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Medical Residency Program Director and Coordinator Perspectives on Wellness Programs for Resident Burnout

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Medical Residency Program Director and Coordinator Perspectives on Wellness Programs for Resident Burnout

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Education

by

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ABSTRACT OF THE DISSERTATION

Medical Residency Program Director and Coordinator Perspectives on Wellness Programs for Resident Burnout

by

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Doctor of Education

University of California, Los Angeles, 2019

Professor Christina A. Christie, Chair

Resident burnout can have a detrimental impact on medical communities. Thus, creating and implementing effective wellness measures is key to enhancing the positive impact of medicine. The purpose of this study was to understand how resident program directors and coordinators understand wellness program implementation. Investigating what is currently offered to promote residents' wellness provided greater insight into how residency programs are currently addressing burnout. This mixed methods study focuses on wellness programs in resident medical education, specifically researching the benefits and obstacles of implementing wellness programs. The study population consisted of internal medicine and general surgery residency program directors and program coordinators, 47 survey participants and 11 interview participants. Participants included both public and private hospitals with graduate medical programs. The findings identified many programs lack essential tools or models for

implementation, and residents still experience burnout even when wellness programs are offered. Residency program directors and coordinators are interested in how to combat burnout with efforts such as wellness programs, but there are significant barriers to implementation. Participants discussed their struggles in creating meaningful programs that can meet the needs of their residents. While there may not be a one-size-fits-all approach, program directors and coordinators are left to create their own wellness opportunities from the ground up. This study highlights the noteworthy elements of wellness programs and provides insight into the gaps in program development.

The dissertation of Ariana Kristina Ajir Rajaee is approved.

Kathryn M. Anderson-Levitt

Robert Cooper

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2019

DEDICATION

I would like to dedicate this manuscript to my sweet and loving 9-month-old daughter. You are the best part of my life! May this manuscript be a symbol that you can achieve anything! I love you so much!

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VITA

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CHAPTER 1:

INTRODUCTION

The road to becoming a physician requires stamina, perseverance, and a willingness to take responsibility for the well-being of others. Medical and surgical residents, regardless of program year, log very long work hours, make critical decisions, often under stressful conditions, and receive low pay in relationship to hours worked. It is perhaps not surprising that approximately 51% to 76% of residents report some degree of burnout (Fahrenkopf et al., 2008; Shanafelt, 2002; West, Shanafelt, & Kolars, 2011). Rosen, Gimotty, Shea, & Belini (2006) found that beginning residents reported a 4.3% burnout rate and residents at end of their first year reported a 55.3% burnout rate. This suggests that the majority of residents will experience burnout during their educational training.

The concept of burnout in healthcare is described as "emotional exhaustion and a reduced sense of personal accomplishment associated with prolonged occupational stress…characterized by poor quality of life and…associated with adverse patient-care outcomes" (Block, Wu, Feldman, Yeh, & Desai, 2013, p. 495). The negative effects of resident burnout are serious and include increased medical errors in patient care as well as detrimental effects, including depression (Block et al, 2013). Symptoms of burnout can be viewed as having a low sense of personal accomplishment, depersonalization from work, and emotional exhaustion. These symptoms can have unfavorable effects on ones' professionalism in the workplace (Dyrbye et al., 2014).

Resident burnout has led the graduate medical education community to develop methods to decrease its impact. In recent years, this has been done through the implementation of resident wellness programs. Wellness programs are opportunities for individuals to access a variety of

resources and interventions to promote social and emotional care (Wilson et al., 2017). These programs include sessions on wellness, mentoring programs, self-reflective practices, small group discussions, retreats, exercise, and many other approaches. Wellness initiatives are implemented at the program level; specifically, residency program directors and coordinators undertake the responsibility of resident wellness programs during resident training.

Given that wellness programs are an integral avenue to decrease resident burnout, the purpose of my research was to better understand the types and significance of current wellness programs in medical education as they relate to burnout, as viewed by a residency program directors and coordinators. I believe investigating what already exists from the viewpoint of current residency program leaders allowed me to understand what is currently offered and what is lacking. This provides greater insight into these programs, which will positively impact the future of resident education.

Background

Studies have shown that one of the main causes of resident burnout is long work hours. In 2003, the Accreditation Council for Graduate Medical Education (ACGME), a national governing body for residency programs across the country, implemented new duty-hour restrictions for medical and surgical residents. These restrictions consisted of limiting a work week to 80 hours and strict new policies regarding 24-hour shifts. In 2011, additional restrictions were implemented for interns (first-year residents), preventing them from working more than a 16-hour shift. Regardless of these duty-hour changes, interns continued to report high levels of burnout, including depression (Sen et al, 2013). With no significant changes in resident well-being or evidence of a decrease in burnout rates, many of the strict new policies

were lifted, including removal of the 16-hour restriction for interns in 2017. Nevertheless, wellness continues be a topic of discussion in medical education.

Given the relevance of burnout in medical education, the ACGME has made an effort to create policies and programs targeted to address it. In 2012, the organization implemented the Clinical Learning Environment Review (CLER) program, which focuses on six areas: patient safety, health care quality, care transitions, supervision, fatigue management and mitigation, and professionalism. This ACGME program requires programs to implement appropriate measures to address the various focus areas and also evaluates and monitors them to ensure implementation (ACGME, n.d.).

In a 2015 study published in *Academic Psychiatry*, researchers examined databases for scholarship on burnout, medical education, and interventions. In the 19 studies they identified, the findings suggest that several institutions have implemented wellness programs, including mindfulness programs, relaxation programs, and self-development groups. The researchers evaluated each type of program and provided evidence to suggest that interventions are valuable in reducing resident burnout rates. While these interventions and resources are available in numerous programs, wellness programs are not widely implemented at the resident program level (Williams, Tricomi, Gupta, & Janise, 2015). The ACGME has left it to the discretion of each program and residency director to implement these types of opportunities, and many programs are not meeting the CLER goals.

In a recent study on obstetrics and gynecology residents and program directors, 80% of residents reported experiencing problems with wellness, and most reported that wellness programs were not within the scope of their program. The findings suggest that program directors were aware of burnout in residents but lacked the tools and/or resources to implement

effective wellness programs (Winkel, Nguyen, Morgan, Valantsevich, & Woodland, 2017). Additionally, in a study conducted in 2017, 111 ophthalmology program directors were surveyed regarding wellness initiatives in their program. Forty-five percent of the respondents reported having a resident wellness program. However, these program directors requested more training and resources for burnout and depression screening, and most importantly wellness program development for medical educators (Tran, Scott, Clark, & Greenberg, 2018).

The graduate medical education community is aware of the negative implications of burnout in residents, and wellness programming represents a promising approach to address the problem. However, there is a lack of implementation of successful wellness programs, despite guidelines from the ACGME. While initial attempts were made by the ACGME, including restrictions on resident work hours and guidelines for wellness programs, residents continue to have increased rates of social and emotional distress.

Research Questions

The literature supports the notion that residents have high rates of burnout, and the ACGME has attempted to implement measures to combat this issue. However, there is a discrepancy between the large policymaker (i.e., the ACGME) and the actual implementation and success of programs targeted to improve resident burnout by program directors. As the research suggests, implementation of wellness programs is left to the discretion of program directors and individual institutions, which leads to variability in what is needed for resident wellness. Unfortunately, the solution is not a one-size-fits-all model for wellness programs in medical education. As discussed by Winkel et al. (2017), program directors often lack the resources to implement programs for resident wellness.

Additional research is required to investigate how wellness programs are implemented, the challenges that program directors and coordinators face when implementing programs, and the additional resources program leaders need to support their residents in their educational endeavors. Of particular interest are wellness programs that include a focus on resident burnout. Thus, I explored this problem through the following research questions:

R1: In the context of resident burnout, what do residency program directors and coordinators identify as a wellness program?

R2: What types of programs are being implemented to promote wellness among medical residents?

R3: What factors do residency program directors and coordinators report are important for successful implementation of wellness programs?

- **A.** What evidence do program directors and coordinators use to ground their judgments on the effectiveness of wellness programs?
- **B.** What do program directors and coordinators report are the most significant barriers to implementing wellness programs and why?

Significance of the Research

Resident burnout can have a detrimental impact on medical communities. Thus, creating and implementing effective wellness measures is key to enhancing the positive impact of medicine. Burnout may continue to have a negative impact on practitioners following their medical education. Through the findings of my research, I hope to promote the importance and effectiveness of successful wellness programs for residents in medical education. Recommendations from the research can serve as a resource and/or tool for programs to promote resident well-being and ultimately to improve medical education. My findings provide further

insight into what would best benefit residents and provide them with the most optimal learning environment.

Overview of the Research Design

This dissertation describes a multiprogram study focusing on wellness programs in resident medical education, specifically researching the benefits and obstacles of implementing wellness programs. Through surveys and interviews, participants included both public and private hospitals with graduate medical programs. The top 50 ranked programs in internal medicine and top 50 programs in general surgery were approached to participate in my study. These 100 programs are well known and relatable to others in medical education. I limited the study population to internal medicine and general surgery residencies, as these are two of the largest specialties with equivalent rates of burnout, per the 2015 Medscape Physician Burnout report (Peckman, 2015). By choosing two fields that are inherently different but have similar rates of reported burnout, I was able to review wellness strategies across medical specialties.

CHAPTER 2:

LITERATURE REVIEW

Medical professionals are faced with challenges that can threaten their wellness and ultimately lead to burnout—a mental and physical state of exhaustion related to one's work environment (Williams et al., 2015). An organizational cost analysis of physician burnout published in 2018 found that 54% of physicians have burnout. As a result of burnout, approximately 7% will leave their positions, which will ultimately cost medical institutions $12 million dollars (American Medical Association [AMA], 2018a). This demonstrates that the consequences of burnout go beyond physicians themselves and may negatively impact our healthcare system and patient care.

Residents are perhaps even more vulnerable than physicians to burnout and levels of depression, as they typically face long work hours and new work responsibilities (Dyrbye et al., 2014). With this in mind, the purpose of this chapter is to examine the research on medical resident wellness, specifically with respect to burnout, and to understand how graduate medical education programs can advance the well-being of their trainees and ultimately improve residents' ability to provide efficient patient care. This literature review addresses five main topics: (a) theories about the causes of resident burnout; (b) other types of problems among resident physicians; (c) the background of resident education and accreditation councils; (d) the value of wellness programs in graduate medical education in general and in relation to burnout more specifically; and (e) resident wellness programs that include burnout as an avenue of change as well as the challenges that resident educators face in creating and evaluating such programs. First, however, it is useful to more clearly define the notion of *wellness* as it relates to the medical profession.

Wellness Among Physicians

Wellness is a term that is widely used across multiple occupational fields. It is difficult to identify its inception, although researchers suggest it became increasingly popular in the mid-1970s (Zimmer, 2010). Health and wellness, as described by the World Health Organization (2017), are defined broadly as follows: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (p. 1). The definition of wellness varies throughout the literature, but arguably the most common is from a program implemented by the AMA, called STEPS Forward (described in greater detail in a later section). The AMA has described wellness as "multidimensional aspects that in combination lead to optimal levels of health and emotional and social functioning" (AMA, 2018c). This simple definition highlights the importance of health, emotional, and social characteristics in physicians' well-being. Additional resources have further described wellness as behaviors that decrease stress, such as exercise, diet, mind–body, spirituality, social support systems, and sleep (Lebensohn et al., 2013).

Factors Affecting the Wellness of Medical Professionals

Becoming a physician is a lengthy process. Trainees endure long work hours and difficult decision making, which can lead to an increase in both personal and professional stress. Because of these challenges, the conversation regarding resident wellness, and especially the risk of burnout, has been at the forefront of the medical field. Throughout the literature on resident burnout, there is a call to action for more wellness programs that target the issue (Eckleberry-Hunt, Van Dyke, Lick, & Tucciarone, 2009). I discuss these programs later in the chapter. First, I summarize the relevant literature on burnout and other common causes of stress among medical residents.

