

Embracing Change: A Mindful Medical Center Meets COVID-19

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Abstract

Background: Healthcare professional (HCP) burnout transcends clinician job title and role, thus creating a need for interprofessional strategies to address burnout. The organizational framework of offering employer-sponsored mindfulness programming to HCPs sets the stage for an orchestrated, mindful response to COVID-19.

Objective: This single arm pre-post interventional research tested changes in measures of burnout, resilience, perceived stress and work engagement for interprofessional HCP faculty and students participating in *Mindfulness in Motion (MIM)*, a novel eight-week multimodal evidenced-based onsite intervention.

Methods: A Graduate Medical Education (GME) pilot of *MIM* was expanded to target inter-professional resiliency within an academic health center. *MIM* is the core offering of the Gabbe Health and Wellness program for students, staff, faculty, and residents and is embedded across the entire medical center.

Results: The faculty/student role demographic categories (n = 267) included resident physicians, resident chaplains, attending physicians, medical center faculty, and hospital administrative/managerial clinical staff. These cohorts demonstrated significant 27% reduction in participants meeting burnout criteria. Total burnout was determined by scores on subscales of emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA) of the Maslach Burnout Inventory (MBI). There was a highly significant pre/post decrease in the in the emotional exhaustion (p < 0.00001) and depersonalization scores (p < 0.001), with highly significant increase in the personal accomplishment (p < 0.00001) scores. Resilience, as measured by the Connor Davidson Resiliency Scale (CDRS), significantly increased (p < 0.00001), alongside a significant increase (p < 0.00001) in the total Utrecht Work Engagement Score (UWES) and a significant decrease in scores on the Perceived Stress Scale (PSS) (p < 0.00001).

Conclusion: *MIM* significantly reduced burnout and perceived stress, for interprofessional (HCP) faculty and staff, while increasing resilience and work engagement in a large healthcare system. These results paved the way for an organizational response that utilized mindfulness to empower HCPs to navigate through the novel challenges presented by COVID-19.

Keywords

mindfulness, healthcare system, employer-sponsored programming, COVID-19, healthcare professional, burnout

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Introduction

A health system that has systematically provided healthcare professionals (HCPs) with preventative mindfulness training, enabling them to “check in” with their inner experience so that they can respond rather than react to various clinical stresses, points to a medical center aspiring to be a “Mindful Medical Center”. Defined, a Mindful Medical Center refers to an organization that

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creates an environment for HCPs to integrate mindful practices and ideology into their everyday routine to maximize HCP well-being and compassionate patient care. This is accomplished by leadership, time, energy and financial investment in employee wellness, including pragmatic mindfulness training. Defined in this way, a Mindful Medical Center creates an environment supportive of mindful practices for the wellbeing of HCPs and for the organization as a whole, recognizing the impact this has on patient care quality.

If anything might elucidate the value of a health system investing time, energy, and money into mindfulness training of its employees, it is a sudden pandemic. Mindfulness programming that was delivered prior to the advent of COVID-19 may have primed employees to utilize wellness resources when they needed it most.

For the two years preceding the COVID-19 pandemic, Ohio State University Wexner Medical Center (OSUWMC) devoted time and resources into assessing what was truly needed to create a Mindful Medical Center, financially and organizationally, for employees to deliver quality patient care. Intentionally and systematically, the Gabbe Health and Wellness initiative was launched, with mindfulness programming as the cornerstone – offered free of charge and during work hours to all employees of the health system at OSUWMC. This aligned with recent literature¹ that identified clinician well-being as severely threatened by increased demands and stress, burdensome tasks, and high rates of depression, burnout and suicide, recognizing the downstream impact this has on patient quality and safety. Our approach has been to address human connection in the practice environment, while concurrently offering programming to boost caregiver resilience in lieu of simply offering individual resilience training.² Funded by the health system and led by a team effort comprised of the Executive Director of the University Hospital, Chief Clinical Officer, Associate Dean of Graduate Medical Education, Associate Chief Nursing Officer of Critical Care and Emergency Services, Wellness Program Coordinator, and a mindfulness curriculum designer and researcher, the Gabbe Health and Wellness initiative launched interprofessional programming system-wide. Featured in the National Academy of Medicine's report,³ our desire was to birth a Mindful Medical Center, and we put the time, energy, leadership and resources toward that goal.

