



Resilience and Wellness in Medical Training: A Master of Public Health Practicum Report

Citation

Cromartie, Devin. 2017. Resilience and Wellness in Medical Training: A Master of Public Health Practicum Report. Doctoral dissertation, Harvard Medical School.

Permanent link

http://nrs.harvard.edu/urn-3:HUL.InstRepos:40620300

Terms of Use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA

Share Your Story

The Harvard community has made this article openly available. Please share how this access benefits you. <u>Submit a story</u>.

Accessibility

Scholarly Report submitted in partial fulfillment of the MD Degree at Harvard Medical School

Date: 7 March 2017

Student Name: Devin Cromartie

Scholarly Report Title: Resilience and Wellness in Medical Training: *A Master of*

Public Health Practicum Report

Mentor Name(s) and Affiliations: Darshan Mehta, MD, MPH, Medical Director at Benson Henry Institute at Massachusetts General Hospital; and Deanna Chaukos, MD, Clinical Fellow in Psychiatry at Massachusetts General Hospital

Abstract

The wellness and resilience of the medical trainee (medical students and resident physicians) should be prioritized, because of the association between training, burnout and depressive symptoms. To address this problem, a group of medical trainees, along with the Benson Henry Institute of Mind-Body Medicine, adapted a Resiliency Curriculum for resident physicians. To help address physician burnout on a wider scale, this curriculum can be disseminated widely, to benefit any residency program that understands the need to address the mental well-being of their trainees. I helped to draft an Implementation Toolkit document for the curriculum to facilitate this dissemination. In addition to the project with the Benson Henry Institute, I was given the opportunity to address wellness at the medical student level at Harvard Medical School (HMS). The movement to begin the current HMS Wellness and Mental Health Initiative had begun in 2016, and it was important for the perspectives of the students to be elicited, as they are the key stakeholders of the initiative. In order to collect those perspectives, I created a design for student focus groups. These projects, and the original version of this report, were completed as a requirement for my Masters in Public Health (MPH) Practicum requirement in 2016, but the work for these projects continues today.

Introduction

Physician distress and burnout is a longstanding problem that starts in undergraduate medical education ¹, which can have serious impacts on the health and longevity of the physician ², and perhaps most notably, on patient care ^{3,4}. Medical trainees (students and resident physicians), are especially vulnerable to burnout ¹. Burnout is a type of occupational stress which is characterized by exhaustion and disengagement from work. The health implications of burnout are quite serious, and include cardiovascular disease ^{5,6} and depression ^{7–9}. Burnout is known for causing decreased efficacy at work across the general population, and among physicians it has been shown to possibly cause a decrease in empathy ⁴, an increase in medical errors ⁴ and patient recovery time ¹⁰, and decrease in patient satisfaction ¹⁰. These issues with burnout begin early in medical training at medical school, then continue, and perhaps worsen, at the start of residency ^{1,11}. Therefore, in order to decrease the impact of physician burnout, the well-being of the medical trainee needs to be given higher priority.

Mindfulness and mind-body strategies have been proposed as one part of a comprehensive solution to physician burnout. Mindfulness programs have been implemented for primary care providers, resident physicians, and medical students with positive results ^{12–14}. These programs have been championed by the Benson Henry Institute for Mind Body Medicine (BHI) at Massachusetts General Hospital (MGH) which is dedicated to research, teaching and clinical application of mind body medicine and its integration into all areas of health. They developed an evidence-based, 8-week patient program called the Stress Management and Resiliency Training: Relaxation Response and Resiliency Program (SMART-3RP). The SMART-3RP engages a three-pronged approach: 1) elicitation of the relaxation response; 2) stress awareness techniques and cognitive strategies for coping, and; 3) positive perspective taking and adaptive strategies. This program was adapted in 2014 by a group of resident physicians for the development of the MGH SMART-R (Stress Management and Resiliency Training for Residents) curriculum (a three session, 6-hour curriculum). It was hypothesized that the SMART-R curriculum would help resident physicians address chronic stress and burnout in residency. Since 2014, with the help of BHI, these residents implemented the SMART-R curriculum across resident specialties and institutions. Over the past couple of years, there has been an increasing demand for this intervention --- therefore, the main aim of this practicum was to develop an Implementation Toolkit which would encapsulate and simplify the different aspects of the implementation and sustainability of this curriculum for interested residency programs to use. This toolkit was developed using the experience of the SMART-R team, gaining experience in the curriculum myself, and by using implementation toolkits from other programs for inspiration for how to format this sort of manuscript.

This work towards bolstering the resilience and fostering the wellness of residents led to another opportunity for me to join with a growing initiative to do the same with students at Harvard Medical School (HMS), keeping in mind that medical students are known to have significant psychological distress¹⁵. An unofficial HMS Wellness Task Force, with a number of faculty and students interested in the topic of student wellness, began to convene in January 2016 with a goal of being officially recognized by the school administration, conducting a needs assessment, and designing a Wellness Initiative for HMS to implement. After assessing how I could be most helpful to the Task Force, I realized that I could help to represent the key stakeholders in this initiative, the students. I wanted to ensure that the student perspective was utilized to shape the initiative. As a result, I set out to design focus groups to collect the student perspectives which could influence the activities of the Wellness Initiative.

