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Compassion Fatigue, the Wellness of Care Providers, and the Quality of Patient Care

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Compassion Fatigue, the Wellness of Care Providers, and the Quality of Patient Care

By

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Title: Compassion Fatigue, the Wellness of Care Providers, and the Quality of Patient Care

Research Question: What are the effects of compassion fatigue on the quality of care and the wellness of the Emergency Department care providers? How can more effective assessment of compassion fatigue yield interventions that promote provider well-being and improve the quality of care?

Abstract

Working with traumatized patients in the Emergency Department can compromise the well-being of the provider and the quality of patient care. Compassion Fatigue and burnout are two terms used to describe provider inability to cope with stress at work. However, compassion fatigue is a term specific to care providers and describes the emotional and psychological effects consequent to caring for traumatized patients, which leads to a reduced capacity to show compassionate care. Burnout, on the other hand, is consequent to cumulative stress and lack of accomplishment at work. This thesis seeks to focus on compassion fatigue and considers burnout to be a conceptual link that ties the root causes behind compassion fatigue to the work environment. I write this literature review with three aims in mind: The first is to attain a better understanding of the factors contributing to compassion fatigue, its symptoms, and the consequences of experiencing of compassion fatigue with emphasis on the need for more research. The second goal is to assess the most common instruments used to measure compassion fatigue in the work place. Lastly, my thesis concludes with interventions that had

positive results or are potentially useful to mitigating the negative aspects of the work environment among providers. I found that all the instruments used to measure CF are only screening tools, and that more research is needed to understand the contributing factors as well as the role of certain personal characteristics in making a provider more or less prone to compassion fatigue.

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Introduction/ Background

Conceptualizing Compassion Fatigue (CF) in Relation to Burnout (BO)

A nurse by the name of Joinson first reported the presence of compassion fatigue (CF) and identified it as "a unique form of burn out" that describes the stress she observed in some Emergency Department (ED)[1] nurses (Abendroth, 2011; Boyle, 2011; Joinson, 1992; Lombardo & Eyre, 2011). Joinson (1992) was the first person to term CF; however, her use of the term burnout to define CF came after much research was done on in the work place. Burnout (BO) is defined as "a cumulative stress and mental exhaustion from the demands of daily life caused by a depletion of the ability to cope with the environment" (Bellolio et al., 2014).While Joinson considered CF a form of BO, she kept the concepts of CF and BO separate by emphasizing that CF is specific to the context of care giving. Likewise, Bellolio et al. (2014) distinguished CF from BO, by emphasizing that CF is an emotional consequence of helping patients which makes a caregiver less likely to provide compassionate care in the future. Researchers distinguish BO from CF by maintaining that BO is gradual and leads to decreased empathy and withdrawal, whereas conversely, CF is acute and sudden in the onset of its symptoms and leads to more involvement of the care provider in work. For example, if a provider leaves work due to BO, the colleagues who stay will pick up the load. However, if a provider feels obliged to provide his/her services, this provider may continue to put effort even at the cost of compromising his/her own well-being in a manner that renders him/her unable to continue working—which is indicative of CF. Thus, both BO and CF are closely associated with high work turnover and even understaffing

[1] After having referred the Joinson's work (1992), there was no mention of the Emergency department context although she did focus on caregivers. Information about Joinson's work being in and ED context comes mainly from works of Boyles (2011) and Lombardo & Eyre (2011).

(Boyle, 2011; Collins & Long, 2003; Hooper, Craig, Janvrin, Wetsel, Reimels, 2010; Lombardo & Eyre, 2011; Sabo, 2006).

