

Interventions to Reduce Burnout and Improve Resilience: Impact on a Health System's Outcomes

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Abstract: With the continuously changing health care environment and dramatic shift in patient demographics, institutions have the responsibility of identifying and dedicating resources for maintaining and improving wellness and resilience among front line providers to assure the quality of patient care. Our institution, the Ohio State University Wexner Medical Center (OSUWMC), has addressed the goal to decrease burnout for providers in a multistep, multi-professional, and multiyear program starting firstly with institutional cultural change then focused provider interventions, and lastly, proactive resilience engagement. We describe herein our approach and outcomes as measured by provider wellness and health system outcomes. In addition, we address the overall feasibility and effectiveness of these programs in promoting provider compassion and mindfulness while reducing burnout and improving resilience. Institutional culture

change and readiness were initiated in 2010 with the introduction of Crew Resource Management training for all providers across the OSUWMC. This multiyear program was implemented and has been sustained to the current day. Focused interventions to improve mindfulness were undertaken in the form of both Mindfulness in Motion (MIM) training for intensive care unit personnel and a “flipped classroom” mindfulness training for faculty and residents. Lastly, sustainable changes were introduced in the form of the Gabbe Health and Wellness program which consists of interprofessional MIM training and other wellness offerings for staff, faculty, and residents embedded across the entire medical center. The introduction of Crew Resource Management in 2010 continues to be endorsed and supported throughout OSUWMC for all providers, including residents and students. The improvements seen have not only improved patient satisfaction but also reduced patient safety events and improved national reputation for the institution as a whole. Subsequently, MIM training for intensive care unit providers has resulted in improved resilience as well as decreased patient safety events. In addition, the “flipped classroom” mindfulness training for residents

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and faculty has resulted in improvements in providing calm and compassionate care, improvements in physician wellbeing, and reductions in emotional exhaustion and depersonalization. Lastly, implementing the Gabbe Health and Wellness program inclusive of interprofessional MIM training for staff, faculty, and residents has resulted in significant reductions in burnout while significantly increasing resilience postintervention. The engagement from staff and enthusiasm to continue this program have escalated and been positively accepted across OSUWMC. To reduce the incidence of burnout, improve resilience, and ultimately improve patient outcomes, a health system must identify and prioritize a commitment and dedication of resources to develop and sustain a multimodal and interprofessional approach to change. These initiatives at OSU originated with cultural transformation allowing the acceptance of change in the form of mindfulness training, resilience building, and the engagement of organizational science, so as to demonstrate the outcomes and impact to the health system and academic peers. Herein we describe the work that has been done thus far, both published and in progress, to understand our journey.

Key words: resilience, burnout, intervention, mindfulness, outcomes, quality

Introduction

After the Institute of Medicine released its landmark report, *To Err is Human*, a nationwide call to improve the safety of health care and patients increased focus on the adoption of safer care practices and improved communications among medical professionals.¹ Subsequently, strategies, such as checklist implementation in both procedural and operative arenas, have yielded positive results including a reduction in expected mortality and patient harm events across a variety of clinical settings.²⁻⁴ In practice, however, these are only tactics and often not programmatically implemented nor provide solutions to existing cultural issues and barriers that allow us to all be collectively well, as care providers, in the processes of health care delivery.³ As a result, burnout among physicians in training and practicing physicians has reached epidemic levels with prevalence exceeding 50% in some specialties.⁵⁻⁸ Symptoms of burnout can include loss of enthusiasm for

work, feelings of cynicism, emotional exhaustion (EE), depersonalization (DP), and low sense of personal accomplishment (PA); all of which can impact not only the patient but additionally the work environment.⁵ In addition, a high level of burnout can lead to impaired job performance, physical and mental dysfunction, and may ultimately contribute to substance abuse and addiction rendering care unsafe and the provider unsupported.^{9,10} Ultimately, burnout can lead to adverse effects in the delivery of quality patient care, patient satisfaction and experience, and health care outcomes.¹¹⁻¹⁶ Importantly, burnout and a true lack of wellness can impact not only physicians but nurses and other health care providers and team members along the entire health care spectrum.¹² Provider burnout, in general, has thus been shown to impact patient safety and professionalism among team members.^{13,14} The very significant relationship between burnout for all team members must be addressed so to improve our patient-centric care model that is fundamental to our profession and our patient outcomes.^{15,16}

