

2020

The role of mindfulness based stress reduction programming on clinician burnout and professional fulfillment at Boston Medical Center

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BOSTON UNIVERSITY
SCHOOL OF MEDICINE

Thesis

**THE ROLE OF MINDFULNESS BASED STRESS REDUCTION
PROGRAMMING ON CLINICIAN BURNOUT AND PROFESSIONAL
FULFILLMENT AT BOSTON MEDICAL CENTER**

by

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B.S., University of Rhode Island, 2014

Submitted in partial fulfillment of the
requirements for the degree of
Master of Science

2020

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ACKNOWLEDGEMENTS

I sincerely thank Dr. Robert Saper and Gabrielle Farquhar for their wealth of knowledge, guidance and support over the past year. I am humbled by the new perspectives I gained on the practice of Medicine in today's busy world. The completion of this thesis could not have been accomplished without my research team and their endless efforts with recruitment and data collection. I thank Dr. Susannah Rowe for her help with participant recruitment. I thank Bonita Jones for her experience in leading meditations as an MBSR certified instructor. I thank Dr. Janice Weinberg and Adlin Pinheiro for their incredible expertise in biostatistics and assistance with data analysis.

Through Dr. Saper and Miss Farquhar's Mindfulness Based Stress Reduction (MBSR) variant program implementation and research, I learned about quantitative and qualitative data collection in a field new to me: Integrative Medicine. Dr. Saper and Miss Farquhar have demystified mindfulness as an exciting and scientifically backed movement in healthcare to address the career burnout epidemic in medicine. As Sherpas navigate new hikers through mountains terrains, so too does Dr. Saper and Miss Farquhar carry the torch to light the way for hospital workers to explore the mindful path of self-discovery. They guide colleagues through the peaks and valleys of stress and mindfulness practice in the workplace and beyond. Along the way, the mindfulness journey allows participants to feel more present in day-to-day life, feel more fulfilled, and feel less burnout. Hearing

first hand experiences of the physical and emotional exhaustion clinicians face, I saw the personal transformation mindfulness made on study participants. Many renewed their ‘spark’ in their practice of medicine and were reminded of why they pursued medicine in the first place. The community this research movement has built at Boston Medical Center is astounding. Uniting silos within medicine under a common goal of recognizing burnout, studying it critically, and bringing mindfulness tools to those who need it, is a movement I am proud to be a part of. As an aspiring physician, I will carry this profound experience with me.

I thank the powers that be for allowing me to find a thesis project that truly aligns with my beliefs. Mindfulness and the study of medicine were separate entities until I started this research. As a yoga teacher and Medical Sciences masters student, connecting my two passions into one research project was endlessly rewarding. I hope to carry Dr. Saper and Miss Farquhar’s mindfulness torch along my medical journey and humbly allow all those who are curious to follow.

**THE ROLE OF MINDFULNESS BASED STRESS REDUCTION
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ABSTRACT

Career burnout, defined by feelings of high emotional exhaustion, depersonalization, and low personal accomplishment, is prevalent amongst clinicians. A literature search established mindfulness-based interventions are growing in popularity to reduce or prevent burnout in healthcare. One type of mindfulness-based intervention is Mindfulness Based Stress Reduction (MBSR) programming. MBSR, an eight-week course, has been shown to reduce stress and improve quality of life and self-compassion. Our research aims to investigate the current burnout landscape in the field of medicine, and evaluate the effects of a MBSR variant course on clinician burnout and professional fulfillment at Boston Medical Center (BMC). Through the creation and execution of an eight-week MBSR variant course, *Mindfulness Training for BMC Clinicians: A Program for Stress Reduction, Vitality, and Professional Development*, we surveyed clinicians before the course, after the completion of the course, and two months after the completion of the course. The surveys were used to collect quantitative and qualitative data; we employed mixed methods analysis to statistically evaluate these data. The survey results were used

to calculate numerical professional fulfillment and burnout scores for each clinician.

Changes in scores were evaluated over time. These data suggest participants' professional fulfillment increased and burnout decreased from baseline measures to post-intervention measures, and results were sustained two months after the course was completed.

Likewise, our qualitative data revealed approximately two-thirds of participants remarked having greater value on self-care. The vast majority of participants plan on continuing their mindfulness practice after the course and would recommend the MBSR variant course to their colleagues. Mindfulness based interventions show promise in increasing professional fulfillment and alleviating aspects of career burnout in clinicians at Boston Medical Center (BMC). Continuation of our pilot course will allow our team to increase our sample size and continue to evaluate and modify methods to best serve clinicians and other hospital employees in the efforts to increase their overall wellbeing.

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LIST OF ABBREVIATIONS

AI	Appreciative Inquiry
AMA	American Medical Association
BUMG	Boston University Medical Group
CI	Confidence Interval
CME	Continued Medical Education
CMO	Chief Medical Officer
DIT	Diffusion of Innovations Theory
EHR	Electronic Health Records
EMR	Electronic Medical Record
IQR	Interquartile Range
MBI	Maslach Burnout Inventory
MBI-10	Abbreviated (10 item) Maslach Burnout Inventory
MBSR	Mindfulness Based Stress Reduction
N	Sample Size
NP	Nurse Practitioner
PFI	Professional Fulfillment Index
Pharm D	Doctors of Pharmacy
PT	Physical Therapist

QI	Quality Improvement
RCTs	Randomized Controlled Trials
RVU	Relative Value Unit
SD	Standard Deviation
T0	Time Point 0
T1	Time Point 1
T2	Time Point 2

INTRODUCTION

Burnout

In the 1970s, burnout was first defined as a syndrome related to an individual's relationship to work which incorporates high emotional exhaustion, depersonalization, and feelings of low personal accomplishment (Dunne et al., 2019). In addition to the negative emotions associated with burnout, burnout also appears to compromise cognitive control (Durning et al., 2013). Deficits in cognitive control cause limitations in attention, memory, and comprehension (Durning et al., 2013). These skills are needed for individuals to complete their job to the best of their ability. The effects of career burnout not only affect an individual's well-being, when experienced in a larger population of workers, affects institutional wellbeing.

A systematic review of the prevalence of burnout amongst physicians extracted data from 182 studies from 1991 to 2018, estimated overall physician burnout to be approximately 67% (Rotenstein et al., 2018). The prevalence in the general medicine specialty is estimated to be 60% (Spataro et al., 2016). Furthermore, in emergency medicine, a specialty known for its high stress environment, up to 70% of American emergency medicine physicians suffer from burnout (Dunne et al., 2019). Physicians in training appear to be more susceptible to burnout (Durning et al., 2013). As compared to senior

physicians, residents also appear to be more susceptible to burnout effects on clinical reasoning (Durning et al., 2013). Even among resident cohorts, burnout can vary. Particularly, female residents experience higher rates of emotional exhaustion and burnout as compared to male residents (Spataro et al., 2016). Overall, burnout is more prevalent among physicians relative to the general U.S. population (Dyrbye et al., 2014). Considering such a high prevalence of burnout in the medical field, the topic of physician burnout is of particular interest to the field of public health.

Causes of Burnout

One contributing factor to burnout is moral injury. First used to describe soldiers' response to war, moral injury occurs when a soldier witnesses, carries out or learns about actions which transgress his or her deeply held moral beliefs and expectations (Litz et al., 2009). Moral injury in healthcare occurs when a provider is unable to provide high-quality care and healing in the context of the healthcare system ("Physicians aren't 'burning out.' They're suffering from moral injury," 2018). In high-income countries, like the United States, two main motivations to pursue a career in medicine by medical students were found to be scientific motivations and humanitarian motivations. Those who pursued medicine for scientific reasons have an interest in the science of medicine. For those who pursued medicine for humanitarian reasons have a desire to help others (Goel et al., 2018). Likely, clinicians have multiple reasons drawing them to the practice.

Those drawn to medicine by humanitarian motivations, actions which transgress their moral beliefs and expectations to help others, may cause moral injury.

For some physicians, their ‘calling’ into medicine is met with personal sacrifice, for example: loss of sleep, loss of family time, and disregard for their personal health, in service of their goals to provide conscientious care for their patients. Clinicians invest a considerable time into medical training. The dissonance of what their impression of medicine was prior to practicing versus the reality of the practice itself can be jarring. There is the ideal and the reality of practicing medicine. In reality, external pressures on physicians may alter the way in which physicians practice medicine, despite their ideal vision of the practice. An increase in business-oriented healthcare environments, in which profit drives the environment (i.e. volume-based care), may pressure physicians to practice medicine in a way that compromises their perceived high-quality care. For example having short appointment windows and using an Electronic Medical Records (EMR), which helps track business metrics, but takes away from physician-patient interactions during the visit may compromise the quality of care physicians provided. These factors are contributing to the moral injury of healthcare providers.

Failing to meet a patient's needs has a profound impact on physicians. An American Medical Association (AMA) sponsored study of physician satisfaction found physicians'

self-reported ability to deliver high-quality care was associated with overall professional satisfaction. Conversely, obstacles to providing high-quality care (ie. unsupportive practice leadership or payers refusing to cover necessary medical services) were reported as major sources of professional dissatisfaction. Simon Talbot, MD a surgeon at Brigham and Women's Hospital, and Wendy Dean, MD a psychiatrist working in Military Medicine, put it quite eloquently, “Routinely experiencing the suffering, anguish, and loss of being unable to deliver the care that patients need is deeply painful. These routine, incessant betrayals of patient care and trust are examples of ‘death by a thousand cuts.’ Any one of them, delivered alone, might heal. But repeated on a daily basis, they coalesce into the moral injury of health care.” (“Physicians aren’t ‘burning out.’ They’re suffering from moral injury,” 2018).

There are multiple factors identified as contributors of physician burnout. Separate from individual causes of burnout, which are unique to an individual person, there are system factors contributing to physician burnout. Loss of autonomy, decreased control over practice environment, administrative burden, sleep deprivation, lack of work-life balance, risk of malpractice, and exposure to death and illness are some factors identified by physicians as contributing to burnout (Shanafelt, 2009). In 2014, Dr. Thomas Bodenheimer wrote about the systemic factors contributing to the burnout of physicians including increased demands on a physician's time (Bodenheimer & Sinsky, 2014). With

increased patient load, increased electronic communication with providers, and increased metrics like Relative Value Units (RVUs) to meet, physicians report these factors contribute to their stress burden. (Gergen Barnett, 2017). RVUs are financial incentives for providers. Other stressors reported by physicians are the shortcomings of EMR and demands on documentation of visits. For every hour spent with a patient, providers spend one to two hours on EMR and completing administrative tasks related to the visit. Additionally, outside of the office physicians report spending an additional one to two hours of personal time each night on electronic health records (EHR) and clerical work (Sinsky et al., 2016).

Effects of Burnout

As a result of burnout, physician health and mental wellbeing may be impaired. Burnout was associated with psychological ill-health, absenteeism, early retirement, and increased risk of error (Dunne et al., 2019). Those suffering from burnout are more likely to suffer from relationship problems (Dolan et al., 2015). Burned out individuals also have impaired ability to downregulate negative emotions (Golonka et al., 2017). As a result of exacerbated negative emotions, there is an increased risk of substance abuse, depression, and suicidal ideation (Spataro et al., 2016). Although both female and male residents have higher risk of suicide as compared to the general public. The risk for female residents is significantly higher (Spataro et al., 2016). Female residents exhibit a risk for

suicide 130% higher than women of the general public (Spataro et al., 2016). Male physician suicide rates are 40% higher than men in the general population (Spataro et al., 2016). The nationally publicized resident suicide in New York in 2014, further brought the concept of physician burnout distress to the public's attention (Spataro et al., 2016). Consequences of these severe mental health issues among clinicians underscores the importance of identifying effective approaches to enhancing physician well-being and preventing future burnout for both junior and senior clinicians.

Increased research in neurophysiological and neuroimaging is helping expand current knowledge of neural mechanisms underlying emotional processing in burnout syndrome (Golonka et al., 2017). Neuroimaging was used to identify areas of the brain involved with burnout to examine how burnout modulates brain activity during clinical reasoning (Durning et al., 2013). Researchers are finding significant effects of burnout on clinical decision making. Physicians with higher depersonalization survey scores, an aspect of burnout, showed decreased blood flow to certain areas of the prefrontal cortex, an area also strongly used in clinical reasoning (Durning et al., 2013). In a national study, U.S medical students with high emotional exhaustion, another marker of burnout, scored substantially lower on standardized medical knowledge assessments (Durning et al., 2013).

Not only does burnout affect the clinician's mental and physical health, lapses in cognition affects the quality of patient care a clinician provides. With an increase in medical errors, physician burnout has been shown to compromise patient safety (Dunne et al., 2019). In addition to cognitive impairment, there is evidence to support the impairment of emotional processing as well. Burnout was associated with reduced activity in empathy-related brain areas and difficulty in recognizing emotional state of others (Golonka et al., 2017). When physicians experience burnout characterized by depersonalization, they are likely to express feelings of cynicism and detachment toward patients (Dyrbye et al., 2014). Decreased empathy and increased detachment and cynicism may negatively affect the physician-patient relationship. Physician burnout appears to influence the degree of trust patients have in their physician, their satisfaction with the care provided, and their compliance to prescribed therapies (Shanafelt, 2009). Patients who feel unheard are less likely to disclose important information and less likely to follow their doctor's recommendations (Morse, 2008). Medicine compliance at a primary care level is important in preventing unnecessary exacerbation in chronic disease states and potential emergency room visits. In a 2019 public health study, among ED visits, the largest portion of preventable care spending was for primary care treatable conditions (de Oliveira et al., 2019). If physician burnout is contributing to poor health outcomes of patients, these findings suggest physicians may need cognitive and

emotional support to improve their clinical reasoning skills and mental wellbeing. In turn, addressing burnout may improve patient care and patient outcomes.

In a 2014 Canadian study, the economic cost of physician burnout was estimated to be \$213.1 million (Dunne et al., 2019). Due to lack of studies on the economic burden of burnout in America, the Canadian statistics have been used as a reference until recently. In June 2019, *Annals of Internal Medicine* published an estimated burnout-associated costs related to physician turnover and reduced clinical hours in the United States. On a national scale, it is estimated that approximately \$4.6 billion in costs is attributed to physician burnout each year in the United States. At an organizational level, the annual economic cost associated with burnout is approximately \$7600 per employed physician each year (Han et al., 2019). Interventions to reduce the prevalence of physician burnout is of interest from not only a professional and patient safety perspective, but from an economic perspective as well.

The Current Burnout Landscape

Under the current pedagogy, the American Institute for Healthcare Initiative focuses on the “Triple Aim” to improve the American healthcare system. The triple aims for healthcare are: improving individual experience of care, improving population health, and reducing the cost of care for the population. Dr. Thomas Bodenheimer argues there is a

fourth aim currently missing from American healthcare initiative. A fourth aim was identified to address the void in clinicians wellness: improve the work life of health care clinicians and staff, as providers' wellbeing ultimately affects the healthcare system as a whole (Bodenheimer & Sinsky, 2014). Additionally, there is an emphasis on physicians being paid by the number of patients rather than quality of care (Gergen Barnett, 2017). In acknowledgement of physician burnout, the American Medical Association (AMA) published a list of ways in which clinics can work towards preventing burnout: redesign workflow, communication interventions, and quality improvement projects paired with study (*Physician Burnout Improve Physician Satisfaction and Patient Outcomes*, 2018). In 2016 physician wellness research and surveys emerged for Stanford, in an effort to capture physician wellness. Due to national interest in The Stanford Physician Wellness Survey and their WellMD initiative, Stanford created a Physician Wellness Academic Consortium (PWAC), allowing for a large data repository for physician wellness. Other academic institutions joined in their efforts to understand physician wellness. The Stanford Physician Wellness Survey focuses on professional fulfillment rather than burnout alone. The Stanford Physician Wellness Survey is administered yearly among PWAC members. Boston Medical Center (BMC) is a part of the PWAC consortium. One benefit of the Stanford's survey is its ability to serve as a longitudinal burnout assessment which can be used to track changes in burnout over time (*Stanford Medicine WellMD*, 2020).

Clinician Burnout

Aside from efforts to understand and address burnout on a systemic level, individual institutions are implementing resiliency training programs to address burnout in their local healthcare environment. The Cleveland Clinic's innovations, involving a mindfulness program and its Collaborative Care Model are two examples of current innovations being implemented (Gergen Barnett, 2017). In 2009, The University of Rochester studied the effects of mindfulness intervention on physician burnout, publishing positive results. Their educational program in mindful communication incorporated: mindfulness meditation, self-awareness exercises, narratives about meaningful clinical experiences, appreciative interviews, didactic material, and discussion. The study involved an 8-week intensive phase (2.5 hours per week and one 7-hour retreat) and a 10-month maintenance phase (2.5 hours per month). Over the course of the program, participants demonstrated improvements in mindfulness which correlated to statistically significant improvements in total mood disturbances and burn out (Krasner et al., 2009). Krasner et al. found short-term and sustained improvements in clinician well-being and attitudes associated with patient-centered care (Krasner et al., 2009).