Consequently, CF is not conceptually isolated from BO, although distinct from it and unique to the context of care giving. Bellolio et al. (2014) views the onset of CF as "associated with psychic exhaustion, depersonalization, and reduced personal accomplishment" (Bellolio et al., 2014)—which are the same elements associated with BO as will be shown later. Also, as Valent explains; CF and BO are both the result of "maladaptive survival strategies" of medical staff (as paraphrased by Sabo, 2011). This implies that in order to surmount their tribulation, providers (physicians, nurses, or residents) working to help traumatized individuals must employ techniques that sustain them in this stressful environment. However, when these strategies prove inadequate, both excelling at work and the capacity for providing a high quality of care are compromised. Also, according to Lombardo and Eyre (2011), it has been argued that BO can make a person more prone to CF. Therefore, BO may serve as an indicator of CF (mainly because it is related to the work-environment rather than it be a natural consequence to the caring role of providers like CF is). This helps support the argument this paper will make for work environment changes in order to eliminate CF prevalence among providers (Sabo, 2006; Sabo, 2011). Also, this thesis will demonstrate that some scholars who seek to measure CF may consider quantifying BO at work to make the connection between stress at the workplace and the increased likelihood of providers to experience CF. Then, given that knowledge, these scholars may suggest proper interventions that can be made in order to improve patient care. Nevertheless, the relationship between BO and CF still needs to be better understood based on research and evidence (Sabo, 2006; Sabo, 2011).

When it comes to understanding CF, some scholars have agreed with Joinson (1992) and Bellolio et al. (2014) that CF is at least inherent to caring professions; some have even suggested that it may serve the positive consequence of compelling a healthcare provider to put forth more effort (Nimmo & Huggard, 2013). However, Figley, who has pioneered quantitative research on CF in 1995 doesn't view CF as at all useful to the individuals experiencing it. His definition described CF as:

> "Natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other−the stress resulting from helping or wanting to help, a traumatized or suffering person" (Figley 1995, p7 as cited in Sabo, 2011; and in Collins, 2003)

Figley's definition goes beyond Joinson's description of CF by efficiently summarizing the aspects of CF that make it specific to the environment of caregivers through linking the term CF to "helping or wanting to help" a distressed person. In fact, Figley uses the term CF because it has a more positive connotation than the common and more pathologized term "Secondary Traumatic Stress" (STS) –which is another name for the same phenomenon referred to as CF. It is worth noting that this definition contributed to the rising of an instrument to quantify and screen for CF among social workers. Later, Bellolio and his colleagues used a modified version of Figley's early instrument in his studies of medical residents, and redefined CF in a similar way to Figley with emphasis on how CF can lead "to a reduced capacity and interest in being empathetic towards future suffering" (Bellolio et al., 2014). For this reason, Bellolio et al.'s

conceptualization of CF goes a step further than Figley by applying his notion of how CF affects future care giving situation to the context of medical care.

Who is at Risk for CF?

Professions that fit the definition of a 'first responder' are at an especially high risk for CF (Bellolio et al., 2014; Boyle, 2011; Lombardo & Eyre, 2011). While many professions fall under the category of 'first responder' such as police officers, fire fighters, social workers (Bellolio et al., 2014), and paramedics (Boyle, 2011), I choose to focus on physicians, residents, and nurses in emergency medicine (EM) because it best fits the health care interests of this thesis. ED care providers are first responders with a mission of alleviating the suffering of the traumatized. These providers are in the forefront of helping the distressed and encounter many stressors during mass casualty events, including the effects of media attention (Collins & Long, 2003), the frustration of the patients, and the passionate concerns of the families (Boyle, 2011) fearing for their loved ones. Moreover, ED care providers are classified by Boyle (2011) as sustained responders required by their profession to develop a therapeutic relationship of empathy with their patients. This prolonged provider exposure to the distress of their patients (Boyle, 2011) may lead to pre-occupation with patients' burdens, providing the pre-requisite for CF. Substantial research has focused efforts on BO at work, and on quantifying CF among ED care providers like physicians, nurses, and residents[2].

[2]An old study by Goldberg et al. (1996) used the Maslach Burnout Inventory (MBI) to assess degree of BO among Emergency physicians (EPs). This study found that about 60% of EPs reported mid-to-high BO. The three aspects of BO that MBI assessed (emotional exhaustion, depersonalization, and decreased personal achievement) were found to be tied to negative perceptions of self, and unhealthy life style. Another study, led by Shanafelt et al. (2012), is US

Why should emergency medicine be any different than other specialties? Dr. Kaplan, president of the American College of Emergency Physicians (ACEP) who has given annual talks on BO since the 1990s, acknowledges that providers are scheduled for very long work hours and that the ED is a place where violence is often encountered. Also, providers have to simultaneously treat many patients who are quite ill (Quinn, 2014). These factors, he explained, distinguish the ED from any other work environment. In one of his talks he said:

"I think emergency physicians, in particular, experience secondary traumatic stress many times a day… If a fire man or a police officer is involved in an incident where somebody