There is an immense body of literature detailing the benefits of mindfulness practice on physical and mental health outcomes, yet there is a paucity in research on the wide-scale implementation of mindfulness programming in organizations. Organizations that house high-stress professions such as HCPs, where workers daily experience demanding situations requiring high levels of personal engagement, are at risk of burnout.^{4,5} When stress

is a part of the work environment, it is difficult to control and can affect the individual's health, wellbeing, and his/her ability to fully function. Stress affects not only psychological health but can contribute to increased physical health risks as well.⁶ Employees experiencing chronic stress take sick leave more often than those who report lower amounts of stress.⁷ Stress and burnout increase the risk of other medical conditions such as cardiovascular diseases, depression, suicide, and drug abuse disorders. A stressful work environment is common for all types of HCPs, and associations have been found between workplace stressors and changes in the physical and mental health of doctors and nurses.⁴ One in three physicians experiences burnout, and an estimated 300-400 physicians commit suicide each year.^{5,8} Unfortunately, these numbers are suspect of underreporting. Burnout impacts healthcare delivery, as associations were found between surgeon depersonalization and increased medical errors,⁹ as well as between nurse burnout and increased patient infections.¹⁰ Wellness initiatives endorsed by organizations have the potential to improve worker and systems safety, work quality, and system resiliency, as well as reduce errors, personnel injuries and turnover.¹¹

The World Health Organization now recognizes burnout as a medical diagnosis.¹² The ICD-11 defines burnout as a syndrome resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: 1) feeling of energy depletion or exhaustion, 2) increased mental distance from one's job or feelings of negativism or cynicism related to one's job, and 3) reduced professional efficacy.¹² Studies show that burnout is negatively associated with wellbeing,¹³ which the Centers for Disease Control and Prevention (CDC) defines as "a dynamic and relative state where one maximizes his or her physical, mental, and social functioning in the context of supportive environments to live a full, satisfying, and productive life."¹⁴ Health systems can provide programming to help curb the rates of burnout among HCPs, and it has become evident that this may be even more needed as COVID-19 persists.

Managing employee stress and wellness has increasingly become a critical element of public health,⁷ and has become especially salient as front line providers serve a critical role in addressing COVID-19. Fear, stress and anxiety have reached unprecedented levels across HCPs, especially for those fearful of bringing the virus home to their loved ones. To proactively address this public health concern, it is critical for health systems to prepare for the mental-health surge among healthcare workers.⁶

Prior to COVID-19, research illustrated that Mindfulness-Based Interventions (MBIs) have been effective in reducing negative stress-related outcomes for HCPs within health systems.¹⁵ Mindfulness is

described as a nonjudgmental, present-moment awareness with non-reactivity to introspective perceptions. Mindfulness interventions have demonstrated efficacy in shaping emotion regulation strategies when facing emotional events,¹⁶ and also in promoting cognitive resilience by curbing attentional lapses in high stress occupations.¹⁷ HCPs need both of these skill sets as clinical practice requires focused attention and emotional regulation to provide quality patient care.

This manuscript details the results achieved via offering evidence-based mindfulness programming to all OSUWMC employees by a program designed specifically for the HCP workplace: *Mindfulness in Motion (MIM)*. *MIM*^{16–19} is an MBI that was designed by the first author and has been highly utilized to address burnout and resilience for HCPs at this large tertiary academic medical center. It is an 8-week program delivered during work, onsite, created to help HCPs build resiliency skills within the work environment. This topic is important and relevant as it is widely accepted that burnout greatly impacts the work environment for the healthcare professional and subsequently patient care,^{9,10} but little data (or shared information) exists around the efficacy of organization-sponsored programming.

Additionally, we explore the hypothesis that the results achieved via organizationally sponsored *MIM* may have paved the way for a mindful organizational response, empowering HCPs to navigate through the novel challenges presented by COVID-19.

Reported in this manuscript are 1) Research results of *MIM* (n = 267) delivered pre-COVID-19, and 2) subsequent non-research usage rates of COVID-19 specific virtually-delivered mindfulness videos.

Methods

Study design was a non-randomized single arm, pre/post study at Ohio State University Wexner Medical Center (OSUWMC). Study approval (study number 2017B0321) was obtained by The Ohio State University Institutional Review Board prior to participant recruitment.