In conclusion, there were two main components to the practicum project which I worked on for my Master's of Public Health Practicum: 1) an implementation toolkit for the SMART-R curriculum for the use of residency programs with an interest in the resilience and wellness of their residents; and 2) collaborating with Wellness efforts at Harvard Medical School by designing student focus groups for that effort.

Methodology and Student Role

Implementation Toolkit

In order to develop the Implementation toolkit, I compiled information from the SMART-R Investigation Team and the BHI about how the program has been

implemented at the residency programs which have already executed the program. In order to gain more hands-on familiarity with the curriculum, I attended two "Train the Trainer" sessions, and completed the original 8 session SMART-3RP curriculum. At the "Train the Trainer" sessions, potential facilitators of the curriculum reviewed the entire SMART-R curriculum, and were taught facilitation skills and tips. During the original SMART-3RP sessions, I learned first-hand the concepts that were being taught to residents, and observed a veteran teaching style. Through both of those experiences, I was able to gain a better perspective of the core elements of the curriculum for residents, and important aspects of implementation of the curriculum.

I also used examples of implementation toolkits from similar programs which have been successful, like "Mindful Communication: Bringing Intention, Attention, and Reflection to Clinical Practice," ¹⁶ (a mindfulness curriculum shown to be efficacious in primary care physicians) ¹² "Healer's Art," (a medical student professionalism curriculum shown to be efficacious through reflection on values) ^{17,a} and the Vanderbilt School of Medicine's Wellness Program¹⁸ (a medical school program with a goal of promoting student health and well-being through coordination of many new and existing resources) ¹⁴. I used these toolkits because of the ease of use reported to me by team members who were familiar with these programs, and because of the success of the programs themselves. These toolkits gave me informal guidance on how to organize and format the document in a clear manner.

Once I had learned about the SMART-R curriculum and drew inspiration from other Implementation Toolkits, I began an iterative process with my preceptors which included: drafting portions of the toolkits, getting feedback, and editing based on that feedback. That process eventually led to a final draft of the Implementation Toolkit, which can be found in the "Products" section.

Wellness at HMS

The original objective for this portion of the project was to develop a Wellness Curriculum, based on SMART-3RP and SMART-R, for the medical students at Harvard

^a Please note: A hard copy of the implementation guide for Healer's Art was used. Reference 16 contains an electronic segment of this guide and references on program efficacy for the reader's convenience.

Medical School (HMS). However, my first resource, the "Six Step Approach to Curriculum Development for Medical Education" ¹⁹, reminded me of the importance of a needs assessment of the school to assess they type of curriculum needed, or if a curriculum was the way to move forward with the Wellness Initiative at all. A needs assessment of resources at HMS was already being complied, so I decided to contribute by specifically examining the perspectives of the medical students through focus groups. I reasoned that focus groups would best fit the exploratory nature of the development of this wellness initiative, and would be a good way to capture the experiential nature of wellness. Also, this population (medical students) has a high survey burden, so I didn't think that a survey would be the best way to collect information.

I utilized the "Six Step Approach" to help brainstorm the types of things I would want to learn from these focus groups for the purpose of a Wellness Initiative. I also wanted to ensure that specific sub-populations were given a closer look: the HST students (in a joint Harvard-Massachusetts Institute of Technology Health Sciences program) due to a recent suicide in within that group ²⁰, and Underrepresented (Minority) Medical Students (URMs) due to the potential for increased risk of burnout and depression²¹. I then utilized the "Question Development Grid" that Dr. Barbara Gottlieb, my practicum course professor, introduced during the first sessions of our "Public Health Practice for Health and Social Behavior" course. With this I developed a preliminary plan for focus groups, which can be found in the "Products" section.

Products

The first and most significant product for this practicum project was the "Implementation Toolkit," which is the document below. The goal was to have a document which encapsulated all of the different aspects of the curriculum implementation and sustainability, and explained the curriculum execution in simple language and easy-to-follow format. The "Introduction" explains how to use the document, why to use the SMART-R curriculum, gives a history of the program, gives a theoretical framework of the program, and lays out the Goals and Objectives of the SMART-R curriculum. The "Preparation for Program Implementation" section gives

suggestions for a needs assessment to perform with consideration of the culture for wellness at the institution; lays out how to develop a team of administrators, chief residents, and residents; and discusses the logistics of scheduling printing manuals, cost reduction, and "Training the Trainer." After that, the "Program Evaluation" section discusses resident feedback and the option of formal study. Finally, some of the appendices lay out a "checklist" for people to keep track of their progress, give more details about performing a needs assessment, and present example questions for resident feedback. See the document below.

Stress Management and Resiliency Training Program for Residents - Implementation Toolkit

Authors: Deanna Chaukos, MD*; Devin Cromartie, BS*; Micaela Owusu, MD, MSc; John W. Denninger, MD, PhD†; Darshan Mehta, MD, MPH†

(*, * these authors made equal contributions)

Acknowledgements: This curriculum would not be possible without the support of the MGH/McLean Adult Psychiatry Program Director, Felicia Smith, MD; the Associate Program Directors, Scott Beach, MD and Heather Vestal, MD, MHS; or the Benson-Henry Institute and MGH/McLean Resident Wellness Committee.