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study published in the Archives of Internal medicine and conducted on behalf of Mayo clinic and the American Medical Association (AMA), has yielded similar results. In 2012, Shanafelt and his colleagues administered the MBI to 7,288 physicians and 45.8% reported at least one BO symptom. Compared to all other specialties, EM had the highest prevalence of BO at 65% and they came at the very top of the list compared to other specialties (Shanafelt et al., 2012; Stahl, 2013; Gazelle, Liebschutz & Riess, 2014). Dybrye et al. (2014) conducted a study to compare prevalence of BO among medical students, residents/fellows, and early career physicians (12,291 respondents) with the general population who have all taken the MBI. Compared to the general population, medical students, residents, and early-career physicians were all more likely to report increased levels of BO, although residents were especially more likely to score high on the MBI. Another study administered the Secondary Traumatic Stress Scale (STSS) to 67 nurses from three different hospitals. The STSS subscales are based on PTSD symptoms which are: Intrusion, avoidance, and arousal. The study found that 85% of the nurses reported at least one symptom, and 33% reported all. However, a study that contradicted the research above administered a validated electronic questionnaire called the Professional Quality of Life (ProQOL) scale to a total of 255 residents, from EM as well as other specialties. They hypothesized that EM residents will have higher risk for CF but the results showed no significant difference between levels of CF among emergency residents versus other specialties. However, residents in any specialty who worked more than 80 hours per week, worked over night, and/or had children were at a higher risk for CF (Bellolio et al., 2014). In another similar empirical research, the same questionnaire instrument (ProQOL) was administered to nurses from various specialties and the researchers found that 86% of the emergency nurses scored within the moderate to high risk for CF; yet still the scores were not statistically different from nurses in other specialties. The study concluded that "nurses, regardless of specialty are at risk" (Hooper et al., 2010)

dies, they get told…to take some time off in order to emotionally work through the experience so that when they come back to work they are prepared to deal with the present moment. For us in emergency medicine, there is no time off—it's onto the next patient" (as quoted in Quinn, 2014)

My interest in pursuing CF, in the context of the ED, has its roots in a previous opportunity when I shadowed a physician in the Oregon Health & Sciences University (OHSU) ED and developed an appreciation on how overwhelming the work can get for physicians and nurses. As a pre-medical student majoring in General Sciences, my project allows me to go beyond the outsider appreciation and fascination with a career in medicine. It provides me with deeper insight into the challenges physicians and nurses encounter in their work environment. Therefore, I write this literature review with three aims in mind: The first is to attain a better understanding of the factors contributing to CF, discuss the symptoms and the consequences of experiencing CF, and emphasize the need for more research. The second goal is to assess the effectiveness of the most common instruments used to measure CF in the work place. This will be done by demonstrating how the developers of each instruments redefined terms like CF and BO in designing the constructs which make up the measurement instruments. The final aim is to describe interventions that had positive results or are potentially useful to mitigating the negative aspects of the work environment among physicians and nurses.

Methods

I will conduct a literature review by finding the needed or the most recent journal articles on CF through available search engines. These include Google Scholar (Accessed

through the PSU library site), Pubmed, Medline, Health Reference Center Academic, and Web of Science. Search words to be employed are: **Compassion Fatigue**, **burnout**, **secondary traumatic stress**, **emergency medicine**, **nurses**, **physicians**, **emergency medicine residents**, **quantifying compassion fatigue**, **assessing compassion fatigue**, **measuring compassion fatigue**, **consequences of compassion fatigue**, and **Maslach Burnout Inventory**. While the main focus is CF, I will discuss aspects of work that lead to BO in order to indicate that the causes for CF are also rooted in aspects about work that can be changed. In addition, throughout this review, I will discuss the experiences of each of physicians, residents, and nurses with CF interchangeably because they share the common working conditions of the ED. Moreover, researchers studied CF and BO among each of the physician, residents, and nursing professions in essentially the same manner although their roles and the rules by which they operate are different.

The Literature Review

Aim 1: Factors that contribute to CF, and the symptoms and consequences of CF which affect providers in the ED

Factors that Contribute to CF

Determining the contributing factors to CF, as described by scholars and researchers, could yield effective CF measurement instruments and possibly lead to successful interventions. Below is a review of the different scholarly perspectives on some of the most commonly discussed factors that give rise to CF, which include: the personality profile of the care provider, the work environment, and aspects of the recent US healthcare system reform.