Background about Boston Medical Center (BMC)

Boston Medical Center (BMC) is a private, not-for-profit, 514-bed, academic medical center located in Boston's historic South End. BMC is co-located with Boston University

School of Medicine (BUSM), Boston University Goldman School of Dental Medicine, and Boston University School of Public Health (BUSPH) on Boston University Medical Campus, with which it shares research resources. Together, these entities occupy more than 30 buildings on a single campus in close proximity to Boston's low-income neighborhoods. As the principal teaching affiliate of BUSM, BMC is devoted to training future generations of healthcare professionals. Every member of the hospital's medical and dental staff holds an academic appointment at BUSM or at the Boston University Goldman School of Dental Medicine. BMC operates 66 residency training programs with 817 resident and fellowship positions. BMC is the 15th largest recipient of funding in the U.S. from the National Institutes of Health among independent hospitals. BMC received more than \$116 million in budgeted sponsored research funding in 2018, and oversees 565 research and service projects separate from research activities at BUSM. The world-renowned researchers at BMC conduct basic, laboratory-based biomedical research and clinical research programs, in areas such as musculoskeletal pain, sickle cell disease, infectious disease, cardiology, vascular biology, mood disorders, Parkinson's disease, geriatrics, endocrinology, hematology and oncology. BMC offers 70 medical specialties, and is the busiest trauma and emergency center in New England (*Boston Medical Center*, 2020).

BMC Patient Demographics

BMC emphasizes community-based care, with a mission to provide consistently accessible health services to all in need, regardless of status or ability to pay.

Approximately fifty seven percent of BMC patients come from underserved populations, including low-income families, elders, people with disabilities, and immigrants. Nearly sixty percent of all patients are from racial and ethnic minority populations, and thirty two percent do not speak English as a primary language. In addition to serving low-income and minority residents of Boston, BMC serves a range of special populations, including people living with HIV/AIDS, pregnant HIV-positive women, survivors of torture, the homeless, high-risk obstetrical patients, children affected by HIV, children with failure-to-thrive, children and adolescents at risk of obesity, people with mental illness, individuals with substance use, and dual-diagnosed individuals (*Boston Medical Center*, 2020).

BMC a Safety Net Hospital

As the largest safety-net hospital in New England, BMC provides a full spectrum of pediatric and adult care services, from primary care and family medicine to advanced specialty care. With more than 25,000 admissions and 1,108,461 outpatient visits in the last year, BMC delivers a comprehensive range of services in more than 70 areas of medical specialties and subspecialties, including cardiac care and surgery, hypertension,

neurological care, orthopedics, geriatrics, and women's health. Some outreach programs at BMC include: health screenings, smoking cessation, preventive food pantry, a teaching kitchen used to address hunger-related illness and malnutrition to a low-income community, interpreter services offering over 250 languages twenty-four hours a day. BMC also houses the Patient Navigation Program for patients with cancer and chronic diseases, the Violence Intervention Advocacy Program, and the Grayken Center for Addiction. As a Safety Net Hospital, there may be institutional specific factors contributing to physician burnout at BMC. For example, communication barriers with non-English speaking patients or socio-economic factors contributing to a patient's non-adherence to the provider's medical plan. Currently, BMC is tracking physician wellness and professional fulfillment through an annual survey. In addition, BMC is a member of Stanford's WellMD Initiative, in which employees of BMC take The Stanford Wellness Survey as part of their annual survey.

Measuring Burnout

When considering the implementation of a hospital wellness program as an intervention for physician burnout, choosing the appropriate evaluation methods is essential. There are various methods used to measure burnout. The gold standard measure of burnout is the Maslach Burnout Inventory (MBI) (Maslach et al., 1997). The MBI employs self-reported surveys to assess burnout. MBI assessments have some limitations in regards to the ability of the assessment to measure changes over time periods of less than one year

(Trockel et al., 2018). There is an abbreviated MBI survey known as the MBI-10. When considering studying burnout specific to clinicians, besides MBI surveys, other assessment tools may be better suited to measure burnout over time. Some hospitals use the Professional Fulfillment Index (PFI), a 16-item instrument to assess physicians' professional fulfillment and burnout, designed for sensitivity to change attributable to interventions or other factors affecting physician well-being (Trockel et al., 2018). Due to PFI performance characteristic of having sensitivity to change over time, the PFI is an assessment tool well suited for assessing professional fulfillment and burnout (Trockel et al., 2018). Additionally, results of the PFI, the professional fulfillment survey, correlates with the MBI, the burnout survey (Trockel et al., 2018). The abbreviated MBI assessment known as the MBI-10 and the PFI assessment are incorporated into the Stanford Physician Wellness Survey (*Stanford Medicine WellMD*, 2020). Since BMC is a member of Stanford's WellMD Initiative, in which employees of BMC take The Stanford Physician Wellness Survey as part of the BMC annual survey, physicians are thus taking a MBI-10 assessment and the PFI assessment as part of the BMC annual survey each year. As a tool already being implemented at BMC to track professional fulfillment and burnout, MBI-10 survey and the PFI assessments are attractive tools to study physician burnout at BMC.

What is Mindfulness?

Mindfulness interventions are of interest in promoting physician wellness and minimizing clinician stress. Mindfulness can be conceptualized under a three-fold definition: as a state, a set of practices, and as a trait (Vago & Silbersweig, 2012). Eric Garland, PhD, further defines the state as a non-reactive state of awareness characterized by nonjudgmental acceptance of and attention to one's thoughts, emotions, and perceptions in the present moment. This state is associated with feeling calm, relaxed, peaceful, balanced, greater equanimity, or more open-hearted. As a set of practices, it is a technique designed to induce a state of mindfulness. Garland describes the mindfulness trait as a disposition characterized by the tendency to observe present-moment perceptions, thoughts, emotions, and actions w/out reactivity or judgement. He refers to a state-trait interaction, in which individuals who practice mindfulness to induce mindful states repeatedly, develop mindful traits (Hanley & Garland, 2017). Jon Kabat-Zinn, the founder of Mindfulness-Based Stress Reduction (MBSR), defines mindfulness as, "[T]he awareness that arises from paying attention on purpose, in the present moment, nonjudgmentally." (Paulson et al., 2013). Mindfulness can be achieved through numerous activities but is most commonly achieved through meditation, a practice which lies within Buddhist tradition. However, in 1979, Jon Kabat-Zinn, of the University of Massachusetts School of Medicine, created a Mindfulness Based Stress Reduction (MBSR) program to teach people mindfulness practices in a more secular, Western way.

MBSR which is a structured and systematic patient-centered approach to intensive mindfulness meditation training teaches people the importance of self-care and how to live healthier lives (Kabat-Zinn, 2014).

Background on MBSR

A MBSR course is taught by a certified instructor and involves implementation of formal mindfulness practices such as body scans, meditation, and yoga, as ways to teach participants stress management. The curriculum is delivered over eight weeks, with one session occurring per week. Each session is two and a half hours long. The curriculum also includes a 45-minute home practice each day and a mandatory eight hours retreat. MBSR has been used for the past 30 years in patient populations to reduce stress and the detrimental health effects associated with stress (Geary & Rosenthal, 2011). There has been a heightened interest in mindfulness interventions largely due to the substantial amount of scientific literature supporting the potential physical, mental, and interpersonal benefits of these practices. The rise in research, specifically from only seven randomized controlled trials (RCTs) in 2000 to two-hundred sixteen RCTs in 2015, has fueled a wide array of mindfulness-based interventions into various settings such as clinical treatments, workplaces, schools, the military, and prisons (Creswell, 2017). Clinically, mindfulness-based treatments have been efficacious for patients who suffer from chronic pain, anxiety, major depression, sleep disturbance, psoriasis, type 2 diabetes, and obesity

(Ludwig & Kabat-Zinn, 2008). Those practicing MBSR showed improved immune function and neuroplasticity (Geary & Rosenthal, 2011). A number of studies reported alleviate stress, anxiety, and burnout following mindfulness-based interventions (Dunne et al., 2019). A study which introduced MBSR to healthcare workers reported enhanced mindfulness, well-being, empathy, and emotional stability (Geary & Rosenthal, 2011). In a follow-up study, these positive effects were still present one year out from the study, suggesting the sustained impact of MBSR on stress (Geary & Rosenthal, 2011). Considering decreased empathy and emotional instability are hallmarks of clinician burnout, MBSR may be a potential early intervention to prevent or alleviate burnout. Although these training programs suggest some benefits, these studies are often small and have short follow-up measurements. There are few studies that evaluated organizational level interventions to reduce clinician stress (Shanafelt, 2009).

When considering MBSR as a potential intervention to alleviate burnout, a delineation must be made between the causes of burnout: systemic causes versus individual causes. Systemic causes of burnout include American healthcare infrastructure or institution specific issues related to the clinicians' workflow. Individual causes of burnout are directly related to an individual's life and their interpersonal wellbeing. MBSR mindfulness practices provide tools for participants to manage their own stress (Shanafelt, 2009). MBSR is an intervention focused on addressing only the individual

causes of burnout not the systemic causes of burnout. A significant contribution to clinician burnout and lack of professional fulfillment is due to systemic challenges that must be addressed on an institutional and policy level. We recognize that MBSR and MBSR variant programs do not serve as standalone resolutions to these pervasive issues. Organizations have an obligation to make the necessary changes and investments to improve faculty and staff wellbeing.

Specific aims of the following thesis include:

1. Investigate the current literature for evidence in which Mindfulness Based Training Programs (MBSR) prevents or lowers clinician burnout.
2. Evaluate the impact of a MBSR-variant program on burnout and professional fulfillment among medical providers in a safety-net academic medical center.
3. Assess effectiveness of implementation strategies for clinician enrollment and participation.

METHODS

Project Design

This quality improvement (QI) project at BMC was offered by Boston University Medical Group (BUMG) and BMC's Program for Integrative Medicine. The project was supported by an anonymous private family foundation. Dr. Robert Saper of the Department of Integrative Medicine and Gabrielle Farquhar, the Mindfulness Based Stress Reduction Program Coordinator at BMC, created a MBSR variant course as an intervention to increase professional fulfillment and decrease clinician burnout. The BUMG MBSR variant course is adapted from Dr. Michael Krasner and Dr. Ronald Epstein's MBSR course curriculum from the University of Rochester, NY (M. Krasner & Epstein, 2010). The Facilitator Manual and Participant Manual were prepared by Dr. Robert Saper, Dr. Scarlet Soriano, and Gabrielle Farquhar, MPH. The course was facilitated by Drs. Rob Saper and Scarlet Soriano, Bonita Jones (MBSR-Certified Instructor), and Gabby Farquhar, MPH. The course occurred over a consecutive period of eight weeks, from March 7th to April 25th, 2019, consisting of one session per week. Each session was one and a half hours long. A healthy light dinner took place from 5:00pm-5:30pm, followed by mindfulness instruction, practice and reflection from 5:30pm-7:00pm. Activities included mindfulness meditation, yoga, and narrative medicine. The BUMG MBSR variant course was approved by The Barry M. Manuel Continuing Medical Education Office for Continued Medical Education (CME) free of

charge, for any participant looking to fulfill CMEs through Boston University. This pilot course was planned to set the groundwork for future course cohorts.

Methodology for MBSR Course Adaptation

The curriculum for this QI project MBSR variant course Mindfulness Training for BMC Clinicians: A Program for Stress Reduction, Vitality, and Professional (Appendix) Development was adapted from Mindful Communication: Bringing Intention, Attention, and Reflection to Clinical Practice Curriculum Guide published in 2010 by Michael Krasner, MD and Ronald Epstein, MD, University of Rochester School of Medicine and Dentistry, New York Chapter of the American College of Physicians (Krasner et al., 2009b). Considering the time constraints clinicians face, the time of requirements for each session were shortened from two and a half hour sessions to one and a half hour sessions each week. Due to the shortened session, the curriculum was condensed and some mindfulness exercises were excluded. An additional mindfulness exercise was added to the Mindfulness Training for BMC Clinicians curriculum: Loving Kindness Meditation. Loving Kindness Meditation was found to combat implicit bias (Bendit-Shtull, 2017) increase prosocial behavior (Hafenbrack et al., 2019) and decrease compassion fatigue amongst clinicians (Hevezi, 2016).

Participants

All attending clinicians (e.g. physicians, nurse practitioners, physician assistants) at BMC were invited to participate in the program through a series of electronic communications.

An electronic course invitation was sent out by Dr. Susannah Rowe, Associate Chief Medical Officer (CMO) for Wellness and Vitality at BMC, as well as through BUMG institutional communications. Personal invitations were extended from the study investigator and MBSR variant course program director, Dr. Robert Saper. Physicians who participated in the QI project, per requirement for exempt studies, were provided with information describing their voluntary participation in the project surveys.

Participants were offered the course at no charge. Each of the eight course sessions offered optional CME credits for participants.

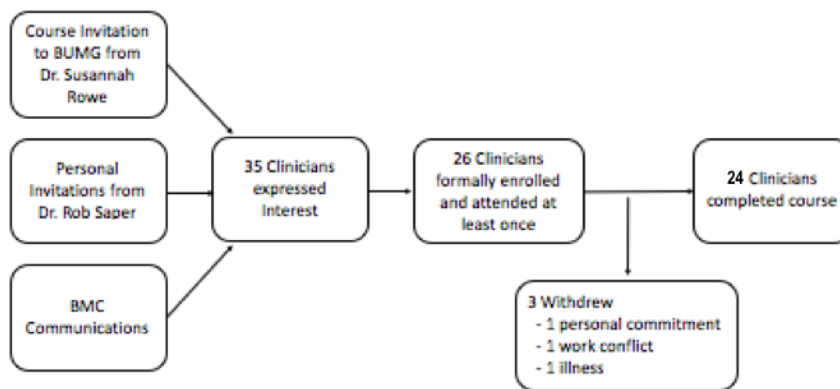


Figure 1. Recruitment Flow Chart

Intervention

Didactic Material: “Mindfulness Training for BMC Clinicians: A Program for Stress Reduction, Vitality, and Professional Development” Participant Manuals included a printed breakdown of the eight-week curriculum: course guidelines, weekly topics, themes, activities and resources. The manual included blank areas for participant journal reflections. Topics discussed in the sessions included: The Present Moment, Perception, Joy of Practice, Stress Manifestation and Relief, Responding to Stress at Work, Communication with Colleagues, Self-care for Clinicians, and Maintaining Mindfulness Training. After each mindfulness session, emails were sent out to participants which included a summary of concepts discussed and mindfulness exercises practiced during the session, recommended home practice of mindfulness exercises, and additional mindfulness resources. One resource provided to participants was a link to online guided meditations recorded by the course facilitators, for participants to use as home mindfulness practice between sessions.

Room setup: The BMC MBSR variant course sessions took place inside the same BMC conference room across the eight-week timeframe. Tables were removed, and chairs were set up in a circular fashion. Fresh flowers were placed in the center of the seating circle for participants to use as an optional focus point during meditation practice. Calming music was playing before the start of each session, while participants entered and settled into the room before the start of class. Food and tea were provided in the half hour before

the start of the session. Participants were asked to silence phones and pagers if possible during the sessions.

Mindfulness interventions: included formal mindfulness meditation, narrative medicine exercises, and appreciative inquiry exercises. Interventions can be further divided into exercises used to foster intrapersonal self-awareness or interpersonal awareness. Intrapersonal awareness is defined as self-awareness (Kabat-Zinn, 2013) whereas interpersonal awareness is defined as awareness of relationships and communication (Krasner, 2009).

Interventions for Intrapersonal Self-Awareness

Participants practiced four formal mindfulness meditation methods: the body scan, sitting meditation, walking meditation, and mindful movement; these methods foster the development of intrapersonal self-awareness (Kabat-Zinn, 2013). The course facilitators guided participants in all meditation exercises. For the body scan, the MBSR instructor guided participants in noticing sensations of the body. They were instructed to notice the cognitive and emotional reactions to sensations of the body without attempting to change or judge the sensations. Participants simply observed their body in the present moment in a methodical way, with guidance from the MBSR instructor. The sitting meditations were guided meditations in which the MBSR instructor spoke and the participant was silent.