Table of Contents:

- 1. Introduction
 - a. Use of this Toolkit
 - b. Why are programs like SMART-R Important?
 - c. Background
 - d. Theoretical Framework

- e. Program Goals and Objectives for SMART-R
- 2. Preparation for Program Implementation:
 - a. Things to Consider
 - b. Team Development
 - c. Administrative Logistics
 - d. Training for Group Facilitators
- 3. Program Evaluation
 - a. Resident Feedback Questions
 - b. Research Considerations
- 4. References
- 5. Appendices:
 - 1) Example Implementation Checklist
 - 2) Needs Assessment
 - 3) Resident Feedback Questions
 - 4) Resident Workbook
 - 5) Provider Manual

1. Introduction

A. Use of this Toolkit

This toolkit was designed to aid residency programs in the implementation of the Stress Management and Resiliency Training for Residents (SMART-R) curriculum, and in the pursuit of the promotion of wellness and resiliency for medical trainees. In this toolkit, the reader will find fundamental information about the curriculum, and a detailed account of the steps necessary to prepare for and implement the SMART-R Curriculum within the infrastructure of a residency program. In addition, the appendices of this toolkit contain the materials that can be used in preparation for implementing the curriculum, the resident workbook, and the provider manual. The resident workbook is the course material provided to residents. The provider manual is the tool used to guide group facilitator training (see section 2d for further details on the Train the Trainer workshops for group facilitators) and to provide additional information on how to lead and time these sessions, notable pearls to emphasize to resident participants, and guidance on how to lead meditations.

B. Why are Programs like SMART-R Important?

SMART-R was envisioned by a group of psychiatry and medicine residents at Massachusetts General Hospital because of their concerns about wellbeing and burnout during residency training. Issues related to resident physician wellbeing are, in fact, well-known phenomena. Burnout is more common among medical trainees than in their non-medical peers[1], [2]. This issue of burnout is significant, not only because of the risks to trainee wellbeing, but because of the negative effects that it can have on trainees' future careers[3], as well as on the health care system and patient care [4], [5]. Burnout is not the only issue; a dramatic increase in depression among medical trainees once they begin residency has been documented[6], and the suicide rate among physicians has been estimated at around two times that of the general population[7]. The medical education community is becoming increasingly alarmed by these trends, however, it is crucial to remember that physician wellbeing is not simply the absence of pathology[8]. With this in mind, the implementation of preventative programs to bolster physician resilience – "the ability to stay well and find meaning in adversity" – has been encouraged [9]. The SMART-R program is one attempt to answer this call, and this toolkit was developed in response to requests we received from other training programs in graduate medical education (GME)

looking to implement resiliency curricula for their residents. The SMART-R curriculum is a preventative strategy to help trainees maintain and bolster the resilience they come into training with.

It is important to note that this program is not a treatment for depression or mental illness, and will not adequately serve as a replacement for adequate secondary or tertiary care (for depression or severe burnout). Physician wellbeing needs to be addressed at multiple levels, including adequate provision of mental healthcare for anxiety and depression. It will be important to know how your institution provides this level of care to its trainees. Further, the learning environment, as compared to internal characteristics of a trainee, is the most important contributor to resident burnout[10]. Therefore, the medical community needs an approach that combines organizational change as well as individual-focused programs. Consider SMART-R as one individually-focused tool to help residents cope, which is best complemented by other organization-wide efforts to address physician wellbeing. Over time, such programs can be instruments for institutional cultural change.

C. Background

The Massachusetts General Hospital (MGH) Stress Management and Resiliency Training Program for Residents (SMART-R) is a joint initiative that grew out of a collaboration between the Benson-Henry Institute (BHI) for Mind Body Medicine, a research and clinical institute for mind-body medicine and resiliency training at MGH, the Department of Medicine Wellness Committee, a resident-run group that aimed to promote health and wellness in the medicine residency program, and the MGH/McLean Psychiatry Residency Program. In 2014-2015, this program was piloted among interns in the departments of Medicine and Psychiatry. This pilot received very positive feedback, and established feasibility of a 6-hour (3 sessions, 2 hours each) mind-body curriculum during resident didactic time. Since, the program has been implemented in the departments of Pediatrics and Neurology at MGH, and has expanded to other institutions. Weill Cornell Medical College and New York University Langone Medical Center have implemented SMART-R in the departments of Medicine and Psychiatry. In 2015-2016, a wait-list controlled study of SMART-R's impact on resident wellbeing was initiated and is ongoing.

D. Theoretical Framework

The Benson-Henry Institute for Mind Body Medicine was founded approximately 40 years ago, and it has a mission to "fully integrate mind-body medicine into mainstream healthcare at the Massachusetts General Hospital, as well as throughout the country and the world, by means of rigorous, evidence-based research and clinical application of this work." Based on decades of research, the BHI developed an evidence-based 8-week program called the Stress Management and Resiliency Training: Relaxation Response and Resiliency Program (SMART-3RP) [11]. This model has been studied and shown successful for many different populations, such as public high school students [12], patients with irritable bowel syndrome and inflammatory bowel disease [13], patients with chronic physical and mental health symptoms [14], and even among practicing clinicians[15].