Fortunately, there has been an increasing interest in interventional and sustainable strategies focused on improving physician and provider team wellness.¹⁶⁻¹⁸ Mindfulness-based stress reduction strategies have proved to be effective in health care professionals of varying disciplines and training. Among physicians and nurses, mindfulness interventions have correlated with self-compassion, confidence in providing calm and compassionate care, and have been negatively associated with stress and burnout.¹⁹⁻²¹ Furthermore, recent studies have demonstrated the immediate and positive effects on outcomes because of different and innovative mindfulness training on stress and burnout reduction.²⁰⁻²²

Truly, sustainable and reliable change relative to wellness and resilience requires a multifaceted and committed interprofessional approach. Herein we describe

our process and programs thus far, as well as our disseminated findings, for changing the culture and readying the institution for mindfulness and resilience training. Outcomes were, and continue to be, measured in a disciplined, transparent, and formative manner so to continuously engage interprofessional teams and improve health care outcomes for the patients and providers.^{23–26}

Methods

Institutional readiness for culture change the Ohio State University Wexner Medical Center (OSUWMC) started in 2010 with the introduction of Crew Resource Management (CRM) training for all providers across the medical center. This multiyear program continues to the current day and is a required training for all care providers including residents and students. Focused interventions aimed at improving mindfulness were undertaken in the form of both Mindfulness in Motion (MIM) training for intensive care unit (ICU) personnel in 2013 and a “flipped classroom” mindfulness training for faculty and residents in 2016. The concept of a “flipped classroom” was that of the students learning independently and then sharing with their peers during the interactive sessions. Lastly, sustainable change was introduced in the form of the Gabbe Health and Wellness program in 2017, reaching across the medical center to provide interprofessional MIM training for staff, faculty, and residents as well as other wellness offerings.

THE INTRODUCTION AND SUCCESS OF CRM

CRM, was developed in the aviation industry and was translated to the health care industry as a systematic approach to training leadership, staff, and providers by incorporating customized safety tools aimed at generating culture change leveraging patient safety.^{18,19,26} In health care

organizations, implementation of CRM programs has been associated with increased provider satisfaction, improved safety, a heightened culture of teamwork, and importantly decreased mortality after dedicated implementation.¹⁹ In 2010, under the leadership of Dr Steven Gabbe, the OSUWMC established a partnership with LifeWings Partners LLC to provide CRM training for the medical center. The team of consultants included Air Force and Naval aviators, astronauts and professional pilots and in collaboration with OSUWMC leadership conducted observations in clinical units to assess measures of readiness for cultural transformation. The ultimate implementation plan and prioritization for CRM was created on the basis of: (1) engagement and readiness of teams; (2) staff and patient satisfaction; and (3) safety event and culture of safety climate data. Importantly, a steering committee consisting of medical and nursing leadership was appointed and continues to meet monthly to monitor progress as well as priorities for CRM. Importantly, the senior leadership, including board members, attended the same standardized 4-hour CRM training that all physicians, nurses, and staff would subsequently attend. CRM programming provided a map for implementation success and included not only the core curriculum, but also direction about how to address difficult questions, handle opposition, and ultimately set the burning platform for culture transformation. By April 2011, OSUWMC was able to internalize all aspects of the CRM training and implementation process to independently deliver CRM training and adopt CRM as a sustainable organizational strategy. Importantly, training was mandatory and was only completed in interprofessional settings. The training was tailored to OSUWMC to include checklists developed by our front line teams. Since its initial launch in perioperative areas, CRM has been rolled out sequentially to