Personality

Background experience such as: ethnicity (Rosenstein, 2013; Sabo, 2006), years of experience at work (Sabo, 2006), personal background (Rosenstein, 2013), education (Nimmo & Huggard, 2013), and the nature of the provider's work (Nimmo & Huggard, 2013) inform provider interpretations and decisions when confronted by a stressful situation at work. Sabo (2006) notes that years of experience matter as more experienced professionals are less likely to experience CF stemming from trauma at work. Nevertheless, perhaps education is the strongest factor because an educated provider is more aware of new treatment advances. Education makes providers more capable and well-prepared for handling stressful situations effectively. For this reason, interventions often include an educational element to them in order to raise providers' awareness of the changes in their field (Boyle, 2011; Rosenstein, 2013).

Among other personal factors that have been proposed as contributing to CF are: age (Nimmo & Huggard, 2013; Rosenstein, 2013), gender (Rosenstein, 2013; Nimmo & Huggard, 2013), and even personal ideology (Rosenstein, 2013). Such factors can make the healthcare professionals more prone to absorbing the distress of others and experiencing CF (Boyle, 2011) by influencing their perception of outside stressors. For instance, physicians and nurses may possess the personal factors that make them perceive their role as one of self-sacrifice and self-neglect (Sabo, 2011). Consequently, self-nurturing behaviors like exercising, eating healthy, and spending time with family, become low on their priorities list (Rosenstein, 2013; Sabo, 2011).

Other health professionals may strive to tie their personal identity to their work (Boyle, 2011). Those health professionals may not perceive being inexperienced early in their careers and have unrealistic expectations of the medical treatment they provide. Therefore, if the

patient health outcome is not a desirable one, such caregivers may fall into despair and experience feelings of inadequacy, which are precursors to BO (Sabo, 2011) and eventually CF.

Regardless of the personal factors, providers with distorted perceptions of their personalities and their work environment's stressors may find themselves locked between a cycle of increasing CF and their attempts to overcome it by putting forth even more effort, which only leads to higher CF levels. The end result is a decline in their well-being and in their capacity to provide adequate and compassionate care.

Work Environment

In addition to ED physicians, whom we have discussed as encountering challenges in their work, nurses also have aspects about their work that make them prone to experiencing both BO and CF. In professional environments characterized by exposure to one trauma after another, some nurses may be more prone to holding onto the pain of their patients and internalizing it (Boyle, 2011), and consequently experiencing CF. Moreover, Sabo (2011) also emphasized that nurses may experience BO when working under conditions where nurse-to-patient ratios are low, where there is a lack of support from managers, and where there is low job autonomy. She summarized other work environment issues associated with BO like: "work overload, lack of control, lack of reward, lack of community, lack of fairness, and value conflicts" (Sabo, 2011).

Nurses may face additional challenges when the managers, at the administrative level, are undergoing pressures associated with hiring and retaining skilled nurses to deal with understaffing. Consequently, working nurses may respond by striving to fulfill unrealistic

expectations and compensate for the shortage through increased efforts. Their working conditions worsen when managers neglect to address on site work problems, do not consult with the rest of the team on ways to improve, or remain unconnected to HR without seeking further support for the staff (Hooper et al., 2010).

Thus, a nurse caught up between professional challenges like meeting a manager's expectations while addressing the needs of an overload of distressed patients will likely suffer a lack of professional achievement. Consequently, psychological conditions like burnout, dissatisfaction with work, and CF become likely outcomes.

US Healthcare System Changes

A third CF contributing factor cited by scholars has its roots at the US healthcare reform. Although the US spends "over 15% of the gross national product" (Rosenstein, 2013) on health care, patients do not get the medical care that matches the expenditures. In fact, as Rosenstein (2013) states, US healthcare does not rank in the top twenty nations and these nations spend less money on their medical care. The health care reform was legislated in 2010 to optimize patient care while attempting to reduce the health care expenditures. One of the ways the reform accomplishes this is through encouraging clinicians to make smart and cost effective medical decisions (Dr. Lockwood, personal communication, 2015). In other words, clinicians are held accountable to the health outcome of their patients through either penalizing or rewarding them financially (Rosenstein, 2013). Thus, physicians are under pressure to deliver a "more appropriate, effective, safe, and high quality care" (Rosenstein, 2013). Likewise, nurses are under the same pressure due to "governmental requests for healthcare accountability",

which focuses on patient outcome in relation to nursing and how nursing is structured at the organizational level (Sabo, 2006).