Participants

Any employee, 18 years or older, working at OSUWMC that had internet access to complete daily mindfulness practice via the *MIM* password protected website was eligible to participate in the *MIM* programming offered by the Gabbe Health and Wellness initiative. Only participants who granted consent to have their website data reported were eligible to be in this study. Consent to participate in the research and pre/post intervention surveys were distributed through the secure OSU password

protected website, <https://mindfulnessinmotion.osu.edu/home>. Trained facilitators were blind to which participants consented to be part of the research.

Measures

Assessments of burnout, perceived stress, resilience and work engagement were obtained by self-report questionnaires that took participants 10–20 minutes to complete at pre/post the 8-week *MIM* intervention. Assessments were completed 1 week before the intervention start (Pre-test), and 1 week post-intervention (Post-test).

Surveys. The following self-report questionnaires were completed by participants one week prior and one week after the 8-week *MIM* intervention:

Maslach Burnout Inventory (MBI). The MBI-Human Services Survey contains 22 items measuring three elements of burnout: emotional exhaustion, depersonalization, and sense of personal accomplishment, on a 0 to 6 scale. Cronbach's α was 0.90 for Emotional Exhaustion, 0.79 for Depersonalization, and 0.71 for Personal Accomplishment.²⁰

Perceived Stress Scale (PSS). The 10-item PSS is a reliable measure of the degree to which situations are perceived as stressful on a 5-point scale during the last month.²¹ Cronbach's α was 0.90 for this scale.

Connor-Davidson Resilience Scale (CD-RISC). Resilience corresponds to the ability to maintain good functioning in face of stress or trauma. CD-RISC scores have been shown to increase after treatments designed to improve resilience.²² The 10-items version of the CD-RISC has been validated with good reliability (alpha value of 0.85) and validity to differentiate individuals functioning well after adversity from those who are not.²³

Utrecht Work Engagement Scale (UWES). The UWES has 9 statements on a scale from 0 to 6, with a total score and three subscales for vigor, dedication, and absorption.²⁴ Internal consistency of the scale was demonstrated with Cronbach's α of 0.92 for the total score, 0.86 for vigor, 0.86 for dedication, and 0.79 for absorption subscales.

Analysis

Scores for each assessment were tallied and categorized according to the respective scoring guideline. The continuous values were analyzed using T- tests to determine any statistically significant change using pre and post data. There was a total of 267 participants who

consented to have their scores included in the analysis and had full pre/post data sets. All analyses were conducted using the Stata/SE 16 statistical package.

Intervention

This study utilized *Mindfulness in Motion (MIM)* for HCPs, a replicable mindfulness intervention designed for easy delivery at work (utilizing gentle yoga stretches along with teaching mindful awareness skill development), which has proven to be both pragmatic and effective for HCPs in tempering stress reactivity and reducing emotional exhaustion.¹⁷ The *MIM* protocol has been previously published¹⁶ and is currently being taught by trained facilitators in efforts to mitigate HCP burnout. The weekly group *MIM* meeting includes reflection, didactic learning about the science of mindfulness, community building, mindfulness meditation, and gentle yoga stretches, conducted with relaxing music in the background. Individual practices to be done in between the weekly meetings are audio or video practices that mimic the weekly yoga/mindfulness meditation portion of the weekly meeting, with the same music repeated in the background. These individual practices are accessed via smartphone or computer on the *MIM* password protected website <https://mindfulnessinmotion.osu.edu/h>

ome. The *MIM* weekly group meeting structure (see Figure 1) is described below, with each segment approximately 12 minutes long. Each cohort of the *MIM* intervention has a trained fidelity checker, a role filled by a student research assistant, engaged to ensure protocol fidelity. Any discrepancies with the protocol fidelity are discussed with the *MIM* program facilitator when and if they arise.

Results

465 participants consented to be part of the research out of the total 670 HCPs who participated in the *MIM* program (69.4%). Out of those 465 that consented, 267 participants had full pre/post data sets (57.42%). 81% of the 267 participants identified as female; 19% identified as male. 81.72% of participants identified as white, 7.46% as black, and 10.82% as other minorities. Of the 267 participants, 5.22% identified as Hispanic or Latino. For the 267 participants, the average attendance rate was 83.88% attendance over the 8 sessions. Each of the 8 individual *MIM* sessions qualified for one Continuing Education (CE) credit; for the 267 participants, 160 CE credits were awarded to participating RNs/APRNs. The application for Continuing Medical

