.

Increasing the pay rate or salary of a healthcare professional would provide them with a greater incentive to perform their job functions. In dealing with stressors at the workplace, the healthcare worker would be able to refrain back to the benefits of them being there and placing themselves at risk. Aside from upholding their professional oaths and the medical obligations to provide care, an increase in their pay would allow them to identify their value to the company or organization they work for as well as provide a sense of relief for the potential weight of outside pressures and stressors (student loans, car payments, mortgages, child care, etc.) that they may experience.

Finally, despite healthcare workers being known for their stamina and emotional resilience in the workplace, it is suggested that decreasing shift lengths would allow for a greater recovery time from the stressors experienced in the workplace. One study identified that an extended hourly duration of shift work was associated with a decrease in safety measures. (Weaver, et al., 2020). This placed healthcare workers at a greater risk of poor occupational health and outcomes. It also created a major concern for the health and safety of patients being treated by overworked healthcare staff. At the same time, it is also understood, that as the pandemic timeline progresses, employment numbers are declining and there is a large need for additional healthcare employees to provide care. Thus, it may be difficult to decrease shift time without the availability of sufficient staffing numbers. Yet, this is important to note as staffing numbers may have declined due to the stressors experienced by the healthcare workers who were unable to maintain a healthy mental status and therefore had to leave their job. The above policy

recommendations would decrease the risk of this occurring in the future. Also, with the addition of these policies, there would be a greater potential to decrease morbidity among healthcare workers.

COVID-19 Policy Recommendations

While the future impact of COVID-19, within society and the healthcare community, is still uncertain, additional policy recommendations for the times in which it impacts the world should be considered. One current study determined that creating a multidisciplinary mental health team for dealing with mental health issues and providing psychological support should be considered by healthcare companies and organizations (Spoorthy, Pratapa, & Mahant, 2020). Furthermore, daily screening of COVID-19 signs and symptoms are already being performed by health authorities, facilities, and healthcare workers themselves to decrease the risk of transmission by catching the potentially infected person early enough to decrease their social interaction. It is important to note that this is effective in reducing the spread of the coronavirus and should remain a current practice. However, it is suggested that to improve the mental health of healthcare workers and to decrease the risk of adverse psychological reactions to the stressors experienced by the healthcare workers on a daily basis, regular and daily screening on the signs and symptoms of increased stress, depression, and anxiety should also be performed. Stress levels can be monitored by having healthcare workers completed the Perceived Stress Scale assessment, which identifies how individuals feel and perceive stress under different situations. Depression can be screened by a similar method except with the use of the Patient Health Questionnaire (PHQ-9). Lastly, elevated levels of anxiety can be screened for utilizing the Generalized Anxiety Disorder assessment, which seeks to identify changes in one's sense of anxiety as well as the potential for the development of panic disorder, social anxiety disorder,

and posttraumatic stress disorder. With the implementation of one or all of these additional screening tools, the mental health of healthcare workers will also be protected from potentially being severely affected.

Summary

There are a few events in history that shape or change a society forever. The introduction of the novel coronavirus, COVID-19, is one of these events. The COVID-19 pandemic affected every corner of the world. From social interaction to political viewpoints and policies. Thus, we are living in unprecedented times. As in many historical events that have shared a similar impact as COVID-19, a society relies on a particular branch of the professional careers to carry them through. Together, as a whole, societies have been shown to praise, respect, and admire the professionals that place themselves at risk for the greater good of their communities. For example, following the September 11, 2001 terrorist attacks, as a united group, Americans lauded firefighters, police officers, and other emergency response workers. Similar praise has been given to healthcare workers during the current COVID-19 pandemic. In both instances, society describe the involved professionals as "heroes". However, it also appears, that in both instances, the labeled "heroes" experienced a dramatic change in their personal mental health following the events that shaped our country.

The focus of this paper was to identify the stressors and mental health effects on the healthcare worker during the COVID-19 pandemic. The literature identified a significant amount of supportive research on common stress indicators as well as potential effects from the stressors experienced by healthcare workers. Stress indicators identified include inadequate PPE availability, extended work hours, inconsistent and rapidly changing medical guidance, concern about job availability, personal and family health risks, isolation, and ensuring their patients

receive optimal care. Due to healthcare workers experiencing this stress, alteration in their mental health were noted. Such mental health effects experienced by healthcare workers were fear, anxiety, depression, post-traumatic stress disorder, and burnout.