The SMART-3RP program was abbreviated and adapted with resident and faculty expertise, in order to make the curriculum efficient and relevant for trainees. The core principles of the SMART-3RP program were maintained as an integral foundation of the SMART-R curriculum:

- Elicitation of the relaxation response by emphasizing meditation and mindful awareness practices – the relaxation response is a physiological state characterized by decreased activation of the sympathetic nervous system.
- 2) Stress awareness and coping strategies, by focusing on common automatic thoughts and distortions that propagate stress
- Adaptive strategies for positive perspective taking and meaning finding, emphasizing strategies from positive psychology and active goal-setting to promote connection with self and work.

E. Program Goal and Objectives

The SMART-R program aims to provide a supportive foundation to residents for their training and beyond through the promotion of wellness and resiliency with the use of diverse coping strategies for stress. It does this through the following learning objectives:

- Apply the concept of resilience to physician practice, career satisfaction, and vulnerability in training.
- Develop skills to practice mind-body skills, stress awareness and coping, and positive perspective taking.

3) Develop a deliberate approach for integrating priorities, goals, responsibility and meaning into busy resident schedules.

2. Preparation for Program Implementation

A. Things to Consider

Before implementation of this curriculum, it will be important to consider some of the unique aspects of your residency program. What does your residency program already have in place to promote the wellness and resilience of its residents? Perhaps there are meditation or exercise activities already available, which this program could supplement. In addition, the attitudes of residents, faculty, and administration inform the culture of your institution. Are faculty and trainees open to conversations about wellness and mindfulness, or is admission of stress seen as a trait of weakness? Conducting a needs assessment, formal or informal, will help you gauge where you will need to work the most to get support to start the program. See Appendix 2 for a guide to beginning a needs assessment at your institution.

B. Team Development

The development of this team is key to obtaining buy-in for the implementation of this curriculum, and should happen *at least 6 months* before program initiation. This team will have three different kinds of roles: faculty administrators, curriculum champions (faculty or residents), and residents.

The faculty administrators (program directors and GME leadership) are an integral group to obtain support from for a number of reasons. For example, they facilitate longitudinal curriculum design. It is vital for the SMART-R curriculum to be implemented during protected didactic time, as opposed to during residents' personal time. This is for obvious reasons; if the goal is to facilitate wellness and prevent burnout, residents should not be required to spend extra time at work. Also, support gained from these key figures could diminish existing stigma against wellness activities. When training programs implement curricula that support resident wellbeing during protected-time, there is an implicit message from leadership that resident wellbeing matters.

Champions of the curriculum (faculty or resident) will include those who coordinate administrative details of the curriculum (scheduling, advocacy, etc.) as well as those who are trained to be group facilitators. This person or core group (different roles can be completed by different people depending on your institution's needs) will help schedule SMART-R sessions for residents, double check

that each resident receives all three sessions, and will ensure that a group facilitator is available for each session. The group facilitators will be leading the groups; these can be individuals with group therapy experience, a personal meditation practice, interest in group dynamics, or simply someone that is curious, flexible, and engaged with residents. These groups require a facilitator who can set the tone for self-reflection and non-judgement. The group environment also needs to respect resident privacy; as such, group facilitators should not be faculty who directly evaluate residents.

Residents are the most important group from whom to obtain support, as they are the beneficiaries of the program. It will be important to assess what residents' preconceived notions are about wellness and wellness activities. This will guide facilitation of the group sessions – i.e. some groups may prefer an emphasis on the preliminary evidence base, while others may want to jump straight into the experiential exercises. In addition, it is prudent to ensure that your team includes resident representatives – ideally in leadership roles! This curriculum was a resident-led initiative, and continues to be sustained by residents.

C. Administrative Logistics

Once the team is in place, the administrative duties can be delegated across team members.

Scheduling

Discussion with program directors about scheduling the SMART-R sessions should coincide with the planning of residency didactic curriculum (typically done in the Spring of the previous year). Ensure that each participating resident has three sessions scheduled over a 6-month period (though the time frame over which the curriculum is delivered can be flexible). In our experience with large residency programs, each of the three sessions was held multiple times to ensure that each resident received the entire curriculum. In smaller programs, scheduling was not as challenging.

There should be an instructor (trained in the SMART-R curriculum) scheduled to administer each session. It can be helpful to have two instructors per session, one resident and one faculty; they can even be from different departments. Ensure that each instructor stays with their assigned cohort of residents; we've noticed that this longitudinal facilitation helps create a safe and consistent environment for residents to interact in. Finally, a "master list" should be made, which includes all of the session dates, the instructors scheduled to administer each session, and the names of the residents who are expected to attend each session (these can be used as attendance sheets).

Manual Printing

The resident workbooks should be coordinated *at least 3 weeks* before the first session, as printing time can vary. The workbooks are ordered through an online printer, and the MGH/McLean Resident Wellness committee (mghmcl.wellness@gmail.com) can help you order these. The materials in the SMART-R curriculum are copyrighted and adapted from the Benson-Henry Institute SMART-3RP curriculum. The curriculum is updated and curated by the MGH/McLean Resident Wellness committee and residency program. To ensure fidelity of the curriculum, we ask that you print manuals through this established process. The cost of printing through our Create Space account is approximately \$4 per book (or per resident), and there are no additional fees.

Cost Minimization

We understand that there are minimal resources available for curricula implementation such as this. As a result, deliberate effort has been made to minimize costs of this curriculum – large-scale printing for the manual, for example. As we iterate the program, we hope to minimize even this cost by developing a smartphone app, so stay tuned!