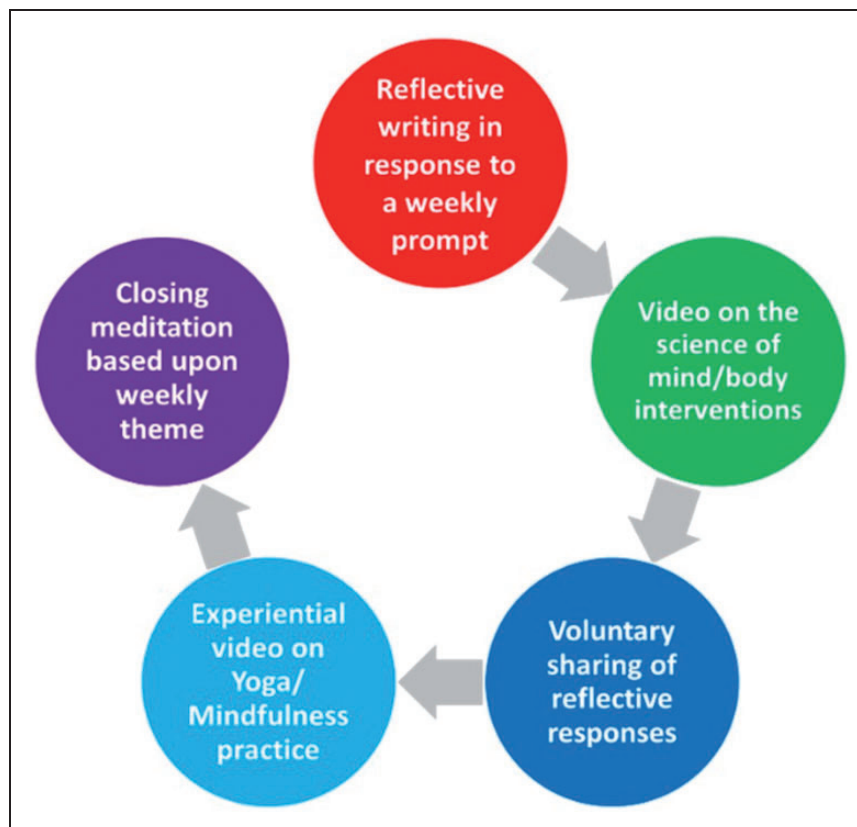


Figure 1. Essential elements of the *MIM* protocol.

Education (CME) credit approval has not yet been submitted but is in process.

Interprofessional Roles Within the Health System

The 2017–2019 *MIM* participant faculty/student role demographic categories (n = 267) included 26% physicians, 7% chaplains, 2% pharmacists, 3% physical therapist, 4% patient care assistant, 26% Registered and Advanced Practice Nurses, 2% dieticians, 13% other clinical staff, and 13% non-clinical healthcare staff (see Figure 2).

Burnout, Work Engagement, Perceived Stress, Resilience

Pre-post intervention changes in measures of burnout, perceived stress, work engagement, and resilience for interprofessional HCP faculty and staff are reflected in Figure 3.

Burnout was defined as meeting burnout criteria on one or more of the three subscales of emotional exhaustion, depersonalization, and personal accomplishment on the Maslach Burnout Inventory.²⁵ There was a significant 27% reduction in participants meeting burnout criteria by intervention end as compared to baseline. By eight-week intervention end, there was also a highly significant decrease in the in the emotional exhaustion (p < 0.00001) and depersonalization score (p < 0.001),

with highly significant increase in the personal accomplishment (p < 0.00001) Maslach Burnout Inventory subscales as compared to baseline.

There was a significant increase (p < 0.00001) in the total Utrecht Work Engagement Score (UWES). In addition, each of the subscales showed significant results. The vigor subscale, representing energy levels and persistence through obstacles, showed significant increase pre to post intervention (p < 0.00001). The dedication subscale, assessing concentration and involvement in one’s work, also showed a significant increase from pre to post (p < 0.00001). Finally, the absorption subscale, measuring attachment and ability to positively get lost in one’s work, showed a significant increase pre to post intervention (p < 0.00001).

Regarding perceived stress and resilience, there was a highly significant decrease in scores on the Perceived Stress Scale (PSS) (p < 0.00001) pre-post *MIM*, while resilience, as measured by the Connor Davidson Resiliency Scale (CDRS) significantly increased (p < 0.0001).

