



## 2016 Clinical Care Innovation Pilot Award Proposal

**Title:** Improving Patient Safety and Satisfaction by Decreasing Physician Burnout

**Principal Investigator(s):**

Michelle C. Nguyen, M.D.

General Surgery Resident Physician, The Ohio State University Wexner Medical Center

Susan Moffatt-Bruce, M.D., Ph.D., FACS

Chief Quality and Patient Safety Officer; Associate Dean of Clinical Affairs Quality and Patient Safety; Associate Professor of Surgery; Associate Professor of Biomedical Informatics, The Ohio State University Wexner Medical Center

**Topic Areas:** Health Care Quality, Patient Safety

**Academic Missions Areas:** Clinical Care, Education, Research

**Professional Groups:** Faculty, Residents

**Background & Description**

**Provide a brief description of the program or project.**

Many medical professionals suffer from burnout, which adversely affects quality of care and threatens professionalism. Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that carries potentially serious implications for health care providers and their patients. With increasing emotional exhaustion, residents and faculty may feel unable to express empathy and compassion. A high level of burnout has been related to physical and mental dysfunction, increase in substance abuse and job turnover, marital problems, and overall low morale of affected health professionals. Moreover, burnout can lead to a drop in the quality of patient care. Much effort in medical education is placed on the development of clinical judgment and technical proficiency; however, little focus is placed on the management of stress and burn out. The introduction of the mandated work hour restrictions, introduced in July 2003, was designed to improve patient safety by reducing resident fatigue. However, studies have shown that despite successful reductions in resident work hours, measures of burn out were not significantly affected. The inability to manage stress may lead to poor patient care, attrition from residency and physician burn out. In a study evaluating stress training for surgical residents, stress was found to negatively impact both technical and cognitive intraoperative performance and recent literature has focused on the coping strategies developed by surgeons. Data indicate that preparation for the unexpected along with the development and daily integration of stress management techniques lead to a more reliable performance in high stress situations. There is increasing interest in educational interventions to decrease the level of burnout by increasing resilience. It has been demonstrated that self –compassion and mindfulness were positively associated with resilience and inversely associated with burnout. A recent study demonstrated that elective online training offers a feasible strategy to improving mindfulness, stress, and

confidence in providing calm and compassionate care. Another study evaluated the effects of an elective 1-hour online Mind-Body Skills Training for Resilience, Effectiveness, and Mindfulness (MB-STREAM) for health professionals and demonstrated that training can reach diverse, stressed health professionals and is associated with acute improvements in stress, mindfulness, empathy, and resilience. Despite the advances in determining methods to decrease burnout among health care providers, there are no studies evaluating the effect of physician stress training on patient safety and outcomes. We propose that educational interventions with MB-STREAM training will effectively promote resilience by improving emotional intelligence, empathy, self-compassion, and mindfulness in residents and faculty and ultimately result in improved patient safety, physician well-being, and Institutional quality outcomes. Our target population will include surgical residents and core teaching faculty, internal medicine residents and core teaching faculty, and emergency department residents and core teaching faculty.

### Objectives:

- To recruit 40 study participants and obtain personal level, service level, and system level baseline assessments.
- To implement a flipped classroom model of the online Mind-Body Skills Training for Resilience, Effectiveness, and Mindfulness Curriculum.
- To measure difference between pre- and post-test assessments as well as post-test quality measures

### Goals

- 75% of participants will be able to list at least 3 impacts of stress and develop a plan for incorporating autogenic training into their daily routine by the end of the intervention.
- 3% reduction in readmissions, healthcare associated pneumonia, central line associated blood stream infection, catheter-associated urinary tract infection, C. Difficile infection, and deep venous thrombus and pulmonary embolism rates.
- 10% increase in patient satisfaction scores (physician communication domain)

### Integration:

**Communicate how the proposed program or project integrates academic medicine missions areas.**

Physician stress and burnout has been a topic of much interest within the academic medical community as well as the public realm. It is well known that physicians have the highest stress and burn out rates as well as risk factors for suicide in the professional work force. Data indicate that daily integration of stress management techniques lead to a more reliable performance in high stress situations. Additionally, recent studies have demonstrated that mindfulness training reduces stress and provides resilience and confidence in providing calm and compassionate care. Despite advances in the development of methods to decrease burnout among health care providers, there are no studies evaluating the effect of physician stress training on patient safety and outcomes. This project will not only raise awareness in the seriousness of stress and burnout, but will provide an educational program aimed at impacting mindfulness, compassion, and confidence in providing the best care for our patients.