If funds are available, we encourage you to be creative! Mindful eating (one of the activities in our curriculum) with orange slices can be delightful. However, this exercise can be easily and effectively done with a single raisin. All things considered, the whole curriculum costs less than \$10 per resident, hopefully making this resource accessible to most programs.

D. Training for Group Facilitators

Your institution should plan on training group facilitators *several months* before sessions begin. Currently, SMART-R Train the Trainer workshops have been held in Boston and New York City for educators interested in becoming instructors of the SMART-R curriculum. Going forward, these will be held once yearly by experienced facilitators (from MGH/McLean Wellness Committee and the Benson-Henry Institute). There is no cost to these workshops, except the cost of travel. We are also working on an online training module, for those who cannot travel to Boston for SMART-R Train the Trainer workshops. For details on the next workshop or training information, please email the MGH/McLean Resident Wellness committee at mghmcl.wellness@gmail.com.

3. Program Evaluation

A. Resident Feedback

As with all new curricula, it will be helpful for your program to gather feedback on the implementation of the SMART-R curriculum. Feedback can be in the form of focus group or survey, depending on what works best for your institution. Of course, feedback is most constructive when provided in an anonymous way. In Appendix 3, you can find the resident feedback questions we elicited using both focus groups and surveys. Regular feedback has helped us iterate the SMART-R curriculum sessions, and the written materials from year to year. We recommend using these feedback questions, and/or any institutionally specific question items, in the assessment of the SMART-R curriculum at your institution. Please share any of this feedback with us!

B. Research Considerations

Research of outcomes in medical education are important, and we encourage those who implement this curriculum to study it. This type of research can help evolve the field and what we know about trainee wellbeing. Initiation of this curriculum began with a pilot study (cohort prospective trial), which helped establish feasibility and acceptability (manuscript under review). The second year of the curriculum included a multi-site waitlist controlled trial to evaluate for the impact on mindfulness, selfefficacy, stress and depression. Massachusetts General Hospital residents in Pediatrics, Neurology and Psychiatry; Weill Cornell Medical Center residents in Medicine and Psychiatry; and New York University Langone Medical Center residents in Medicine and Psychiatry participated in this study. We are currently in the process of study completion and analysis. If you do choose to study the implementation of the SMART-R curriculum at your institution, it will be important to ensure the resources for a study are available – i.e. personnel to help with IRB, possibility of gift card rewards for participants who complete surveys, specific documentation of attendance, etc. Please feel free to reach out to Deanna Chaukos (dchaukos@gmail.com) the primary person involved in curriculum development and lead investigator for both SMART-R studies conducted, or the MGH/McLean Resident Wellness committee (mghmcl.wellness@gmail.com). We would be happy to discuss with you our experience and lessons learned conducting research of this curriculum. We ask that any research done on SMART-R should reference the origins of the curriculum.

4. References

- [1] Shanafelt TD, Boone S, Tan L, and et al, "Burnout and satisfaction with work-life balance among us physicians relative to the general us population," *Arch. Intern. Med.*, vol. 172, no. 18, pp. 1377–1385, Oct. 2012.
- [2] L. N. Dyrbye, C. P. West, D. Satele, S. Boone, L. Tan, J. Sloan, and T. D. Shanafelt, "Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population," *Acad. Med. J. Assoc. Am. Med. Coll.*, vol. 89, no. 3, pp. 443–451, Mar. 2014.
- T. D. Shanafelt, O. Hasan, L. N. Dyrbye, C. Sinsky, D. Satele, J. Sloan, and C. P. West, "Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014," *Mayo Clin. Proc.*, vol. 90, no. 12, pp. 1600–1613, Dec. 2015.
- [4] M. C. Beach, D. Roter, P. T. Korthuis, R. M. Epstein, V. Sharp, N. Ratanawongsa, J. Cohn, S. Eggly, A. Sankar, R. D. Moore, and others, "A multicenter study of physician mindfulness and health care quality," *Ann. Fam. Med.*, vol. 11, no. 5, pp. 421–428, 2013.
- [5] C. P. West, M. M. Huschka, P. J. Novotny, J. A. Sloan, J. C. Kolars, T. M. Habermann, and T. D. Shanafelt, "Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study," *Jama*, vol. 296, no. 9, pp. 1071–1078, 2006.
- [6] S. Sen, H. R. Kranzler, J. H. Krystal, H. Speller, G. Chan, J. Gelernter, and C. Guille, "A Prospective Cohort Study Investigating Factors Associated with Depression during Medical Internship," *Arch. Gen. Psychiatry*, vol. 67, no. 6, pp. 557–565, Jun. 2010.
- [7] E. S. Schernhammer and G. A. Colditz, "Suicide rates among physicians: a quantitative and gender assessment (meta-analysis)," *Am. J. Psychiatry*, vol. 161, no. 12, pp. 2295–2302, Dec. 2004.
- [8] J. Eckleberry-Hunt, A. Van Dyke, D. Lick, and J. Tucciarone, "Changing the conversation from burnout to wellness: physician well-being in residency training programs," *J. Grad. Med. Educ.*, vol. 1, no. 2, pp. 225–230, 2009.
- [9] E. V. Beresin, T. A. Milligan, R. Balon, J. H. Coverdale, A. K. Louie, and L. W. Roberts, "Physician Wellbeing: A Critical Deficiency in Resilience Education and Training," *Acad. Psychiatry*, vol. 40, no. 1, pp. 9–12, Dec. 2015.