Discussion

The present study evaluated the effects of *Mindfulness in Motion*, a workplace MBI, on healthcare professionals’ levels of burnout, stress, resilience, and work engagement. Burnout (p < 0.00001) and perceived stress (p < 0.00001) significantly decreased pre to post, while

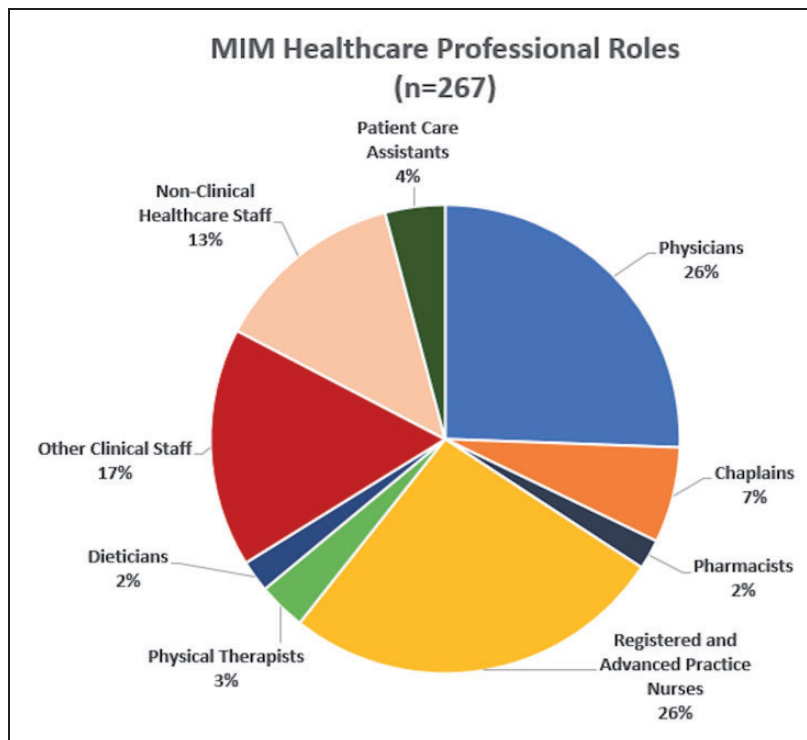


Figure 2. Interprofessional roles of *MIM* participants.