other areas of OSUWMC with training tailored, both in duration and content particular departmental needs. As of November 2018, >7500 staff has been trained since the fall of 2010. Understanding that culture change is a continuous and long-term process, OSUWMC has incorporated refresher training that is offered every 2 years after initial training and all new residents and medical students must complete the training. This comprehensive approach to CRM training has certainly helped to maintain organizational focus on improving safety practices and reinforces the mindset of providing care that is both high quality and patient-centric.^{24,25} Patient safety and quality events, Agency for healthcare research and quality patient safety scores and investment analyses, and return on investment calculations were collected throughout the program.

MINDFULNESS TRAINING FOR CLINICAL TEAMS

Understanding that our clinical teams were at risk of burnout and the subsequent impact on patient outcomes, we implemented a mindfulness-based intervention created by a well-respected professor in the College of Medicine, Dr Maryanna Klatt, for pragmatic delivery of mindfulness training during the workday, called MIM. This 8-week program is a 1 hour/week intervention that consists of gentle yoga, mindfulness training, music, nutrition and self-assessment with co-workers, and primarily nursing, from their area of clinical care. The MIM sessions occurred on the unit that the teams are working and their clinical work is covered with float nursing care providers; residents and faculty have clinical coverage by other team members. Dr Klatt has completed this training with the surgical intensive care unit (SICU) to assess feasibility and effect in a clinical arena with highly complex patients and care needs.²⁷⁻²⁹ We subsequently applied

this same model to the cardiovascular ICU where patient acuity was very high, as there was also a heightened risk for burnout in all team members, including nurses, physicians, residents, respiratory therapists, rehabilitation team members, and environmental services personnel. The 1-hour group MIM intervention (a total of 8 hours) was completed in their place of work and was followed by 1-hour monthly booster sessions for 6 months. Health care quality events, perceived stress scale, Maslach burnout inventory (MBI) results, Utrecht work engagement scale, self-compassion scale, self-transcendence scale, and cost-savings results were collected and analyzed.

TRAINING OF MIND-BODY SKILLS: FLIPPING THE CLASSROOM

Appreciating that our teams were at risk for burnout, Dr Nguyen, a resident in General Surgery, examined the feasibility and relative effectiveness of a mind-body skills training to promote faculty and resident compassion and mindfulness and ultimately reduce burnout between January and April 2016. The participants were offered a “flipped classroom” with an intervention phase consisting of 2 components of up to 7 hours of training: 4 free online modules on mind-body skills training and 3 interactive discussion sessions. The 4 online modules included (1) introduction to stress, resilience, and relaxation response; (2) guided imagery for pain, insomnia, and behavioral issues; (3) autogenic training; and (4) relaxation response: clinical, cognitive, and emotional effects. The participants were also strongly encouraged but not mandated to attend three 1-hour in-person interactive lecture series hosted at The Ohio State University led by expert faculty, including Dr Klatt and Dr Gabbe, with the content including (1) exploring mindfulness and resilience in promoting physician performance, (2) mind-body skills building: building emotional intelligence and impact,

and (3) applying mind-body skills. While the sessions had didactics there was also time for guided meditation practice. Primary outcomes of this “flipped classroom” focused intervention included feasibility and improvements in mindfulness, as measured by the Cognitive and Affective Mindfulness Scale-Revised, and compassion, as measured by the standardized 12-item self-compassion scale was completed at the end of the intervention. Secondary outcomes were reductions in physician stress and burnout. Exploratory measures included self-reported 30-day medical errors and patient mortality as well as individual provider-specific patient satisfaction scores.