- [10] T. J. Daskivich, D. A. Jardine, J. Tseng, R. Correa, B. C. Stagg, K. M. Jacob, and J. L. Harwood, "Promotion of Wellness and Mental Health Awareness Among Physicians in Training: Perspective of a National, Multispecialty Panel of Residents and Fellows," *J. Grad. Med. Educ.*, vol. 7, no. 1, pp. 143–147, Mar. 2015.
- [11] E. R. Park, L. Traeger, A.-M. Vranceanu, M. Scult, J. A. Lerner, H. Benson, J. Denninger, and G. L. Fricchione, "The development of a patient-centered program based on the relaxation response: the Relaxation Response Resiliency Program (3RP)," *Psychosomatics*, vol. 54, no. 2, pp. 165–174, Apr. 2013.
- [12] M. M. Foret, M. Scult, M. Wilcher, R. Chudnofsky, L. Malloy, N. Hasheminejad, and E. R. Park, "Integrating a relaxation response-based curriculum into a public high school in Massachusetts," *J. Adolesc.*, vol. 35, no. 2, pp. 325–332, Apr. 2012.
- [13] B. Kuo, M. Bhasin, J. Jacquart, M. A. Scult, L. Slipp, E. I. K. Riklin, V. Lepoutre, N. Comosa, B.-A. Norton, A. Dassatti, J. Rosenblum, A. H. Thurler, B. C. Surjanhata, N. N. Hasheminejad, L. Kagan, E. Slawsby, S. R. Rao, E. A. Macklin, G. L. Fricchione, H. Benson, T. A. Libermann, J. Korzenik, and J. W. Denninger, "Genomic and Clinical Effects Associated with a Relaxation Response Mind-Body Intervention in Patients with Irritable Bowel Syndrome and Inflammatory Bowel Disease," *PLoS ONE*, vol. 10, no. 4, p. e0123861, Apr. 2015.
- [14] A.-M. Vranceanu, A. Gonzalez, H. Niles, G. Fricchione, M. Baim, A. Yeung, J. W. Denninger, and E. R. Park, "Exploring the effectiveness of a modified comprehensive mind-body intervention for medical and psychologic symptom relief," *Psychosomatics*, vol. 55, no. 4, pp. 386–391, Aug. 2014.
- [15] G. K. Perez, V. Haime, V. Jackson, E. Chittenden, D. H. Mehta, and E. R. Park, "Promoting Resiliency among Palliative Care Clinicians: Stressors, Coping Strategies, and Training Needs," *J. Palliat. Med.*, vol. 18, no. 4, pp. 332–337, Apr. 2015.

5. Appendices

Appendix 1: Example Implementation Checklist

Activity	Target Date	Point Person(s)	Date of	Progress Notes
			Completion	
Needs	6+ months	Original		Should consist of formal
Assessment;	before	champion(s)		interviews and/or informal
Buy-in	implementation			conversations with key
Obtainment				stakeholders: residents, faculty
				administrators, and potential
				curriculum champions. See
				Appendix 2.
Consider	Cmonths	Original		Decide if the recourses (time
	6 months	Original		Decide if the resources (time,
optional	before	champion(s)		personnel, money) for a study
Research	implementation			like this is available.
component				
Team	6 months	Original		These are the curriculum
Development	before	champion(s)		champions who will coordinate
	implementation			the logistical aspects of
				implementation and lead the
				resident sessions.
Scheduling	~ 4 months	Delegated team		Work with residency
	before	member(s)		administration to set aside three
	implementation			2 hour sessions for each resident.
Master List	2-3 months	Delegated team		With session dates, session
Completion	before	member(s)		
	implementation			

Budgeting	2-3 months	Delegated team	Consider the costs of manual
	before	member(s)	printing (\$4 each), and any other
	implementation		costs (food, optional research
			considerations, etc.).
Training for	~ 3 months	Session	Coordinate with the
Group	before	instructors	MGH/McLean Resident Wellness
Facilitators	implementation		committee
			(mghmcl.wellness@gmail.com).
Manual Printing	1 month before	Delegated team	Coordinate with the
	implementation	member(s)	MGH/McLean Resident Wellness
			committee
			(mghmcl.wellness@gmail.com).
Program	Until the last	Session	Details for this should be on the
Implementation	session with	Instructors	"Master List" which was created
	residents		
Collection of	Continuous		See Appendix 3.
Resident			
Feedback			

Appendix 2: Needs Assessment Guide

Questions:

- Do residents/faculty/administration perceive an issue with trainee wellness at the institution?
- Is there any evidence of an issue with trainee wellness at the institution?
- Is the culture at your institution (attitudes of trainees, faculty, and administration; existing policies) open to addressing wellness and/or mindfulness?
- What does your institution already have in place to address the wellness of trainees, if anything?
- Would the relevant stakeholders (trainees/faculty/administration) be open to a curriculum to address wellness at your institution?