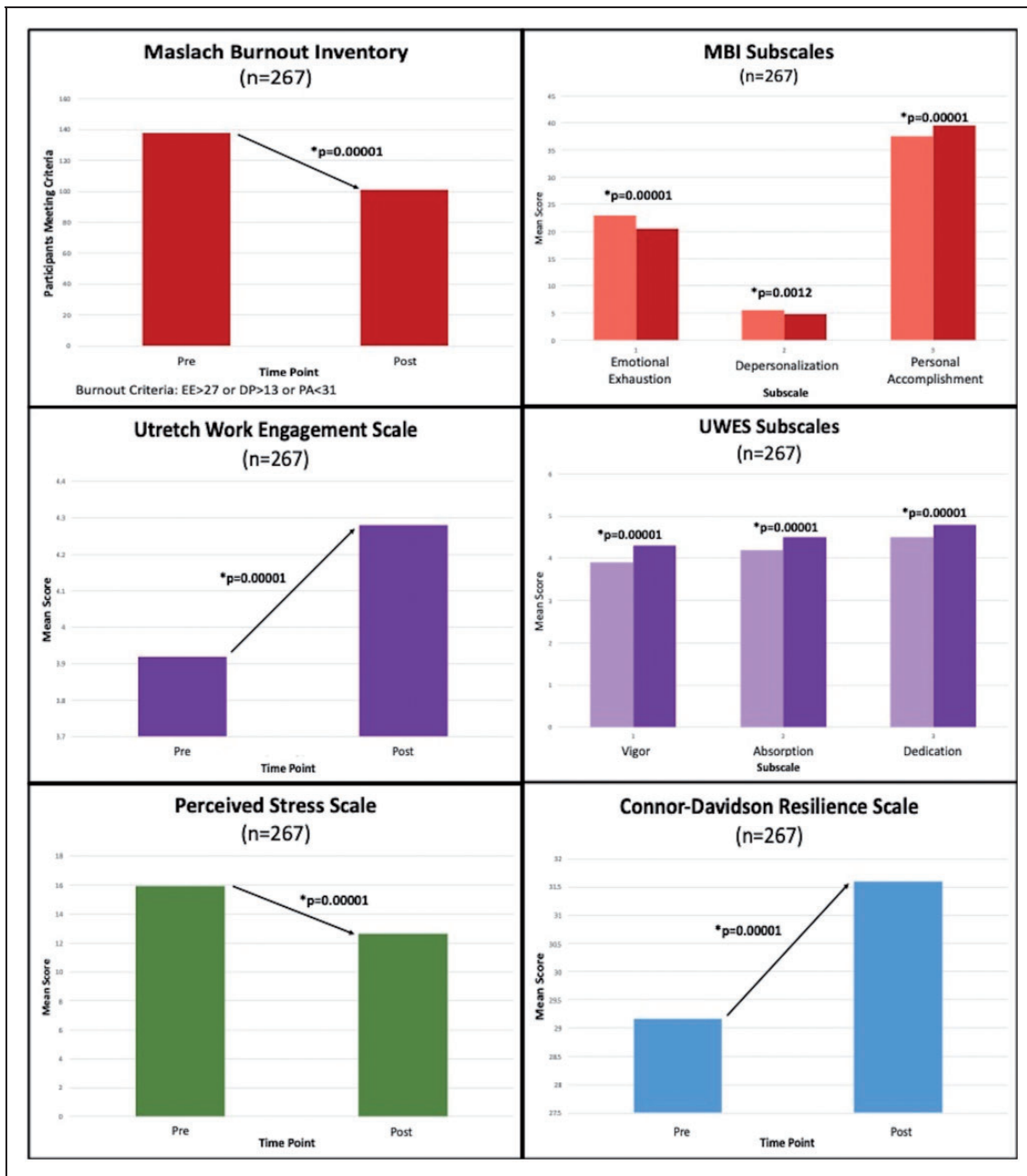


Figure 3. Pre-post outcome measures.

resilience ($p < 0.00001$) and work engagement ($p < 0.00001$) significantly increased. The large decrease in the percentage of participants who qualified as burned out (27%) at program end as compared to baseline was a change in which the health system is extremely invested. Participants voiced appreciation that the organization is investing in their wellbeing by proactively offering *MIM*.

Burnout has been increasingly documented over the past decade, especially in high-stress professions such as HCPs^{1,2,4-10,26,27} with health systems increasingly aware of the high costs associated with burnout.

Mindfulness-based interventions addressing burnout among HCPs are in high demand as the evidence supporting the success of these interventions such as *MIM* is strong,^{28,29} and the benefits span a range of outcomes. Not only does mindfulness programming improve burnout, perceived stress, resilience, and work engagement, but it is also associated with a host of positive physical health outcomes,³⁰ quality of life variables,¹⁷ and sustained mental health benefits.²⁸ Because burnout is comprised of factors affecting physical, social, and mental wellbeing, the effects of reducing it for HCPs at the

worksite are widespread, impacting patient care and public health. Thus, reducing burnout and perceived stress, while increasing resilience for HCPs that operate all aspects of a health system is important and needs to be considered when designing stress reduction programming.

The significant increases in resilience and work engagement post *MIM* are two other outcomes that the health system deemed critical to creating an environment that supports HCP well-being, with downstream impact on the quality of patient care delivery. Mitigating burnout while increasing work engagement/resilience among HCPs may increase the likelihood that as a health system, the HCPs will be able to mobilize and pivot to respond to crisis such as COVID-19.

Our previous research had shown that *MIM* can reduce biological and behavioral markers of reactivity to stress and indexes of burnout among HCPs.^{17,18} This is in line with other MBI research that documents significantly reduced musculoskeletal symptoms, levels of anxiety, depression, and pain with increased self-compassion and quality of life¹⁵ among HCPs. Additionally, individuals have reported lower sense of isolation, loneliness, and increased social interactions, which can improve mental health.³⁰ Lastly, individuals have reported a decrease in on-duty accidents and time off-work, and an increase in productivity while on the job.³¹ Mindful awareness of the unexpected can also be a critical element of an organizational learning framework for healthcare organizations to create a culture of safety and wellbeing,³² which may be a critical factor in being able to pivot in times such as COVID-19.

Factors driving the success of *MIM* programming included offering the program onsite multiple days/times per week, inclusion of interprofessional employees of the health system, and the creation of videos to ensure high fidelity of intervention delivery. Literature shows that when mindfulness programming is integrated into the workday, results are better and participant attendance and satisfaction rates are higher.^{28,34} To enable that in our organization, *MIM* needed to be sponsored by the health system so that participants viewed this as part of their job role. We began by piloting delivery of *MIM* for physician residents,¹⁸ then targeted residency program directors and various department and nurse managers, in addition to health system leadership for intervention participation. Intentionally offering the programming to leaders was meant to elicit leadership investment in employee mindfulness programming for employees of all levels and roles, to improve the work environment.