GABBE HEALTH AND WELLNESS PROGRAM

The OSUWMC is committed to deliberate, sustained, and comprehensive efforts on an organizational scale to reduce burnout, promote staff engagement, and ultimately improve health care outcomes. To that end, we were fortunate enough to receive support from the OSUWMC Risk Management funds in the fall of 2017 to develop the Gabbe Health and Wellness program on the heels of the success relative to the MIM training in the ICUs and the readiness instilled with the CRM program. The Gabbe Health and Wellness program has been implemented across to the entire medical center and comprises a comprehensive offering of the MIM programing, including weekly and monthly MIM boosters in addition to wellness walks, integration with the Ohio State University Wellness Series, yoga, Zumba sessions for all staff, and Gabbe Wellness retreats. Our initial impact will be realized in engaging physicians, both faculty and residents, nurses, and other staff in MIM training. The 2017 to 2018 faculty/student role demographic categories (n=70) included 49% physician/physician residents, 9% chaplaincy residents, 1% pharmacists, 23% registered

nurses, 1% advanced practice nurse, 3% dieticians, 9% other clinical staff, and 6% nonclinical health care staff. To date, we have engaged over 300 team members in this training and offer a weekly virtual MIM booster and an inperson monthly booster series, which was deemed important by the original SICU cohort. The MIM training is offered at various times (morning, noon, and evening) and is supplemented with a healthy meal. The sessions each have 16 team members and have been supported by the Associate Dean for Graduate Medical Education administrative and nursing leadership so residents, nurses, other care providers, support personnel and administrative leaders can all attend the 1-hour sessions during their workday. Weekly reminders of mindfulness tips are sent out by email during the initial 8-week intervention, followed by weekly “Mindful Moment” emails to all former participants to enable continued practical and sustained benefits. To date, the waiting list for each cohort has exceeded 100.

Results

CRM CAN BE IMPLEMENTED, BE IMPACTFUL, AND SUSTAINABLE

As part of our previously published work,²⁴⁻²⁶ we conducted a retrospective analysis of the cost of CRM implementation, including costs associated with training; programmatic fixed costs (salaries for program staff and data analysis); personnel time costs because of the need for staff to be away from work for training; and costs associated with leadership time involved in CRM implementation. In addition, we estimated cost savings associated with the reduction in avoidable adverse events. The fiscal year 2010 served as the baseline year before CRM implementation as we were only just starting the program in 2010. We estimated savings on the basis of key elements of the OSUWMC Quality and Safety Scorecard metrics which was developed by OSUWMC (Dr Susan

Moffatt-Bruce) to standardize reporting categories for adverse events including falls, pressure ulcers, medication events, and hospital-acquired infections as described in our previous work.²⁵ Over the 4-year study period, July 2009 to 2013, OSUWMC trained roughly 3600 health system employees (~1100 per year) across 12 areas at a total estimated cost of \$3,557,000. This total cost included the 1-time CRM program and contract implementation cost of \$2,443,000, and the year 1 program expense of \$1,114,000 to maintain the CRM program and provide continued training. We found, and previously reported, that over the 3-year implementation period, there were fewer events than expected in every category except that of hospital-acquired *Clostridium difficile* infections. There were >200 fewer adverse events than expected in the categories of medication events with harm, central line-associated blood stream infections, and ventilator-associated pneumonias. Across categories, there were over 900 avoidable events during the baseline year (July 2009 through August 2010). We then extrapolated these data to estimate the number of avoidable events expected over the next 3 years, which was estimated to be >2800

avoidable events. This ultimately represented a reported 30% reduction in observed events and 735 fewer avoidable events than expected. Using cost data, so to calculate the return on the significant investment, we conducted sensitivity analyses and calculated both conservative and maximum cost-savings estimates associated with the CRM program implementation and thus estimating totals for each adverse event category (Table 1). The estimated potential savings from reducing avoidable events during 3 years of the CRM program ranged from a conservative \$12,648,144 to the more substantial maximum estimate of \$28,005,074. Therefore, combining ongoing costs (ie, \$3,557,000) and savings estimates, we calculated the return on investment associated with the CRM program, over the first 3 years, again using sensitivity analysis to consider the range of returns possible. Conservatively, we estimated that the return on investment for the CRM program was \$9,091,000 across the 3 years. Ultimately, we estimated a maximum, somewhat hypothetical, return on investment for the program of \$24,448,074.^{24,25}