How to answer these questions:

- Formal focus groups, interviews, and/or surveys
- Informal conversations
- Observation
- (formal/informal) Assessment of any institutional data on mental wellness
- (formal/informal) Assessment of current policies and programs around trainee wellness

Appendix 3: Resident Feedback Questions

What did you like about the SMART curriculum?
What did you dislike about the SMART curriculum?
What would you like to see change in the SMART curriculum?
What should be taken out of the SMART curriculum?
Should this curriculum continue for future resident classes?

The second goal for this practicum, with the Wellness Task Force at HMS, was the focus group design for students at HMS. I developed the Question Grid below to detail the goals of focus group, the types of questions the groups would be asked, and the purpose of the information provided. The focus groups would try to elicit students' understanding of wellness as a concept, their perceptions of wellness at HMS, and their suggestions for a wellness initiative and curriculum. The plan was for these groups to be conducted in each "student society," including the London society for HST students, with an extra group with only URMs (in order to get an oversampled perspective). See the preliminary document below.

Goals	Domain of information	Relevant Questions	What will I do with this information
Understand the student's perceptions of Wellness as a general theme	Define wellness Knowledge of wellness activities, personal wellness practice Attitudes around wellness activities (boring, "extra," or necessary). (Both of the participants, and the participants' perceptions of their classmates' attitudes)	What does "wellness" mean to you? (1) What kind of things can a person do to maintain their "wellness"? (3) Describe your attitude about wellness in the medical education setting. (Positive or negative? Why?) (2)	perhaps this would be good as a presurvey. In understanding student perceptions of wellness, we would be able to meet their needs of wellness properly. Our construct of wellness should match theirs.
Understand the student's perceptions of Wellness at HMS	Knowledge and attitudes around offerings for student wellness	Do you all know about different offerings for wellness at the school? Prompt: We've heard that one specific offering, Peerpoint, has had very low utilization among students. Why is that?	To make sure that students are aware of the different things that HMS currently offers. How much do we need to advertise the resources we already have, versus giving students more/different resources?
	Perceptions of culture around wellness at HMS? (eg "Hidden Curriculum")	We speak a lot about the "hidden curriculum" at HMS — what we learn through our interactions with faculty, residents, (and other students) about the medical profession. How would you describe the hidden curriculum around wellness at HMS? Prompt: Culture set by administration vs faculty vs students	To identify any issues or strengths around the culture of wellness at the school. Will work on building on the strengths, and intervening on weaknesses.

	Anything needed that HMS is not providing	Is there anything missing that HMS should be providing to improve student wellness? Prompt: Think about if there was anything that your undergraduate or prior institution of learning may have provided,	To make sure that we are meeting student's expectations for keeping them well. Meeting these expectations will be important in showing that this is a priority for the school.
What students want in a wellness initiative	Preferred learning strategies	that HMS may not be. General open ended: "What would students want in a wellness initiative at HMS?" What would be your preferred method of learning for a brief self- wellness curriculum? Prompt: Would you prefer to follow at your own pace, or work together in real time? Prompt: Would you prefer discussion, lecture, or demonstrations?	To make sure that we are meeting the students where they are to address their needs. We want to avoid providing resources that may be needed, but are unutilizable. We also want to be sure not to add to the already high stress of keeping up with education, while trying to keep them well.
	Perceived Barriers to implementation Balance with	What sort of things do you think would get in our way of implementing a wellness initiative, and having wellness curricula? How much time to	
	biomedical curriculum	spend? (ie: how many hours of lecture a year?) Do you think a selfwellness curriculum could be integrated with the biomedical curriculum?	
(specifics) What does your population need, which may be different	HST – London Society	Would you say that there are any special needs for wellness in	The most recent suicide of a medical student happened with

from the needs of		HST, which may not	Eliana Hechter, in April
other students?		affect students in the	of 2014. She was a
		New Pathways	student in the HST
		program?	program. This death
			spawned the induction
			of the Peerpoint
			program. It will need to
			be identified if there
			are any special issues
			or needs of the
			students in this unique
			program.
	Underrepresented	Would you say that	Based on Dyrbye's
	Medical Students:	wellness is related to	paper which shows
	Wellness and	providing an inclusive	that minorities who
	inclusivity across	space for people across	report that
	race/ethnicity	race and ethnicity?	"race/ethnicity
	URMs: Perceived	Has race affected the	adversely affected med
	impact of race on	experience of URMs at	school experience"
	wellness and medical	HMS? does any of	were at more likely to
	school experience.	this have a bearing on	have burnout,
		the wellness of URM	depressive symptoms,
		students?	and low mental Quality
		Prompt on the	of Life scores.
		identified themes:	
		Discrimination,	It will be important to
		prejudice, isolation,	identify if this
		cultural differences	subpopulation of
			students will need
			special resources.

Next Steps and Implications

Since May 2016, when this original report was turned in for my MPH Practicum Requirement, I have continued my work on these projects. Regarding the Implementation Toolkit, we submitted a draft of the Implementation Toolkit AADPRT (American Association of Directors of Psychiatric Residency Training), and this submission was approved. Our team is now currently working on a submission of the Toolkit to MedEd Portal. We plan to use the feedback from these submissions to

evaluate the ease of use of our toolkit. Regarding the Wellness Task Force at HMS, a proposal for a formal initiative was accepted by the Dean of Medical Education and Dean of Students in Spring of 2016, and the HMS Wellness and Mental Health Initiative began. I am a member of the formal Task Force for this initiative, and am currently working on a qualitative research project which is based on my preliminary plan for focus groups. I have joined forces with another student Task Force member, Kaitlen Howell, and we are collecting student perspectives on wellness and mental health through focus groups and interviews, and will be presenting our analysis to the Task Force and to the students at HMS before the end of the semester.