The guided meditation allows the participant to notice thoughts, feelings, and sensations experienced in the present moment. Walking meditation was guided by the MBSR instructor in which participants were instructed in attentional walking, taking slow, deliberate steps, while bringing attention to the experience of walking in the body in the present moment. For mindful movement, participants were guided through yoga movements which allow the participant to slowly and methodically explore breath, sensation, cognitive and emotional experience as they come up in the practice.

Interventions for Interpersonal Self-Awareness

Participants practiced three types of mindfulness exercises: Narrative Medicine, Appreciative Inquiry (AI), and group discussion; these methods foster the development of interpersonal self-awareness (Connelly, 2005) (Preskill & Catsambas, 2006) (Krasner et al., 2009). The course facilitators guided participants in all exercises. One definition of Narrative Medicine is medicine practiced with narrative competence to recognize, absorb, interpret, and be moved by the stories of illness (Charon et al., 2016). In several sessions participants were asked to write down stories of their personal experience in the clinical practice of medicine, focused on challenging experiences along with the week's theme (Appendix). Participants were then paired and instructed to use Appreciative Inquiry techniques to explore ways in which they successfully navigated the difficult situation. They were asked to identify personal qualities which helped them navigate the situation successfully. AI promotes reflection and analysis of experiences. It promotes positive

aspects of experiences. In doing so, participants are more likely to change behavior in reflection to focus on positive aspects of experiences over negative experiences or personal deficiencies (M. S. Krasner, 2009a). Group discussion occurred in a large circle with all participants of the session. Participants were asked to voluntarily share their experiences with the formal meditation exercises, narrative medicine exercises, and AI exercises. Facilitators encouraged participants to discuss thoughts, feelings, and any difficulties they experienced with the session's practices.

Data Collection

Participants completed three electronic, self-administered surveys via the Qualtrics survey platform. Qualtrics online survey software allowed for the collection and storage of study data. The first survey (pre-survey) was completed by participants prior to the start of the MBSR variant course at time point 0 (T0). The second survey (post-survey) was completed at the conclusion of the eighth and final session of the MBSR variant course. The third survey was completed two months post-completion of the MBSR variant course. The survey included adaptations to the following measures: the Professional Fulfillment Index (PFI), a 16-item instrument to assess physicians' professional fulfillment and burnout (Trockel et al., 2018) and the Maslach Burnout Inventory (MBI), a 22 instrument used to assess burnout (Maslach et al., 1997). The MBI-10 is a ten item abbreviated version of full length MBI. The Stanford Professional

Fulfillment Index employed during our surveying, incorporates aspects of both PFI and MBI-10. The Stanford PFI allows for evaluation of both professional fulfillment and burnout, with an instrument that is reliable, has validity, and correlates to other tools currently being used to measure physician wellness (Trockel et al., 2018) (“Valid and Reliable Survey Instruments to Measure Burnout, Well-Being, and Other Work-Related Dimensions,” 2020).

The first survey (pre-survey) at T0 provided baseline measures later used to extract quantitative data related to an individual’s professional fulfillment and burnout. The first survey (pre-survey) at T0 was also used to extract qualitative data related to an individual's reason for taking the course. The second survey (post-survey) at T1 provided measures at the end of the eight-week course, after completion of the mindfulness intervention. The second survey (post-survey) was later used to extract quantitative data related to an individual's professional fulfillment and burnout at the end of course. Data collection at T0 and T1 allowed for later comparison of measures to evaluate the effect of the MBSR-variant course intervention on professional fulfillment and burnout as measured by the surveys. The second survey (post-survey) at T1 was also used to extract qualitative data related to an individual's overall experience in the course.

The third survey (two-month follow-up survey) at T2 provided measures two months after the completion of the intervention. The third survey (two-month follow-up survey) was later used to extract quantitative data related to an individual's professional fulfillment and burnout in the absence of intervention. Data collection at T1 and T2 allowed for later comparison of measures to evaluate if the effects of the intervention have sustained effects on professional fulfillment and burnout as measured by the surveys. The third survey (two-month follow-up survey) T2 was also used to extract qualitative data related to changes individuals have noticed in their professional and/or personal lives since the completion of the course.

Survey 1 (Pre-Survey)

Survey 1 (pre-survey) included 12 questions (Appendix). Question 1 was a consent question. Questions 2 through 7 were geared towards understanding various aspects of program implementation. Questions 8, 9, and 10 responses were measured on a Likert scale, and thus used to collect quantitative data. Questions 11 and 12 were free response questions used to collect qualitative data. Question 8 pertained to professional fulfillment (PFI). Question 8 included 6 sub-questions related to emotional feelings participants experienced within the past two weeks related to their sense of fulfillment at work. The six PFI subscale questions inquired about happiness, worth, satisfaction, sense of meaning, sense of contribution. Each question is rated on a 5-level Likert scale with

anchors from “not at all true,” “somewhat true,” “moderately true,” “very true,” to “completely true”.

Survey 1 (pre-survey) Questions 9 and 10 pertained to burnout (MBI). Question 9 pertained to emotional engagement, a factor incorporated into the overall measurement of burnout. Question 9 included four sub-questions related to emotional exhaustion participants experienced within the past two weeks. The four emotional exhaustion sub-questions included questions about dread, physical exhaustion, enthusiasm, and emotional exhaustion. Question 10 pertained to interpersonal disengagement, a factor incorporated into the overall calculation of burnout. Question 10 included six sub-questions related to interpersonal disengagement participants experienced within the past two weeks. The four interpersonal disengagement subscales included questions about empathy for patients, empathy for colleagues, sensitivity towards others feelings, interest in talking to patients, feeling of connection to patients, and feeling of connection to colleagues.

Questions 11 and 12 were free response questions used to collect qualitative Data.

Question 11 inquired about the participant’s reasons for course enrollment. Question 12 inquired about participant suggestions to improve the development of the course.

Survey 2 (Post-Survey)

Survey 2 (post-survey) included 13 questions (Appendix). Survey 2 (post-survey) Question 1 pertained to consent. Question 2 pertained to participant's frequency of mindfulness practice before starting the course. Question 3 pertained to the frequency per week of participant mindful home practice. Question 4 pertained to the length of time participants dedicated to daily mindfulness home practice. Question 5 pertained to participant experience with the course and had 6 subscales about: changes with interactions with others, value of self-care, mindfulness as a useful tool for stress management, professional development, plan to continue mindfulness about the completion of the course, and recommendation of the course to others. Each subscale question is rated on a 5-level Likert scale with anchors from "not at all true," "somewhat true," "moderately true," "very true," to "completely true". Questions 6, 7, and 8 responses were measured on a Likert scale, and thus used to collect quantitative data.

Survey 2 (post-survey) Question 6 on the post-survey pertains to professional fulfillment (PFI). Survey 2 (post-survey) Question 6 corresponds to the same question as Question 8 on the pre-survey. Question 6 on the post-survey (Question 8 pre-survey) includes the same 6 sub-scale questions related to emotional feelings participants experienced within the past two weeks related to their sense of fulfillment at work. Each question was rated

on the same 5-level Likert scale with the same anchors “not at all true,” “somewhat true,” “moderately true,” “very true,” to “completely true” as Question 8 of the pre-survey.

Survey 2 (post-survey) Questions 7 and 8 pertain to burnout (MBI-10). Post-survey Question 7 (Question 9 pre-survey) included the same four subscales related to emotional exhaustion participants experienced within the past two weeks. The same four emotional exhaustion subscales included questions about dread, physical exhaustion, enthusiasm, and emotional exhaustion.

Survey 2 (post-survey) Question 8 corresponds to the same question as pre-survey Question 10. Post-survey Question 8 (Question 10 of the pre-survey) includes the same six subscales related to interpersonal disengagement participants experienced within the past two weeks. The four interpersonal disengagement subscales included questions about empathy for patients, empathy for colleagues, sensitivity towards others feelings, interest in talking to patients, feeling of connection to patients, and feeling of connection to colleagues.

Survey 2 (post-survey) Question 9 pertains to participant course satisfaction. Question 10 through 13 were free response questions used to collect qualitative data. Question 10 pertains to fulfillment to a participant’s expectations. Question 11 pertains to the most

and least valuable aspect of the course. Question 12 pertains to course improvements.

Question 13 was optional and pertains to testimonials about a participant's experience in the course.

Survey 3 (Two Month Follow-up)

Survey 3 (two-month follow-up survey) included 7 questions (Appendix). Question 1 pertained to consent. Question 2 pertained to participant's frequency of mindfulness practice per week. Question 3 pertained to the length of time participants dedicated to daily mindfulness home practice.

Survey 3 (two-month follow-up survey) Question 4 pertains to professional fulfillment (PFI). Survey 3 (two-month follow-up survey) Question 4 corresponds to the same question as survey 1 (pre-survey) Question 8 and survey 2 (post-survey) Question 6.

Survey 3 (two-month post-survey) Question 4 includes the same 6 sub-scale questions related to emotional feelings participants experienced within the past two weeks related to their sense of fulfillment at work. Each question was rated on the same 4-level Likert scale with the same anchors "not at all true," "somewhat true," "moderately true," "very true," to "completely true".

Two-month follow-up survey Questions 5 and 6 pertain to components of burnout (MBI). Two-month follow-up survey Question 5 (Question 9 pre-survey, post-survey Question 7) includes the same four subscales related to emotional exhaustion participants experienced within the past two weeks. The same four emotional exhaustion subscales included questions about dread, physical exhaustion, enthusiasm, and emotional exhaustion.

Survey 3 (two-month follow-up survey) Question 6 corresponds to survey 1 (pre-survey) Question 10 and survey 2 (post-survey) Question 8. Survey 3 (two-month follow-up survey) Question 6 (pre-survey Question 10 and Post-survey Question 8) includes the same six subscales related to interpersonal disengagement participants experienced within the past two weeks. The four interpersonal disengagement subscales included questions about empathy for patients, empathy for colleagues, sensitivity towards others feelings, interest in talking to patients, feeling of connection to patients, and feeling of connection to colleagues.

Statistical Analysis

Quantitative Analysis	PFI	<p>Analysis I: Calculate Participant Professional Fulfillment Score Use survey results (surveys 1, 2, and 3) of PFI questions to calculate the professional fulfillment score for each individual at time points T0, T1 and T2.</p> <p><u>Used PFI questions from...</u> Survey 1 (pre-survey) question #8 → calculate score for T0 Survey 2 (post-survey) question #6 → calculate score for T1 Survey 3 (2-month follow-up) question #4 → calculate score for T2</p>
		<p>Analysis II: Calculate Mean Participant Professional Fulfillment Score Use individual professional fulfillment scores (Analysis I) to calculate the mean participant professional fulfillment score for each time point T0, T1 and T2, accompanied with summary statistics (N, SD, Median, IQR, Range Minimum, Range Maximum).</p>
		<p>Analysis III: Calculate Mean Difference in Professional Fulfillment Score and p-values Use Repeated Measures Analysis to calculate the Mean Difference (assuming 95% CI) and associated p-values between T0, T1, and T2 mean participant professional fulfillment scores (Analysis II). Compare Mean Difference and p-value significance between PFI professional fulfillment scores from T1 to T0, T2 to T0, and T2 to T1. The comparison allows for the assessment of changes in outcomes in professional fulfillment (PFI) over time.</p>
	MBI-10	<p>Analysis IV: Calculate Participant Burnout Score Use survey results (surveys 1, 2, and 3) of the MBI questions to calculate the burnout score for each individual at time points T0, T1 and T2.</p> <p><u>Use MBI-10 questions from:</u> Survey 1 (pre-survey) questions #9 & 10 → calculate score for T0 Survey 2 (post-survey) questions #7 & 8 → calculate score for T1 Survey 3 (2-month f/u) questions #5 & 6 → calculate score for T2</p>
		<p>Analysis V: Calculate Mean Participant Burnout Score Use individual burnout scores (Analysis IV) to calculate the mean participant burnout score for each time point T0, T1 and T2, accompanied with summary statistics (N, SD, Median, IQR, Range Minimum, Range Maximum).</p>
		<p>Analysis VI: Calculate Mean Difference in Burnout Score and p-values Use Repeated Measures Analysis to calculate the Mean Difference (assuming 95% CI) and associated p-values between T0, T1, and T2 mean participant burnout scores (Analysis V). Compare Mean Difference and p-value significance between MBI-10 burnout scores from T1 to T0, T2 to T0, and T2 to T1. The comparison allows for the assessment of changes in outcomes in burnout (MBI-10) over time.</p>
	Other	<p>Analysis VII: Quantitative Analysis of non-PFI, non-MBI-10 Survey Questions Survey 1 (pre-course) and Survey 2 (post-course survey) was evaluated to calculate percentage of participants who remarked greater value on self-care, percent who plan to continue mindfulness practices, and percent who would recommendation the course to a colleague</p>
Qualitative Analysis	Free Text	<p>Analysis VIII: Survey 1 (pre-survey) Thematic Analysis Questions 11 and 12 were free response questions. Thematic analysis was applied to responses in which qualitative data was color coded based on the themes discussed. Themes were tallied into frequencies and grouped to identify larger themes related to why participants enrolled in the course</p>
		<p>Analysis IX: Survey 2 (post-survey) Thematic Analysis Questions 10 through 13 were free response questions. Thematic analysis was applied to responses in which qualitative data was color coded based on the themes discussed. Themes were tallied into frequencies and grouped to identify larger themes related participants experience after completion of the course.</p>

Table 1: Summary of Mixed Methods Analysis of Survey Data

In addition to evaluating implementation results, investigators employed mixed methods statistical analysis of survey data (Table 1). Analysis I through VI used quantitative analysis of data. Analysis VII through IX used qualitative analysis of data.

PFI Analysis I: Calculate Participant Professional Fulfillment Score

Survey 1 (pre-survey) Question 8, survey 2 (post-survey) Question 6, and survey 3 (two-month follow-up survey) Question 4 pertained to professional fulfillment (PFI) question. The PFI question included 6 sub-questions related to emotional feelings participants experienced within the past two weeks related to their sense of fulfillment at work. The six PFI subscale questions inquired about happiness, worth, satisfaction, sense of meaning, sense of contribution. Each question is rated on a 5-level Likert scale with anchors from “not at all true,” “somewhat true,” “moderately true,” “very true,” to “completely true”. Each subscale answer was coded into a numerical value to serve as a quantitative data set. “Not at all true,” was coded for the value of 0, “somewhat true,” was coded for the value of 1, “moderately true,” was coded for the value of 2, “very true,” was coded for the value of 3 “completely true” was coded for the value of 4. The 6 subscale numerical values [range 0-4] were averaged to determine the participants overall fulfillment score. These data were dichotomized in which fulfillment scores greater or equal to 3 were defined as individuals who meet the criteria of being professionally fulfilled. These data were dichotomized in which fulfillment scores greater or equal to 3

were defined as individuals who meet the criteria of being professionally fulfilled (Trockel et al., 2018).

The analysis of survey 1 (pre-survey) Question 8 resulted in the participant's fulfillment score for the first time point (T0). The analysis of post-survey Question 6 resulted in the participant's fulfillment score for the second time point (T1). The analysis of survey 3 (two-month follow-up survey) Question 4 resulted in the participant's fulfillment score for the second time point (T2).

PFI Analysis II: Calculate Mean Participant Professional Fulfillment Score

The individual professional fulfillment scores (Analysis I) were used to calculate the mean participant professional fulfillment score for each time point T0, T1 and T2, accompanied with summary statistics (N, SD, Median, IQR, Range Minimum, Range Maximum).

PFI Analysis III: Calculate Mean Difference in Professional Fulfillment Score and p-values

Repeated Measures Analysis was used to calculate the Mean Difference and associated p-values between T0, T1, and T2 mean participant professional fulfillment scores (Analysis II). Comparisons of Mean Difference between PFI professional fulfillment scores were

made between T1 to T0, T2 to T0, and T2 to T1. The p-value test statistics were calculated. The comparison of Mean Difference allowed for the assessment of changes in outcomes in professional fulfillment (PFI) over time. Assuming a 95% Confidence Interval (CI), α significance was set to 0.05. Analysis III was broken down further into 3 sub-analyses: The comparison of Mean Difference between T0 and T1, between T0 and T2, and between T1 and T2.

If the calculated p-value for the mean difference in professional fulfillment between T0 and T1 is less than α (0.05) then the mean difference between T0 and T1 is statistically significant. If the calculated p-value for the mean difference in professional fulfillment between T0 and T2 is less than α (0.05) then the mean difference between T0 and T1 is statistically significant. If the calculated p-value for the mean difference in professional fulfillment between T0 and T1 is less than α (0.05) then the mean difference between T1 and T2 is statistically significant.