Burnout

One of the original pioneers of burnout scholarship was Herbert Freudenberger, a psychologist who evaluated and observed individuals working in a healthcare agency (Heinemann & Heinemann, 2017). Freudenberger observed that many employees experience a decline in emotional engagement, which results in lack of motivation and an inability to fully commit to their work. Freudenberger used the term *burnout* to describe the particular experiences of the staff and employees at this healthcare agency (Schaufeli, Maslach, & Marek, 2017). The term has since been used in different occupational contexts and applied to many occupations that involve social and personal support, including healthcare and mental health services. By the early 1980s, burnout was a common term, but academic research was still lacking. By this time, Christina Maslach, another pioneer of the concept of burnout, began researching and analyzing the idea.

Maslach's studies began with an evaluation of individual emotions through onsite field observations (Cooper, 1998). Through these observational studies, Maslach identified a multidimensional theory of burnout consisting of three overlapping and interrelated components: "emotional exhaustion, depersonalization, and reduced personal accomplishment" (Cooper, 1998, p. 69). *Emotional exhaustion* is a lack of emotional resources, which interferes with one's work and personal relationships. *Depersonalization* is when an individual feels detached from others, often with a negative perception of others. Lastly, *reduced personal accomplishment* is one's feeling of unproductive work or a lack of feeling competent. Maslach developed her theory of burnout to provide a foundation for researchers to evaluate issues within the workplace. Her burnout survey, called the Maslach Burnout Inventory, has been widely used to assess burnout in medical education (Cooper, 1998).

In the medical education literature, burnout is defined as "emotional exhaustion, depersonalization, and decreased feelings of personal accomplishment" (Eckleberry-Hunt, Van Dyke, et al., 2009). This definition parallels Maslach's burnout theory. Burnout is an issue known to both residents and administrators with an understanding that it has a negative impact on residents' educational experience. Recognizing the possible underlying issues in burnout is the first step in creating effective policy changes and intervention programs. As residents face long work hours, difficult discussions regarding patient care, and an overwhelming level of responsibility in residency, the detrimental effects of burnout are significant for the residents themselves, for medical education, and for the medical profession more broadly.

Maslach's multidimensional theory of burnout has been applied in medical education and has served as a foundation for evaluating issues in resident education and beyond. A notable study by Dyrbye et al. (2014) evaluated burnout rates of medical students (N=4,402), medical residents (N=1,701), and early career physicians (N=7,288) versus the general U.S. population. The researchers controlled for age and years of education; residents were compared to members of the non-medical-employed population, ages 27 to 40, who had graduated from four-year universities. Burnout was more prevalent among medical students, residents in training, and early career physicians than among members of the general population who were the same age. Furthermore, across the entire medical level continuum, burnout was more prevalent than in non-medical occupations. Additionally, medical residents reported higher levels of emotional exhaustion and depersonalization than the average individual in the U.S. population. These findings suggest that although burnout exists among individuals in many occupations, it is more widespread in the medical field, especially during residency training (Dyrbye et al., 2014). A 2015 Medscape report identified burnout as prevalent among professionals in all medical

specialties, with internal medicine and general surgery toward the top of the list, with a 50% burnout rate (Peckman, 2015).

Potential causes of burnout. A variety of variables may cause burnout among medical residents, including long work hours, night shifts, fatigue, and program year. Many researchers have analyzed burnout rates among residents in conjunction with lack of sleep. Arnedt, Owens, Crouch, Stahl, and Carskadon (2005), for example, found that 34 residents who had worked a shift lasting longer than 24 hours experienced behaviors similar to those induced by a blood-alcohol level of .05% to .10%, resulting in a decline of clinical and nonclinical tasks. Furthermore, Block et al. (2013) conducted a cross-sectional survey to evaluate work schedule, burnout, fatigue, quality of life, and patient care outcomes among 55 interns in three residency programs. They found that burnout and fatigue occurred in more than half, and those who had worked an overnight shift within the previous week were more likely to report burnout. Moreover, higher levels of fatigue were associated with inaccurate or incomplete handover safety—that is, reporting patient-care related matters to the next physician on service, for healthcare continuity. This suggests that burnout has an immediate impact on patient care, as handover of information and continuity of care may be compromised. Together, the studies by Arendt et al. (2005) and Block et al. (2013) suggest that overnight call of 24 hours or more may result in burnout and have detrimental effects on patient care.

West et al. (2006) conducted a longitudinal study that measured medical errors made by internal medicine residents (N=184) and their impact on residents' quality of life, emotional well-being, and burnout. Residents who reported at least one medical error over the period of the study—34% of the sample—had significantly lower levels of quality of life, higher levels of burnout, increased emotional exhaustion, and lower sense of personal accomplishment. This

suggests a cyclical effect, where medical errors also have a significant influence on residents' well-being.

A study published in *Academic Medicine* evaluated 168 residents from a variety of specialties (Eckleberry-Hunt et al., 2009). The researchers found that having sufficient sleep was associated with lower levels of emotional exhaustion. However, residents with a lack of sleep did not have higher levels of emotional exhaustion. These findings suggest that, although a lack of sleep may be connected to higher levels of burnout, other important factors may contribute to resident burnout. Put another way, resident wellness is more encompassing than just burnout. This becomes even clearer when we consider issues like the mental health of residents, which I discuss later in the chapter.

Finally, studies on burnout and residency have suggested significant variation in burnout rates depending on one's level of training. In a study at Wayne State University School of Medicine, Martini, Arfken, Churchill, and Balon (2004) evaluated burnout rates in association with several variables, including medical specialty, hours, and training year. The sample included 321 residents ranging in specialty. The researchers found that 77% of residents in their first year of training reported burnout; those in their second year or higher reported a 41.8% burnout rate. Thus, it is evident that those in their first year of training endure higher rates of burnout. (It should be noted that this study was completed at one non-urban community hospital, which may limit generalizability to other hospital settings.)

In 2010, researchers from Mount Sinai Medical School evaluated the prevalence of burnout in the beginning of a residency training program. This study evaluated first-year internal medicine residents at three programs in the New York City area. A total of 145 residents were given the Maslach Burnout Inventory, the Epworth Sleepiness Scale, a personality inventory, and

a survey that gathered demographic information. In all, 34% of residents met burnout criteria. The rate of burnout was consistent among all three residency programs, regardless of program. Furthermore, personal characteristics, such as anxiety or disorganization, were shown to have an effect on burnout rates. Consequently, this research identified personality characteristics that could help identify residents at risk for burnout (Ripp et al., 2010).

In sum, the burnout literature provides evidence that residents have significantly high levels of burnout—often caused by lack of sleep and associated with level of training—and this can be detrimental to their personal and professional endeavors. Further research needs to be done on resident education to decrease burnout rates across all avenues of medical education.

Depression and Suicide Risk

Researchers have identified high levels of depression among residents; in one study, rates of depression in residents ranged from 7% to 56% (Fahrenkopf et al., 2008). In a multicenter study published in *JAMA*, 28% of residents reported depression or depressive symptoms (Mata et al., 2015). Bellini, Baime, and Shea (2002) evaluated mood and empathy of 61 residents over the course of their intern year. The researchers found that interns began residency with low levels of depression, anger, fatigue, and tension. By the second evaluation, in November, resident depression levels had increased, as had anger, fatigue, and personal distress. By the third evaluation date, in June, the cohort had minimal improvement in overall mood and distress. Similarly, in a systematic review published in 2014, researchers found that while only 4% of residents had reported depression symptoms prior to their residency, 26% reported depression at the end of their intern year (Sen et al. 2010). These studies highlight the progression of resident distress from the beginning of the intern year to the end; as the year progresses, interns are faced with significant stress that can result in depression and other mood-altering feelings.

Importantly, depression does not only impact residents—it also has an impact on the patients being cared for by these residents. Fahrenkopf et al. (2008) found that 20% of pediatric residents in their study were depressed, and 75% met the criteria for burnout. The depressed residents were six times more likely to make a medication error than non-depressed residents (Fahrenkopf et al., 2008). Again, these findings suggest that residency has a tremendous impact on individual well-being and ultimately can impact patient care outcomes.

Higher suicide rates have been identified in the medical field than in the general population (Schernhammer & Colditz, 2004). Suicide is the number one cause of death among male residents and the second leading cause among female residents (Yaghmour et al., 2017). Yaghmour et al. (2017) evaluated resident mortality from 2000 to 2014, specifically analyzing suicide rates among residents (N=381,614) in programs accredited by the ACGME. The researchers noted that the highest risk of suicide was during the first and second year of training. Thus, wellness programs geared toward these two critical years are essential.

The majority of residency programs offer psychological services to residents. Guille, Speller, Laff, Epperson, and Sen (2010) evaluated the utilization of and barriers to mental health services among interns. This was a multisite study that included 740 residents in a 12-month assessment. The researchers screened residents for depression and investigated their use of psychological services as well as medication. Overall, 42.5% of the residents screened positive for depression. Additionally, the researchers found that 85.2% received no treatment. The barriers included lack of time (91.5%), a preference for self-management (75.1%), and confidentiality issues (57.3%). This study provides a strong argument for implementing programs that meet the mental health needs of medical residents.

In a compelling article, Ey, Moffit, Kinzie, Choi, and Girard (2013) gathered participants from an urban Pacific Northwest university-based hospital. The researchers analyzed the utilization of counseling services by residents. They found that 87% of residents in the study (N=450) reported being likely to use a wellness service; only 13% reported being not at all likely to utilize a wellness service, such as counseling. The majority of residents reported that they would like to utilize counseling services, but a main limitation was time. Overall, it is apparent that depression is a risk for residents; building services that support them—and that they are able to access easily—is essential.

Burnout, depression, and suicide risk are all potentially mediated by well-defined programs that focus on resident wellness. Throughout the literature, there is a call for action—a call for more influential programs that meet the needs of residents. While there is a variety of reasons residents experience a decrease in overall well-being, the current study focuses on burnout as the primary issue of concern when developing and evaluating wellness programs. Before exploring existing wellness programs that address this important issue, it is useful to understand the standards and guidelines that inform graduate medical education programs more generally.

Postgraduate Medical Training

The ACGME establishes standards for training that occurs after medical school and seeks to ensure high quality medical education and support for residents in training programs within the United States. In 2017–2018, the association oversaw 11,214 graduate medical programs (ACGME, 2018b). The ACGME is committed to enhancing patient care by supporting and establishing efficient educational curricula for medical residents (ACGME, 2018c). Training

programs with ACGME accreditation adhere to specific guidelines and curricula for physician training.

Residents' training hours, also referred to as duty hours, are monitored by the ACGME to ensure the hours are limited. Duty hours are defined as the amount of time that a resident works in a clinical and educational setting in their medical specialty (ACGME, 2018a). Prior to 2003, residents had minimal work-hour restrictions; often their weekly shifts exceeded 100 work hours. In 2003, the ACGME established strict guidelines that stated residents could not work more than 30 consecutive hours, and they could work a maximum of 88 hours per week over an average of four weeks. Training programs abide by ACGME guidelines and report individual working hours to the association to maintain accreditation and ultimately decrease medical errors in care administered by residents. According to a study conducted on 220 residents, there was a significant decrease in resident burnout (from 75.4% to 57%) after implementation of the 2003 duty-hour restrictions; however, this did not reduce the error rates made by residents in patient care, and more than half of residents still reported burnout (Landrigan et al., 2008).

West et al. (2011) evaluated resident well-being, burnout, educational debt, and medical knowledge. Regardless of the 2003 duty-hour limits, they found that residents continued to report high levels of distress and emotional exhaustion. This evidence suggests that burnout rates are not directly correlated to work hours, and other variables may be at play. Thus, learning more about how wellness programs can decrease burnout will allow the ACGME and graduate medical programs to implement the most appropriate measures.

The Role of Wellness Programs

In an article evaluating resident wellness behaviors in 12 residency programs, Lebensohn et al. (2013) investigated the relationship between wellness behaviors and resident well-being.

The study evaluated 168 family medicine residents and found that 14% were emotionally exhausted and 24% felt detached from family. These findings are consistent with other burnout studies (e.g., Eckleberry-Hunt, Lick, et al., 2009). Lebensohn et al. (2013) concluded that a curriculum for promoting physician wellness needs to be implemented to assist residents in training. Residents need substantial supportive systems as well as additional resources and tools to help them navigate their educational trajectories (Lebensohn et al., 2013).