Moreover, hospital financial gain and reputation rely on the performance of physicians and nurses in providing high quality, low cost, and patient centered care. The Centers for Medicare and Medicaid (CMS) make data from a survey called Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) available on a government hospital compare site, and use the same survey in reimbursing hospitals based on the quality of care. The survey evaluates the hospital as a whole based on the quality of care as indicated by patient satisfaction data regarding the responsiveness of the staff to his/her medical needs, and the effectiveness of the communication concerning treatment options or plans (Hooper et al., 2010). Eventually, by end of the year 2015, the EDCAHPS will be another survey to be required by the CMS as an indicator of quality of care based on patient satisfaction. These surveys have the positive consequence of improving communication between the physician and the patient (Fenton & Fenton, 2014; Scaletta, 2014). A concern, however, is the increased pressure on nurses and physicians to balance quality of care, patient satisfaction, and efficiency (Hooper et al., 2010). Also, it has not been empirically proven that patient satisfaction is a strong indicator of the quality of care, given it only measures perception or opinion and much of the technical/medical aspects of care are "invisible to the patient" (Fenton & Fenton, 2014).

In addition, although the reform has made changes in the right direction, some problems remain. As many individuals continue to be uninsured, they flock to the ED for primary care. This leads to ED overcrowding, long waits to be seen and treated, raises in the

cost of care, and placing an overload on hospital scarce resources. According to American Hospital Association, the number of ED facilities has been declining since the 1980s, and utilization of EDs has been on the rise even when the increase in the US population is controlled for (AHA Chart book). The overcrowding has the dire consequence of making the ED unavailable to individuals who need it in a life-or-death situation (Dr. Lockwood, personal communication, 2015). Moreover, emergency providers find themselves under the pressure to "improve the turnaround time", and quickly make decisions concerning patient hospital admission or discharge in order to make a bed available in a timely manner for another waiting patient (Hooper et al., 2010).

Nevertheless, it is worth noting that medical errors due to provider fatigue may be surpassed by miscommunication in the transfer of information between the different departments working together to provide the needed care (Lowenstein, 2003). In other words, problems in the transfer of information contribute more to medical errors than does CF. Unfortunately, this is a problem not addressed by the reform and Lowenstein (2003) suggests it is due to the assumption that the burden of raising the quality of care is solely dependent on individual change at the provider level rather than a larger change in how the system is run (Lowenstein, 2003). By placing the burden of change on a subgroup of care providers, i.e. the physicians and nurses, they become prone to BO and CF which does not help the quality of care and may add to medical errors.

The majority of the above information about the factors contributing to CF is based on inferences, observations, and speculations by scholars interested in understanding underlying

factors that lead to CF. Unfortunately, there is lack of research to establish a cause and effect relationship between CF and the above mentioned factors. This is because most of the research focused on screening for CF rather than empirically drawing associations between CF and the above mentioned factors. Therefore, more research is needed to better understand factors that contribute to CF and the mechanism by which it develops in some individuals and not others.

Symptoms of CF

Scholars have agreed that CF is a clinical phenomenon that affects all aspects of life including the behavioral/social, emotional, intellectual/cognitive, physical, and even spiritual. Below are symptoms of CF that scholars, mostly from the area of nursing, have reported to have been observed. The table below was compiled from multiple sources to demonstrate the variability of symptoms indicating CF and to show the consensus among the scholars with regards to each of the symptoms. Note that this table may not be comprehensive, but rather provides an outline of warning signs that should aid in screening for CF.

Table 1: The different aspects of the symptoms of Compassion fatigue as compiled from multiple scholarly sources.