. The four emerging theories of social cognitive theory, theory of planned behavior, protection motivation theory, and self-determination theory were utilized to describe the impacts of the above stressors, on healthcare workers, from multiple psychological viewpoints and angles. Following investigation into these theories, with the focus on the purpose of this study, it was determined that the stressful situations experienced by healthcare workers, during the COVID-19 pandemic, typically present them with what appears to be an enormous amount of pressure when it comes to finding ways to accomplish their professional goals while maintaining their own health and well-being.

Future research of this topic could include analysis on the benefits of one or more of the policy recommendations noted above. Alternations in daily operations to adhere to a greater focus of personal mental health for a healthcare provider can potentially produce a trend for greater outcome measures in both the mental health and well-being of the provider as well as the business operations of the healthcare community. Investigation into this topic is suggested to advance the performance of future healthcare workers and to decrease stress levels and potential impacts within similar situations that may arise.

Ethical implications of future research within this topic are important as well. It has been identified, during the COVID-19 pandemic, that a reduction in the availability of personal protective equipment, hospital beds and respirators, as well as increased responsibility to healthcare workers to fill in for a family member or loved one for their patients, as a result of the adherence to social distancing and isolation requirements, resulted in healthcare workers

experiencing elevated stress levels. Therefore, with future investigation, the potential to decrease

the stressors experienced by healthcare workers exists and can ultimately assist in benefiting

their own mental health.

About the Author

Charles Joseph Salvo DPT, MS, GCS is currently a Ph.D. candidate within the Strategic Leadership and Administrative Studies doctoral program at Marywood University. Along with being a doctoral candidate, he also is a practicing Doctor of Physical Therapy with BAYADA Home Healthcare and John Heinz Institute of Rehabilitation, an Adjunct Faculty member at Luzerne County Community College, and a Laboratory Assistant within the Physical Therapy doctoral program at the University of Scranton. Dr. Salvo attended Rensselaer Polytechnic Institute (RPI) for undergraduate and graduate studies. In 2010, he earned a BS and MS in Chemistry from RPI. Following the completion of these degrees, he attended the University of Scranton to study Physical Therapy. After graduating with a degree to practice Physical Therapy, he became a board-certified geriatric specialist (GCS). His research interests include balance and fall prevention, within the geriatric population, and the mental health of healthcare workers. In his free time, Charles enjoys spending time outdoors engaging in various activities. He lives in Northeastern Pennsylvania with his fiancé, Bryanne, and their daughter, Emery.

References

Bashirian, S., Jenabi, E., Khazaei, S., Barati, M., Karimi-Shahanjarini, A., Zareian, S., Rezapur Shahkolai, F., & Moeini, B. (2020). Factors associated with preventive behaviours of COVID-19 among hospital staff in Iran in 2020: an application of the Protection Motivation Theory. *The Journal of hospital infection*, *105*(3), 430–433. https://doi.org/10.1016/j.jhin.2020.04.035

Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour Research and Therapy*, *42*(10), 1129-1148. https://doi.org/10.1016/j.brat.2003.08.008

Bergwerk, M., Gonen, T., Lustig, Y., Amit, S., et al. (2021) Covid-19 Breakthrough Infections in Vaccinated Health Care Workers. The New England Journal of Medicine. 2021, July, 28. doi: 10.1056/NEJMoa2109072

Beutel, M.E., Klein, E.M., Brahler, E., Reiner, I., Junger, C., Michal, M., Tibubo, A.N. (2017). Loneliness in the general population: prevalence, determinants, and relations to Mental health. *BMC Psychiatry,* Vol 17, 97.

Camilleri, M. A. (2021). The Employees' State of Mind during COVID-19: A Self Determination Theory Perspective. *Sustainability, 13*(7), 3634. doi: https://doi.org/10.3390/su13073634.

Chew, N., Lee, G., Tan, B., Jing, M., Goh, Y., Ngiam, N., Yeo, L., Ahmad, A., Ahmed Khan, F., Napolean Shanmugam, G., Sharma, A. K., Komalkumar, R. N., Meenakshi, P. V., Shah, K., Patel, B., Chan, B., Sunny, S., Chandra, B., Ong, J., Paliwal, P. R., … Sharma, V. K. (2020). A multinational, multicentre study on the psychological outcomes and associated

physical symptoms amongst healthcare workers during COVID-19 outbreak. *Brain,*
behavior, and immunity, *88*, 559–565. doi: https://doi.org/10.1016/j.bbi.2020.04.049

Chong, M.-Y., Wang, W.-C., Hsieh, W.-C., Lee, C.-Y., Chiu, N.-M., Yeh, W.-C., Huang, T.-L.,
Wen, J.-K., & Chen, C.-L. (2004). Psychological impact of severe acute respiratory
syndrome on health workers in a tertiary hospital. *The British Journal of*
Psychiatry. *185*(2), 127–133. doi:10.1192/bjp.185.2.127

Cullen, W., Gulati, G., & Kelly, B. D. (2020). Mental health in the COVID-19 pandemic. *QJM:*
An International Journal of Medicine, *113*(5), 311-312.

