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Highest Degree Completed: PhD

Title of Proposed Project:
Preventing and treating burnout in family medicine residents utilizing written emotional disclosure: a pilot study

Description of Proposed Project:

Burnout, defined as physical and emotional exhaustion, loss of empathy, and loss of personal accomplishment related to job performance (Maslach, 1981) is an increasing concern in the medical community. This is of particular concern for family medicine providers, who are disproportionately burdened with burnout. Research suggests that across disciplines, 46% of physicians report burnout, however, this rate increases to 68% when evaluating burnout exclusively among(st?) family medicine physicians (Bodenheimer & Sinsky, 2014). It also appears that burnout is beginning earlier than initially anticipated; in 2010 52.8% of U.S. medical students reported experiencing burnout, and certain aspects of medical residency make trainees particularly vulnerable to experiencing burnout. Residents report that the work hours, perceived job demands, lack of control/autonomy, and difficulties with work-life balance represent significant contributors to burnout (Panagopoulou et al., 2006).

Of particular concern is the amount of problems that burnout among physicians' causes. In medical students, burnout has been shown to be related to dishonest and unprofessional behavioral, and students with burnout reported that they were less likely to want to provide care of underserved patients (Dyrbye et al., 2010). Physicians with burnout also reported that they were providing decreased patient care and were more likely to commit medical errors (Shanafelt et al., 2002; Shanafelt et al., 2009). Perhaps the most alarming statistic, though, reports that physicians are significantly more likely than their non-physician counterparts to commit suicide. Specifically, male physicians are 40% more likely than non- physician males to commit suicide and female physicians are 130% more likely than non-physician females to commit suicide (Schernhammer, 2005).

Considering the harmful impact of burnout on providers well being and medical care, it is imperative that we work to prevent and treat burnout among them. Little is know about effective interventions to prevent and reduce burnout in physicians. Furthermore, medical residents likely have a specific set of needs and interests that need to be addressed and represent a less explored area of the literature. To the knowledge of this author only one study has empirically evaluated a wellness curriculum in physicians. In this study, physicians were taught a variety of skills based in mindful communication over the course of a year (8-weekly sessions and 10-monthly sessions). This study found improvements in measures of well-being, burnout, empathy, mood, and psychosocial beliefs (Krasner et al., 2009). However, it is unclear

how generalizable this study is to residents; participants in this study had been practicing medicine for 16 years on average and it is likely that residents who are new to practicing medicine may need a different set of skills.

One promising body of literature focuses on written emotional disclosure (WED). In this paradigm created by Pennebaker, participants write about their most difficult life experiences or traumatic events over the course of 3-4 writing sessions, lasting 15-20 minutes each. An additional benefit of WED is that it is minimally time consuming. Research suggests that suppressing negative emotions and experience can have a negative impact on health and WED provides an outlet for people to express those emotions and experiences that they might normally withhold. Thus, the goal of WED is to improve well-being by allowing individuals to express, rather than suppress, their emotions and cognitions, which many help them to resolve their stressors. Indeed, WED has been shown to have small to medium effect sizes on improving both physical and psychological health (Pennebaker & Beall, 1986; Frisina, Borod, & Lepore 2004; Lumley et al., 2011.

This paradigm might be particularly useful for residents who are experiencing novel, complex and traumatic medical situations, often for the first time, and with more autonomy than when they were medical students. Plus, these types of high pressured and difficult situations, paired with sleep deprivation, loss of social support, and limited time for self-care make it almost certain that residents will experience burnout at some point. Further, as burnout can have other complications like a deleterious impact on health (Hillhouse, Adler, & Walters, 2010), this intervention has the added benefit of having a buffering effect on health.

Conversely, other researchers posit that writing or focusing on positive experiences is more beneficial For example, Stanton and colleagues (2002) had patients with early stage breast cancer write about the positive aspects of their experience of breast cancer and found that both women who engaged in WED and who wrote about the benefits had reduced medical visits, suggesting the benefits of writing about positive experiences. This also coincides with research on gratitude, which has found that writing down 3 unique gratitudes per day for a month has a positive impact on psychological functioning (Emmons & McCullough, 2002).

Specific Aims:
The goal of the current study is to determine if written emotional disclosure can be effective in reducing burnout, promoting well-being, and improving physical health in a cohort of family medicine residents during their wellness curriculum. The second goal of the study is to determine whether writing about trauma or a positive experience is more effective.