MBI-10 Analysis IV: Calculate Participant Burnout Score

Survey 1 (pre-survey) Questions 9 and 10, Survey 2 (post-survey) Questions 7 and 8, and Survey 3 (two-month follow-up survey) Questions 5 and 6 pertained to burnout (MBI-10).

Survey 1 (pre-survey) Question 9, Survey 2 (post-survey) Question 7 and Survey 3 (two-month follow-up survey) Question 5 pertained to emotional exhaustion, a factor incorporated into the overall measurement of burnout. Emotional exhaustion questions included four sub-questions related to emotional exhaustion participants experienced within the past two weeks. The four emotional exhaustion sub-questions included questions about dread, physical exhaustion, enthusiasm, and emotional exhaustion. Each subscale answer was coded into a numerical value to serve as a quantitative data set. “Not at all true,” was coded for the value of 0, “somewhat true,” was coded for the value of 1, “moderately true,” was coded for the value of 2, “very true,” was coded for the value of 3 “completely true” was coded for the value of 4.

Survey 1 (pre-survey) Question 10, Survey 2 (post-survey) Questions 8, and Survey 3 (two-month follow-up survey) Questions 6 pertained to Interpersonal Disengagement, a factor incorporated into the overall measure of burnout. Interpersonal Disengagement questions included six sub-questions related to interpersonal disengagement participants experienced within the past two weeks. The four interpersonal disengagement subscales included questions about empathy for patients, empathy for colleagues, sensitivity towards others feelings, interest in talking to patients, feeling of connection to patients, and feeling of connection to colleagues. Each subscale answer was coded into a numerical value to serve as a quantitative data set. “Not at all true,” was coded for the

value of 0, “somewhat true,” was coded for the value of 1, “moderately true,” was coded for the value of 2, “very true,” was coded for the value of 3 “completely true” was coded for the value of 4.

In total, 10 items, 4 items from the emotional exhaustion subscale and 6 items from the interpersonal disengagement subscale were used to complete the MBI-10 (10 item index) for each individual. The four emotional exhaustion subscale numerical values [range 0-4] and the six interpersonal disengagement subscale numerical values [range 0-4] were averaged to determine the participants overall burnout score. These data were dichotomized in which burnout scores greater than 1.33 were defined as individuals who meet the criteria of experiencing burn out (Trockel et al., 2018).

The analysis of survey 1 (pre-survey) Questions 9 and 10 resulted in the calculation of the participants' burnout scores at T0. Analysis of Survey 2 (post-survey) Questions 7 and 8 resulted in the calculation of the participants' burnout scores at T1. Analysis of Survey 3 (two-month follow-up survey) Questions 5 and 6 resulted in the calculation of the participants' burnout scores at T2.

MBI-10 Analysis V: Calculate Mean Participant Burnout Score

The individual burnout scores (Analysis IV) were used to calculate the mean participant burnout score for each time point T0, T1 and T2, accompanied with summary statistics (N, SD, Median, IQR, Range Minimum, Range Maximum).

MBI-10 Analysis VI: Calculate Mean Difference in Burnout Score and p-values

Repeated Measures Analysis was used to calculate the Mean Difference and associated p-values between T0, T1, and T2 mean participant burnout scores (Analysis II).

Comparisons of Mean Difference between MBI-10 burnout scores were made between T1 to T0, T2 to T0, and T2 to T1. The p-value test statistics were calculated. The comparison of mean differences allowed for the assessment of changes in outcomes in burnout (MBI-10) over time. Assuming a 95% Confidence Interval (CI), a significance was set to 0.05. Analysis VI was broken down further into 3 sub-analyses: The comparison of Mean Difference between T0 and T1, between T0 and T2, and between T1 and T2.

If the calculated p-value for the mean difference in professional fulfillment between T0 and T1 is less than α (0.05) then the mean difference between T0 and T1 is statistically significant. If the calculated p-value for the mean difference in burnout scores between T0 and T2 is less than α (0.05) then the mean difference between T0 and T1 is

statistically significant. If the calculated p-value for the mean difference in burnout scores between T0 and T1 is less than α (0.05) then the mean difference between T1 and T2 is statistically significant.

Statistical Model for Analysis III (PFI) and Analysis VI (MBI-10):

Repeated measures analysis using linear mixed-effects models (Burton et al., 1998) were used to assess changes in outcomes in professional fulfillment (PFI) and burnout (MBI-10). Considering some loss of data in the data set if participants did not complete a survey at one of the three time points: measurement 1 (baseline, at enrollment), measurement 2 (immediately after completion of the eight-week course) and measurement 3 (two months after completion of the course). PFI and MBI-10 measurements at T0 were contrasted to measurements at T1 and measurements at T2. Even with missing data, the model provides consistent estimates of scores at measurement time points. This statistical model incorporates all available data across all measurement time points, thus increasing the efficiency of the statistical test (Burton et al., 1998). The model also accounts for the nesting of repeat measures within individual participants (Burton et al., 1998). Analysis between measurement 1 (at T0) and measurement 2 (at T1) allowed for a within individual control period to assess the stability of effect in the absence of the intervention at measurement 3 (T2) (Shadish et al., 2001).

Analysis VII: Quantitative Analysis of non-PFI, non-MBI-10 Survey Questions

Survey 1 (pre-course) and Survey 2 (post-course survey) questions which did not pertain to PFI or MBI-10, were used to calculate descriptive statistics. Statistics of interest included: the percentage of participants who remarked greater value on self-care, percent who plan to continue mindfulness practices, and percent who would recommend the course to a colleague.

Analysis VIII: Survey 1 (pre-survey) Thematic Analysis

Survey 1 (pre-survey) Questions 11 and 12 were free response questions used to collect qualitative Data. Question 11 inquired about the participant's reasons for course enrollment. Question 12 inquired about participant suggestions to improve the development of the course. Survey 1 (pre-survey) questions 11 and 12 were free response questions. Thematic analysis was applied to responses in which qualitative data were color coded based on the themes discussed. Themes were tallied into frequencies and grouped to identify larger themes related to why participants enrolled in the course.

Analysis IX: Survey 2 (post-survey) Thematic Analysis

Question 10 through 13 were free response questions used to collect qualitative data. Questions pertained to fulfillment to a participant's expectations, most and least valuable aspect of the course, and recommendations for course improvements.

RESULTS

Implementation

Of the 26 clinicians who expressed interest in the course, three people withdrew from the course (Figure 1), two of which attended no sessions. One participant who withdrew from the course attended one session and was therefore included in the data set (N=24) fourteen departments were represented (Figure 2).

14 Departments/Divisions

Family Medicine	Ophthalmology
Geriatrics	Pediatrics
GIM	Pharmacy
Heme/Onc	Psychiatry
ID	PT
Neuro	Radiology
OB-GYN	Surgery

Figure 2. Participant Departments

Demographics & Attendance

<ul style="list-style-type: none">• 19 physicians, 5 NPs, 1 PT, 1 PharmD• 31% Primary Care• 75% Female, 25% Male• Mean Weekly Attendance: 18• Median classes/clinician: 6 (IQR 4–7)• 13 participants claimed CME credits

Figure 3: Participant Demographics

The majority of clinicians were physicians, followed by nurse practitioners (NPs), one physical therapist (PT) and one pharmacist (PharmD). Thirty-one percent of participants work in Primary Care. The mean weekly attendance was 18 participants per session. The median number of classes clinicians attended was 6 sessions out of a total of eight sessions. Of the total number of participants (N=24), 13 participants claimed CME credits (Figure 3).

Participants were offered the option to claim multiple free CME credits separately for each of the 8 sessions. The number of participants claiming CMEs for each session date is listed in Table 1. The average number of participants who claimed free CME credits per session was 6 participants per session. Overall, 46% of participants (N=24) chose to review CME credits for at least one session.

Date of Session (2019)	3/7	3/14	3/21	3/28	4/4	4/11	4/18	4/25
Number of participants (N=24) who claimed free CME credits / session	4	6	7	6	6	6	4	8
Average number of participants who claimed free CME credits / session	6							
Percent of participants who claimed CMEs for at least one session of the 8 sessions	46%							

Table 2: Participant CME Credits

Of the 24 participants enrolled, 100% of participants completed survey 1 (pre-survey) for baseline measurements at time point 0 (T0), 100% of participants completed survey 2 (post-survey) for measurements at time point 1 (T1), and 66.7% completed survey 3 (two-month follow-up survey) for measurements at time point 2 (T2).

PFI Analysis I: Calculation of Participant Professional Fulfillment Score

Professional fulfillment scores were calculated for each individual at time points T0, T1, and T2. Note there was a loss of data at time point T2, as seven participants did not fill out survey 3 (two-month follow-up survey).

Participant ID	Professional Fulfillment Score*			Participant ID	Professional Fulfillment** (Y=yes; N=No)		
	T0	T1	T2		T0	T1	T2
1	2.83	3.67	.	1	N	Y	.
3	2.50	3.00	3.33	3	N	N	Y
4	1.50	3.67	3.67	4	N	Y	Y
7	1.00	1.50	1.17	7	N	N	N
10	2.83	2.67	2.50	10	N	N	N
11	2.17	3.00	.	11	N	Y	.
12	4.00	1.00	.	12	Y	N	.
14	4.00	3.50	4.00	13	N	N	.
13	2.17	1.83	.	14	Y	Y	Y
15	1.00	3.17	3.00	15	N	Y	Y
16	2.83	3.17	.	16	N	Y	.
17	3.17	3.33	3.83	17	Y	Y	Y
18	2.83	2.67	.	18	N	N	.
19	2.83	3.17	2.50	19	N	Y	N
20	0.83	3.50	3.33	20	N	Y	Y
22	2.67	3.17	3.00	22	N	Y	Y
23	2.00	2.67	2.50	23	N	N	N
25	1.83	2.67	3.67	25	N	N	Y
26	1.83	2.67	2.17	26	N	N	N
27	2.17	2.67	2.17	27	N	N	N
28	2.33	2.00	2.00	28	N	N	N
29	0.83	0.50	0.83	29	N	N	N
34	3.33	3.50	3.33	34	Y	Y	Y
Mean Score	2.33	2.73	2.76	Professionally Fulfilled	83%	54%	47%

Table 3. Professional Fulfillment Score and Dichotomized Result for Each Participant Over Time (N=24)

*Professional fulfillment scores ≥ 3 were defined as individuals who meet the criteria of being professionally fulfilled

**“Y=Yes” indicated the participant met professional fulfillment as defined by PWAC

Table 3 represents results from Analysis I. At T0, 20 of 24 participants (83%) did not meet criteria for feeling professionally fulfilled. At T1, the post-intervention measurement, the number of participants who did not meet professional fulfillment criteria dropped to 13 of 24 participants (54%). Of the 17 participants who completed survey 3 at T2, 8 participants (47%) did not meet criteria for feeling professionally fulfilled.

PFI Analysis II: Calculation of Mean Participant Professional Fulfillment Score

The mean professional fulfillment score was calculated for time point. Mean scores and summary statistics are available in Table 4.

Professional Fulfillment Index (PFI)

	<i>N</i>	<i>N Missing</i>	<i>Mean</i>	<i>SD</i>	<i>Median</i>	<i>IQR</i>	<i>Minimum</i>	<i>Maximum</i>
PFI: Baseline	24	0	2.31	0.89	2.25	1.00	0.83	4.00
PFI: Time Point 1	24	0	2.72	0.82	2.83	0.58	0.50	3.67
PFI: Time Point 2	17	7	2.76	0.91	3.00	1.17	0.83	4.00

Table 4. PFI Summary Statistics

Table 4 represents results from analysis II. The individual professional fulfillment scores calculated in analysis I were used to calculate the mean professional fulfillment scores at baseline (T0), time point 1 (T1) and time point 2 (T2) in analysis II. The mean professional fulfillment was found to be 2.32 for T0, 2.72 or T1, and 2.76 for T2. For all calculated mean score values, the scores fell below criteria for professional fulfilment.

Although the average fulfillment score at each time point does not meet criteria for professional fulfillment, the mean scores increased over time. The score trend approached values closer to 3, the criteria set for professional fulfillment established by PWAC.

PFI Analysis III: Calculation of Mean Difference in Professional Fulfillment Score and p-values

	<i>Mean Difference (95% CI)</i>	<i>p-value</i>
PFI		
Time 1 - Baseline	0.42 (0.04, 0.80)	0.03
Time 2 - Baseline	0.48 (0.06, 0.91)	0.03
Time 2 - Time 1	0.06 (-0.36, 0.49)	0.76

Table 5. PFI Repeated Measures Analysis

Table 5 represents results from Analysis III. Repeated measures analysis using mixed linear modeling was used to calculate the mean difference and associated p-values between T0, T1, and T2 mean participant professional fulfillment scores (Analysis II). The comparison of mean differences allowed for the assessment of changes in outcomes in professional fulfillment (PFI) over time. Assuming a 95% Confidence Interval (CI), a significance was set to 0.05. Analysis III was broken down further into 3 sub-analyses:

the comparison of mean difference between T0 and T1, between T0 and T2, and between T1 and T2.

The calculated mean score difference between T0 and T1 was 0.42 ($p=0.03$) and therefore the mean difference was statistically significant. The calculated mean score difference between T0 and T2 was 0.48 ($p=0.03$) and therefore the mean difference was statistically significant. The calculated mean score difference between T1 and T2 was 0.06 ($p=0.76$) and therefore the mean difference was not statistically significant.

Assuming no statistically significant difference in means from T1 to T2 suggests the mean professional fulfillment score stayed the same from post-intervention (T1) to two-month post-intervention follow-up (T2). This finding suggests the effect of intervention on professional fulfilment had a sustained effect in the two-month absence of intervention.

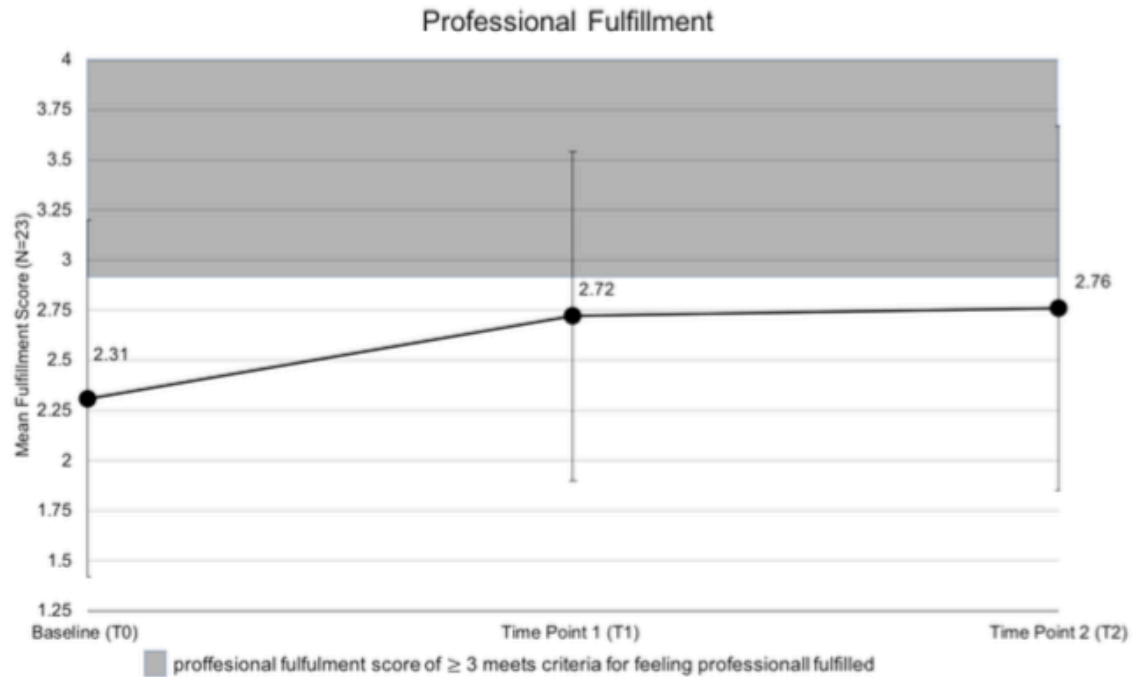


Figure 4. Mean Professional Fulfillment Score as a Function of Time
 Circle plots represent mean professional fulfillment scores (Analysis II)
 Error bars represent \pm mean difference (Analysis III) between time points.
 T1 - T0 Mean difference = 0.42 (95% CI, p-value 0.03)
 T2 - T0 Mean difference = 0.48 (95% CI, p-value 0.03)
 T2 - T1 Mean difference = 0.06 (95% CI, p-value 0.76)

Figure 4 displays the mean professional fulfillment score over time. The gray area of the chart represents score ranges ≥ 3.00 which meet professional fulfillment criteria. Note the baseline (T0), time point 1 (T1) and time point 2 (T2) mean professional scores all fall below the professional fulfillment range.