In 2011, the ACGME weighed in on resident well-being and burnout rates. Specifically, they implemented their CLER program, which was designed to emphasize learning environments that encompass resident well-being. The program requires graduate medical programs to educate residents regarding burnout and measures to prevent it, including how to access resources for fatigue and burnout. In 2016, the ACGME conducted an evaluation of its own program. The association reported that 97% of residents received training on fatigue awareness. The study did not evaluate the rate at which residents were fatigued, however, nor did it measure the impact that the CLER program has had on decreasing burnout rates (Wagner et al., 2016). Notably, no additional studies have been published evaluating the CLER program since its inception.

As the ACGME attempts to implement programs to address resident well-being, individual programs have provided various resources for resident wellness. Mentoring programs, for example, have been shown to be effective in enhancing wellness and decreasing burnout. Mentorship is not an ACGME requirement, but many programs utilize mentoring in graduate medical education. Ramanan, Taylor, Davis, and Phillips (2006) evaluated the role of mentorship within resident education. They found that nearly half of study participants (N=316) did not have a mentor. Of those who did, 93% found this mentorship to be valuable during residency. Additionally, the researchers found that residents with a mentor were more likely to

have career preparation and career satisfaction. Although this study is limited, because half of the residents were without a mentor, the findings suggest that mentorship is essential for residents' well-being and career development.

Social support networks have also been shown to enhance resident well-being and reduce burnout rates. Eckleberry-Hunt, Lick, et al. (2009) evaluated burnout and wellness among 168 residents and determined that social support was the only variable that was significantly related to lower levels of exhaustion and depersonalization as well as increased personal accomplishment. As such, it is critical to recognize the value of social support within graduate medical education when implementing programs designed to address burnout rates.

In a recent piece published in *Academic Medicine*, Carvour, Ayyar, Chien, Ramirez, and Yamamoto (2016) proposed a new model called the Patient-Centered Medical Home (PCMH). This model treats trainees as patients by organizing healthcare programs for their specific needs. For example, nurses or patient-centered care coordinators work solely with trainees and aid them to adjust their work schedule to seek medical or mental health care. The purpose of this program is to "uphold the idea that one important step toward improving health and wellness is to apply the relevant, evidence-based, and patient-centered principles of the field to the care of those who train within it" (Carvour et al., 2016, p. 1209). This model suggests a new and innovative approach to decreasing resident burnout and increasing resident well-being. Although the PCMH has not yet been implemented, it can serve as a catalyst for future work for implementing wellness programs in residency education.

Existing Resident Wellness Programs that Focus on Burnout

Resident wellness programs have been an important discussion point in graduate medical education, specifically within the ACGME. These programs can play a vital role in resident

education; however, a standard for wellness programs has not been widely implemented. Several programs have been pioneers in this discussion, including the Mayo Clinic's wellness program, the AMA's STEPS Forward program, and Stanford University's wellness efforts.

Mayo Clinic's wellness program. The Mayo Clinic is widely known for its contributions to the field of physician wellness (Mayo Clinic, 2017). In 2007, the Mayo Clinic established a wellness program using a multidisciplinary approach that draws on research and expertise in the fields of medicine, psychiatry, and psychology. Specifically, the clinic has two well-known researchers in the field of burnout and wellness, Drs. Dyrbye and West. Both have focused their work on understanding wellness programs as they relate to physician well-being and on highlighting the gaps in the field.

One element of the Mayo Clinic wellness program is the Physician Well-Being Index, developed by Mayo Clinic physicians. It is an anonymous, self-report tool that was developed to evaluate wellness programs and their efficacy (MedEd Web Solutions, 2018). This validated screening measure evaluates areas of resident distress, fatigue, depression, and burnout. Additionally, the Mayo Clinic in Florida has a designated conference each month, called "Humanities Thursday," which allows residents to work on humanities projects to enhance their well-being. This is led by the clinic's Fellows' and Residents' Health and Wellness Initiative, which has implemented a budget for three out of the four Mayo campuses (Henry, 2016). Between developing a well-being index and creating a well-being curriculum for resident wellness, the Mayo Clinic has continued to study resident and physician wellness.

The AMA's STEPS Forward program. Another prominent program in the field of wellness is the AMA program called STEPS Forward. The goal of this initiative is to provide tools and strategies on "how to engage health system leadership, understanding physician

burnout and how to address it, as well as developing a culture that supports physician well-being" (AMA, 2018d, p.1). The STEPS Forward program offers extensive information on promoting physician wellness because the AMA recognizes the detrimental effects of physician burnout on our health care system (AMA, 2018d).

STEPS Forward provides an abundance of tools and support for practitioners to implement effective strategies in the workplace. In particular, online modules guide leaders in creating effective programs that meet the needs of those in their institutions. Six of these modules pertain to wellness: Physician Wellness: Preventing Resident and Fellow Burnout; Creating the Organizational Foundation for Joy in Medicine; Preventing Physician Distress and Suicide; Improving Physician Resiliency; and Preventing Physician Burnout. Each module has specific resources and tools that are available in a downloadable format.

While STEPS Forward has valuable information, the majority of the program is focused on practicing physicians, with a small emphasis on resident education. The modules offer continuing medical educational credits for physicians, which serves as an incentive for them to complete the training. The modules on preventing resident and fellow burnout provide an overview of wellness, steps for creating a wellness culture and framework, downloadable guides for creating wellness programs, and implementation support.

Stanford University's wellness programs. Stanford University department of Surgery has created a wellness program for residents called the Balance in Life Program. This program focuses on four key areas of well-being: professional, physical, social, and psychological. In particular, the resources available to residents have been influenced by resident-led discussions. For example, the program provides resources for additional services related to physical well-being, such as after-hour physician contacts and access to healthy food (Stanford Medicine, Division of General Surgery, n.d.). While this might seem mundane, residents face these issues on a daily basis. Availability for personal appointments is a challenge that many residents experience throughout their training, and this ultimately impacts personal well-being.

Stanford has also established a Physician Wellness Academic Consortium (PWAC) that supports physician wellness and serves as a resource for other institutions' wellness needs. Through this program, Stanford compiles national surveys on resident wellness and serves as a data repository. The surveys are offered to physicians, trainees, and other healthcare professionals. Through the PWAC, Stanford has implemented interventions such as mindfulness programs, peer support groups, and resilience training.

Additionally, Stanford offers a course for chief wellness officers. This one-week workshop equips professionals and leaders with tools to enhance physician well-being. The program offers strategic planning techniques for physicians' home institutions through lectures, small-group work, case studies, and group exercises.

Evaluating the Effectiveness of Wellness Programs

Research on effective wellness programs is limited. A variety of individual programs have been put in place, but no standard for wellness has been nationally implemented. The AMA has taken a lead in creating wellness resources for residency programs as well as

practicing physicians. Some essential aspects include implementing a team-based model, increasing team communication, creating a backup system for life events, implementing flexible schedules, and creating a wellness committee (AMA, 2018c). While these areas are known to relate to wellness, residency programs continue to struggle to implement effective programs that meet residents' well-being needs. As discussed earlier, the ACGME has implemented specific measures to reduce the rates of burnout and ultimately influence patient care. However, minimal research has been conducted to determine which programs are effective in reducing resident burnout.

Through my study, I sought to learn more about how wellness programs are being evaluated. Interestingly, as I discuss in Chapter 4, each of the programs I explored had an evaluation process that was unique to their program. The participants were utilizing both informal and formal evaluations, but none was using a standardized system. Additionally, the programs utilized programs similar to those offered by the Mayo Clinic and Stanford and to the STEPS program; however, participants described not utilizing one specific program as a "model." This was an interesting finding, because there are wellness programs in the field of academic medicine that aspire to provide resources and tools to program directors, yet none of the participants in my study described an effective model.

Conclusion

Medical residents report burnout across all disciplines and program years, and research has shown this impacts patient safety. Arguably, this is because interventions in graduate medical education are lacking. Indeed, the literature provides evidence that wellness programs are an avenue for effective prevention and an avenue of support for residents in training (Ey et

al., 2013; Winkel et al., 2017). Thus, it is essential that residents have access to quality wellness programs as they complete their graduate medical education.

Such programs are beginning to emerge, and the ACGME and individual residency programs have implemented mentorship and social support initiatives. These programs have not been widely implemented, however, and they vary in their practices, foci, and accessibility. It appears that program directors continue to lack the tools and resources to build substantial wellness programs that meet residents' needs (Winkel et al., 2017; Wilson et al., 2017). Given that there are no measurement standards for wellness programs in graduate medical education, further evaluation of individual programs is warranted. This type of inquiry can help us identify what is working and what is missing. Individual program data will also enhance our knowledge of resident wellness and ultimately create better resources for residents and resident education.

CHAPTER 3:

RESEARCH METHODS

Wellness program implementation has been at the forefront of the discussion on how to address resident burnout. These programs include, but are not limited to, sessions on wellness, mentoring programs, self-reflective practices, small group discussions, retreats, exercise, and other activities. According to Wilson et al. (2017), wellness programs are opportunities for individuals to access a variety of resources and interventions to promote social and emotional care. Research suggests that such programs are an integral part of reducing burnout and can serve as a resource for residents (Eckleberry-Hunt, Van Dyke, et al., 2009).

The purpose of the current study was to understand how resident program directors and coordinators understand wellness program implementation. Investigating what is currently offered to promote residents' wellness provided greater insight into how residency programs are currently addressing burnout. The work was guided by the research questions outlined in Chapter 1. This chapter describes the research methods and study sample.

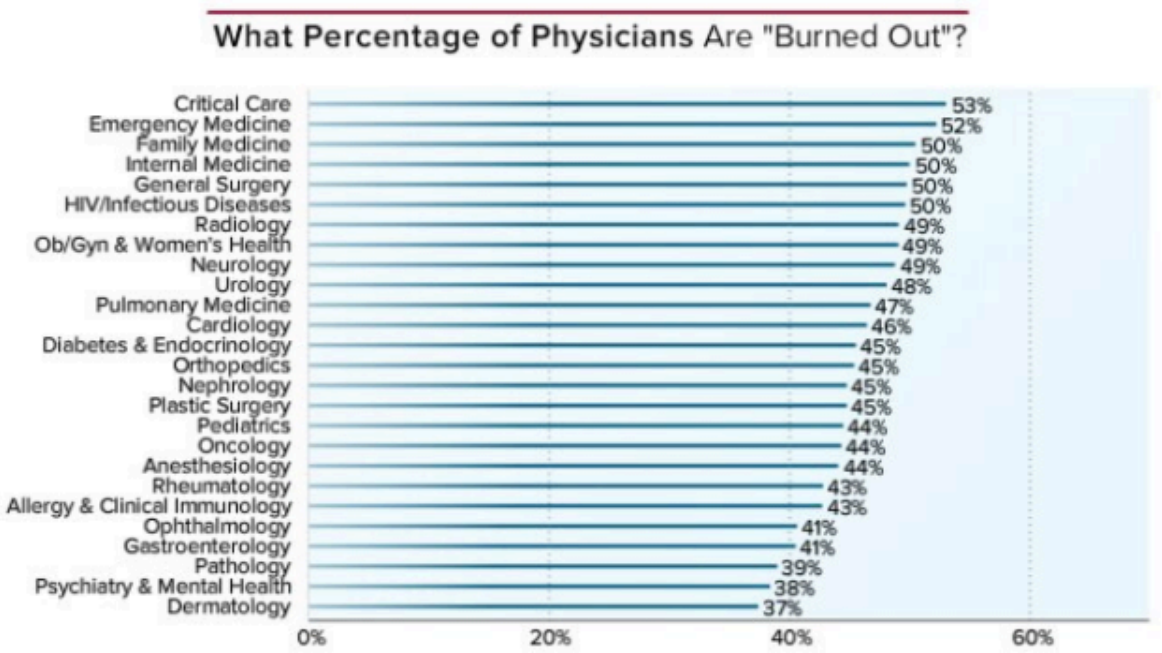
Research Design and Strategies of Inquiry

In this study, I used a mixed method design that included: (a) a survey administered to residency program directors and coordinators, and (b) interviews with a subset of program directors and coordinators to obtain more a more in-depth understanding of burnout and wellness. This design provided a more comprehensive understanding of wellness programs than previously reported in the literature.