Can CRM implementation lead to a sustained cultural transformation around

TABLE 1. Conservative and Maximum Cost Savings Estimates During the 3 Years of Crew Resource Management Implementation

Categories of Adverse Events	No. Fewer Events*	Savings Per Event (Conservative)†	Total 3 y Savings (Conservative)	Savings Per Event (Maximum)	Total 3 y Savings (Maximum)
Patient falls	3	\$14,096	\$42,288	\$14,096	\$42,288
VAP	218	\$16,591	\$3,616,807	\$30,850	\$6,725,306
HA-DU	84	\$11,800	\$991,200	\$45,859	\$3,852,173
HA-SSI	72	\$12,443	\$895,906	\$33,002	\$2,376,170
HA-CDI	-192	\$6390	-\$1,226,827	\$9080	-\$1,743,385
ME w/Harm	314	\$21,048	\$6,609,150	\$31,572	\$9,913,725
CLABSI	236	\$7287	\$1,719,620	\$28,978	\$6,838,797
Total	735	\$89,655	\$12,648,144	\$193,437	\$28,005,074

*This number is the difference between the actual total and the predicted 3-year total on the basis of the baseline event rates.

†The conservative and maximum costs were derived from the lowest and highest estimates in the published literature.²⁵

CLABSI indicates central line-associated blood stream infections; HA-CDI, hospital-acquired *Clostridium difficile* infections; Ha-DU, hospital acquired decubitus ulcer; HA-SSI, hospital acquired surgical site infection; ME w/Harm, medication events with harm; VAP, ventilator-associated pneumonias.

patient safety across an entire, integrated, and highly complex health system? Our previous study²⁴ revealed that in using the Agency for healthcare research and quality Hospital Survey on Patient Safety Culture before and 2 years after the CRM program implementation, there was a significant improvement in the scores across 10 of the 12 domains.²⁴ In particular, there were 4 Hospital Survey on Patient Safety Culture dimensions that showed consistently positive score increases: organizational learning-continuous improvement, overall perceptions of patient safety, feedback and communication about the error, and communication openness. This supports the concept that cultural transformation is possible, even in the large, multihospital academic medical center.

THE FLIPPED CLASSROOM WAS FEASIBLE, IMPROVED PHYSICIAN COMPASSION, AND REDUCED BURNOUT

The “flipped classroom” resilience training was completed in 2016 with an overall participation of 66 participants, both residents and faculty, enrolled in this study.

Fifty (76%) completed preintervention and postintervention phase questionnaires and comprised the study cohort. Sixty-two percent (31 of 50) of the study cohort completed at least 1 of 7 interventions. Overall, participants completed on average 2.6 online modules, attended 0.84 interactive sessions, and overall completed 3.45 of 7 offered interventions (Fig. 1). By profession, emergency medicine physicians completed the most modules, followed by internal medicine physicians and general surgery. No group completed all the modules and several reminders had to be sent to get fully engaged participation. Nonetheless, participants who completed at least 1 intervention had significant improvements in confidence in providing calm, compassionate care [7.37 (2.16), $P < 0.01$], and reductions in Physician Well Being Index [−0.42 (0.20), $P < 0.01$], EE [−0.65 (0.21), $P < 0.01$], and DP scores [−0.48 (0.21), $P < 0.01$]. There was a positive dose correlation between numbers of interventions completed and CCCS scores. Overall, there were no significant differences in self-reported 30-day error rates, patient mortality or patient satisfaction scores were demonstrated following the intervention period (Table 2).³⁰