Unsurprisingly, the literature shows that multiple time offerings of mindfulness interventions lead to better satisfaction and attendance rates.^{35,36} This allows HCPs on different shift schedules to take

advantage of the program, increasing the reach of the intervention. As more HCPs begin to practice mindfulness, the organization as a whole begins to shift towards an environment that supports non-judgmental acceptance of experience, which may be foundational to resilience building. Just as burnout has been noted to be contagious, resilience can have a collective positive effect, shifting the dynamic of a unit or department, one individual at a time.³⁶

In other organizations, a barrier to the generalized utilization of MBIs within the workplace though has been the paucity of trained facilitators in mindfulness.³⁷ Prior to the onset of the pandemic, to address the need for large scale dissemination of *MIM* within OSUWMC, videos were created by PI Klatt, and HCP facilitators were trained to deliver the videos and facilitate discussion, per the group *MIM* weekly protocol.¹⁶ Week-long training sessions were conducted to train HCP mindfulness practitioners to become *MIM* facilitators, learning the specifics of teaching the *MIM* protocol. The *MIM* train-the-trainer model allowed the *MIM* intervention to be scaled for larger dissemination, a critical move forward to accommodate the number of interested participants. The trained facilitators utilized the video recordings for the didactic and experiential pieces of the *MIM* weekly group meeting (enhancing fidelity of the intervention), while leading community building discussion according to the established protocol. Comparing outcome measures between in-person and partial-video delivered *MIM* showed no significant differences between the two modes of *MIM* delivery on the outcome measures of emotional exhaustion, personal accomplishment, perceived stress, resilience, or work engagement.³⁸ Unintentionally, but perhaps fortuitously, the pre-COVID-19 incorporation of virtual components into the *MIM* research protocol may have primed the HCPs for virtually delivered non-research-based mindfulness programming to help them through the pandemic.

This study adds to the current literature by documenting the results achieved by pragmatic, organizationally sponsored programming, and in detailing the facilitators that were attended too (various time offerings, incorporation into the workday, partial video delivery, HCPs feeling supported by the institution, etc.) that were intentional, and contributed to the positive results.

In the current era of the COVID-19 pandemic, virtual programming is by necessity increasing in both popularity and demand. Taking this into consideration, the Gabbe Health and Wellness initiative developed short 5-6-minute virtual mindfulness resources specific to helping HCPs address the pandemic. In the initial chaos of the pandemic, the thought was that HCPs would need something akin to a mindfulness “rescue inhaler” to help them get through the initial confusion and changing

Table 1. Views of COVID-19 Specific Mindfulness Videos.

Length/format	Number of total views in first 60 days	Number of total views in first 90 days	Titles of most popular videos
5–6 Minute Daily Mindfulness Practices	8,471	10,896	Letting Go of the Uncontrollable Understanding Willpower Turning Around Exhaustion Why Can't We Sleep? Anxiety is Contagious
30-Minute Weekly Mindfulness Booster Sessions	1,182	1,720	COVID-19: The Fluidity Teacher From COVID-19 to Calm Leading the Way Through and Beyond COVID-19 Adaptability: Where do We Score? 2020 the Year of Testing Mindfulness: From COVID-19 to Civil Protest

health system protocols associated with dealing with COVID-19. The 5–6-minute videos were designed and filmed with input from frontline and support HCPs with the hopes that they would be helpful to all. Yet it was unknown and uncharted territory if the 5–6-minute videos would be utilized as they were stand-alone resources available to all HCPs at OSUWMC, not part of a specific protocol like *MIM*.

Current literature predicts individual responses to the COVID-19 pandemic will be similar to those that occurred after the 9/11/01 terrorist attacks. The likelihood of seeing high rates of post-traumatic stress disorder, depression, and substance abuse among healthcare professionals is high.³⁹ Focus groups that included interprofessional front line providers were held during the first week of the COVID-19 pandemic. Findings revealed a variety of “requests” that encompassed holistic support methods, many of which included aspects of mental health support. Psychological first aid, individual and group counseling and resiliency training, provided virtually and in small groups with appropriate physical distancing, were identified as evidence-based sources of support to better manage anxiety, insomnia, and depression.⁴⁰

In line with the research, intentional partnerships were developed within OSUWMC between Employee Recognition, Nutrition Services, The Employee Resource Center, Gabbe Health and Wellness, Chaplaincy, The Stress, Trauma, and Resilience Program, Health System Marketing, and various other individuals focused on HCP well-being to provide resources in three main areas: mental health, well-being, and spiritual wellness. The Employee Resource Center also connected with those HCPs who needed housing, food, childcare, transportation, or other assistance with appropriate resources.