Population and Sample

I identified the population for this study through a national database for medical specialties. I focused on two specialties, internal medicine and general surgery, as they comprise

the largest groups of residents and report equivalent burnout rates, per the 2015 Medscape report (Peckman, 2015). Graph below, describes the burnout rates among various specialties.



I used the database to identify the top 50 internal medicine programs and top 50 general surgery programs, including only programs that were ACGME accredited, as they were required to have implemented wellness programs. The 50 programs identified in each type of residency were a range of sizes (i.e., in terms of number of residents), which was valuable in the generalizability of the study.

My original goal was to identify and contact 100 program directors (50 internal medicine and 50 general surgery)—that is, the physicians who oversee these programs as a whole. Due to a low response rate, however, I expanded my study to include program coordinators, as they are established members of the leadership in residency programs and typically have an administrative role in the daily tasks of the programs. Ultimately, I sent the survey to a total of 200 recipients—50 program directors and 50 program coordinators in each specialty (internal medicine and general surgery). In some cases I was referred to the program's associate director.

As a result, the final sample of 47 (response rate of 23.5%) includes program directors, associate directors, and coordinators. From the 200 program directors and coordinators I initially contacted, I conducted interviews with 11 program directors, associate directors, and coordinators who had been involved with wellness program development. (For simplicity, I refer to members of the sample as directors and coordinators or, more generally, program leaders.)

Data Collection Methods

Data sources included documents that I analyzed to determine each program's focus on resident wellness, an online survey administered to all study participants, and interviews conducted with a subsample. In this section, I describe each of these data collection methods.

Document analysis. Prior to administration of any surveys or interviews, I obtained basic program data for the residency programs (via online documentation) to learn more about which focused on resident wellness. I found that residency programs and graduate medical education offices often highlighted wellness activities through their websites. I reviewed web resources as the major form of document analysis to help to guide survey questions. Analyzing the documents and evaluating the information online gave me a greater perspective and background on the programs being surveyed.

Surveys. The primary method of gathering quantitative data for this study was through a survey administered to program directors and coordinators. I piloted the survey within my network of residency coordinators and colleagues to ensure that the questions were clear and concise. Program coordinators work very closely with program directors and often are aware of the main issues within medical education programs. Thus, they served as a valuable resource to pilot the questions and ensure the survey was clear. Piloting the instrument allowed me to adjust

it prior to launching the survey with a large population of program directors and program coordinators.

I obtained contact information (usually email addresses) for program directors and program coordinators through each program's website. I compiled a spreadsheet with the appropriate contact information for the residency director and coordinator of each of the 100 programs. The survey was hosted online through Survey Monkey. I emailed the link directly to program directors and program coordinators—a total of 200 surveys. The survey was open online for two months.

I launched the survey on January 23, 2019, and sent completion reminders every week over the course of two months. After one month, I contacted programs individually by phone. Once I had communicated with someone at the program by phone, I sent one follow-up email with a link to the survey. I closed the survey after multiple attempts to increase participation, which was two months after the launch of the survey, on March 23, 2019.

Program directors and program coordinators receive a high volume of evaluations and surveys per year; therefore, it was important to communicate the purpose of my study and ask appropriate questions in a clear and concise way. The average time to complete the survey was about 10 minutes. The questions were designed to provide a deeper understanding of wellness programs and to identify any barriers that program directors and coordinators face in implementing them. Additionally, I wanted to learn more about the challenges that each specialty—internal medicine and general surgery—experiences with wellness programs. Ultimately, the survey served as a guiding tool that framed the interview protocol.

Interviews. I used interviews with program directors and coordinators to obtain qualitative data to supplement the quantitative data. Interviews provided additional insight that

was missed on the surveys. To recruit participants, I sent an email invitation for the interview to 200 program directors and program coordinators. I received 11 responses—seven from general surgery participants and four from internal medicine participants—and interviewed all of these individuals. Although it would have been ideal to have an equal mix of general surgery and internal medicine participants, due to the low responses, the interviews consisted of more general surgery participants than internal medicine.

I conducted the interviews via telephone. With the participants' permission, I audiorecorded the phone calls. I reminded them of the confidentiality of the interviews as well as the process for protecting the interview data. I provided the opportunity for participants to stop the interview at any point or refrain from answering any questions. Each interview lasted, on average, about 20 minutes.

I developed the interview questions based on results from the survey. I piloted the interview protocol with two individuals working within the medical education field. I refrained from asking any specific questions pertaining to current resident issues or wellness problems, as this was not the focus of my study. Rather, my questions focused on individual beliefs about wellness programs as an avenue to reduce resident burnout, as well as the usefulness and challenges of implementing wellness programs. Through the interviews, I was able to evaluate the differences in challenges among programs. I constructed the questions for medicine and surgery to be similar, but in some cases I adjusted according to the specialty area—for example, to understand the culture of internal medicine versus general surgery. I largely kept the questions consistent, which allowed for a better analysis at the end.

Analytic Procedures

From March through May 2019, I analyzed the data in two phases. This section describes in detail the process I undertook to analyze the survey data and the interview data.

Survey data analysis. Over the two months that the survey was open, I used Survey Monkey to track responses and, once the survey period was complete, extracted the data. Survey Monkey allowed me to collect the aggregated data. I was able to generate descriptive statistics but, due to a low response rate, could not complete any comparative analyses. Specifically, I had planned to complete a chi-squared analysis to determine any differences between the internal medicine and general surgery groups. Because I received only 47 responses, however, I could not run this test. Although this was a limiting factor in my research, I was able to identify themes that began to emerge from the data. Specifically, I imported the data into SPSS and ran descriptive statistics on the survey questions. I ran the statistics prior to developing my interview protocol.

Through this first phase of analysis, the survey data showed that participants believed that burnout was, in fact, an issue within resident education. Given this information, the participants also highlighted the significance of wellness programs and specified (to a limited degree) the types of programs offered. Having completed this overview of the survey analysis, I evaluated the emerging themes and confirmed alignment to my main research questions. I was interested in learning more about offered programs, beyond what the survey could reveal. Thus, I developed my interview questions based on the survey responses.

Interview data analysis. The next phase of data analysis was coding the interview data. The audio files were transcribed by an outside transcription company. I began the first phase of coding by listening to all of the interviews and reading the transcripts individually one time over,

which also allowed me to confirm the accuracy of the transcription. I then established coding criteria to efficiently analyze the interview data. In conjunction with the data obtained from the surveys and the guiding research questions, I identified four themes into which most of my data fit: *Description of Burnout and Wellness*, *Current Programs*, *Factors for Development*, and *Barriers and Challenges*.

Next, I created an outline with a definition for each category. I used a color-coding approach when reading through all the data to identify excerpts that fit within the four broad categories. I used an Excel spreadsheet to organize the data and inserted excerpts from participants into the appropriate cells. This approach allowed me to organize my data in such a way that the key findings began to emerge. For example, the category of Barriers and Challenges presented an abundance of data.

Within each major category, I identified subcategories. The subcategories that I initially created were *financial*, *accessibility*, *time*, *faculty buy-in*, *resident buy-in*, *model programs*, and *systematic issues*. Development of these subcategories was guided by the literature on resident wellness, along with the survey data. As I reviewed the interview data, I began to redefine and combine some categories. I finalized them as follows: *time*, *faculty buy-in*, and *costs/finances*. Through the process of redefining/combining, I was also able to identify key findings regarding the *barriers and challenges* of wellness program implementation. This qualitative element was especially important in my research, because it provided more detail on my topic than was available from the survey responses. I was able to find key trends within the interviews that were not be available through the survey responses.

Demographics of Study Participants

As noted above, I sent the survey to a total of 200 recipients in internal medicine and general surgery departments (100 program directors and 100 program coordinators). The total response rate was 23.5%. Of the 47 responders, 53.2% (n=25) were program directors, 6.4% (n=3) were associate program directors, and 40.4% (n=19) were program coordinators. Overall, 59.6% (n=28) were from internal medicine programs and 40.4% (n=19) were from general surgery programs. The majority of respondents (74.5%) had been in their current role for three years or more; fewer than 10.6% of responses came from individuals with less than one year in their current role (Table 1).

Table 1. Demographics of Survey Participants (N=47)

	#	%
Role in Program		
Program director	25	53.2%
Associate program director	3	6.4%
Program coordinator	19	40.4%
Specialty		
Internal medicine	28	59.6%
General surgery	19	40.4%
Years in Current Role		
<1 year	5	10.6%
1–2 years	12	14.9%
3–5 years	10	21.3%
6–10 years	13	27.7%
>10 years	12	25.5%

As shown in Table 2, the 11 interview participants included seven program directors (63.6%), one associate program director (9.1%), and three program coordinators (27.2%). A majority of these (63.6%) were from general surgery programs, while 36.3% were from internal medicine programs. Table 3 lists the identifiers I use to refer to interview participants in this document.

Table 2. Demographics of Interview Participants (N=11)

	#	%
Role in Program		
Program director	7	63.6%
Associate program director	1	9.09%
Program coordinator	3	27.2%
Specialty		
Internal medicine	4	36.3%
General surgery	7	63.6%

Table 3. Participant Identifiers by Role and Specialty

Identifier	Role	Specialty
Participant 1	Coordinator	General Surgery
Participant 2	Program Director	General Surgery
Participant 3	Program Director	Internal Medicine
Participant 4	Program Director	General Surgery
Participant 5	Program Director	General Surgery
Participant 6	Program Director	General Surgery
Participant 7	Coordinator	Internal Medicine
Participant 8	Coordinator	General Surgery
Participant 9	Program Director	General Surgery
Participant 10	Associate Program Director	Internal Medicine
Participant 11	Program Director	Internal Medicine

Reliability and Validity

I developed a systematic process for analyzing the data in order to minimize threats to validity and to minimize my personal biases. One avenue was to reach out to colleagues and experts in the area of medical education to ensure that the survey and interview protocols were clearly written and aligned to the research questions. In particular, I piloted the survey several times to ensure validity of the measure. Moreover, it was important to have a wide range of respondents from different subspecialties in order to hear a range of perspectives within the sample. Triangulating data from surveys and interviews further helped with the validity of the study.

I also utilized a systematic coding process for qualitative data analysis. This helped ensure the credibility of the study and allowed for the data to be clearly analyzed in a systematic and reliable way. The analysis protocol served as a coding key, which provided a standard as I reviewed the transcripts and analyzed the data. The protocol allowed for consistency in reviewing the raw interview data.

After the interviews were complete, I utilized member checking to establish credibility. I selected colleagues to review the raw data to ensure accuracy. I needed to check my personal biases in both creating the data collection instruments and analyzing the data. Utilizing a peer review approach was helpful in reducing biases and allowed me to tackle the difficult issues within the data analysis.

Another area of concern was the threat of reactivity. Many program directors and coordinators may have refrained from providing candid feedback, especially within the interviews, because of the stigma of resident burnout. As a former academic program coordinator, I was aware of the intricate details of residency programs. I used my professional experience to build rapport with the interviewees, and I believe this helped study participants to be honest and direct when answering the questions.

I recognize that it may have been challenging to build this type of rapport through the surveys, and this might have impacted the response rate. Additionally, reaching a large population of program directors and coordinators was difficult. Moreover, once reached, they may not want to admit their concerns and challenges. Since my study was not affiliated with a larger graduate medical education institution, the anonymous nature of the survey may have allowed interview participants to be candid and honest in their responses. There was, however, a component of selection bias simply due to the fact study participation was voluntary.

Ethical Issues

Most of the questions included in the survey and interviews investigated the need for wellness programs by asking respondents about their experiences leading such programs. I did not ask any personal questions related to the health or wellness of individual residents, which limited the potential ethical issues in this study. However, the survey and interview questions could have elicited data on program efficacy, which program directors and coordinators may have been hesitant to discuss. It's conceivable that data from the interviews or surveys could have had a negative impact on a program or on the program director or program coordinator. As such, maintaining anonymity was essential. In particular, I used identifiers for the participants, sites, and program locations to ensure confidentiality.