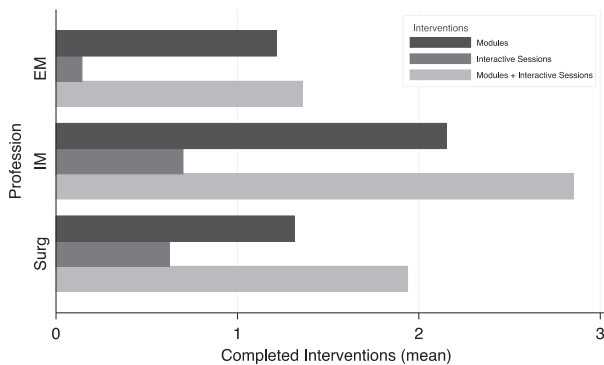


FIGURE 1. Average interventions completed by participant subgroup in the “flipped classroom” work lead by Nguyen et al.³⁰ EM indicates emergency medicine; IM, internal medicine. Reprinted from Nguyen MC, Gabbe SG, Kemper KJ, et al. Training on mind-body skills: feasibility and effects on physician mindfulness, compassion, and associated effects on stress, burnout, and clinical outcomes. *J Posit Psychol*. 2019. © Taylor & Francis, Ltd. Used with permission. All permission requests for this image should be made to the copyright holder.

TABLE 2. Mean Difference Scores Preintervention and Postintervention Among Participants Who Completed at Least 1 Intervention Compared With Participants Who Completed No Interventions³⁰

Outcome Measure	1+ Interventions*				No Interventions†			
	Prescore (SE)	Postscore (SE)	Mean Difference (SE)	<i>P</i>	Pre-score (SE)	Post-score (SE)	Mean Difference (SE)	<i>P</i>
Primary								
CAMS-R	26.61 (0.60)	26.81 (0.64)	0.19 (0.50)	0.704	26.32 (0.70)	25.79 (0.79)	-0.53 (0.37)	0.172
SCS	39.06 (1.53)	40.77 (1.48)	1.71 (1.08)	0.123	36.53 (1.57)	37.47 (1.93)	0.95 (1.20)	0.439
CCCS	55.05 (2.66)	62.42 (2.59)	7.37 (2.16)	0.002	53.36 (3.74)	54.21 (3.43)	0.85 (2.05)	0.684
Secondary								
PSS	16.26 (1.02)	15.58 (1.11)	-0.68 (0.74)	0.368	16.84 (1.24)	17.63 (1.70)	0.79 (0.98)	0.432
PWBI	3.77 (0.28)	3.35 (0.29)	-0.42 (0.20)	0.040	4.16 (0.35)	4.47 (0.41)	0.32 (0.36)	0.391
EE	4.35 (0.31)	3.71 (0.27)	-0.65 (0.21)	0.004	4.00 (0.38)	4.26 (0.46)	0.26 (0.25)	0.310
DP	3.32 (0.27)	2.84 (0.25)	-0.48 (0.21)	0.030	3.58 (0.42)	3.53 (0.37)	-0.05 (0.27)	0.848
Exploratory								
30-day errors	0.16 (0.07)	0.10 (0.05)	-0.06 (0.06)	0.325	0.21 (0.10)	0.21 (0.12)	0.00 (0.17)	1.000
30-day mortality	1.10 (0.24)	1.19 (0.26)	0.10 (0.33)	0.768	1.41 (0.47)	1.11 (0.40)	-0.32 (0.43)	0.475
Patient satisfaction‡	72.95 (6.94)	79.18 (3.48)	6.23 (8.41)	0.476	82.38 (8.53)	92.40 (1.72)	10.02 (10.01)	0.356

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Bold indicates significant *P* values.

*n = 31.

†n = 19.

‡n = 10 for 1+ intervention group, n = 6 for no intervention group.

CAMS-R indicates Cognitive and Affective Mindfulness Scale-Revised; CCCS, calm compassionate care score; DP, depersonalization; EE, emotional exhaustion; PSS, perceived stress scale; PWBI, physician well-being index; SCS, self-compassion scale.