Considering pre-intervention (T0) to post-intervention (T1) data, data from Analysis II and Analysis III suggests mean professional fulfillment scores increased from 2.31 at

baseline (T0) to 2.72 post-intervention (T1); the mean difference of 0.42 and p-value of 0.03 signifies a positive increase in mean professional fulfillment over time from T0 to T1 that is statistically significant (Figure 4).

Considering pre-intervention (T0) to two-month post-intervention follow-up (T2) data, data from Analysis II and Analysis III suggests mean professional fulfillment scores increased from 2.31 at baseline (T0) to 2.67 two-month post-intervention follow-up (T2); the mean difference of 0.48 and p-value of 0.03 signifies a positive increase in mean professional fulfillment over time from T0 to T2 that is also statistically significant (Figure 4).

Considering post-intervention (T1) data to two-month post-intervention follow-up (T2) data, data from Analysis II and Analysis III suggests mean professional fulfillment scores stayed roughly the same from 2.72 post-intervention (T1) to 2.67 two-month post-intervention follow-up (T2); the mean difference of 0.06 and p-value 0.76 signifies a difference in mean professional fulfillment over time from T1 to T2 that is not statistically significant (Figure 4).

Over time, the mean professional fulfillment score of the 24 participants increased in a statistically significant manner from T0 to T1 and stayed relatively the same from T1 to

T2. There was no statistically significant difference between T1 and T2 mean professional fulfillment scores.

MBI-10 Analysis IV: Calculation of Participant Burnout Score

Participant ID	Burnout Score*			Participant ID	Burnout t** (Y=yes; N=No)		
	T0	T1	T2		T0	T1	T2
1	1.10	0.60	.	1	N	N	.
3	0.80	0.10	0.80	3	N	N	N
4	2.10	0.10	0.10	4	Y	N	N
7	2.20	1.80	1.10	7	Y	Y	N
10	1.50	1.30	1.30	10	Y	N	N
11	2.20	1.10	.	11	Y	N	.
12	1.20	0.60	.	12	N	N	.
13	1.50	2.10	.	13	Y	Y	.
14	0.00	0.00	0.00	14	N	N	N
15	1.00	0.70	1.10	15	N	N	N
16	1.30	1.10	.	16	N	N	.
17	0.20	0.00	0.00	17	N	N	N
18	1.70	1.60	.	18	Y	Y	.
19	2.30	1.20	1.40	19	Y	N	Y
20	1.10	1.00	0.20	20	N	N	N
22	0.20	0.30	0.10	22	N	N	N
23	1.50	0.80	1.30	23	Y	N	N
25	2.20	1.40	2.30	25	Y	Y	Y
26	1.40	1.20	1.00	26	Y	N	N
27	0.40	0.20	1.00	27	N	N	N
28	2.50	2.30	1.90	28	Y	Y	Y
29	1.90	2.60	1.90	29	Y	Y	Y
34	1.20	0.60	0.20	34	N	N	N
Mean Score	1.37	0.99	0.92	Professionally Fulfilled	54%	25%	23%

Table 6. Burnout Score and Dichotomized Result for Each Participant Over Time (N=24)

*Burnout scores > 1.33 were defined as individuals who meet the criteria of experiencing burnout as defined by PWAC (Troekel et al., 2018).

**“Y=Yes” indicated the participant is experiencing burnout, whereas “N=No” indicated the participant is not experiencing burnout as defined by PWAC (Troekel et al., 2018).

Table 6 represents results from analysis IV. At T0, 13 of 24 participants (54%) met burnout criteria. At T1, the post-intervention measurement, the number of participants who met burnout criteria dropped to 6 of 24 participants (25%). Of the 17 participants who completed survey 3 at T2, 4 participants (23%) met burnout criteria.

MBI-10 Analysis V: Calculate Mean Participant Burnout Score

Maslach Burnout Inventory (MBI)

	<i>N</i>	<i>N Missing</i>	<i>Mean</i>	<i>SD</i>	<i>Median</i>	<i>IQR</i>	<i>Minimum</i>	<i>Maximum</i>
MBI: Baseline	24	0	1.37	0.70	1.40	0.95	0.00	2.50
MBI: Time Point 1	24	0	1.00	0.73	1.05	0.90	0.00	2.60
MBI: Time Point 2	17	7	0.92	0.73	1.00	1.10	0.00	2.30

Table 7. MBI-10 Summary Statistics

Table 7 represents results from analysis V. The individual professional burnout scores calculated in analysis IV were used to calculate the mean burnout scores at baseline (T0), time point 1 (T1) and time point 2 (T2) in analysis II. The mean burnout score was found to be 1.37 for T0, 1.00 or T1, and 0.92 for T2. The calculated mean burnout score for T0, baseline measures, met burnout criteria. The mean burnout score for T1 and T2 did not meet burnout criteria.

MBI-10 Analysis VI: Calculate Mean Difference in Burnout Score and p-values

	<i>Mean Difference (95% CI)</i>	<i>p-value</i>
MBI		
Time 1 - Baseline	-0.37 (-0.60, -0.15)	0.002
Time 2 - Baseline	-0.40 (-0.65, -0.14)	0.004
Time 2 - Time 1	-0.02 (-0.28, 0.24)	0.87

Table 8. MBI-10 Repeated Measures Analysis

Table 8 represents results from Analysis VI. Repeated measures analysis using mixed linear modeling was used to calculate the mean difference and associated p-values between T0, T1, and T2 mean participant burnout scores (Analysis II). The comparison of mean differences allowed for the assessment of changes in outcomes in burnout (MBI-10) over time. Assuming a 95% Confidence Interval (CI), a significance was set to 0.05. Analysis VI was broken down further into 3 sub-analyses: the comparison of mean difference between T0 and T1, between T0 and T2, and between T1 and T2.

The calculated mean score difference between T0 and T1 was -0.37 (p=0.002) and therefore the mean difference was statistically significant. The calculated mean score difference between T0 and T2 was -0.40 (p= 0.004) and therefore the mean difference

was statistically significant. The calculated mean score difference between T1 and T2 was -0.02 (p=0.87) and therefore the mean difference calculated was not statistically significant. Assuming no statistically significant difference in means from T1 to T2 suggests the mean burnout score stayed the same from post-intervention (T1) to two-month post-intervention follow up (T2). This finding suggests the effect of intervention on burnout had a sustained effect in the two-month absence of intervention.

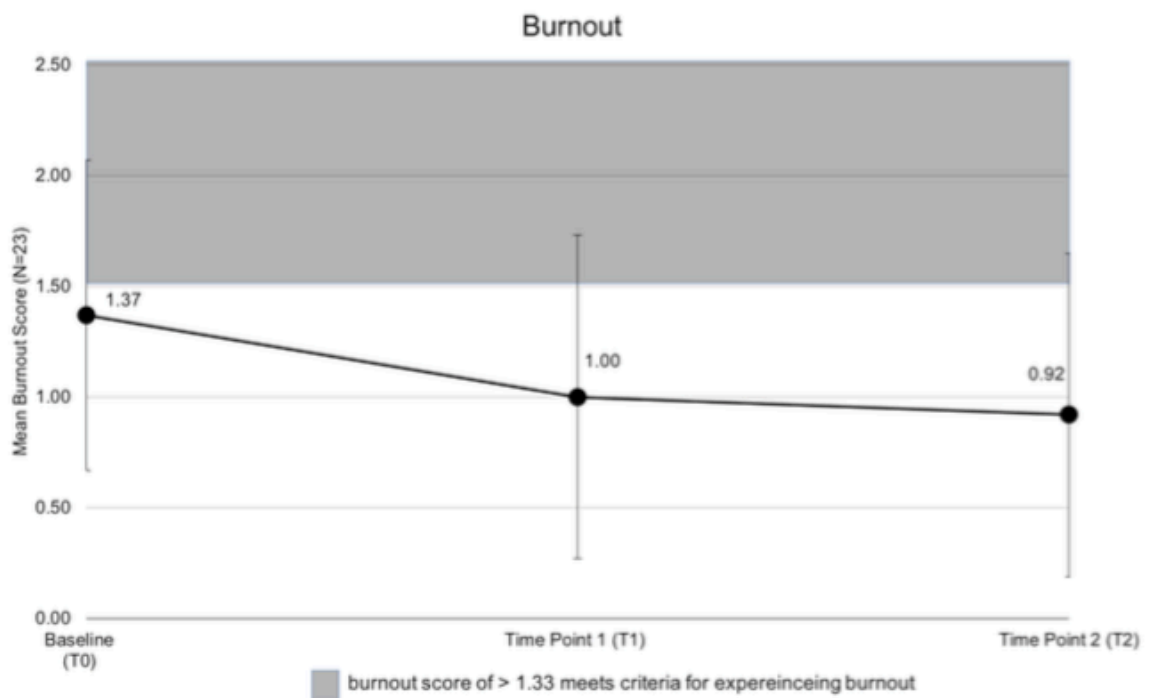


Figure 5. Mean Burnout Score as a Function of Time

Circle plots represent mean professional fulfillment scores (Analysis V)
 Error bars represent \pm mean difference (Analysis VI) between time points.
 T1 - T0 Mean difference = - 0.37 (95% CI, p-value 0.002)
 T2 - T0 Mean difference = -0.40 (95% CI, p-value 0.004)
 T2 - T1 Mean difference = -0.02 (95% CI, p-value 0.87)

Figure 5 displays the mean burnout score over time. The gray area of the chart represents score ranges > 1.33 which meet burnout criteria. Note the baseline (T0) mean burnout score falls within the burnout range.

Considering pre-intervention (T0) to post-intervention (T1) data, data from Analysis V and Analysis VI suggests mean burnout scores decreased from 1.37 at baseline (T0) to 1.00 post-intervention (T1); the mean difference of -0.37 and p-value of 0.002 signifies a decrease in mean burnout over time from T0 to T1 that is statistically significant (Figure 5).

Considering pre-intervention (T0) to two-month post-intervention follow-up (T2) data, data from Analysis V and Analysis VI suggests mean burnout scores decreased from 1.37 at baseline (T0) to 0.92 two-month post-intervention follow-up (T2); the mean difference of -0.40 and p-value of 0.004 signifies a decrease in mean burnout scores over time from T0 to T2 that is also statistically significant (Figure 5).

Considering post-intervention (T1) data to two-month post-intervention follow-up (T2) data, data from Analysis V and Analysis VI suggests mean burnout scores stayed roughly the same from 1.00 post-intervention (T1) to 0.92 two-month post-intervention follow-up (T2); the mean difference of -0.02 and p-value 0.87 signifies a difference in mean burnout over time from T1 to T2 that is not statistically significant (Figure 5).

Over time, the mean burnout score of the 24 participants decreases in which the mean burnout score data points for T1 and T2 fall below the burnout range. The decrease in mean burnout score from T0 to T1 and from T0 to T2 were found to be statistically significant. The decrease in mean burnout score from T1 to T2 was not found to be statistically significant.

Analysis VII: Quantitative Analysis of non-PFI, non-MBI-10 Survey Questions

Grouped under “Other” in the summary of mixed methods analysis table (Table 1), Analysis VII used Survey 1 (pre-course) and Survey 2 (post-course survey) to calculate percentage of participants who remarked greater value on self-care, percentage of participants who plan to continue mindfulness practices, and percentage of participants who would recommend the course to a colleague. Sixty-four percent of participants remarked greater value on self-care. Eighty-seven percent of participants plan on continuing their mindfulness practice after the course. Ninety-six percent of participants would recommend the MBSR variant course to their colleagues.

Analysis VIII: Survey 1 (Pre-Survey) Thematic Analysis

Analysis VIII involved qualitative analysis of pre-course survey 1. The major reasons for why participants enrolled into the course included: to find joy and resilience in work and

home, to manage stress, and to help others (patients, colleagues, family). Other reasons included to foster professional and personal growth, to improve mental health, home practice, and fatigue. Major reasons for participants not enrolling in the course were their limited availability and timing of the course conflicting with other obligations.

Summary of Themes	Number of Participants Referencing Theme (Pre-Survey, T0)
Find joy and resilience in work and home	8
Manage stress	8
Help others (patients, colleagues, family)	8
Professional and personal growth	4
Improve Mental Health	2
Develop Mindfulness Home Practice	9
Address and manage fatigue	7

Table 9. Pre-Course Summary of Themes and Frequencies Referenced

Note: Participants were asked to give up to three reasons for enrolling in the course. Not all participants utilized the free entry areas of the surveys. Therefore, these data may not be representative of the entire (N=24) participant group.

Theme	Example Participant Responses (Pre-Survey, T0)
Find joy and resilience in work and home	<p><i>“I want to be more joyful at home and work gets in the way”</i></p> <p><i>“I want to find joy and resilience in my work.”</i></p>
Manage stress	<p><i>“[I want to] develop a toolbox to prevent future burnout.”</i></p> <p><i>“[I want] tools to manage stress.”</i></p>
Help others (patients, colleagues, family)	<p><i>“[I want] to help better treat my patients with a clearer mind and also help them be more mindful.”</i></p>
Professional and personal growth	<p><i>“[For] personal benefit.”</i></p> <p><i>“[For] self-growth.”</i></p>
Improve mental health	<p><i>“To help deal with depression”</i></p> <p><i>“I have anxiety and am looking for another way to help manage it.”</i></p>
Develop mindfulness home practice	<p><i>“To improve my own meditation practice.”</i></p>
Address and manage fatigue	<p><i>“I value my work at BMC and love my department but feel pretty spent...I am looking for a way to try and feel less exhausted all the time.”</i></p> <p><i>“I am considering leaving my job because I am so burned out. I hope to learn skills and tools I can apply in my work.”</i></p>

Table 10. Pre-Course Participant Responses: Reason for Course Enrollment

Table 10 provides examples of participant responses based on the theme for course enrollment.

Analysis IX Survey 2 (post-survey) Thematic Analysis

Common themes which arose from responses from course participants were: exposure to mindfulness in the workplace, improved stress management by acquisition of tools, fostering a stronger connection with colleagues, values course instructors and curriculum. Other themes included stress reduction, appreciation of food offerings, acknowledging the importance of self-care, and having greater presence in the present moment. Negative responses were criticism of mindfulness not being able to solve systemic issues and timing issues [table 10].

Summary of Themes	Number of Participants Referencing Theme (Post-Survey, T1)
Exposure to Mindfulness	18
Given Tools to Manage Stress	13
Increased Connection with Others	13
Valued Course Instructors	10
Curriculum: digital content / emails / resources for home practice / materials / manual	10
Reconnection to Identity	8
Stress Reduction	7
Timing Issues and Requests	6
Gratitude for Food	5
Importance of Self-care	4
Feel More Present	2
Narrative Medicine	1

Table 11. Post-Course Summary of Themes and Frequencies Referenced

Note: not all participants utilized the free entry areas of the surveys. Therefore, these data may not be representative of the entire (N=24) participant group.

Overall, there are 36 positive remarks and 9 negative remarks present in the post-survey T1 data set. Positive remarks included, “I highly recommend this course as the benefits of mindfulness and meditation practices are essential for anyone and everyone in all aspects of life.” and “This course is exactly the sort of entry level course for both novice and seasoned individuals on the path to mindfulness. It is a must for all professionals who pride themselves in being their best version of themselves at work and beyond.” Negative remarks included: “I believe in meditation. I know that it can be incredibly powerful. But, I wish I knew that some feedback was being provided to hospital leadership about the real impact of stressors on the clinicians. It is nice to have comradery and tools for decreased stress, but this is not the only answer. I need real changes like longer visit times and a true understanding if we are meant to see maximum amount of patients (RVU targets), reach ACO goals or abide by AIDET or go to the bathroom or write letters on time and so on. It really isn't attainable most of the time.” and “The course was not specific to real work stressors.”