Additionally, given my work as a academic program coordinator in medical education, it was important that I did not interview people in programs with which I have personally worked. This could have been a conflict of interest and could have skewed my data, specifically the interview portion of the study. I reached out to programs that were out of my network so that I could study wellness programs from a researcher perspective rather than from an "insider's" perspective. I used my experience as a program coordinator and UCLA doctoral student to gain trust from my participants, but I needed to make sure that the participants understood that my role was as a researcher.

CHAPTER 4:

FINDINGS

This study was designed to investigate wellness programs within U.S. medical residency programs as part of an effort to combat resident burnout. Through both quantitative and qualitative analysis, the study obtained substantial information regarding current wellness programs, beneficial elements of implementation, and the barriers programs experience. The results of a survey sent to a large sample of directors and coordinators of internal medicine and general surgery residency programs identified descriptive information about residency programs and ultimately helped to shape interview questions for the qualitative aspect of the study.

In this chapter, I present findings from both the survey and interviews. I first delineate how study participants defined resident burnout and wellness programs. I then describe how existing programs are being implemented and the beneficial elements of these programs. Finally, I explore the barriers to and challenges of implementing these programs.

How Are Burnout and Wellness Programs Defined?

Research Question 1: In the context of resident burnout, what do residency program directors and coordinators identify as a wellness program?

Both the survey and interviews provided valuable data evaluating how residency program directors and coordinators define burnout and wellness programs. The surveys investigated the prevalence of burnout in residency and the existence of wellness efforts in residency programs. The interviews provided additional detail about how wellness is defined in residency programs and about how programs address and develop wellness programs.

Prevalence of Burnout

At the beginning of the survey, participants were asked if residents in their program had experienced burnout issues of any sort in the last year; notably, over 87% of respondents said they had. When asked specifically how often they provided support to help address burnout, 60% of respondents said they had done so one or two times in the past month, and 13% reported providing support over three or more times in the last month. Most of the survey respondents (91.5%) reported having current curricula or activities that address resident burnout. An even greater number (95.7%) said they had implemented wellness programs to combat burnout and assist with resident wellness.

In the interviews, participants were asked similar questions regarding their experiences with resident burnout. Ten of the 11 interviewees identified resident burnout as an issue in their programs. Consistent among most of the participants was an understanding that burnout was indeed a problem for some residents, and that it occurs throughout internal medicine and general surgery residency programs. When asked to discuss the prevalence of burnout, Participant 9 explained:

> I've been doing this [program director] for about 25 years now, and usually about December, January, we experience a high level of burnout, especially for the new interns, people that have been here less than one year. It's kind of to get over the hump. And we've also had some senior residents that have had some hard rotations, which can burn you out.

Participant 3 similarly noted:

> It's pretty frequent, because it's something that affects a lot of the residents. So, most of what I do is to design and implement programs to avoid burnout, and then I spend some

of my time dealing one-on-one with residents who are needing a little extra attention or time off, or some sort of special accommodation because they're not doing well.

In short, interview participants suggested there is high prevalence of burnout in residency programs, which sheds light on the importance of implementing wellness programs. And, as noted by Participant 3, programs are implementing additional support systems as much as possible to combat this problem.

Description of Wellness

Stakeholders in the field of medical education have worked to implement requirements for wellness programs for residents and to establish a concise definition of wellness. As noted above, 91.5% of the 47 survey respondents reported having current curricula or activities that address resident burnout; an even greater percentage (95.7%) reported having programs focused on resident wellness. All of the interview participants noted that their programs offered some sort of wellness opportunity. Thus, while there is a high rate of implementation of wellness programs, the descriptions and types of wellness programs that were being offered varied immensely. Indeed, there was substantial variability among programs in terms of what "wellness" is.

Survey participants were asked about the extent to which they feel there is a clear definition of wellness. Almost 50% of participants felt there is "somewhat" or "very little" clarity on a wellness definition. In the interviews, I asked further questions pertaining to the definition of wellness. The qualitative findings suggest that wellness as a concept is not systematically defined. The interviewees described wellness on a broad spectrum, from physical health to emotional health. It is evident that each interview participant had a different description or perception of wellness. For example, Participant 4 said that wellness means that

> …we're doing education right. That it's. We're helping to educate them and…help them become the surgeons that we think they can become. And that we're doing our work correctly so that they're coming here for an education, that they get that out of the experience.

In contrast, Participant 7 described wellness as "programs that give residents the belief that there is a structure at this institution that supports and maintains their mental and physical well-being." And Participant 2 shared the following thoughts:

> We recognized wellness as something that refers to more physical health, preventive care. And we've tackled that by hiring a wellness coordinator who helps to make all their appointments.

Three of the 11 participants said that there is a lack of clear definition of wellness; many others suggested this lack of clarity through their answers. For example, Participant 12 stated, "I think the problem is, what is the definition of wellness? People define it differently." Participant 6 had similar remarks: "We [the residency program] struggle with this, and I would venture you'd have trouble coming up with an easy definition yourself. So, I'm not really sure what resident wellness is."

Both the survey data and interview data suggest that, although wellness programs have been implemented, there is significant variation in how wellness is defined, particularly as it pertains to resident burnout. Although this variability in the definition of wellness was identified through this study, the interviews did help to clarify that there is a common goal among all of the residency programs to help implement initiatives that improve the well-being of residents during their training. This variability in the definition of resident wellness and the variation in the perception of an ideal wellness program is an important finding of this study.

Implementation of Existing Programs

Research Question 2: What types of programs are being implemented to promote wellness among medical residents?

While the findings above suggest that there is not a clear understanding of wellness, I did investigate what residency programs are currently offering with respect to wellness support. The survey data provide useful background information regarding the prevalence of wellness programs within internal medicine and surgery residency programs; these data do not, however, provide details about the specifics of existing wellness efforts within residency programs. Thus, through the interviews, I gathered more detailed information to specifically understand the different types of resident wellness programs being implemented across the country. Among the 11 program directors and coordinators interviewed, there were five different types of wellness programs discussed: didactic curriculum; wellness committees; counseling services; social events; and chief resident or faculty support. I discuss each in detail below.

Didactic Curriculum

Didactic curriculum is a common educational approach that is used throughout medical education. Generally, didactics include a variety of educational opportunities beyond clinical learning. Of the 11 directors and coordinators interviewed, five described having a wellness curriculum in a didactic format. The five interviewees discussed this curriculum in detail, and it is apparent that each implemented various didactic opportunities. Interviewees with this type of program described covering an array of wellness elements, such as meditation, nutrition, burnout, and psychological services. For example, Participant 10 explained:

> We do have a wellness curriculum, so a longitudinal curriculum form. So it works with their conferences and when they're on ambulatory block. They'll have some half-day

> sessions and then some of the morning report. Some of them are about their general things, just general nutrition things, things about sleep, how they get, if you need any peer support, if you need any help from the psychological services or any legal issues. Sometimes it's even broader, some people just need financial help, financial training help, as part of the wellness. So we've had people, we'll have sessions with that, sessions with a nutritionist. And then on the ambulatory, for some of those workshops, there's one a month and it will rotate.

Participant 8 described their program's wellness didactic curriculum as follows:

> Once a year we bring in a PhD to talk about physician resilience and burnout and have more of a formal lecture on recognizing those signs and avoiding burnout, or at least catching it early. It's still a little bit of a work in progress with our faculty to understand the need for that, but they've done a good job of accepting [that] residents are going to be late coming in because we're doing a wellness activity.

Participant 3 described a five-part wellness lecture series that includes "practical tips for being well as a doctor" in the intern year. Participant 3 continued:

> One is we have wellness programs that are very practical, where we teach people to do some basic meditation work or to do the three things they're grateful for every day, things that they can do on their own very quickly. And then we have others that talk about wellness as a societal and professional problem and try to work on bigger solutions.

Interview participants described the didactic curriculum as an opportunity to teach residents tools to enhance their physical and psychological well-being while in training. Program directors and coordinators recognized the factors that impact resident well-being, and they strived to create meaningful discussions and lectures to tackle these challenges.

Wellness Committees

Another important aspect of wellness efforts that participants highlighted was the idea of wellness committees. Eight of the 11 participants described utilizing wellness committees as an avenue to combat burnout and enhance resident wellness. Each program offered its own rendition; the one commonality was they were all resident led. This seemed to be a significant aspect of the wellness committees because the residents were able to advocate to create wellness opportunities that met their specific needs. Participant 3 explained:

> We have a wellness committee that's made up with representatives from each of the classes to design wellness programs that they think they would benefit from.…It's all resident run, and then they tell me what resources they need and what they think would be good on an annual basis. That's been pretty helpful.

Similarly, Participant 1 described, "We have a resident wellness committee that is largely focused on kind of building an assistance community and building those peer relationships.…The residents all lead that as well." Participant 5 highlighted that the wellness committee provides residents with a "sense of determination and control over what happens" in the program. Overall, it appears that programs provide wellness committees to empower residents to create programs and resources that meet their needs. Participants described that these committees worked in conjunction with the program director and/or coordinator to establish effective resources.

While program directors and coordinators placed value on wellness committees, there was still a sense that they may not be meeting the needs of the residents. When asked to describe current wellness programs and the effects on residents, Participant 11 said they were, "not sure if

that accurately represents our entire residency program." Thus, while wellness committees are a common tool for residency programs, it is unclear if the needs of all residents are being met.

Counseling Services

Counseling services are a common tool used within medical education to assist and support residents. Five of the 11 participants interviewed for this study noted that their program provided counseling or psychological services. Many of these participants highlighted that these were formal programs provided by the hospital or residency program. Each program varied in the particular counseling resources available.

Importantly, participants noted that these services were confidential and not reported back to the program director. This is intended to reduce the stigma of seeking services. Participant 9 elaborated: "We have a confidential psychologist and psychiatrist here at this institution where we don't know where they sit, we don't know where they reside, and the resident can go to them." Participant 10 also highlighted key factors of their program's psychological services, which are provided by the university: "We make sure that the psychological services for the university—they have a staff psychologist and some students, graduate students there as well that are available if they need more formal counseling or if anybody would need."

Social Events

One common trend among residency programs was the importance of social events. These events were formal or informal, and they were implemented to boost resident morale and ultimately enhance resident wellness. Participants described the social events as opportunities for residents to "let go," "have fun," and "forget about work." Most highlighted that the social events occurred after work and often included residents' families as well. Formal events were

funded by the program or faculty members and included retreats, sports tournaments, and happy hour or dinner events. Informal events were often resident led and included informal get-togethers or activities away from the hospital, on lunch breaks or after work. As Participant 6 clearly described:

> There are some informal events, which are basically happy hours, on a fairly frequent basis, and then some larger events that are organized by the program, such as one night we'll go bowling, local baseball teams, we rent out a box twice a year and take all the residents. That sort of event.

Importantly, almost all of the interview participants highlighted some aspect of wellness to include social events; five out of 11 thoroughly discussed social events as a staple in their wellness programs. It is apparent that many residency programs value social events as an avenue to boost resident morale and increase wellness among their residents.

Chief Resident and Faculty Support

The final type of wellness program discussed by participants was support from the chief resident or faculty. Each residency program has one (or several) chief resident who is selected based on exceptional clinical and leadership skills. In general surgery, chief residents are in their final year of training; in internal medicine, they are selected to stay for an additional year of training to be a chief resident. Chief residents are often described as a junior faculty, as they have a strong understanding of resident needs and maintain a leadership role in residency programs.

The majority of survey participants noted faculty support (86.7%) and chief resident support (83.7%) as "very important" elements in reducing resident burnout. Surprisingly, however, there was not an overwhelming discussion in the interviews about chief resident or

faculty support: Only three of the 11 interview participants highlighted this type of support as an avenue of wellness. For example, Participant 8 highlighted faculty as a resource for residents to enhance wellness:

> About five years ago, when we started noticing we needed to step in and help with resident burnout, we incorporated a recently retired pediatric surgeon to work with our interns during their intern year. And he sits down with them for a full hour once a week, and they talk about pretty much more life-type things versus clinical stuff. And we're in our fourth year now, and all the residents have expressed that that really helped get them through that transition from medical school to residency that can be so difficult.