Design:
All residents engage in a four-week wellness program as part of a physician as leaders program throughout each year of their residency training. This wellness program takes place for approximately two hours, one time per week. At the beginning of this program residents will be offered the opportunity to participate in this study. Residents who are interested will complete the consent form and baseline measures online. During this time residents will be randomized

to engage in one of three writing paradigms modeled off of Pennebaker's WED paradigm (1986): 1) written emotional disclosure (writing about a traumatic/stressful aspect of medical training event), 2) positive written disclosure (writing about a positive aspect of medical training), or 3) control writing (writing about the facts only of their past work week). Residents will engage in two, 15-minute writing sessions during their designated wellness curriculum. They will be asked to engage in two, 15-minute writing sessions at home, for a total of four writing sessions. Measures of burnout, wellness, and mental & physical health will be measured prior to the first writing session, at the end of the 4-week wellness curriculum, and 6-weeks after the end of the wellness curriculum.

Measures:

Maslach burnout inventory: This 22-item scale measures the three components of burnout: burnout ("I feel emotionally drained by my work"), depersonalization ("I have become more insensitive to people since I've been working"), and reduction of personal achievement ("I accomplish many worthwhile things in my job"). Items are rated on a scale of 0 (never) to 6 (every day). Higher scores on the first two subscales and lower scores on the last subscale indicate higher levels of burnout.

Physician wellness inventory: This is a 14-item scale that measures physician wellness and consists of three subscales: career purpose ("working with patients bring me satisfaction"), distress ("over the last month, I have been bothered by feeling nervous, anxious, or on edge"), and cognitive flexibility ("I often see more than one side to an issue"). Items are rated using a 5-point scale and are rated from 1 (strongly disagree) to 5 (strongly agree). Scores are averaged, with higher scores indicating higher levels of that subscale.

Physical health. To assess physical health and fatigue, a shortened version of the Short Form-36, using the general health (5 items) and fatigue (4 items) subscales will be utilized. Items will assess global health ("I am as healthy as anyone I know") and fatigue ("how often did you feel tired?") over the previous 4 weeks. Higher scores on this measure indicate better physical health and less fatigue.

Qualitative measure: Residents will also be asked to be complete a qualitative assessment of their overall experience of their levels of burnout, well-being, and skills for reducing burnout, including those learned in their wellness curriculum and their own personal tools.

Setting:

This project will take place at 4 health centers associated with a family medicine residency program in the Northeastern U.S. Each health center serves a unique patient population, including both urban and rural patient populations and a range of race, ethnicities, religions, incomes, educations, and immigration status.

Participants:

Participants will consist of medical residents from a family medicine residency program. Residents will be from the first, second, and third year family medicine resident program. Each site has 4 residents per year, therefore 48 residents will be included in this study. Each resident who choses to participate will be included in this study, therefore, there are no exclusionary criteria. Participants will not be asked to share the contents of their writing to protect their anonymity. It will also be emphasized that they have the right to opt-out of this research project so as not to create undue pressure to participate. Participants will be entered into a drawing to win one of two gift cards for $25 for amazon.com at the completion of the study.

Summary of Research Procedures:

Residents who choose to participate in this study will be randomized to engage in one of three writing groups: 1) WED, 2) positive written disclosure, or 3) control writing. Residents will complete measures of burnout, wellness, and health and baseline, 4-week, and 10-week follow-up.

Analysis/Evaluation Plan:

All data will be checked for accuracy and will be examined for outlier variables. If needed, skewed and outlier variables will be transformed appropriately. To ensure randomization worked properly, demographics and baseline measures will be compared between the two groups using t-tests; however, differences are not anticipated.
To test the hypothesis that there will be more improvements on outcomes in the WED group than the positive writing group and control group ANOVAs will be conducted on each outcome measure from baseline to end of the wellness curriculum (4-weeks post-baseline) and 6-weeks post-intervention. A significant group x time interaction will indicate significant differences between groups from baseline to each follow-up time period. When a significant group x time interaction is found, follow-up tests will be conducted to understand the interaction. Paired-samples t-tests will be conducted to determine how each condition changed over time. Also, the two conditions will be compared at follow-up to confirm that they differ at that time point. Additionally, effect sizes of within and between condition will be conducted using Cohen's d. For the within group analysis this will be done using the following calculation: (mean of follow-up – mean of baseline)/ standard deviation of change scores. For the between group analysis, effect size will be conducted with the following calculation: (mean change life-stress interview – mean change control group)/standard deviation of pooled change score. An effect size of 0.2 will be considered small, 0.5 will be considered moderate, and 0.8 will be considered large.