Summary of Themes	Example Participant Responses (Post-Survey, T1)
Exposure to Mindfulness	<i>“Most valuable - the exposure to several mindfulness methods wrapped into one course; its accessibility to the degree to which mindfulness is on my mind in a more active way”</i>
Given Tools to Manage Stress	<i>“This course ... included approaches that I was able to apply to common high stress situations in my work in a high acuity field of medicine.”</i> <i>“I feel more secure about the uncertainty and lack of stability at work, because I know I have a toolkit to respond to whatever comes.”</i>
Increased Connection with Others	<i>“I greatly valued the group discussions and experiences others shared during our meetings”</i> <i>“Most valuable: the communal fellowship”</i>
Valued Course Instructors	<i>“The course facilitators absolutely make the course. Among the three of them, they have a wealth of experience which was delivered perfectly.”</i>
Curriculum (i.e. digital content, emails, resources for home practice, materials, manual)	<i>“[I value the] curricula with one topic per session”</i> <i>“[Please] continue recording meditation practices”</i> <i>“[I value the] email links for us to keep”</i> <i>“[The course contains] lots of tools to take away from it and it was very well organized.”</i>
Reconnection to Identity	<i>“The course validated who I am as a person and a caregiver.”</i> <i>“[I was able to] re-connect with the reason I became a caregiver in the first place.”</i>

Stress Reduction	<p><i>“I feel that I now use mindfulness with both stressful and stress-free experiences. This helps me tap into mindfulness more effectively when I really need it!”</i></p> <p><i>“[T]he room [was] very relaxing”</i></p>
Timing Issues and Requests	<p><i>“I struggled with attendance d/t other commitments, and wasn't able to attend as many sessions as I hoped.”</i></p> <p><i>“I actually think at about class 6-7 is when the cohort really hit its stride - I realize practically people may not want to sign up for a longer course, but it seemed like the course ended when we were just really getting into a good groove (hopefully the monthly meetings will keep things going)”</i></p>
Gratitude for Food	<p><i>“Very healthy and nice food choices”.</i></p>
Importance of Self-care	<p><i>“I did not understand how a few hours a week for a few weeks could make such profound changes. But it has. It's like I have a flashlight to light my way that is always in my pocket.”</i></p>
Feel More Present	<p><i>“Honestly I did not think this course would help me in so many ways. I feel not only more present with my patients, I am now more present at home with my family. It has helped me disconnect work from my personal life which gives me more energy in both.”</i></p>
Narrative Medicine	<p><i>“The personal anecdotes that were shared resonated with me personally.”</i></p>

Table 12. Post Course Participant Testimonials: Most Valued Aspect of Course

DISCUSSION

Summary of Findings

We set out to accomplish three aims in our research. The first aim was to investigate the current literature for evidence in which Mindfulness Based Training Programs (MBSR) prevents or lowers clinician burnout. A literature search established mindfulness-based interventions are growing in popularity to reduce or prevent burnout in healthcare. As of 2017 the American Journal of Medicine recognized only 14 studies, 7 of which were RCTs, which studied the effects of mindfulness interventions on healthcare provider well-being (Gilmartin et al., 2017). Krasner and Epstein et. al. led a study of primary care physicians who enrolled in an 8-week physician lead MBSR course geared toward clinicians. They found physician participants of the course experienced reductions in burnout. The study showed efficacy of mindfulness-based interventions in increasing well-being. Increased mindfulness practices correlated with reductions in burnout and total mood disturbance and increased emotional stability. Increased mindfulness also correlated with an increase in patient centered care qualities (Krasner et al., 2009b). This study was not a randomized control study. A randomized control study of healthcare professionals demonstrated an 8-week MBSR program reduced stress and improved quality of life and self-compassion (Shapiro et al., 2005). Overall mindfulness-based interventions, like MBSR courses for clinicians, show promise in addressing clinician burnout.

The second aim in our research was to evaluate the impact of a MBSR-variant program on professional fulfillment and burnout among medical providers in a safety-net academic medical center. Surveys allowed for the collection of PFI data which allowed for the analysis of professional fulfillment of course participants over time (Analysis I-III). Analysis I found at T0, 83% of participants did not meet criteria for feeling professionally fulfilled. At T1, the post-intervention measurement, the number of participants who did not meet professional fulfillment criteria dropped to 54% of participants. Although there was loss of data at T3 (N=7), of the 17 participants who completed survey 3 at T2, 47% did not meet criteria for feeling professionally fulfilled. Analysis II allowed for the calculation of mean professional fulfillment scores for each of the three time points. All three calculated mean score values for T0, T1, and T2 fell below criteria for professional fulfillment. Although the average fulfillment scores at each time point were below professional fulfillment threshold, the mean scores increased over time from T0 to T1, suggesting professional fulfillment increased after intervention (pre to post comparison). Likewise, mean professional fulfillment scores remained stable for T1 to T2 (post to follow-up) suggesting in the absence of intervention the increase in professional fulfillment score achieved for T0 to T1 was maintained from T1 to T2. Analysis III allowed for the evaluation of the difference in mean scores over time. It allowed for the determination for statistical significance. Analysis III confirmed the

difference between T0 and T1 professional fulfillment score means and T0 and T2 professional fulfillment score means were statistically significant. Analysis III confirmed the difference in professional fulfillment score means between T1 and 2 was not statistically different.

Surveys allowed for the collection of MBI-10 data which allowed for the analysis of burnout of course participants over time (Analysis IV - VI). Analysis IV found at T0, 54% of participants met burnout criteria. At T1, the post-intervention measurement, the number of participants who met burnout criteria dropped to 25% of participants. Although there was loss of data at T3 (N=7), of the 17 participants who completed survey 3 at T2, 23% met burnout criteria. Analysis V allowed for the calculation of mean burnout scores for each of the three time points. The baseline (T0) calculated mean score values for T0, fell above criteria for burnout. Mean burnout scores for T1 and T2 fell below criteria for burnout. The mean burnout scores decreased over time from T0 to T1, suggesting burnout decreased after intervention (pre to post comparison). Likewise, mean burnout scores remained stable for T1 to T2 (post to 2-month follow-up) suggesting in the absence of intervention the decrease in burnout score achieved from T0 to T1 was maintained from T1 to T2. Analysis VI allowed for the evaluation of the difference in score means over time. It also allowed for the determination for statistical significance. Analysis VI confirmed the difference between T0 and T1 score means and T0 and T2

score means were statistically significant. Analysis III confirmed the difference in means between T1 and 2 were not statistically different.

Overall, in relation to the second aim of our research, Analysis I, II and III of PFI survey data allowed investigators to evaluate the impact of a MBSR-variant program on professional fulfillment among medical providers in a safety-net academic medical center. Analysis IV, V and VI of MBI-10 survey data allowed investigators to evaluate the impact of a MBSR-variant program on burnout among medical providers in a safety-net academic medical center. These data suggest the professional fulfillment of participants increased and burnout decreased from baseline measures to post-intervention measures, and results were sustained two months after the course was completed.

The third aim of our research was to assess the effectiveness of implementation strategies employed for clinician enrollment and participation in our 8-week MBSR-variant course. Dr. Susannah Rowe, associate CMO, assisted in distributing electronic course invitations to a wide range of clinicians including all attending clinicians at BMC. Recruitment allowed for the successful enrollment of 24 clinicians. In terms of clinician diversity, 14 departments were represented (figure 2), 75% of the participants identified as female and 25% identified as male (figure 3). Attendance was fairly robust, with a median class attendance was 6 of 8 sessions (figure 3). Thirteen participants (46%) claimed free CME credits (figure 3). Electronic survey methods seem to be user friendly for participants, as

we did not receive complaints of electronic methods being a barrier for survey completion. 100% of participants completed Surveys 1 and 2, therefore data for a pre-post intervention comparison not compromised. 66.7% of participants completed survey 3, signifying a loss of data. The repeat measures analysis was used to minimize the bias introduced by missing data at T3. Ideally researchers aim for no loss of data. Moving forward, adaptations to methods may need to be made to be more proactive in alerting participants about survey 3. In addition, we need to further identify reasons why participants did not complete survey 3. to best address this issue.

Quantitative (non-PFI, non-MBI-10 questions) and qualitative (free response questions) data collection allowed researchers to further assess the effectiveness of implementation strategies. Analysis VII found overall positive remarks from participants. Approximately two-thirds of participants remarked greater value on self-care. The vast majority of participants plan on continuing their mindfulness practice after the course and would recommend the MBSR variant course to their colleagues. Analysis VIII provided thematic analysis of survey 1 (pre-survey). It allowed for the identification of major reasons for course enrollment amongst participants. Three major reasons were: to find joy and resilience in work and home, manage stress, and helping others (table 8). Having a better understanding of what factors drew clinicians to the course further helps inform future implementation, by allowing us to advertise the course using participant

testimonials that apply to the same factors. Likewise, these data were collected on why participants could not enroll, for example clinician availability at the time of the course. Knowing the target population allows for a more tailored future study. For example, if the majority of clinicians signed up for the course to find joy and resilience in work and home, we may focus more time, discussion, and reflection on the topic over other topics listed in the didactic material. Analysis IX allowed for thematic analysis of survey 2 (post-survey). It allowed for the analysis of data not captured in the qualitative data collection and allowed for the identification of major themes coming from reflections of participants' course experience. The major themes included exposure to mindfulness, acquisitions of tools to manage stress, increased connection to community and valued materials and instruction. Identifying negative remarks, for example issues with course time requirements or skepticism of certain mindfulness practices, will help the course adapt to better suit the clinician population in the future. For example, one participant states, "It is nice to have comradery and tools for decreased stress, but this is not the only answer. I need real changes..." in regards to the work environment. Another participant states, "The course was not specific to real work stressors." In response to these reflections, we may need to be more explicit and repetitive with our course disclaimer which states mindfulness is an intervention which addresses personal causes of burnout and will not address the larger systemic issues causing burnout.

Overall Analysis VII - IX allowed for the assessment of effectiveness of implementation strategies for clinician enrollment and participation (Aim 3), in which offering a mindfulness for clinicians course at BMC is concluded to be a feasible endeavor. Recruitment and implementation strategies were successful. Positive qualitative data references valued didactic material and course instruction. Scalability and long-term impact are still to be determined. The benefit of creating this pilot QI project's course curriculum is the ability to use the crafted materials moving forward. This should decrease the time project leaders need to invest in curriculum development. Materials can easily be printed and distributed, and thus the course will be easy to scale up in the future. Preliminary data shows mindfulness may be a promising adjunct for reducing burnout, increasing professional fulfillment, and enhancing self-care, successfully addressing all three research aims.

The Current Landscape Regarding Mindfulness and Clinician Wellness

There has been a heightened interest in mindfulness interventions largely due to the substantial amount of scientific literature supporting the potential physical, mental, and interpersonal benefits of these practices. The rise in research, specifically from only seven RCTs in 2000 to two-hundred sixteen RCTs in 2015, has fueled a wide array of mindfulness-based interventions into various settings such as clinical treatments, workplaces, schools, the military, and prisons (Creswell, 2017). A study which

introduced MBSR to healthcare workers reported enhanced mindfulness, well-being, empathy, and emotional stability; they also found these positive effects were still present one year out from the study, suggesting the sustained impact of MBSR on healthcare worker stress (Geary & Rosenthal, 2011). Although these training programs suggest some benefits, these studies are often small and have short follow-up measurements. There are few studies that evaluated organizational level interventions to reduce clinician stress (Shanafelt, 2009). The benefit of our QI project at BMC is three-fold. One benefit is the pilot serves as a platform to evaluate pre-post study designs. Findings from our QI project may lead into more formalized studies. The second benefit is establishing a framework for and collecting data in support of this pilot program will aid in building a mindful movement at BMC. Success of the pilot program may help increase course offerings to all BMC employees. Currently, efforts at BMC to address burnout are siloed. Gaining endorsement and support from BMC would unify institutional efforts to address professional fulfillment and burnout at BMC. The third benefit of this project is uniting efforts to understand professional fulfillment and burnout across multiple healthcare institutions. Using common indexes (PFI and MBI-10) and common cut off values defined by PWAC, allows for the establishment of a common language in the evaluation and discussion of professional fulfillment and burnout.

Our findings are consistent with Geary et. al. in which increased mindfulness, acquired through an MBSR course, correlated with enhanced perceived clinician well-being (Geary & Rosenthal, 2011). Our findings are also consistent with Krasner's et. al. study in which increased mindfulness, acquired through an eight-week MBSR course for clinicians, correlated within reduced burnout in a clinician group (Krasner et al., 2009b). Our project is speculated to be the first to focus the use of MBSR-variant course interventions on clinicians at a large safety-net hospital to assess effects on perceived professional fulfillment alongside burnout.

Explanation of Findings

Logical speculation as to why clinicians responded to a MBSR-variant course is its content and facilitator expertise. Medical education is hierarchical in nature. Young clinicians in training work under more experienced clinicians. For example, medical students, residents and fellows report to an attending physician. Similar to the way clinicians learn from other clinicians in the current model of medical education, having a physician lead course may allow clinicians to grasp mindfulness as a more accessible tool. There is a credibility factor in a clinician lead course. There is also relatability amongst clinicians when sharing narrative medicine stories. Discussion portions of this course built a deeper sense of community amongst the clinician cohort, as referenced in our qualitative data. Mental health discussions, i.e. discussion of feelings surrounding

stress in the work environment, remains a taboo subject of discussion in the United States. Clinicians are reluctant to pursue mental health treatment due to shame, income loss, or licensure actions (Wallace, 2012). Mental health discussions include talking about professional fulfillment and burnout. Organizations can foster an environment for clinician well-being by providing training programs, like MBSR and MBSR-variant courses, which bring this discussion to the forefront of clinician wellbeing. The success of Krasner's et. al. study and our pilot study suggest knowing other clinicians have employed mindfulness tools to successfully navigate stress in the work environment, may make clinicians new to the practice of mindfulness more apt to "try it on" in a clinical setting.

Limitations

Limitations of the study are broken into two categories: limitations in study design and limitations in data analysis. Limitations in design include: lack of controls, self-selection bias, the potential of early adopters, participant retention and limitation of the overarching theory of mindfulness. Due the absence of a control group, we cannot definitely conclude the results of our analysis are a direct result of mindfulness training from the MBSR-variant course. It could be observed changes in PFI and MBI-10 measures were due to participants spending time with their colleagues. Additional RCT research is needed to further evaluate the effects of the MBSR-variant course on clinician

professional fulfillment and burnout. Another limitation in the study design is self-selection bias in course enrollment. In the pilot group, clinicians who enrolled in our course may be different from a random selection of clinicians or even clinicians who sign up for a future course offering. Another concept to consider is the Early Adopter Theory as an explanation for our positive findings. In the field of social science, Diffusion of Innovations Theory (DIT) is a useful conceptual framework for understanding the process of adopting novel ideas and practices into a new group. Under DIT, the early adopters theory defines early adopters as stakeholders in a social system which usually leads people to change. They seek information and advice from pioneers, and their acceptance of behavior is the most appropriate endorsement of an innovation (Rogers & Recorded Books, 2010). In the context of our project, early adopters of our MBSR-variant course and the mindfulness tools it provides, may be different from future course cohorts. For example, maybe the majority of pilot participants already believed in the benefits of mindfulness and voluntarily signed up for the course. If more individuals were drawn to mindfulness or had previous beneficial experience with mindfulness, then this group may be more susceptible to the intervention causing change in comparison to future course cohorts where interest or previous understanding of mindfulness may be lower. Further data are needed to confirm the effect of our innovation on the BMC clinician population. More excitement about mindfulness in the pilot group might increase the likelihood of improvement in professional fulfillment and burnout. Another

issue encountered was participant retention. A mindfulness training program requires an additional time commitment for busy physicians, which may prove to be an additional stressor to physicians (Gupta et al., 2018). Participant attendance was not perfect; we conducted an intention to treat analysis, in which data from clinicians who attended one or more sessions were included in the analysis. With varying attendance, exposure to the intervention varied within the group. Variance in attendance may have affected the outcome measures.

The theory of mindfulness has its own inherent limitations on scope of our mindfulness interventions. This educational program was centered around the theory of mindful practice, in which such practices increase intrapersonal and interpersonal self-awareness can improve well-being and effectiveness in clinical practice (Epstein, 1999). As stated in the introduction, MBSR mindfulness exercises provide tools for participants to manage their own stress (Shanafelt, 2009). MBSR as an intervention focuses on addressing only the individual causes of burnout not the systemic causes of burnout. A significant contribution to clinician lack of professional fulfillment and widespread burnout is due to systemic challenges that must be addressed on an institutional and policy level. We recognize that our MBSR variant program does not serve as a standalone resolution to these pervasive issues.