References

- Dyrbye LN, West CP, Satele D, Boone S, Tan L, Sloan J, Shanafelt TD. Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population. *Acad Med J Assoc Am Med Coll.* 2014 Mar;89(3):443– 451. PMID: 24448053
- 2. Shanafelt TD, Sloan JA, Habermann TM. The well-being of physicians. *Am J Med.* 2003 Apr 15;114(6):513–519. PMID: 12727590
- 3. Beach MC, Roter D, Korthuis PT, Epstein RM, Sharp V, Ratanawongsa N, Cohn J, Eggly S, Sankar A, Moore RD, others. A multicenter study of physician mindfulness and health care quality. *Ann Fam Med.* 2013;11(5):421–428.
- 4. West CP, Huschka MM, Novotny PJ, Sloan JA, Kolars JC, Habermann TM, Shanafelt TD. Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. *Jama*. 2006;296(9):1071–1078.
- 5. Melamed S, Shirom A, Toker S, Berliner S, Shapira I. Burnout and risk of cardiovascular disease: evidence, possible causal paths, and promising research directions. *Psychol Bull.* 2006;132(3):327.
- 6. Honkonen T, Ahola K, Pertovaara M, Isometsä E, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J. The association between burnout and physical illness in the general population—results from the Finnish Health 2000 Study. *J Psychosom Res.* 2006 Jul;61(1):59–66.
- 7. lacovides A, Fountoulakis K., Kaprinis S, Kaprinis G. The relationship between job stress, burnout and clinical depression. *J Affect Disord.* 2003 Aug;75(3):209–221.
- 8. Ahola K, Honkonen T, Isometsä E, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J. The relationship between job-related burnout and depressive disorders—results from the Finnish Health 2000 Study. *J Affect Disord*. 2005 Sep;88(1):55–62.
- 9. Toker S, Shirom A, Shapira I, Berliner S, Melamed S. The association between burnout, depression, anxiety, and inflammation biomarkers: C-reactive protein and fibrinogen in men and women. *J Occup Health Psychol.* 2005;10(4):344.
- 10. Halbesleben JR, Rathert C. Linking physician burnout and patient outcomes: exploring the dyadic relationship between physicians and patients. *Health Care Manage Rev.* 2008;33(1):29–39.
- Sen S, Kranzler HR, Krystal JH, Speller H, Chan G, Gelernter J, Guille C. A Prospective Cohort Study Investigating Factors Associated with Depression during Medical Internship. Arch Gen Psychiatry. 2010 Jun;67(6):557–565. PMCID: PMC4036806

- 12. Krasner MS, Epstein RM, Beckman H, Suchman AL, Chapman B, Mooney CJ, Quill TE. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *Jama*. 2009;302(12):1284–1293.
- 13. Goldhagen B, Kingsolver K, Stinnett S, Rosdahl JA. Stress and burnout in residents: impact of mindfulness-based resilience training. *Adv Med Educ Pract.* 2015 Aug;525.
- Drolet BC, Rodgers S. A Comprehensive Medical Student Wellness Program— Design and Implementation at Vanderbilt School of Medicine: *Acad Med.* 2010 Jan;85(1):103–110.
- 15. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. *Acad Med.* 2006;81(4):354–373.
- 16. Krasner M, Epstein R. Mindful Communication: Bringing Intention, Attention, and Reflection to Clinical Practice. Curriculum Guide. [Internet]. New York Chapter of the American College of Physicians and Physicians Foundation for Health Systems Excellence; 2010 [cited 2017 Mar 30]. Available from: http://www.physiciansfoundation.org/uploads/default/NYACP_Mindful_Communicat ion_Curriculum.pdf
- 17. The Healer's Art Course: Course Directors' Information [Internet]. Course Director Information | Remen Institute for the Study of Health and Illness at Wright State University. [cited 2017 Mar 30]. Available from: http://www.rishiprograms.org/heart/
- 18. Zackoff M, Sastre E, Rodgers S. Vanderbilt wellness program: model and implementation guide. *MedEdPORTAL Publ.* 2012 Mar 6;8.
- Thomas PA, Kern DE, Hughes MT, Chen BY, editors. Curriculum Development for Medical Education: A Six-Step Approach. Third Edition. Baltimore: Johns Hopkins University Press; 2016.
- 20. John Hawkinson. MIT, Harvard suffer third student death in two months as medical examiner slows (update) | Cambridge Day [Internet]. *Cambridge Day.* 2014 [cited 2016 May 13]. Available from: http://www.cambridgeday.com/2014/04/19/mit-harvard-suffers-third-student-death-in-two-months-as-medical-examiner-slows/
- 21. Dyrbye LN, Thomas MR, Eacker A, et al. RAce, ethnicity, and medical student well-being in the united states. *Arch Intern Med.* 2007 Oct 22;167(19):2103–2109.