Doraiswamy, S., Abraham, A., Mamtani, R., & Cheema, S. (2020). Use of Telehealth During the
COVID-19 Pandemic: Scoping Review. *Journal of medical Internet research*, *22*(12),
e24087. https://doi.org/10.2196/24087

Galbraith, N., Boyda, D., McFeeters, D., & Hassan, T. (2021). The mental health of doctors
during the COVID-19 pandemic. *BJPsych bulletin*, *45*(2), 93–97.
https://doi.org/10.1192/bjb.2020.44

Godderis, L., Boone, A., & Bakusic, J. (2020). COVID-19: a new work-related disease
threatening healthcare workers. *Occupational Medicine*, *70*(5), 315-316. doi:
https://doi.org/10/1093/occmed/kqaa056

Hennein, R., Mew, E. J., & Lowe, S. R. (2021). Socio-ecological predictors of mental health
outcomes among healthcare workers during the COVID-19 pandemic in the United
States. *PLOS ONE*, *16*(2). https://doi.org/10.1371/journal.pone.0246602

Holshue, M. L., DeBolt, C., Lindquist, S., Lofy, K. H., Wiesman, J., Bruce, H., Spitters, C.,
Ericson, K., Wilkerson, S., Tural, A., Diaz, G., Cohn, A., Fox, L., Patel, A., Gerber, S.I.,
Kim, L., Tong, S., Lu, X., Lindstrom, S., Pallansch, M.A., Weldon, W.C., Biggs, H.M.,

Uyeki, T.M., Pillai, S.K.; Washington State 2019-nCoV Case Investigation Team. (2020). First Case of 2019 Novel Coronavirus in the United States. *New England Journal of Medicine*. *382*(10), 929-936. doi: 10.1056/NEJMoa2001191

Huang, L., Lei, W., Xu, F., Liu, H, & Yu, L. (2020). Emotional responses and coping strategies in nurses and nursing students during COVID-19 outbreak: A comparative study. *PloS one, 15*(8), e0237303. doi: https://doi.org/10/1371/journal.pone.0237303

Joseph, R. P., Daniel, C. L., Thind, H., Benitez, T. J., & Pekmezi, D. (2016). Applying Psychological Theories to Promote Long-Term Maintenance of Health Behaviors. *American journal of lifestyle medicine*, *10*(6), 356–368. https://doi.org/10.1177/1559827614554594

Kim, C. J., Yoo, H. R., Yoo, M. S., Kwon, B. E., & Hwang, K. J. (2006). Attitude, beliefs, and intentions to care for SARS patients among Korean clinical nurses: an application of theory of planned behavior. *Taehan Kanho Hakhoe chi*, *36*(4), 596–603. https://doi.org/10.4040/jkan.2006.36.4.596

Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Shaohua, H., & Zhang, B. (2020). Online mental health services in China during the COVID-19 outbreak. *Lancet Psychiatry*, *7*(4), E17-E18. doi: https://doi.org/10.1016/S2215-0366(20)300077-8

McKenna H. (2020). Covid-19: Ethical issues for nurses. *International journal of nursing studies*, *110*, 103673. https://doi.org/10.1016/j.ijnurstu.2020.103673

Mental Health. (2021, September 3). Retrieved from https://www.cdc.gov/mentalhealth/index.htm

Mimoun, E., Ben Ari, A., & Margalit, D. (2020). Psychological aspects of employment during

the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy, 12*(S1), S183- S185. doi: https://doi.org/10.1037/tra0000769

Moller, A. C., Olafsen, A. H., Jager, A. J., Kao, A. C., & Williams, G. C. (2021). Motivational Mechanisms Underlying Physicians' Occupational Health: A Self-Determination Theory Perspective. *Medical care research and review: MCRR*, 10775587211007748. doi: https://doi.org/10.1177/10775587211007748