### Challenges

**Identify and specify the limitations and/or barriers you expect to encounter while implementing your project, and explain potential mitigating strategies.**

Anticipated barriers include: low recruitment rate, low compliance in completing the baseline assessment, MB-STREAM modules, and post-intervention assessments, and low participation in the four discussion sessions spread throughout the intervention period. Recruitment will initially occur by email sent out to targeted Departments at the OSUWMC. Once engagement is established, participants will receive a detailed description of the project and its impact. Time limitations have been taken into consideration and baseline assessment surveys and post-intervention surveys have been placed into RedCap for easy completion and privacy. The MB-STREAM curriculum is an online course available through <https://mind-bodyhealth.osu.edu/about> to facilitate easy participation in the modules. Modules have been separated into different focuses and participants are given the option to choose four modules to complete. Modules will be made available free of charge for project participants. Discussion sessions are encouraged but not mandated. To improve participation rates, we will provide a monetary incentive of up to \$100 per participant upon completion of the modules.

**Commitment**

**Describe your institution’s interest and commitment in implementing this proposed program or project. Be sure to outline information, if available, such as preliminary data from a needs assessment, whether this proposed program/project aligns with an institutional or departmental strategic goal, and the potential benefits for your institution in implementing the proposed program or project.**

The Ohio State University (OSU) is among the nation’s leaders of integrative health and wellness research ranking among the Nation’s to 25 universities for funding from the NIH National Center for Complementary and Alternative Medicine in 2013. There are 17 tenure initiating units and more than 40 primary investigators with integrative health and wellness funding at the University. Additionally, there are 45 extramurally funded projects at OSU that containing an integrative health and wellness research element, totaling more than \$130 million in project support. The MB-STREAMS curriculum was developed to provide faculty, staff and trainee a unique educational experience to bring the latest theories and research to improving their personal health and wellness as well as work with patients and clients. This project aligns with the OSUWMC’s continuous effort in improving patient safety and outcomes. Integrating the MB-STREAMS curriculum to reduce stress and burnout in trainees and faculty will manifest in improved practice techniques with an anticipated improvement in patient safety and outcomes. This effect will translate to improved patient satisfaction, reduced readmissions, and reduced patient safety indicator events.

**Implementation Plan**

**Please indicate below the implementation plan for the proposed program or project.**

Activity/Task	Responsible Staff	Due Date	Notes
Subject Recruitment/Enrollment	Michelle C. Nguyen	November 30, 2015	Recruitment will occur by email
Baseline assessment	Michelle C. Nguyen	December 31, 2015	Assessments will be completed by participants in RedCap
MB-STREAMS curriculum/Discussion sessions	John D. Mahan and Kathi J. Kemper	March 31, 2016	
Post-intervention assessment	Michelle C. Nguyen	May 31, 2016	

Data extraction/analysis	Michelle C. Nguyen and Medical Student Intern	June 31, 2016	
--------------------------	--	---------------	--

### Potential Impact

**Describe the potential impact of the proposed program or project on processes that are important to the graduate medical environment and care deliver (e.g. training, educational interventions, integration of research and data, development of new protocols, etc.). How will you evaluate and measure the success/impact of your program?**

This program has the potential to greatly impact the training environment for residents as well as teaching environment for faculty members. By engaging members in understanding the affects of stress and burnout, trainees and faculty can participate in a unique educational experience to learn ways to manage stress, which would allow them to produce an environment that is conducive to learning and productivity. Today's culture in medicine does not foster an environment of transparency in workload, stress, and burnout. By engaging trainees and faculty now, the initiative can also trickle down to include awareness in medical students. With collaboration throughout the medical system, the issue of physician stress and burnout can be highlighted for further systematic and educational improvement. We anticipate that pre-and post-test assessments following the program will indicate the positive impact of autogenic training on the reduction of stress and burnout resulting in improved patient care, which will ultimately improve institutional quality outcomes. The success of the program on impacting stress will be measured by pre- and post-test analysis following the implementation of the MB-STREAMS curriculum. Analysis will be used with several validated screening tools listed below. Outcome measures will be evaluated using institutional quality data, patient safety data, as well as nationally validated data sources such as American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP).

### Metrics

**Identify and explain up to 5 key metrics that you will use to measure the impact of your project on improving the graduate medical environment and care delivery at your institution:**

Pre and post test of measures of well being, stress, mindfulness, and compassion: Mayo Clinic Physician Well-Being Index, Cohen's Perceived Stress Scale, Cognitive and Affective Mindfulness Scale-Revised (CAMS-R), Neff's self-compassion scale, Calm Compassionate Care Scale. Post intervention quality data: patient satisfaction scores (physician communication domain), readmission rates, HCAPs, CLABSI, CAUTI, DVT/PE rates from NSQIP databases and Department of Quality data sources.