MINDFULNESS TRAINING FOR CLINICAL TEAMS IMPROVES WELLNESS AND OUTCOMES

The first introduction of MIM training for the ICU teams occurred firstly in the SICU at OSUWMC.²⁷ The 32 voluntary participants in this study had an overall decrease in the Depression Anxiety Stress Scale-21 (DASS-21) compared with the wait-list control group. Relative to the MBI, there was an overall improvement after the MIM training and this correlated positively with a reduction in the participant salivary alpha-amylase levels.²⁷

Relative to the subsequent focused MIM training for our health care teams in the cardiovascular ICU, which occurred in 2015, there were a total of 8 team members from the intervention unit and 24 team members in the control unit. Data were collected at 3 timepoints, pre, at the conclusion of the 8-week MIM intervention, and 6 months postbaseline. Our results are reported (M. Klatt, personal written communication, 2018) to have significant changes in self-compassion at post 8-week MIM intervention, with additional significant changes in perceived stress, DP, interpersonal self-transcendence, and work engagement at 6-month postbaseline measures. Relative to patient satisfaction measurements for the units, the overall score actually decreased unfortunately in both the intervention and control units. However, the total number of falls and the overall number of the avoidable hospital-acquired infections decreased in the unit who underwent the MIM training compared with a unit that did not have the training. Relative to burnout, it was the DP score that showed significant change, whereas the other subscales of EE and PA changed, but not significantly as compared with the control group that did not have MIM training (Fig. 2).

GABBE WELLNESS PROGRAM IS OFF TO A STRONG START

The Gabbe Wellness program has been strongly integrated and leveraged the

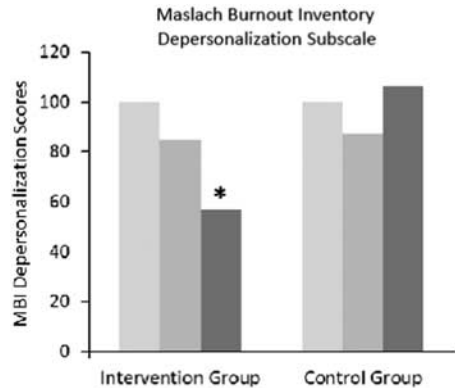


FIGURE 2. The MBI scores were improved after Mindfulness in Motion Intervention among intensive care unit participants at Ohio State University Wexner Medical Center. MBI depersonalization subscale score, at baseline (1 wk before intervention), week-8 (1 wk after the 8 wk of mindfulness intervention), and month 9. Results are expressed as percentage of scores at baseline (* $P < 0.05$). MBI indicates Maslach Burnout Inventory.

successful MIM training nurses and expanded it to physicians, and other care providers and staff. The overall goal is to ultimately review the outcomes relative to staff engagement, burnout, and patient safety events. Initial results on the first 70 participants show significant (26%) reduction in participants who qualify on measures of burnout while significantly increasing resilience scores pre and post an 8-week intervention period. Total burnout was determined by scores on the subscales of EE, DP, and PA of the MBI. By 8-week intervention end, there was a significant decrease in EE ($P = 0.0003$) and DP scores ($P = 0.0028$), with a significant increase in the PA ($P = 0.0114$) MBI subscales as compared with baseline. In addition, resilience, as measured by the Connor Davidson Resiliency Scale significantly increased ($P = 0.0004$), as well as a significant increase ($P = 0.0001$) for the total Utrecht Work Engagement Score, whereas perceived stress significantly decreased ($P = 0.0006$).