Timeline to completion:

Data collection will begin in August 2017. Residents are spilt by post-graduate year and health center for their residency wellness, which is completed in 4-week blocks throughout the academic year. Thus, the wellness curriculum will be completed by May 2018 and all follow-up data will be collected by mid-July 2018. Initial data will be presented in October 2018 at the

annual CFHA conference and manuscript will be submitted to a peer-reviewed journal in December 2018.

How will you know you have achieved your project's goals?

We will know that we have achieved our project's goals if we are able to significantly reduce our resident's levels of burnout and secondarily improve their health and well-being. We will know if this has been achieved both by the quantitative statistics and the qualitative measures the participants will be asked to complete.

How do you plan to use the information you gather in this project?

The information gathered in this project is the first step in creating an evidenced-based wellness curriculum for family medicine residents. There is well-established data indicating that burnout is a significant problem for physicians. Despite this knowledge no data has been collected to indicate what specific components need to be included in a wellness program to be beneficial to physicians, and what unique skills training residents require. This project will help us to first understand if this writing paradigm is useful and qualitative data from this study will indicate which other skills and tools residents find beneficial. Further, very little data exists on rates of burnout among behavioral health providers in integrated behavioral health settings and this project would eventually be expanded into understanding and intervening in burnout in behavioral health providers and other members of the care team in integrated care settings.

How does this project advance the field of collaborative care?

Collaborative care traditionally focuses on creating novel interventions, programs, and educational opportunities to treat patients in integrated care settings and to further educate providers from all disciplines in improving integrative care. This type of care can be emotionally taxing, places strain on work-life balance, and appears to place a particularly large emotional burden on the providers. It is imperative that the field of collaborative care also looks toward preventing and treating burnout among its providers. Current data on burnout suggest that providers with burnout, of whom there are plenty, are more likely to leave the field of medicine. If we do not work harder to prevent and reduce burnout we will begin to lose our workforce. Further, we have very little data on how these same issues impact other members of the primary care team, and this project allows us to take a step forward to evaluating and eventually caring for other members of our care team.

How does this project advance you professionally?

As a behavioral health fellow in primary care psychology at the University of Massachusetts Medical School my goal is to obtain an assistant professorship position within an academic medical center as the director of behavioral science at the end of my two year fellowship. I am receiving highly specialized training in integrated primary care and teaching and training family

medicine residents that I hope to carry on in my career. I currently co-lead the wellness curriculum for our medical residents with another postdoctoral fellow, Dr. Samantha Minski, and the Behavioral Science director, Dr. Tina Runyan, at one of the three health centers. This gives me the opportunity to directly oversee this project and ensure its completion. As educators of behavioral science I believe that our role in educating family medicine residents in behavioral science is enhanced by a deeper understanding of the challenges that they face during residency and that my unique training in clinical health psychology can help facilitate resiliency on an individual level for the residents that I work with, but can also lead to greater program development, research, and training opportunities. By co-leading the wellness curriculum I stand witness to the challenges and triumphs residents face and over the past year of assisting in these groups have found that residents are in need of a unique set of skills. This project will first provide me the opportunity to refine my clinical and educational skills to this unique population that will serve me well as I continue to pursue a career as a behavioral science educator.

Secondly, this project affords me an opportunity to further my research experience. Thus far my research has focused on creating and implementing novel, emotion-focused interventions for patients with chronic pain and medically unexplained illnesses and I look forward to the opportunity to apply these interventions to a unique population. Further, I think it is important as psychologists that we take our combined knowledge of biopsychosocial issues and research and evaluation to critically evaluate and improve integrated health care. In this case, I believe that this project is a step forward in creating a body of research that will inform us objectively on how to improve burnout of our valued integrated care colleagues without whom this work cannot continue. In this vein, it is my hope that the pilot data from this study will serve as the foundation for an application for an R21 grant aimed at further evaluating wellness programs for medical residents. I also expect to use what we learn from this project to present our data at national conferences and to publish in a peer-reviewed journal. Perhaps, more importantly is translating what we learn from this project into practice. We plan to integrate the knowledge gained from this study into our current wellness curriculum. It is also important to us to share the knowledge and experience that we have in working with residents, physicians, and integrated behavioral health providers who are experiencing burnout to others who are doing this work, and training others in our wellness curriculum will be another important outcome of this project and trajectory for my career.