Namikawa, H., Tochino, Y., Okada, A., Ota, K., Okada, Y., Fujioka, K., Yamada, K., Watanabe, T., Nakagama, Y., Kido, Y., Takemoto, Y., Mizobata, Y., Kakeya, H., Kuwatsuru, Y., Shibata, T., & Shuto, T. (2021). Physical health complaints among healthcare workers engaged in the care of critically ill COVID-19 patients: A single tertiary-care center prospective study from Japan. *Journal of infection and public health*, *14*(9), 1263–1267. doi: https://doi.org/10.1016/j.jiph.2021.08.023

Pearman, A., Hughes, M. L., Smith, E. L., & Neupert, S. D. (2020) Mental Health Challenges of Uniter States Healthcare Professional During COVID-19. *Front. Psychol*, 2020, Aug 13; 11:2065 doi: 10.3389/fpsyg.2020.02065

Ren, S. Y., Gao, R. D., & Chen, Y. L. (2020). Fear can be more harmful than the severe acute respiratory syndrome coronavirus 2 in controlling the corona virus disease 2019 epidemic. *World journal of clinical cases*, *8*(4), 652–657. https://doi.org/10.12998/wjcc.v8.i4.652

Rubin, G. J., & Wessely, S. (2020). The psychological effects of quarantining a city. *British Medical Journal*, 368, m313.

Santarone, K., McKenney, M., & Elkbuli, A. (2020). Preserving mental health and resilience in frontline healthcare workers during COVID-19. *The American journal of emergency medicine*, *38*(7), 1530–1531. https://doi.org/10.1016/j.ajem.2020.04.030

Shechter, A., Diaz, F., Moise, N., Anstey, D. E., Ye, S., Agarwal, S., et al. (2020). Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *Gen. Hosp. Psychiatry*, *66*, 1–8. doi: 10.1016/j.genhosppsych.2020.06.007

Shubayr, M. A., Mashyakhy, M., Al Agili, D. E., Albar, N., & Quadri, M. F. (2020). Factors Associated with Infection-Control Behavior of Dental Health-Care Workers During the COVID-19 Pandemic: A Cross-Sectional Study Applying the Theory of Planned Behavior. *Journal of multidisciplinary healthcare*, *13*, 1527–1535. https://doi.org/10.2147/JMDH.S278078

Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review. *Asian journal of psychiatry*, *51*, 102119. https://doi.org/10.1016/j.ajp.2020.102119

Usher, K., Durkin, J., & Bhullar, N. (2020). The COVID-19 pandemic and mental health impacts. *International journal of mental health nursing*, *29*(3), 315–318. https://doi.org/10.1111/inm.12726

Vaziti, H., Casper, W. J., Waybe, J. H., & Matthews, R. A. (2020). Changes to the work-family interface during the COVID-19 pandemic: Examining predictors and implications using latent transition analysis. *Journal of Applied Psychology*, *105*(10), 1073-1087. doi: https://doi.org/10/1037/ap10000819

Verger, P., Scronias, D., Dauby, N., Adedzi, K. A., Gobert, C., Bergeat, M., Gagneur, A., & Dube, E. (2021) Aptitudes of healthcare workers towards COVID-19 vaccination: a survey in France and French speaking parts of Belgium and Canada, 2020. *Euro Surveill*, *26*(3) doi: https://doi.org/10.2807/1560-7917.ES.2021.26.3.2002047

Watkins, A., Rothfeld, M., Rashbaum, W.K., & Rosenthal, B.M. (2020). Top E.R. Doctor Who Treated Virus Patients Dies By Suicide.https://www.nytimes.com/2020/04/27/nyregion/new-york-city-doctor-suicide-coronavirus.html Accessed 10th September 2021.

Weaver, M. D., Landrigan, C. P., Sullivan, J. P., O'Brien, C. S., Qadri, S., Viyaran, N., Wang, W., Vetter, C., Czeisler, C. A., & Barger, L. K. (2020). The Association Between Resident Physician Work-Hour Regulations and Physician Safety and Health. *The American journal of medicine*, *133*(7), e343–e354. https://doi.org/10.1016/j.amjmed.2019.12.053

World Health Organization. (2021). WHO Coronavirus Disease (COVID-19) Dashboard. https://covid19.who.int

Zhang W.R., Wang K., Yin L., Zhao W.F., Xue Q., Peng M. 2020. Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in China. *Psychother Psychosom.* 89:242–250.

Zhou, T., Guan, R., & Sun, L. (2021). Perceived organizational support and PTSD symptoms of frontline healthcare workers in the outbreak of COVID-19 in Wuhan: The mediating effects of self-efficacy and coping strategies. *Applied psychology. Health and well-being*, 10.1111/aphw.12267. doi: https://doi.org/10.1111/aphw.12267