The discrepancy between the interview findings and the survey data suggests there is variability among programs concerning the value of chief residents and faculty support. This will be discussed in the following section.

Characteristics of Successful Wellness Programs

Research Question 3: What factors do residency program directors and coordinators report are important for successful implementation of wellness programs?

The current study was designed to determine what factors influence successful implementation of wellness programs and what evidence programs use to determine the success of their programs. The surveys provided significant insight into what factors contribute to successful implementation of wellness programs.

Table 4. Percentage of Survey Respondents Saying that Specific Factors Contribute to Implementation of Wellness Program (N=47)

	%
Resident buy-in	87.2%
Providing protected time for residents	66.0%
Resident-led initiatives	63.8%
Faculty buy-in	61.7%
Departmental funding	59.6%
Mental health advocacy	59.6%
Program requirements from graduate medical education office	53.2%
Coordinator buy-in	53.2%
Time for program directors	44.7%
Training for program directors	17.0%
ACGME resources	10.6%

As shown in Table 4, survey data suggest that program directors and coordinators overwhelmingly believed that resident buy-in is the most important element in wellness program implementation, with 87.2% of respondents selecting this factor. This was followed by the provision of protected time for residents to access services (66%) and resident-led initiatives (63.8%). The main theme among the top three findings is the involvement of residents. While other elements were recognized as important, the top three are exclusive to resident involvement and providing protected time for the residents to access services. Thus, survey results indicate that program leaders believe that resident involvement is at the foundation of successful wellness programs.

As part of understanding factors that influence implementation of wellness programs, I sought to better identify who is responsible for implementing wellness programs at different academic institutions. Interestingly, there was slight variability in response to this question. While the majority of survey participants (61.7%) reported that program directors were responsible for implementation of their wellness programs, 12.8% said it was hospital institutions, 4.3% reported it is the responsibility of residents themselves to seek services, 2.1%

said program coordinators were responsible for wellness programs, and 2.1% said it was the ACGME. So, while the majority agreed that is was the responsibility of the program directors, this variability is important because any confusion could contribute to the overall challenges in establishing and implementing successful wellness programs.

Through the survey, I also aimed to identify the elements within wellness programs that were believed to be most important and that played a significant role in reducing resident burnout. As listed in Table 5 below, the survey identified a sense of community among residents, faculty support, peer support, chief resident support, and family support as the most important elements in reducing resident burn out—88.9%, 86.7%, 86.4%, 83.7%, and 81.8% of respondents (respectively) said these elements were "very important." While other factors were reported to be important as well, it appears that program directors and coordinators strongly believed that social support and sense of community had strong influence on resident burnout.

Table 5. Survey Respondents' Perceptions of Importance of Specific Wellness Elements in Reducing Resident Burnout (N=47)

	Percentage of respondents saying…			
	Very important	**Somewhat important**	**Somewhat unimportant**	**Unimportant**
Sense of community among residents	88.9%	11.1%		
Faculty support	86.7%	8.9%	2.2%	2.2%
Peer support	86.4%	13.6%		
Chief resident support	83.7%	16.3%		
Family support	81.8%	15.9%	2.3%	
Psychological services	75.0%	22.7%	2.3%	
Social events among residents	65.1%	34.9%		
Resident-led discussions	56.8%	36.4%	6.8%	
Peer mentorship programs	53.5%	37.2%	9.3%	
Wellness training seminars	16.3%	51.2%	30.2%	2.3%
Exercise programs	16.3%	51.2%	30.2%	2.3%
Teaching meditation techniques	8.7%	37.0%	50.0%	4.3%
Yoga classes	2.3%	29.5%	56.8%	11.4%

While the survey data provide a significant amount of information about wellness programs, the depth of the data is limited. The interviews allowed for more details to emerge about additional factors, beyond what the survey asked, while overall maintaining consistency with the results of the survey. In the interviews, participants were asked to elaborate on the elements of wellness programs that were most beneficial (as identified through the survey and shown in Table 5 above). They described the development of a culture centered around wellness as being very important in not only creating but also successfully implementing wellness programs. As Participant 2 explained:

> The most beneficial program for the residents is something which will be difficult to describe.…And what it is, it's the cultural change….And the cultural change that we created in this program was by sending out a weekly—was being feel-good to our residents, for them to let us know what their fuel tank levels are.

This participant offered an example of how some programs have worked to develop a new culture within their residency to enhance wellness programs. Another participant discussed this idea of culture, further detailing the efforts of implementing such efforts. In particular, the ACGME's mandate for a wellness curriculum in resident education has created a cultural shift within the programs. Participant 9 described this shift:

> I think the culture is changing, but I think it's going to take time and it has to be something that is sort of mandated, which it is now—from the ACGME, the accreditation council—that every program must have some type of wellness activities.

Importantly, a cultural shift takes time to evolve, and many interviewees noted that it can be a challenging process.

Evidence Used to Ground Judgments about Success

Research Question 3A: What evidence do program directors and coordinators use to ground their judgments on the effectiveness of wellness programs?

Results of both the survey and interviews indicate that resident buy-in, protected time, and a cultural shift are beneficial elements of wellness programs. The next question that needed to be addressed was how program directors and coordinators grounded their judgments on the success of wellness programs. I gathered data on that question through the interviews. Specifically, participants were asked to discuss how they have evaluated and assessed the wellness programs within their residency programs. It became evident that programs utilize both formal and informal tools to evaluate their wellness programs. Formal tools include surveys sent to residents annually or weekly (depending on the program). Informal tools are generally informal conversations between residents and program leaders regarding the wellness programs; these may occur in a small-group context as well.

Several respondents discussed sending a survey to residents—at various increments throughout the year—to evaluate the efficacy of the wellness programs. They described these surveys as a useful tool to identify how programs are meeting the needs of residents. Participant 2 described the surveys as a tool that "that goes out every week, every Thursday," whereas Participant 3 described an annual effort:

> We do a survey on each of these things at the end of the year. We have an end-of-year survey, basically, and we ask them about their wellness visits; we ask them about their PCP visits. It's all anonymous, so they just tell us basically if they went and if they found it valuable.

Throughout the interviews, surveys were a common and useful tool in evaluating program efficacy. This approach allows program leaders to develop, adjust, or modify a program based on the evidence provided by the surveys.

Informal assessments, described as "check-ins" or "small groups," were also common approaches to evaluating and analyzing the programs offered to residents. Many of the interview participants described having informal sessions to review the needs of the residents. For example, Participant 8 said they approach their evaluation procedures "not very formally. We usually just follow up with personal conversations with the residents. 'Did you like that? Did you find it helpful? What would you like to do next time?' Yeah, nothing really formal." For some programs, this informal check-in served as evidence to establish beneficial programs for resident wellness.

Another informal tool that program directors said they utilize are evaluations of the rate of participation in wellness activities. For example, Participant 6 described:

> We had a session where we had some professional person who ran a guided meditation session, and only one resident showed up. So, I labeled that a failure because people didn't go. And whatever the reason was, well, we're not gonna do that again too quickly.

Based on low participation, the program director ultimately decided that the meditation effort was not meeting the needs of the residents. Levels of participation in wellness activities were not widely discussed, but several program directors did mention that participation was often a key element to identifying if programs were working or not.

Barriers and Challenges to Implementation

Research Question 3B: What do program directors and coordinators report are the most significant barriers to implementing wellness programs and why?

Evaluating the barriers or restricting factors for implementation of wellness programs was a key part of this research study. While the ACGME requires residency programs to provide wellness programs, as described in Chapter 2, the literature highlights the significant barriers to this work. Most of the data identifying these barriers was retrieved from the interviews, but the survey did identify differences in the ideal type of wellness programs based on medical specialty. In particular, more than 85% of program directors and coordinators believed that that are significant differences between specialties, and that wellness programs should be different as well. This can be viewed as a barrier to wellness program implementation, because there may not be a one-size-fits-all program approach to wellness for program directors to utilize when implementing a program.

Most of the remaining information pertaining to barriers and challenges in the implementation of wellness programs was obtained through the interview data. For example, all interviewees were asked if they felt that wellness programs are worth the time, money, and effort. Almost all reported that they are, but many noted that the barriers they face when trying to implement programs are substantial—in particular, time, faculty buy-in, and finances. I describe each of these in detail below.

Time

The most common barrier program directors and coordinators reported experiencing was lack of time. Specifically, interview participants described having difficulty finding time to offer wellness opportunities because of scheduling and rigorous training demands. The day-to-day

demands of residency are challenging: Program directors and coordinators are required to build wellness opportunities into an already existing, already full resident schedule. Participant 6 described this problem in detail:

> It's very easy to arrange something during normal business hours. Unfortunately, those are peak business hours for surgery as well. So, surgery residents' schedules are fairly unpredictable. Their time is not really their own. And, so, if you set something up for 11:00 AM to noon, about half of the residents, off the top, won't be able to make it. Whatever time you pick, it's difficult. And, when you pick something that's after hours, well, that's a challenge, too. Some people have families. Some people are tired and want to go home.

This participant elaborated on how residents may not have time to attend activities due to patient care issues or because they are working to balance their personal lives while in training. A similar sentiment was described by Participant 3, who explained, "When you have a wellness committee, and then you offer that it can meet at the end of the day, that doesn't necessarily promote wellness. So, finding ways to bake those activities into the already crowded day is a challenge."

There was an overall belief from participants that, although wellness programs are crucial, the barrier of time impacts implementation. For instance, Participant 10 described how, when implementing a wellness curriculum, "you get a really good speaker, and then something happens, and then not that many people show up because something happened overnight." Essentially, when residency programs carve out time for wellness, residents express an interest to doing non-work-related activities (e.g., family time, friends). When wellness programs are implemented through designated learning sessions (i.e., didactics), there is a low rate of

attendance. While programs are implementing wellness opportunities, patient care takes precedence over a wellness activity. It is evident that the element of time is one of the biggest barriers for program directors and coordinators as they work to implement meaningful and useful wellness opportunities.

Faculty Buy-In

The second most discussed barrier for wellness implementation was faculty buy-in. Specifically, program directors and coordinators described issues with gaining faculty involvement in resident wellness activities. Four out of the 11 participants highlighted this as an issue within their wellness program implementation. For example, Participant 10 described:

> Sometimes they [faculty] feel, think they're kind of a waste of time and that you should be doing either the hard sciences, like having them study for boards or doing a different location. And so I think there are some people who feel you're here to work, and they should be working while they're here.

Importantly, faculty have completed the same type of rigorous training program that the residents are enrolled in, and so one might assume they would be more accepting of wellness opportunities. Participant 10 touched on this issue: "I think some of faculty, maybe depending on how many years you're out, [think], 'We were in the hospital all the time and lived in the hospital, and we did fine. And now, the younger generation, it seems like they aren't as tough as we are.'" This is an interesting perspective, because some program directors and coordinators noted that faculty are not as understanding or empathetic to the residents' wellness experience. A similar sentiment was shared by Participant 8, who said that "faculty and sometimes even program director buy-in" are significant challenges. This participant continued: "Our older

faculty still think that people should just power through and suck it up and keep going and [they think], 'They never had this when I was going through training.'"

Finances

Regardless of the wellness program being implemented, at some point it incurs a cost. This was the third barrier described by program directors and coordinators. Participants described a lack of resources and funding for such efforts at the program level, the graduate medical education level, and the institutional level. Participant 5 clearly stated, "Money, always, because anytime you try to do something, it costs something. So money is always a barrier." This participant further described struggling to receive funding for wellness activities, lamenting, "to at least be able to afford to do bigger things for them. I wish we had more psychological help or someone with more of a psych background that could step in and help direct us a little bit more." In short, it would appear that there is an abundance of resources that programs want to implement, but a significant barrier is the cost of doing so.

Unexpected Findings

All participants in the interviews were asked to describe a "model wellness program" that currently exists. Interestingly, 10 out of the 11 participants stated that they could not name a model program. The one participant who knew of a model program was not able to confidently state the name of the institution or describe the programs available. Thus, it was clear that there was not one model program that has served as guide for program leaders. Participants were asked follow-up questions to confirm this was the case. Participant 11 stated:

> I don't know. Everybody seems to do, you know, I have these program director meetings that we have, and we serve across the country. And all the programs are so different that everything is so, everything is kind of morphed to what fits your individual

> program.…Clearly it is good to share best practices and see what's worked in different places. But people's budgets are difficult, people's ability to schedule are different, so I— It may be my own fault for not looking, but I am not aware of there being any model program out there that we wish we could adapt. I think everybody's just trying to figure it out.