Limitations in analysis included: the complexity of measuring factors pertaining to an individual's psychology, loss of data, having a small sample size, and lack of congruence in the findings of mixed methods analysis. Professional fulfillment and burnout are complex psychological concepts. These concepts are difficult to measure. We relied on self-administered surveys in which biases may have influenced how truthfully a participant responded to survey questions. One potential reason why a participant does not respond truthfully may be due to whether the participant is assured that the survey process is completely anonymous and confidential. Another reason may be related to social desirability, in which the participant answered based on what response they think is most favored by others. In addition, loss of data at T3, limited the options for our statistical testing of the quantitative data. Another limitation is our small study sample (N=24), which limits the generalizability of our findings. A larger study sample is preferred to allow for our findings to be generalizable. As a convenience sample, limited to the time period of this thesis, we held one course in which the maximum recruitment of N=24 was our sample size. For the sake of our QI project, the sample was sufficient. We also found some lack of congruence between quantitative and qualitative data. For example, if we considered a non-responder to intervention as an individual who did not meet professional fulfillment criteria at T0 but met professional fulfillment criteria at T1 or an individual who met burnout criteria at T0 but did not meet burnout criteria at T1, an interesting finding arose from the qualitative data. Although some participants met the

criteria of a non-responders, their qualitative data suggests their overall experience of the course was both positive and helpful in understanding and managing their stress.

Implications regarding lack of congruence in data might lead the investigator to question which finding to believe in. It may suggest that a phenomenon is not yet getting captured in the time frame of this study and may require further investigation.

Strengths of Study Design

Mixed methods data analysis allowed us to capture interesting phenomena in which non-responders with negative quantitative data still provided overwhelmingly positive qualitative data. The mixed methods analysis plan allowed us to capture a range of data to best understand the effects our course had on participants' perceived experience. The qualitative data informs possibly why we see increases in PFI and the decreases in MBI-10. In terms of the collection of our quantitative data, there is strength in using scientifically validated indexes (PFI and MBI-10) to measure professional fulfillment and burnout. Likewise, there is strength in using the same indexes and cutoff values used by the BMC annual survey and PWAC. There is statistical strength in employing longitudinal data collection with measurements at three time points. Repeated measures analysis allowed us to compare changes in measure over time. The repeated measures analysis accounted for our loss of data (N=7) at T2, and allowed us to use all data points (N=24) rather than complete data sets (N=17).

Future Plans

Future plans include monthly follow-up sessions for course participants, providing meditation digital drop-ins and yoga classes, collecting follow-up data at 12 months post course completion, providing evening and daytime options for future training, and expanding offerings to other BMC cohorts such as leadership, trainees, and staff. To date, our team has trained over 100 BMC employees through additional MBSR-variant courses. The program demands increased almost seven-fold, and enrollment has doubled since the pilot course.

Implications on an individual clinician may have a ripple effect on both the wellbeing of the institution and the healthcare system. Increased mindfulness practices do not change an individual's stressors, which may be contributions to lack of professional fulfillment or burnout. Increased mindfulness practices may help individuals change their perception of stressors and their response to stressors by fostering intrapersonal and interpersonal self-awareness (Kabat-Zinn, 2013). Rigorous scientific evaluation of a mindfulness communication program supported lower participant's reactivity to stressful events (Krasner et al., 2009b). Lower stress amongst a community of individuals will hopefully reverse the negative effects of stress clinicians are currently facing.

Implications of mindfulness at a medical institution may include more mindful communication amongst colleagues. Employing mindfulness exercises which foster interpersonal self-awareness (i.e. narrative medicine and AI) will perhaps build a deeper sense of community and strengthen teamwork at BMC. BMC's mission is to provide exceptional care, without exception. For over a century, BMC has been driven by a commitment to care for all people, providing traditional medical care and complementary programs and services that surround that care to enhance overall health. As a safety net hospital with its own unique challenges, employing wellness programming like our MBSR-variant course will allow BMC to provide exceptional care for all, including its own clinicians.

Likewise, there are implications for American healthcare if the mindful movement holds traction. Increased mindfulness in the field of medicine may change the culture of medicine to incorporate clinician wellbeing as a vital pillar in the stability of American healthcare. Clinician burnout is an epidemic. Improving clinician wellbeing may in turn improve patient-centered care and patient health outcomes. Employing mindfulness to shift the culture of medicine may provide financial benefit by addressing and preventing the economic burden lack of professional fulfillment and clinician burnout is having on the American healthcare systems.

APPENDIX

Clinician Mindfulness Training 2019: Pre-Course Survey 1

Q1 The primary goal of this survey is to evaluate the effectiveness of the Mindfulness course, integrate your feedback into the design of future Mindfulness courses, and assure the sustainability of this course. By consenting to participating in this survey, you are agreeing to share your individual responses with the Mindfulness Training team for the courses' further enhancement. All of the information provided on the survey will be anonymous and confidential and will not be used for research purposes.

I consent

I do not consent

Q2 How did you hear about this program?

Course Announcement initiated by Dr. Susannah Rowe

Email Invitation from Dr. Rob Saper

BMC Communications

Colleague Referral

Other _____

Q3 Did you attend a course orientation?

Yes

No

Q4 The information distributed prior to taking this course was...

- Very Informative
- Somewhat Informative
- Not Very Informative
- Did not receive any information

Q5 The time for this course (Thursday 5:00-7:00 PM) was...

- Very Convenient
- Somewhat Convenient
- Not Very Convenient

Q6 If you had to propose another time for this course, what would you suggest?

Q7 The location of this course (Yawkey Basement Conference Rooms) was...

- Very Convenient
- Somewhat Convenient
- Not Very Convenient

Q8 If you had to propose another location for this course, what would you suggest?

Q9 How true do you feel the following statements are about you at work during the past two weeks?

	Not at all true (0)	Somewhat true (1)	Moderately true (2)	Very true (3)	Completely true (4)
I feel happy at work (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel worthwhile at work (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work is satisfying to me (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel in control when dealing with difficult problems at work (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work is meaningful to me (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm contributing professionally (e.g. patient care, teaching, research, and leadership) in the ways I value most (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 To what degree have you experienced the following? During the past two weeks I have felt...

	Not at all (0)	Very little (1)	Moderately (2)	A lot (3)	Extremely (4)
A sense of dread when I think about work I have to do (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physically exhausted at work (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lacking in enthusiasm at work (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emotionally exhausted at work (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11 During the past two weeks my job has contributed to me feeling...

	Not at all (0)	Very little (1)	Moderately (2)	A lot (3)	Extremely (4)
Less empathetic with my patients (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less empathetic with my colleagues (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less sensitive to others' feelings/emotions (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less interested in talking with my patients (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less connected with my patients (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less connected with my colleagues (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 Name up to three reasons as to why you decided to enroll in the course.

Q13 Please list any further suggestions you have to improve the development of this course.

Clinician Mindfulness Training 2019: Post-Course Survey 2

Q1 The primary goal of this survey is to evaluate the effectiveness of the Mindfulness course, integrate your feedback into the design of future Mindfulness courses, and assure the sustainability of this course. By consenting to participating in this survey, you are agreeing to share your individual responses with the Mindfulness Training team for the courses' further enhancement. All of the information provided on the survey will be anonymous and confidential and will not be used for research purposes.

I consent

I do not consent

Q2 Before starting this course, how often did you practice mindfulness?

Never

Rarely (i.e. 1-3 Times/Month)

Occasionally (i.e. 1-3 Times/Week)

Frequently (i.e. 4-7 Times/Week)

Q3 How often did you typically complete the home practice? (i.e. 20 minutes of formal practice/day)

0 times/week

1-2 times/week

3-4 times/week

5-6 times/week

Q4 If you did complete a formal home practice, how long on average did you practice per day?

- 0-5 Mins
- 6-10 Mins
- 11-15 Mins
- 16-20 Mins
- > 20 Mins

Q5 How true are the following statements are about your experience with this course?

	Not at all true (0)	Somewhat True (1)	Moderately True (2)	Very True (3)	Completely True (4)
I have noticed positive changes in my interactions with colleagues, staff, patients, or trainees (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I place greater value on the importance of self-care (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mindfulness is a useful tool for stress management (3)

The mindfulness practices introduced in this course have contributed to my professional development (4)

I plan on continuing mindfulness practice upon the completion of this course (5)

I would recommend this course to my colleagues (6)

Q6 How true do you feel the following statements are about you at work during the past two weeks?

	Not at all true (0)	Somewhat true (1)	Moderately true (2)	Very true (3)	Completely true (4)
I feel happy at work (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel worthwhile at work (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work is satisfying to me (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel in control when dealing with difficult problems at work (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work is meaningful to me (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm contributing professionally (e.g. patient care, teaching, research, and leadership) in the ways I value most (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 To what degree have you experienced the following? During the past two weeks I have felt...

	Not at all (0)	Very little (1)	Moderately (2)	A lot (3)	Extremely (4)
A sense of dread when I think about work I have to do (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physically exhausted at work (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lacking in enthusiasm at work (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emotionally exhausted at work (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 During the past two weeks my job has contributed to me feeling...

	Not at all (0)	Very little (1)	Moderately (2)	A lot (3)	Extremely (4)
Less empathetic with my patients (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less empathetic with my colleagues (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less sensitive to others' feelings/emotio ns (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less interested in talking with my patients (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less connected with my patients (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less connected with my colleagues (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 How satisfied were you with the course?

- Not Satisfied
- Somewhat Satisfied
- Very Satisfied

Q16 Did the course fulfill any or all of the reasons you originally enrolled in the course?
Why or why not?

Q17 Please describe aspects of the course most valuable and least valuable to you.

Q18 Please share any further comments, suggestions, or feedback you have to improve the development of this course.

Q22 OPTIONAL: If you feel comfortable, please share a testimonial about your experience in the course that may be used for future course promotion.

Course Manual for Mindfulness Training for Boston Medical Center Clinicians: A Program for Stress Reduction, Vitality, and Professional



Mindfulness Training for BMC Clinicians

**A Program for Stress Reduction, Vitality,
and Professional Development**

March 7th- April 25th 2019

Facilitated By:

**Dr. Rob Saper, Dr. Scarlet Soriano, and
Bonita Jones**

Participant Manual

Prepared By:

Gabrielle Farquhar, MPH

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Welcome

Welcome to **Mindfulness Training: A Pilot Program for Stress Reduction, Vitality, and Professional Development!** We are incredibly grateful and honored to help facilitate your path to discovering how mindfulness can influence both your professional and personal life.

Throughout the next eight weeks, we will meet weekly and learn what mindfulness is, how to practice different mindfulness-based exercises, and how these practices are relevant to your life as a clinician. We encourage you to truly embrace your unique experience of this course. Mindfulness is applicable to almost all aspects of life; the richness of this practice is strengthening our ability to cherish our unique insights.

The overarching purpose of this course is to offer support to our BMC clinician community. As healers, our main priority is to serve our patients' complex needs. However, in order to truly be present for our patients, we must allow ourselves the space to nourish our body, mind, and hearts. Mindfulness is by no means the sole solution to resolving the inevitable stressors of delivering health care. Yet, this practice can provide individuals with insightful tools to help shift our perspectives towards an empowering lens which fosters resiliency and joy.

This manual includes our weekly topics and themes, course guidelines, activities, poems, resources, and journal pages that will be a part of your home practice.

We are looking forward to this shared experience.

With Gratitude,

Rob, Scarlet, Bonita, and Gabby

Robert Saper, MD MPH, Director of Integrative Medicine
Scarlet Soriano, MD, Director of Group Visits and Wellness-Based Healthcare Transformation
Bonita Jones, MS, Mindfulness-Based Stress Reduction Instructor
Gabrielle Farquhar, MPH, Mindfulness-Based Stress Reduction Program Coordinator

"The most precious gift we can offer others is our presence." -Thich Nhất Hạnh

Course Guidelines

We will have an opportunity to discuss, modify, and add additional guidelines during our first session.

1. Confidentiality

A fundamental component of the course is the opportunity for reflection and discussion in small and large groups. In order for us to share our genuine experience, we ask that participants do not share fellow participants' insights or experiences expressed in class to others outside the class.

2. Respect

As presence is a tenet of mindfulness, we ask that upon entering our shared space you allow yourself to be fully present and ready to participate. If possible, please place your phone on silent or vibrate.

3. Comfort

In order to truly immerse into this practice, we invite you to prioritize your comfort. Every activity or discussion is simply an invitation. Please read the "Note on Safety" and let Rob, Scarlet, Bonita, or Gabby know how we can best support you to be comfortable.

4. Beginner's Mind

One of the fundamental teachings of mindfulness is the concept of "Beginner's Mind." This mindset refers to an attitude of openness and eagerness to learning new experiences, skills, and insights from one moment to the next. We ask that participants approach this course with a "Beginner's Mind" to support this positive learning community.

5. Commitment and Engagement

Mindfulness is a practice. To truly receive the benefits this practice has to offer, participants must engage in the activities and materials that are being presented. We ask that as part of joining this course, please commit to come to all or as many of the classes as possible. In addition, please practice for 20 minutes on days when there is no class. Specific homework assignments will be given. We understand our work and personal lives are full and conflicts will occur.

A Note on Safety

Mindfulness practices are primarily meant to be a relaxing experience for participants. However, at times the practice can uncover uncomfortable emotions, memories, and experiences.

To facilitate a safe and relaxing practice:

- Please use your discretion on what is safe and comfortable for you.
- If you begin to feel uncomfortable during your practice, gently open your eyes and remind yourself you are always safe. When you feel more comfortable, gently return back to the practice.

We strongly encourage you to let either Rob, Scarlet, Bonita, or Gabby about any concerns or discomfort you are experiencing, as we are here to support you on this path to wellness.

Session One: The Present Moment

*Be empty of worrying
Think of who created thought
Why do you stay in prison
When the door is so wide open
Move outside the tangle of fear thinking
Live in silence
Flow down and down
Into always widening
Rings of being*

-Rumi

Date: March 7, 2019

Themes:

Introduction to mindfulness
Defining what it means to be in the present moment
Relating presence with self-care
Introducing breath and body scan meditations

Home Practice:

Daily 20 Minute Body Scan meditation. See recommended links below
Over the next seven days, notice ways you can try to integrate mindfulness into daily life at home and at work (e.g. mindful eating, mindful walking, etc.)
Log your practices and reflections daily in your journal.

Resources:

- Body Scan Meditations: Guided Meditations
 - <http://www.satimindfulness.com/10-minute-meditations> (10 Minutes)
 - <https://www.youtube.com/watch?v=KqgcDW4XuBA> (15 Minutes)
 - <https://www.youtube.com/watch?v=DTmGtznab4> (Jon Kabat-Zinn, 20 Minutes)
 - <https://www.uwhealth.org/meditation-stress-reduction/mindfulness-guided-practices/51578> (Guided Body Scan Meditations varying in length)

The Attitudinal Foundation of Mindfulness Practice

- **Non-Judgement:** impartial witnessing, observing without evaluation and categorization
- **Patience:** allowing things to unfold in their time, bringing patience to ourselves and others
- **Beginner's Mind:** seeing things as if for the first time, creating possibility by paying attention to all feedback
- **Trust:** trusting both yourself and the process of self-regulation practice itself.
- **Non-striving:** non-goal oriented, remaining unattached to outcome or achievement.
- **Acceptance:** open to seeing and acknowledging things as they are.
- **Letting Be** (rather than letting go): non-attachment, intention to hold softly and spaciously thoughts, feelings, or experiences.
- **Gentleness:** characterized by a soft, considerate, and tender quality; soothing, however not passive, undisciplined, or indulgent.
- **Empathy:** the quality of feeling and understanding another person's situation, their perspective, emotions, actions (reactions)- and communicating this to the person.
- **Generosity:** giving within a context of love and compassion, without attachment to gain or thought of return (the content of giving does not have to be material)
- **Gratitude:** the quality of reverence, appreciating and being thankful for the present moment
- **Loving-kindness:** is a quality embodying benevolence, compassion, and cherishing; a quality filled with forgiveness and unconditional love.

One-Minute Breathing Space

Haven't there been times when you needed some "breathing space"? This practice provides a way to step out of automatic pilot mode and into the present moment. What we are doing is creating a space to reconnect with your natural resilience and wisdom. You are simply tuning in to what is happening right now, without expectation of any particular result.

If you remember nothing else, just remember the word, "STOP".

S- Stop and take Stock *Checking in: Head/Heart/Body*

Bring yourself into the present moment by deliberately asking:

What is my experience right now?

Head: Thoughts... (what are you saying to yourself, what images are coming to mind)

Heart: Feelings... (enjoying, not enjoying, neutral, upset, excited, sad, mad, etc.)

Body: Sensations... (actual present-moment sensations, tightness, holding, lightness)

Acknowledge and register your experience, even if it's uncomfortable.

T- "Take a Breath" *Directing awareness to breathing*

Gently direct full attention to breathing, to each in-breath and to each out-breath as they follow, one after the other.

Your breath can function as an anchor to bring you into the present and help you tune into a state of awareness and stillness.