Behavioral /Social changes	Emotional	Intellectual/ Cognitive Changes	Physical	Spiritual
Avoiding patients (Lombardo & Eyre, 2011) Decline in ability to feel empathy (Abendroth, 2011; Lombardo & Eyre, 2011) Frequent use of sick days (Sabo, 2011; Lombardo & Eyre, 2011)	Lack of joy (Lombardo & Eyre, 2011) Mood swings (Lombardo & Eyre, 2011) Irritability (Abendroth, 2011; Boyle, 2011; Lombardo & Eyre, 2011)	Lack of focus (Lombardo & Eyre, 2011) Poor judgment (Sabo, 2011; Boyle,2011) Change in belief systems (Bellolio et al., 2014) Dreams and	Headaches (Boyle, 2011; Lombardo & Eyre, 2011) Gastrointestinal (Boyle, 2011; Lombardo & Eyre, 2011) Diarrhea, constipation, upset stomach, Muscle Tension	Decrease in discernment Disinterest in introspection Poor judgment r/t existential issues (Boyle, 2011)

Preoccupation with their patients (Abendroth, 2011) Detachment (Bellolio et al., 2014; Boyle, 2011) Feelings of alienation and isolation Inability to share in or alleviate suffering Indifference Unresponsiveness & Uninvolvment with family and friends (Boyle, 2011)	Oversensitivity (Lombardo & Eyre, 2011) Anxiety (Lombardo & Eyre, 2011; Abendroth,2011) Substance abuse (Hooper et al., 2010; Lombardo & Eyre, 2011) Anger (Abendroth, 2011; Boyle, 2011; Lombardo & Eyre, 2011) Depression (Boyle, 2011; Lombardo & Eyre, 2011) Sadness, and Grief (Bellolio et al., 2014) Memory issues (Lombardo & Eyre, 2011) Loss of objectivity (Lombardo & Eyre, 2011; Sabo, 2011) Arousal (Abendroth, 2011) Futility Apathy Breakdown Blame Lessened Enthusiasm Restlessness (Boyle, 2011)	flashbacks (Collins Long, 2003) Boredom Disorderliness Lack of attention to detail (Boyle, 2011) Ineffective (Boyle, 2011)	Lombardo & Eyre, 2011) Sleep disturbances: insomnia (Boyle,2011; Collins & Long, 2003; Lombardo & Eyre, 2011) Too much sleep Fatigue (Collins & Long, 2003; Lombardo & Eyre, 2011) Cardiac Symptoms: Chest pain/pressure, tachycardia, palpitation (Sabo, 2011; Lombardo & Eyre, 2011) Loss of energy, endurance, strength Proneness to accidents Weariness/fatigue (Boyle, 2011)	

The symptoms above can be viewed as the result of the accumulation of stress at work (Boyle, 2011). While any of these symptoms can indicate CF in a provider, it is more typical that more than one symptom has to be found before CF is identified (Lombardo & Eyre, 2011). According to Figley, it should be no surprise that CF symptoms have much in common with other traumatic disorders like PTSD. In fact, the only distinction between CF and PTSD symptoms is that CF is a consequence to experiencing trauma second hand as a health professional who works with traumatized patients ,whereas PTSD results from the direct exposure to trauma (Abendroth, 2011; Collins & Long, 2003). Nevertheless, it is important to note that CF is a "preventable and a treatable clinical phenomenon" (Abendroth, 2011); and later in this thesis, I will explore interventions and recommendations from scholars. Also, there is no guarantee that all those working with the traumatized will experience CF (Collins & Long, 2003; Sabo, 2006). More research is still needed, as not all the symptoms have been empirically measured to determine the level of CF; nor is there a formal way of diagnosis found in the scholarly articles used to construct the symptoms table presented above.

Consequences of CF

Although the factors and symptoms leading up to CF vary greatly in their range and may lack specificity, scholars have a general consensus on the consequences.

CF has some serious consequences on both the individual and the general professional productivity. A health care provider with CF is likely to show absenteeism, be tardy to work, avoid patient interaction, and may permanently lose the ability to show compassion to future traumatized patients (Bellolio et al., 2014; Boyle, 2011). As the exposure to trauma through patient interaction continues to be severe, a provider's view of the world as a safe and

meaningful place begins to fade into the feelings of vulnerability and lack of acceptance of one's own self. As a person with CF continues to work in an unchanged work environment, there becomes an increase in the likelihood for misdiagnosis, poor professional judgment, ineffective treatment plans, and even abuse of patients (Bride et al., 2007). Due to a sense of lack of accomplishment over a long time, this provider or nurse might also consider work force dropout (Nimmo & Huggard, 2013). All this may eventually contribute to understaffing (Hooper et al., 2010; Rosenstein, 2013) and the quality of patient care suffers severely as the rest of the team picks up the load a person suffering from CF was no longer able to handle.