Participant 9 expressed a similar thought: "I think that every institution has to do it based on their resources." Both of these participants described that each residency program requires different wellness resources, which is perhaps the reason there is not one model program that currently exists. It is evident that program directors and coordinators were aware of programmatic differences and were therefore trying to implement wellness programs that would meet the particular needs of their residents.

Summary

Through survey and interview data from directors and coordinators of medical residency programs, this study obtained a significant amount of data on wellness programs designed to address resident burnout. The study data were obtained through 47 survey responses and 11 telephone interviews administered to program directors, associate program directors, and program coordinators.

The data show that all programs in the sample have worked to implement wellness programs to help combat burnout—a real issue that exists across the board. While there are strong efforts for implementation by program directors and program coordinators, there is significant variation in the programs implemented; there are also significant barriers and challenges to implementation. The implications of these findings for the field of medical education are discussed in Chapter 5.

CHAPTER 5:

DISCUSSION

The goal of this research was to understand the role of wellness programs in medical education as viewed by residency program directors and coordinators. The findings contribute significantly to the current literature on wellness programs in medical education. They show that residency program directors and coordinators across the country are making significant efforts to implement wellness programs to reduce burnout and enhance resident well-being. While programs are taking enormous strides in implementation of wellness programs, there has been variable success. The findings made clear that many programs lack essential tools or models for implementation, and residents still experience burnout even when wellness programs are offered. Residency program directors and coordinators are interested in how to combat burnout with efforts such as wellness programs, but there are significant barriers to implementation.

In 2009, Eckleberry-Hunt, Van Dyke, et al. published a valuable article highlighting the need for academic medicine to identify a concrete definition of wellness and to create strategies to combat burnout. While this article was published nearly 10 years ago, the current study shows that the field of academic medicine continues to struggle in systematically defining wellness. This lack of a true definition became evident through both survey and interview findings, as program directors and coordinators discussed the definition on a very broad spectrum. Although a definition of wellness is available through ACGME resources, there is significant ambiguity among program directors and coordinators with respect to what "wellness programs" are.

Also important is that almost all interviewees reported there is no model wellness program for them to follow—something that may be of value to provide a foundation for individual programs. In Chapter 2, I described several programs that the literature has

highlighted as models, such as the programs developed by the American Medical Association (AMA) STEPS program, Mayo Clinic and Stanford University. However, none of the interviewed participants utilized a model program as a resource. Instead, each residency program created its own independent definition of wellness, and these varied between programs. Regardless of available resources defining wellness, it was apparent that implementing programs varied immensely between programs. In a sense, context of implementation was important. There may not be a one-size-fits-all approach; program directors and coordinators are left to create their own wellness opportunities from the ground up. Participants discussed their struggles in creating meaningful programs that can meet the needs of their residents. Two of the most significant barriers discussed by directors and coordinators were the lack of time to implement these programs with residents and a lack of faculty buy-in.

Burnout continues to be a prevalent issue for residents, and program directors are at the forefront in creating opportunities to combat burnout issues. Overall, my study suggests that the value of resident wellness is emerging, yet program directors and coordinators are faced with obstacles as they seek to implement wellness programs to combat resident burnout. This study highlights the noteworthy elements of wellness programs and provides insight into the gaps in program development.

Significance of the Findings

Resident burnout has been a hot topic within medical education for the last few decades, and this has resulted in an emphasis on programming to combat it. As the literature suggests, residents have significantly high levels of burnout, which can be detrimental to their personal and professional endeavors (Block et al., 2013; Dyrbye et al., 2014; Peckman, 2015). Residents experience increased rates of depression and suicidal ideation as a result of the training

experience (Bellini et al., 2002; Mata et al., 2015; Schernhammer & Colditz, 2004). In the literature, there is a call to action to utilize wellness programs as a primary avenue for tackling these issues. As noted by Lebensohn et al. (2013), residents need additional support systems to assist in their training endeavors.

One significant element of this research identified that programs are implementing wellness opportunities similar to the model programs (i.e. Mayo Clinic's "humanities Thursday" and Physician Wellness Academic Consortium). It is important to note, that although programs did not specifically identify a "model" program, many of the programs are utilizing elements of the "model programs" to enhance resident wellness. As discussed earlier, there may not be a "one size fits all" approach to wellness; however, there are known elements of wellness programs that are being implemented in various programs to combat burnout. Recognizing that the context of the residency program matters because each program is unique in the resident experience.

Another significant finding of this study is that program directors and coordinators reported facing in implementing wellness programs is a lack of time. Participants unanimously highlighted the significant value of wellness programs, which corresponds with the literature that they are an effective form of preventing burnout (Ey et al., 2013; Winkel et al., 2017). Program directors and coordinators also suggested, however, that residents are faced with rigorous schedules, which makes it challenging to find opportunities within their weekly schedules for wellness programming. Often, wellness programs are scheduled outside of work hours and attendance is a challenge, as residents face such limited personal time outside of work.

Additionally, this study identified that program faculty themselves are facing issues regarding a lack of time to construct and plan various wellness opportunities within their

programs. This barrier of time was prevalent in the studies by Guille et al. (2010) and Ey et al. (2013). Time was found to be a significant barrier among participants in my study as well, confirming with previous studies. While one cannot make more hours in the day, program directors and coordinators need to review the resident workload and create schedules that incorporate resident wellness programs within the work environment.

This study highlights the role of implementing an evaluation of wellness programs. Programs implemented both formal and informal evaluation processes, however, programs did not utilize a formalized evaluation system. Mayo Clinic has created a Physician Wellbeing Index which has been described as an evaluation tool for measuring physician wellbeing (Mayo Clinic, 2017). Additionally, a recent study identified that less than half of the program directors had a formal assessment of wellness and burnout within their resident programs (Wilson et al, 2017). While there are evaluation tools available, participants in this study did not reference the Physician Wellbeing Index, or any other valid evaluation system.

Lastly, the role of social support (or social events) was a key element of this study. As previous research has highlighted, the role of social events is important in enhancing resident wellbeing and combating burnout. Eckleberry-Hunt, Van Dyke, et al., 2009 describe the significance of social support as a key element that protects residents from additional stressors. Additionally, the Balance in Life Program at Stanford University highlights the importance of social events within the program. It is evident through this study and previous research that social support is an integral part of resident wellness.

Recommendations

As attention to wellness programs as a way to combat resident burnout continues to grow, the insights gained from the current study become even more relevant. Through my research I analyzed the current state of wellness program implementation in medical and surgical programs and found promising information that programs are interested in promoting resident wellness. In this section, I highlight four recommendations for program directors and coordinators that emerged from the findings of my research.

Recommendation 1: Create a More Operationalized and Precise Definition of Wellness

The findings from of the current study suggest that program directors and coordinators do not share a common definition of wellness. Although there is literature that proposes a clear definition of wellness, program directors and coordinators reported a lack of correct implementation of the concept, and there was significant variability in the definition. The AMA has described wellness as "multidimensional aspects that in combination lead to optimal levels of health and emotional and social functioning" (AMA, 2018c). Although the AMA has created a definition, other studies have described wellness as behaviors that decrease stress, such as exercise, diet, mind–body, spirituality, social support systems, and sleep (Lebensohn et al., 2013). It is evident that the definition of wellness is broad, thus the medical education community needs to create an operationalized and precise definition of wellness. Therefore, my first recommendation is to create a clear and concise definition of wellness for program directors and coordinators—one that is systemic, across all fields of medical education. With a formal and clear definition, program directors and coordinators will have a stronger foundation to build programs and provide meaningful opportunities for combating resident burnout. It is important to educate leadership on wellness to ensure all residents are receiving equal wellness

opportunities, regardless of program or specialty. Once a clear definition is determined, it is important to implement a process of educating program directors and coordinators on the detailed elements of wellness.

Recommendation 2: Encourage Social Support

The data in the current study underscore the importance of social support—defined here as support from peers, friends, and family—and a sense of community in reducing resident burnout. Residents often are faced with challenging work schedules, which impacts their social support, resulting in a negative social shift during training. Therefore, I recommend that residency programs create wellness opportunities that emphasize social support and building a sense of community, both of which can lead to a sense of belonging. For example, having family members participate in resident social activities, or providing opportunities to residents to have days off with family, will be a valuable asset to resident well-being. Likewise, having a sense of community is important for medical residents. Team-building programs, peer-mentorship opportunities, open-door policies, and faculty check-ins can all help to create a wellness culture. Also, open communication with residents regarding wellness could be a valuable aspect in building such a culture.

This recommendation of encouraging social support is comparable to the Stanford Wellness Program. As mentioned earlier, in chapter 2, the Stanford General Surgery department implemented a Balance in Life Program. This program details the importance of social support in resident wellness (Stanford Medicine, Division of General Surgery, n.d.). It became apparent, through my study and previous literature, that not all programs provide an element of social support, thus I am recommending that program directors and coordinators implement an element of social support for resident wellness.

Recommendation 3: Establish a New Culture

Program directors and coordinators should create a culture that positively highlights resident wellbeing and essentially builds a new culture around the importance of resident wellness. This recommendation is in direct response to the finding that a lack of resident and faculty buy-in can be a barrier to successful implementation of wellness programming. This finding suggests that both residents and faculty may not value wellness, thus creating a negative perception of wellness programs. In fact, some program leaders reported that some medical faculty associate the need for wellness programs as sign of weakness—something to be "fixed."

If program directors work to establish a new culture around wellness, then residents can begin to value their wellness and ultimately enhance their training experience. Creating a sense of culture takes significant time and needs to be gradually implemented. It is important for programs to implement protected time, that is carved out specifically for implementing wellness programs. By providing protected time for wellness opportunities, residents can begin to recognize the importance of wellness and utilize the wellness programs without compromising their educational experience.

One avenue of creating a sense of culture can be modeled after the STEPS Forward program, which provides online modules to assist in educating leaders through continuing medical education credits. The AMA STEPS Forward Program is used to promote engagement and understanding of burnout and wellness (AMA, 2018d). These programs are directed towards practicing physicians (i.e. faculty) and can serve as avenues to provide education to program directors and coordinators on the elements of wellness. The AMA STEPS Forward Program can be utilized as an exceptional resource for faculty and serve as a tool to develop faculty perceptions on resident wellness and create a culture centered around resident wellness.

Recommendation 4: Formalize Evaluation of Resident Wellness

Establishing a systematic evaluation process for evaluating the wellness needs of residents will provide program leaders with greater insight. This element will need to be linked into the development of a wellness culture, because program directors and coordinators will need to have rapport with the residents to receive true feedback on program development. Through this study it became apparent that program directors are utilizing informal methods to identify if wellness programs are effective. For example, one program described utilizing the attendance of a wellness activity as an evaluative method. Perhaps the attendance was low at this event because the resident work responsibilities to complete. I am recommending that programs Implement a formalized system to allow program directors and coordinators to thoroughly evaluate the wellness opportunities and identify the residents needs more specifically. A standardized evaluation system could help wellness programs to evolve. Dyrbye et al. (2014) highlighted the value of utilizing the Maslach Burnout Inventory as a tool to evaluate burnout, and the Mayo Clinic has implemented a Physician Well-Being Index. These could serve as tools for programs to utilize (MedEd Web Solutions, 2018).

Previous researchers have evaluated evaluation processes among residency programs. Wilson et al (2017) surveyed pediatric residency program directors over the course of three months. The researchers identified that less than half of the program directors had a formal assessment of wellness and burnout within their resident programs. Many of the programs "planned" to have implement evaluations in the future. This study highlights the importance of evaluation and implementation for effective wellness programs.

In sum, the current findings suggest that establishing an evaluation system and a culture centered around wellness is important in combating resident burnout. This must begin with a

deeper understanding of all that wellness encompasses as well as the formal processes that ensure that established programming is having the desired effects. With real feedback from those that wellness programming is designed to help, these initiatives can improve the lives of the residents and, in turn, of their patients.