O- "Open and Observe" *Expanding awareness outward*

Expand the field of your awareness around and beyond your breathing, so that it includes a sense of the body as a whole, your posture, and facial expression, then further outward to what is happening around you: sights, sounds, smells, etc. As best you can, bring this expanded awareness to the next moments...

P- "Proceed / new Possibilities" *Continuing without expectation*

Let your attention now move into the world around you, sensing how things are *right now*. Rather than react habitually/mechanically, you can be curious/open, responding naturally. You may even be surprised by what happens next after having created this pause...

Adopted from www.palousemindfulness.com

Session Two: Perception

*There are things known and there
are things unknown, and in
between are the doors of
perception*

-Aldous Huxley

Date: March 14, 2019

Themes:

Beginner's Mind
Personal Perception
Self-Awareness
Professional Perception
Humanness

Home Practice:

Daily 20 Minute Sitting Meditation.

Log your practices and reflections daily in your journal

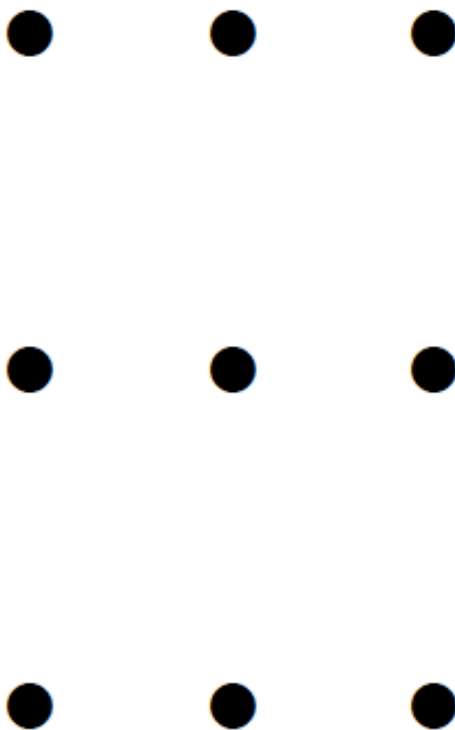
Write down in your journal any instances where your perception may have influenced a situation, and/or if you changed your perception in one scenario in journal.

Resources:

- Sitting Meditations: Guided Meditations
 - <http://www.satimindfulness.com/> (10 Minutes, 20 Minutes, or 30 Minutes)
 - <https://www.youtube.com/watch?v=l9Z4t9ZiUzM&list=PLlIdOAYPNHvXciDp-NT7AT4ZM2KZufddr> (Jon Kabat-Zinn, 10 Minutes)
 - <https://www.youtube.com/watch?v=jobVHhIMmRo> (Honest Guys, 20 minutes)
 - <https://www.uwhealth.org/meditation-stress-reduction/mindfulness-guided-practices/51578> (Breath Meditation, 20 Minutes)

Nine Dots Exercise (to be done in class)

Directions: Connect up all these dots with four straight lines *without lifting the pencil or retracing over any of your lines.*



Session Three: Joy in Practice

*I am larger, better than I thought;
I did not know I held so much
goodness*

-Walt Whitman

Date: March 21, 2019

Themes:

Mindful Movement
Self-Compassion
Lovingkindness Meditation
Gratitude

Home Practice:

Daily 20 Minute Sitting Self Lovingkindness Meditation.
Reflect on appreciative inquiry and how this may shift your perspective in day to day interactions.
Apply lovingkindness to a neutral person/stranger.
Think of how to incorporate mindful movement in your schedule.
Write your experiences and reflections in your journal daily.

Resources:

- Mindful Movement: Guided Yoga Home Practices
 - <https://www.youtube.com/watch?v=GY86MRGy2TM&list=PL44WuFcF2gjlQ08Qp1apunglqgG9T7zf> (30 Minute Yoga Practices)
- Sitting Meditations: Guided Lovingkindness Meditations
 - <http://www.satimindfulness.com/20-minute-meditations> (Kindness for You Meditation)
 - <https://www.youtube.com/watch?v=5FizJWS7TG0> (Honest Guys, 20 minute Lovingkindness Meditation)
 - <https://www.uwhealth.org/meditation-stress-reduction/mindfulness-guided-practices/51578> (Lovingkindness Practice, 10 Minutes)

Appreciative Inquiry (AI) Guidelines

What is Appreciative Inquiry?

Most of medical training is grounded in what is wrong rather than what is right. The theory behind appreciative inquiry is that reinforcing and analyzing positive experiences with patients, colleagues, families, etc. are more likely to shift behaviors in a more favorable desirable direction. Appreciative inquiry involves the practice of seeking the best in people and the world around us. This curriculum focuses on the first two phases of AI which are:

- **Definition-** what we wish to see or grow in ourselves and in our groups, and
- **Discovery-** inquiring into the best of the past and the present.

Appreciative Inquiry Exercise

Storyteller Guidelines:

As the storyteller, your role is to genuinely share your narrative. Consider your awareness of thoughts, feelings, and sensations as you re-experience and reflect on your narrative. Beyond the content of your story, share how you experienced it.

Questions to consider:

What happened?

What helpful qualities did you bring to that moment?

Who else was involved and how did they contribute?

What aspects of the context made a difference?

What lessons from this story are useful to you?

Interviewer Guidelines:

As the interviewer, your role is to explore the experience of your partner, helping bring forward his or her thoughts, feelings, and wisdom.

1. Listen generously
2. Make eye contact
3. Avoid interruptions
4. Invite elaboration and clarification
5. Take the opportunity to ask questions you are truly curious about and assist the storyteller in expanding the narrative
6. Resist the urge to interpret the story, agree or disagree, or give advice to the storyteller
7. Avoid sharing a similar experience that you have had
8. Use reflective questions and empathy when appropriate
9. Paraphrase and summarize, "let me see if I have this correct. I'm hearing you say that..."

Mindful Movement Postures

Knees to Chest



Knees Together Twist



Pelvic Tilt



Cat/Cow



Mountain



Modified Chair



Shoulder Opener



Modified Crescent Moon



Chair Twist: Standing



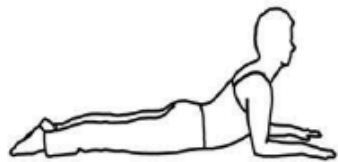
1. Child's Pose



2. Locust Pose



3. Sphinx Pose



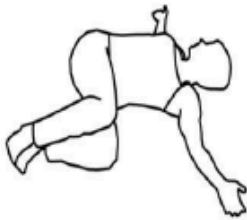
4. Bridge Pose



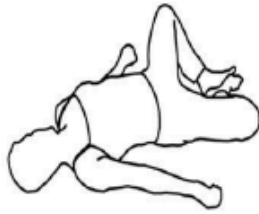
Knees to Chest



Knees Together
Twist



Reclining
Cobbler



Lovingkindness Phrases

Below you will find examples of traditional phrases that have been used while directing lovingkindness to yourself. When practicing lovingkindness to other people, simply adjust your phrase to the second-person. Feel free to use one of these phrases while practicing or create your own!

May I be safe from inner and outer fear.

May I be well in body and mind.

May I be at ease and happy.

May my many blessings continue.

May we all be healthy and filled with lovingkindness.

(Your own) _____

Lovingkindness for Work

May I feel compassion for all my patients.

May I feel connected to all my patients and colleagues.

May I experience joy and meaning at work.

When feeling a difficult emotion, practice saying these words to yourself...

"I am feeling _____ right now. Many people have felt this way. It is part of the human experience. I choose to love myself and accept myself right now even though I feel this way."

(Source: Jack Kornfield, Meditation on Lovingkindness, <https://jackkornfield.com/meditation-on-lovingkindness/>; Kristin Neff, Self-Compassion Break, <https://self-compassion.org/exercise-2-self-compassion-break/>)

Session Four: Stress Manifestation and Relief

*if
the ocean
can calm itself
so can you.
we
are both
salt water
mixed
with
air.*

-Meditation by Nayyirah Waheed

Date: March 28, 2019

Themes:

Impact of Stress on Mind, Body, and Heart
Self-Awareness
Stress Relief

Home Practice:

Daily 20 minutes of Mindfulness Meditation aimed at stress relief. Log your practices and reflections in your journal.
Reflect on your awareness of a stressful situation and how you may shift your response.
Every day this week write three things in your journal you are grateful for.

Resources:

- Sitting Meditations: Guided Meditations
 - <https://www.youtube.com/watch?v=TQ9kTYOwtks&list=PL44WuFcf2gjlDOt9YNNiJ2dBzUgpF7oAt&index=1> (Dr. Saper, 18 minute Muscle Relaxation Meditation)
 - <https://www.youtube.com/watch?v=o04tvFUttco> (Honest Guys, 10 minute Stress Relief Meditation)

Session Five: Responding to Stress at Work

*Every breath we take, every step
we make, can be filled with
peace, joy, and serenity.*

-Thich Nhất Hạnh

Date: April 4th, 2019

Themes:

Impact of Stress on Mind, Body, and Heart

Self-Awareness

Stress Relief

Home Practice:

Daily Mindfulness Meditation-- your choice (Body Scan, Lovingkindness, Sitting, Movement)

Reflect on the joy of your medical practice even in stressful situations.

Write three things you are grateful for 7 days in your journal.

Resources:

- Guided Meditations:
 - <https://chopra.com/articles/guided-meditations>

Journal for Session Five Home Practice

I am grateful for... _____

I am grateful for... _____

I am grateful for... _____

I am grateful for... _____

I am grateful for... _____

I am grateful for... _____

I am grateful for... _____

Session Six: Mindful Communication with Colleagues

*Look at other people and ask yourself if
you are really seeing them or just your
thoughts about them*

-Jon Kabat-Zinn

Date: April 11th, 2019

Themes:

Mindful Communication
Empathy
Intentionality
Intra- and Interpersonal Insight
Compassion

Home Practice:

Daily 20 minute Lovingkindness Meditation focused on a challenging colleague or patient. Alternatively you could focus your meditation on all your colleagues or all your patients. For example, you could use the phrase "*May all my patients experience healing*" or "*May all my colleagues experience joy.*"

Log your practices and reflections daily in your journal.

Each day write three things in your journal you are grateful for.

Resources:

- Guided Meditations
 - <http://www.satimindfulness.com/20-minute-meditations> (20 Minutes, Kindness for a Difficult Person)
 - <https://www.youtube.com/watch?v=c2iCoEluq8A> (30 Minutes, Giving and Receiving Lovingkindness)

Session Seven: Self-Care for Clinicians

*There's only one corner of the universe
you can be certain of improving, and
that is your own self*

- Aldous Huxley

Date: April 18th, 2019

Themes:

Compassion

Gratitude

Nourishment

Home Practice:

20 minutes of Daily Mindfulness Meditation and log into your journal

Put your self-care plan into action!

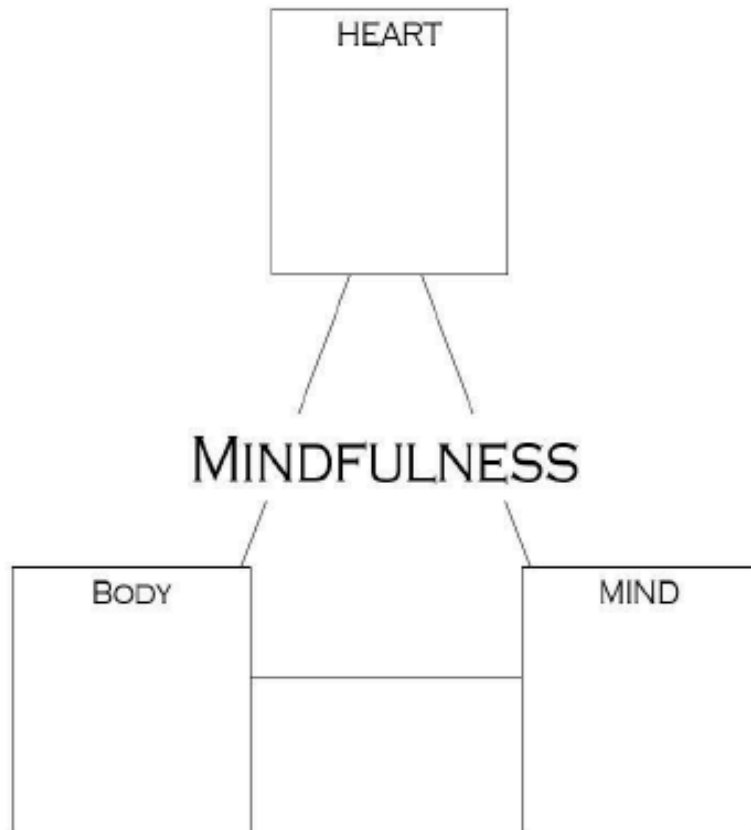
Reflect on your success and/or room for improvement in your journal.

Resources:

- Guided Meditations
 - <https://www.youtube.com/watch?v=PpeJkCdtIOY> (HonestGuys Positive Life Affirmations 10 Minutes)
 - <https://www.youtube.com/watch?v=qFkvlEMYOZw> (HeartMath Lock-In Technique, 15 Minutes)
 - <https://chopra.com/articles/guided-meditations> (Awaken Your Perfect Health, 10 Minutes)

Self-Care Action Plan

How will these actions best support your embodiment of self-care?



Self-Care Tips

1. Breathe. When you feel tense, take ten slow, deep breaths in through your nose, out through your mouth.
2. Spend time with your friends and family. Share the good stuff.
3. Drink at least eight glasses of water a day.
4. Smile at people that you pass on the street.
5. Say no. Allow yourself to say no to some requests and don't over commit yourself.
6. Laugh. See the humor in life and have fun.
7. Communicate. Be honest with yourself and others. Ask for what you want. Express your true feelings as they occur.
8. Eat healthy foods. Don't eat just because you are bored, unhappy or angry.
9. Take time to meditate each day. Relax, sit, breathe deeply and quiet your mind.
10. Make a gratitude list each day. Write down three things that are both new and good for which you feel thankful.
11. Take a bubble bath. Try scented oils or soaps for aromatherapy.
12. Clean it up. Recycle old junk and papers. Clean your physical and mental house of old garbage.
13. Unplug! At the end of the day, instead of watching TV, surfing the internet or using a phone, take time to reflect on the day and what needs to get done for the next day.
14. Express and receive love as often as possible to yourself and others.
15. Don't be afraid to cry. Crying is nature's way of releasing stress, grieving loss, or expressing joy.
16. Exercise. Walk, stretch, move about. Staying physically fit keeps you mentally fit, calm, and at peace.
17. Do not listen to, encourage, or spread gossip. It damages your credibility and others.

18. Take time in your week to participate in groups or communities that are special to you.

19. Play music. Put on songs that make you feel good.

20. Be forgiving with yourself. Withholding love does not nurture relationships.

(Source: Dr. Paula Gardiner, Boston Medical Center, Mindfulness and Resiliency Manual 2013)

Session Eight: Maintaining Mindfulness

*As we express gratitude, we must never
forget that the highest appreciation is
not to utter words, but to live by them*

- John F. Kennedy

Date: April 25th, 2019

Themes:

Beginner's Mind

Reflection

Insight

Gratitude

Sustainability

Community of Practice

Mindfulness Training: Practice Toolkit

Formal Mindfulness Practices:

- Body Scan
- Sitting Meditation
- Mindful Movement (i.e. Yoga)
- Walking Meditation

Meditation Themes or Techniques:

- Body Scan
- Breath Meditation
- Mindful Awareness
- Stress Relief
- Gratitude
- Heartlock Technique
- Lovingkindness
- Compassion

Mindfulness at the Workplace:

- Intrapersonal and Interpersonal Insight
- Mindful Communication
- Appreciative Inquiry
- Perspective
- Self-Care Action Plan

Acknowledgement

This curriculum has been adapted from the *Mindful Communication: Bringing Intention, Attention, and Reflection to Clinical Practice* curriculum guide by Dr. Michael Krasner and Dr. Ronald Epstein. The formal mindfulness practices originate from the *Mindfulness-Based Stress Reduction Standards of Practice* edited and revised by Dr. Saki Santorelli and Dr. Jon Kabat-Zinn.

Thank you Dr. Paula Gardiner for your previous iterations of this manual and Dr. Natalia Morone for your guidance upon the creation of this course.

Thank you BUMG for your dedication and assistance in elevating this incredible learning experience.

Lastly, we would like to honor the funder who supported this course and made this opportunity for healing and growth a reality.

We extend our gratitude to these profound individuals for sharing these valuable resources to benefit the greater medical community.

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CURRICULUM VITAE