Regarding mindfulness initiatives specifically, monthly ongoing *MIM* boosters, typically offered to HCPs that have completed the 8-week *MIM*, were opened to

any OSUWMC HCP, and the frequency was increased to weekly virtual delivery of a 30-minute combination of didactic instruction and experiential mindfulness practice. See Table 1 for detailed number of views for both the 5–6-minute videos and the 30-minute weekly *MIM* booster sessions.

The 5-minute videos were viewed over 8,400 times in the first 60 days of availability, which although is not research based data, speaks to the overwhelming need for HCP support during the pandemic. By 90 days after availability, views had increased to over 10,800 views, reinforcing that the stresses of the pandemic are ongoing, and that continued support is needed. Additionally, during COVID-19, *MIM* booster sessions that were delivered virtually had an average attendance rate of 118 participants - triple that of the typical in-person booster.

It became evident that in response to the COVID-19 pandemic, mindfulness in the workplace is needed now more than ever. In response, OSUWMC has already embarked upon a variety of mindfulness programming for OSUWMC employees, including the transition of in-progress mindfulness cohorts to a virtual format that preserves the structure of the program, via weekly hour-long Zoom *MIM* lecture, discussion and practice, the creation of 30 5–6-minute mindfulness videos that can be accessed from any device, the adaptation of CE offerings to virtual *MIM*, and piloting fully virtual cohorts of the *MIM* program. These ongoing efforts represent the continuation of the mission to create a Mindful Medical Center at OSUWMC.

Limitations and Future Directions

A limitation of the present study is the research design – it was a single-arm pre/post design, rather than a randomized controlled trial. With the absence of a control group, results can only be compared pre to post, limiting

the internal validity of the results. In addition, the present study was conducted at one academic medical center, rather than across multiple institutions. While there were a variety of HCP roles presented, a study which includes multiple institutions increases external validity by reducing the effects of factors specific to one institution. Additionally, the results presented do not include data on sustainability of the *MIM* intervention outcomes, limiting the scope of the conclusions. Health behavior literature shows that initial change is possible, yet sustaining the change is difficult.^{41,42} Future research should focus on measuring sustainability of the positive effects of MBIs, such as *MIM*, and detail ways to increase sustainability.

Future directions include testing *MIM* in a randomized controlled trial with a comparator arm that could be used in a future multisite study, designed to study the efficacy of *MIM* to impact HCP burnout and wellbeing for future large-scale dissemination. COVID-19 has magnified the need for health systems to sponsor programming that impacts this highly stressed and in-need population, whose own wellness greatly impacts the delivery of healthcare to the public.

Lastly, the COVID-19 pandemic, which has shifted almost every previously in-person program to either be cancelled or transitioned online, has highlighted the need to verify that virtually-delivered mindfulness programming produces the same results as in-person delivery. This demonstrates the need to examine feasibility of virtual mindfulness interventions in future studies.

Conclusion

The work environment of HCPs carries stress, uncertainty, and exhaustion, all of which can lead to burnout. The burnout crisis among HCPs has the potential to jeopardize patient care and safety, warranting the need for interventions that 1) can be implemented at the workplace, 2) are feasible and acceptable to HCPs, and 3) can reduce burnout levels, while increasing resilience skills. *MIM* represents the culmination of all these aims, as an evidence-based workplace mindfulness program shown to significantly decrease burnout and perceived stress and significantly increase resilience and work engagement.

The mindful response to COVID-19 at OSUWMC exemplifies that burnout can be mitigated by system-sponsored programming, which validates an awareness that both the individual and the organization have important roles to play in addressing HCP burnout. Both are responsible for creating, maintaining, and nurturing a mindful work environment that is enriching for both HCPs and patients. As stated before, just as burnout is contagious, resilience can have a collective positive effect,³⁶ especially when a health system systematically works towards becoming a Mindful Medical Center

where HCPs prefer to work and patients notice the difference of being cared for in a health system that cares for its employees.


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