Limitations

This study did have a certain set of limitations. First and foremost, there was low response rate for the survey. Although the 47 program leaders who responded provided valuable information regarding wellness initiatives in medical and surgical residency programs, the small sample size limited the statistical analyses that could be performed. As such, the statistics reported in Chapter 4 are descriptive in nature. Fortunately, the survey data allowed me to identify areas of data regarding wellness programs that lacked necessary depth, and this helped shape my interview questions to obtain those missing details.

Another limitation to the study was that information obtained through interviews was qualitative in nature, which may decrease the generalizability of the findings to programs all across the country. Nevertheless, the interviews provided a voice to many of the medical and surgical residency programs in the country—programs that are actively involved in the implementation of wellness programs. The findings highlight program director and coordinator experiences and shed light on the challenges and barriers they face in implementing wellness programs.

Finally, this study is subject to sample bias. Those who responded to surveys and volunteered to participate in the interviews may be among those most invested in resident wellness. Put another way, the individuals who participated in my study may have had a pre-

existing interest in resident wellness. Thus, the findings may not be a full representation of the current state of directors and coordinators in all residency programs.

Further Research

This study evaluated resident wellness programs as viewed by program directors and coordinators. Future research should evaluate resident wellness from the resident perspective. By including residents in a similar research study, a deeper level of understanding of wellness programs designed to address their levels of burnout would be obtained. It would be interesting to evaluate the same questions with residents and compare their responses to those of program directors and coordinators. I anticipate that future research investigating wellness programs at both the resident and leadership levels would yield meaningful findings for combating burnout.

Additionally, this study was limited to two specialties—internal medicine and general surgery. Expanding the sample would give greater insight into wellness opportunities. More precisely, it would be interesting to evaluate similar programs across all medical specialties. Future work can be conducted in collaboration with medical associations to administer surveys to residents across all specialties and to identify similarities and differences among specialties. Previous studies have evaluated wellness programs within specific specialties, but expanding this to all specialties may elicit additional findings. It is possible, for example, that specialty plays a significant role in the implementation or utilization of wellness opportunities.

Lastly, it would be interesting to evaluate these programs in a longitudinal study over the course of several years and several cohorts of residents. The literature has described the intern year as a challenging year in resident education—one with increasing levels of burnout (Sen et al, 2013; Block et al, 2013). Perhaps evaluating residents longitudinally over the course of

several years of training would provide additional information on how to best create wellness programs for residents at various points in their medical training.

A Final Thought

Through the findings of this study, I hope that the medical education community more clearly recognizes the significance of wellness programs as an avenue for combating burnout. In my professional experience, I have observed residents experiencing burnout as medical students, residents, and attending physicians. I initially wanted to research burnout as perceived by residents; over time, however, my study transitioned to wellness opportunities as viewed by program directors and coordinators. I feel fortunate for this shift, because I believe my findings contribute valuable information and tools for program directors and coordinators seeking to implement and improve wellness opportunities. By focusing my study in this area, I believe I have provided the field of medical education with a deeper understanding of wellness programs that can positively impact resident education.

As medical education gradually evolves to incorporate wellness opportunities, residents may be able to receive the support needed. Physicians endure long work hours and rigorous work responsibilities, and they require an incredible level of patience. Far too often, residents experience suicidal ideation or other burnout characteristics, and it is important for the medical education community to step up and create programs that combat these issues. I hope that physicians in training can have the support to provide quality patient care and positively impact our medical field.

APPENDIX A:

UNITS OF OBSERVATION CHART

Research Question	Data Collection	Units of Observation
R1: In the context of resident burnout, what do residency program directors and coordinators identify as a wellness program?	Surveys and interviews of program directors and coordinators in internal medicine and general surgery specialties.	**1.** Mindfulness **2.** Yoga **3.** Group retreats **4.** Support groups **5.** Peer mentorship **6.** Wellness training **7.** Wellness committees
R2: What types of programs are being implemented to promote wellness among medical residents?	Surveys and interviews of program directors and coordinators with specific questions pertaining to implementation of wellness programs.	**1.** Mediation **2.** Obtaining new skills **3.** Training **4.** Peer mentorship **5.** Developing a culture within residency **6.** Yoga **7.** Team building **8.** Psychological services
R3: What factors do residency program directors and coordinators report are important for successful implementation of wellness programs? a. What evidence do program directors and coordinators use to ground their judgments on the effectiveness of wellness programs? b. What do program directors and coordinators report are the most significant barriers to implementing wellness programs and why?	Correlation designs.	**1.** Training modules **2.** Wellness committees **3.** Academic resources **4.** Faculty support **5.** Differences between specialties (surgery vs. internal medicine) **6.** Evaluate specific programs to identify key differences/similarities **7.** Compare program details **8.** Analyze program implementation **9.** Surgery residents differ from non-surgery residents **10.** No one-size-fits-all wellness program

APPENDIX B:

LOGIC MODEL

Program: Resident Wellness Programs

Situation: *Wellness programs are an avenue to decrease medical resident burnout. However, wellness programs are not meeting the needs of medical residents.*

Inputs	Outputs		Outcomes/Impact	
	Activities	***Participation***	***Short-Term***	***Long-Term***
• Faculty support • Coordinator implementation • Resident education • Financial support to create learning module • Computer access • Student time	• Meditation programs • Education workshops for residents • Training for program directors • Mentorship • Mindfulness • Social support	• Implementing as a requirement • Continuity throughout the year • Resident buy-in • Faculty-led discussions	• Provide knowledge and learning regarding wellness • Resident performance will increase • Residents will be more self-aware • Residents will be more immersed in their responsibilities	• Resident contribution to the larger medical community, including effective skills for residency • Increase in resident knowledge • Fewer medical errors • Decrease in depression and anxiety rates • Residents will tend to patient care needs

Assumptions	**External Factors**
• Residents need wellness programs because of burnout • Residents will utilize wellness services and programs	• Time and availability • Professional influences

APPENDIX C:

SURVEY

We are interested in your feedback regarding your experience with residents at your institution. We recognize that resident burnout is a prominent issue in medical education, and we are interested in learning about wellness programs as an avenue to combat burnout. Please complete the survey to the best of your ability.

Please read the informed consent below (link below). Please contact me with any questions prior to completing the survey. If you do not have questions, please check the box indicating you Agree to complete the survey, which will confirm you have had all your questions answered, you understand the purpose of this survey, and you are completing it voluntarily.

To view informed consent, please click the following link: {link will be provided}

1. **Please select if you Agree or Do Not Agree to participate in this study.**

   ☐ Yes, I agree

   ☐ No, I Do NOT Agree

2. **What is your role in medical education?**
   - Program Director
   - Associate Program Director
   - Other _____

1. **How many years have you been in your current role?**
   - Less than one year
   - 1-2 years
   - 3-5 years
   - 6-10 years
   - 10+ years

2. **What is the clinical specialty for your program?**
   - Surgery
   - Medicine
   - Prefer not to answer

3. **As a program director/associate program director, have you experienced resident issues associated with resident burnout in the past year?**

   Yes No

4. **Do you have curriculum or activities that address resident burnout in your program?**

   Yes No

5. **If yes, accessible to all residents?**

   Yes No

6. **Does your program offer resident programs focused on wellness?**
   Yes No

7. **If yes, are the wellness programs accessible to all residents?**
   Yes No

8. **For the following questions, please indicate <u>how important</u> you believe each element is <u>in reducing resident burnout</u>.**

	Very important	**Somewhat important**	**Somewhat unimportant**	**Unimportant**
Sense of community among residents				
Wellness training seminars				
Peer mentorship programs				
Yoga classes				
Teaching meditation techniques				
Exercise programs				
Social events among residents				
Resident-led discussions				
Faculty support				
Chief resident support				
Peer support				

Family support				
Psychological services				
Other, please specify:				

9. **For residents experiencing burnout, how likely are you (as a program director) to offer wellness resources?**

   - Very Likely
   - Likely
   - Somewhat Likely
   - Unlikely

10. **In your program, what percentage of residents in your program do you think experience burnout each year?**

    - 95% or more
    - 75% - 94%
    - 50% - 74%
    - 25% - 49%
    - 6% - 24%
    - 5% or less

11. **In your program, what percentage of residents utilize wellness programs directed at decreasing burnout?**

    - 95% or more
    - 75% - 94%
    - 50% - 74%
    - 25% - 49%
    - 6% - 24%
    - 5% or less

12. **If your program provides wellness opportunities, please indicate what factors contributed to the implementation of wellness programs? Check all that apply.**

	Check all that apply
Departmental funding	
Faculty buy in	

Resident buy in	
Coordinator buy in	
Providing Protected Time (residents)	
Time (program directors)	
Mental Health advocacy	
Resident lead initiatives	
Program requirements from Graduate Medical Education office	
Training for program directors	
ACGME resources	
Other, please specify:	

13. Do residents with burnout issues contact program directors for wellness resources?

Yes No

14. How many times in the past month have you needed to provide additional support to residents to decrease burnout?

- 0
- 1 - 2
- 3 - 6
- 7 - 10
- 11 +

15. Fill in: What do you find to be the most beneficial resource for residents experiencing burnout? (and Why?)

_____

_____

_____

16. Do residents in your clinical specialty area, require particular wellness services?

Yes No I don't know

17. If yes, please explain.

_____
_____
_____

18. Regarding the wellness programs offered, do you believe program directors and associate program directors need more training?

Yes No

19. Do you believe there are differences among specialties in regard to offering wellness programs?

Yes No

20. Who is responsible for wellness programs in medical education at this hospital?

a. Program directors
b. Hospital institutions
c. Program coordinators
d. ACMGE and/or accreditation councils
e. Individual residents' responsibility to seek services
f. Other:_____

21. Please indicate whether you agree with the following statement: I believe that wellness programs are an avenue to elicit support to residents and enhance resident education.

- Strongly agree
- Agree
- Disagree
- Strongly disagree

22. Regarding the concept of wellness in medical education, to what extent do you feel that there is a <u>clear definition</u> of "wellness programs" in medical education?

- To a great extent
- Somewhat
- Very little
- Not at all

23. For residents experiencing burnout, what sources of help do they seek? Please rank order them beginning with 1 as being the most frequent.

____ Faculty mentorship
____ Psychological Services
____ Time off
____ Peer support
____ Exercise programs
____ Family support
____ Program director support

____ Wellness programs
____ Social events

24. Are you interested in being interviewed for further research in this area?

- Yes, I am interested
- No, I am not interested

APPENDIX D:

INTERVIEW QUESTIONS

Thank you so much for speaking with me today. I am conducting research on resident wellness programs within medical education, specifically wellness programs. In particular, I am interested in learning about wellness programs within your residency program. This study is for my dissertation for my doctoral degree at UCLA. My study is guided by Dr. Christie. Please know that this study is completely voluntary and your identity will be kept confidential.

If you agree to participate in this study, please know that you may refuse to answer any question that you do not want to answer. The interview will take about 30 minutes. Your interview will be audio recorded for transcription purposes and to assist with data analysis. Your information will be deidentified and your interview will be assigned a code to ensure confidentiality. Do you agree to allow audio recording of this interview?

1. What is your role in medical education?
2. As a program director (or coordinator), please describe your experience with residents experiencing burnout.
3. Recognizing that residents experience burnout, what kinds of programs does your program implement that promotes resident wellness?
4. Can you describe what "wellness programs" means in your program?
5. On a broader scale (beyond what your program may offer), what elements of wellness programs do you believe are the most beneficial to residents? Why?
6. What, if any, wellness opportunities are provided to your residents?
7. Why do you believe these programs promote wellness/combat burnout?
8. How, if at all, does your program identify what programs are most valuable?
9. How, if at all, does your program assess wellness program? x
10. Please describe the barriers you encounter with implementing your wellness programs. Please explain x
11. As a program director/coordinator, what tools do you wish you had to help resident burnout?
12. Is wellness worth the time, effort, and the money?
13. Do you know of a model wellness program? If so, where and why? How is it similar and/or how is it different? Why not?
14. What is the one thing that you think I should know, that we might not have already covered?

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