and 0.0001, respectively). For the first 70 participants, distinct themes emerged, resonating across all the health care professional groups. These themes included the value of being taught breathing techniques, the difference between reacting versus responding to an event, and the value of examining what gives one's work meaning. In general, the program has been well accepted and very much appreciated. The team members endorse a safe working environment that is well supported by their supervisors and leadership. The phenomenon of having residents, faculty, and staff together has created community ties and really supports the work of CRM but perhaps on a more personal basis. Some refer to the MIM training as weekly time-outs that effectively suit their schedule and are valued by the organization. The healthy meal provided as part of the weekly meetings demonstrates organizational support to the participants. Further suggestions are now coming forward including integrating mindfulness practices into onboarding activities, offering MIM training to outpatient staff that are also at risk for burnout, but may be invisible to the acute care setting, committing to meditation rooms for providers in the medical center and actually allowing team members to schedule 10 to 20 minutes in their workday for guided mindfulness. To date, there is a waiting list for the next MIM sessions to start in January 2019, with 5 cohorts of 16 health care professionals. Most important, implementing our Gabbe Wellness interprofessional MIM training for staff, faculty, and residents has resulted in a cultural shift of employees; there is a real appreciation of a concrete and dedicated commitment to health care provider wellness.

Discussion

Health care is experiencing unprecedented changes that threaten the wellness of providers and the resultant stability of health care organizations. Burnout impacts

not only staff engagement but ultimately the care provided along the entire care continuum.^{11–16} To navigate these challenges, our leadership embarked on changing the culture through the implementation of CRM, implementing structured and guided mindfulness training for our most at-risk providers, engaging residents and faculty in innovative “flipped classroom” mindfulness training, and establishing the Gabbe Health and Wellness program. Each one of these programs incurred an investment, were interprofessional, and were measured for their impact across the medical center in terms of provider and staff wellness and patient-centric outcomes. We, as an academic medical center, are committed to sustaining a multiprofessional, multimodal series of offerings to improve provider and patient wellbeing.

CRM served as the cornerstone to our wellness transformation.^{24–26} The leadership of OSUWMC recognized the impact and success of CRM in large organizations, such as Veteran's Affairs hospitals, as well as along service lines, such as maternal-fetal care.^{18,19} As such, the leadership of OSUWMC was committed in 2010 to truly implement a program that would change the culture around quality and patient safety that continues to be endorsed today. In addition, the programs implemented were objectively measured and shown to be impactful. Our results are among the first to be objectively reported following organizational interventions and strategies aimed at reducing interprofessional work-force burnout.

Partnering with Dr Maryanna Klatt, the creator of the MIM curriculum has been a complete game changer for OSU. The eight, 1-hour sessions and application is time-conscious and immediately impactful.²⁷ The enthusiasm that has come from the participants in this program has instilled a strong desire in other team members, of various disciplines, to participate. In addition, the support of the residency program

directors, through the unwavering commitment of the Graduate Medical Education office has further upheld the importance of mindfulness training. To date, OSU has trained over 300 team members using the MIM platform and the waiting list is growing. The commitment to provide this training across multiple disciplines is a differentiated aspect of our program.

The model of a “flipped classroom” training program for physicians, both residents and faculty, was found to be feasible and have immediate improvements in compassion and reductions in burnout, EE, and DP. Within a 3-month period, we were able to observe significant improvements in provider’s confidence in providing compassionate care as well as reductions in burnout, EE, and DP following at least 1 intervention. Although there were provider improvements, importantly, this small pilot project did not reveal a decrease in patient safety events. It is anticipated that going forward with such a program, more concrete engagement, perhaps in attaining leadership support, may have more impact if more modules are actually completed.

As work demands and stress increase in conjunction with higher patient acuity and complexity in an ever-changing health care environment, teams of providers will rely on resiliency to prevent and minimize burnout. As a result, OSUWMC is committed to the wellness of all providers and has implemented the Gabbe Health and Wellness program to address evolving needs. Although early in its implementation, the Gabbe Health and Wellness program promises to provide differentiated mindfulness and resilience offerings across different platforms and be responsive to all varying care team needs. Dr Gabbe initiated the CRM training through unwavering leadership commitment in 2010; his unwavering support has led the way to have a highly successful and integrated wellness program that is sustainable in an evolving and complex health care environment.

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