Because the consequences are detrimental to care as we know it, it is crucial that CF is detected and combated at the earliest stages using effective instruments. A health professional experiencing CF deserves to receive the needed support and not be penalized for a side effect of working with traumatized patients like CF. This support is important to reigniting this provider's passion for his/her own work and to improving the healthcare quality.

Aim 2: Assessing the most common instruments used to measure CF

Professional Quality of Life Scale (ProQoL)

This instrument is a modified version of an earlier instrument developed by Figley and Stamm (1996) called Compassion Fatigue Self-Test (CFST) which contained only two constructs: CF and BO (Bride et al.; 2007); and thus, it measured CF while taking BO into account. The CFST screened for "direct or indirect exposure to trauma" (Nimmo & Huggard, 2013).This early version had some psychometric problems that could have possibly resulted from how the score ranges were derived, and was criticized for focusing too much on the negative aspects of CF.

Indeed, some scholars contended that emergency providers continue the work they do, notwithstanding the trauma they experience second hand through their patients, because caring for the traumatized does provide internal satisfaction and fulfillment (Collins & Long, 2003; Bride et al., 2007; Nimmo & Huggard, 2013). Thus, another construct was added called *compassion satisfaction* and the newer version of the instrument was renamed as Professional Quality of Life (ProQoL) Scale.

The ProQoL scale is made of three constructs and each has an operationalized definition. The first construct is *BO* which is "feelings of hopelessness and difficulties in dealing with work" (Bride et al., 2007) due to lack of achievement and decreased stamina. The second construct is *CF,* which is also known as secondary traumatic stress (STS), and it is based on the original definition provided by Figley in the introduction. However, the CF construct is also influenced by the CF definition described by Stamm as "the natural, predictable, treatable, and preventable unwanted consequence of working with suffering people" (Bride et al., 2007). The final construct is *Compassion Satisfaction* which is the "pleasure derived" from helping patients and being successful at it. In a way, the *compassion satisfaction* construct serves to "balance out" the negative aspects of the other two previous constructs (Bride et al., 2007; Hooper et al., 2010).

Each construct is composed of 10 items that participants self-report about and rate based on how often they have experienced each item over the past 30 days. The rate of '0' indicates that the item was 'never' experienced, while '5' indicates that the item was experienced 'very often'. Scores in each of the constructs are not to be combined and are

analyzed based on both a quartile method and cutoff scores as follows: A score above 17 in CF/ STS and a score above 27 in BO should raise a concern for the participant. Finally, a score below 33 on compassion satisfaction indicates dissatisfaction with one's own work (Bellolio, 2014; Bride et al., 2007; Hooper, 2010). The ProQOL instrument is highly validated in many studies, and is one of the most commonly used in research work to investigate CF among care providers (Bride et al., 2007; Hooper et al., 2010).

Secondary Traumatic Stress Scale (STSS)

Secondary Traumatic stress (STS) is described by Nimmo & Huggard (2013) as a stress response that is driven by a provider's fear for his/her own safety; it is a natural consequence of working with and witnessing patients who experienced a trauma first hand. It manifests as an emotional distress due to re-experiencing the trauma of the patient. The term STS has been used by researchers to refer to the same phenomenon as CF because both terms refer to second-hand trauma exposure (Dominguez-Gomez & Rutledge, 2009). However, STS focuses on the psychological aspect of CF. It builds on Figley's definition of CF/STS as "nearly identical to PTSD including symptoms such as intrusive imagery, avoidance, hyper-arousal, distressing emotions, cognitive changes, and functional impairment" (Bride et al., 2007). The STSS was developed by Bride, Hatcher, and Humble (2004) to measure three symptoms of STS that may manifest in individuals working with victims of trauma. Indeed, the operationalization of STS derives its three constructs from *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) (2000) categories under the PTSD definition and symptoms where Category A is experiencing the trauma first hand. Category B is the basis for the first construct which is termed *intrusion,* and it involves thinking about the trauma encountered at work

unintentionally and being preoccupied with it to the degree of insomnia or even dreaming. The second construct is termed *avoidance,* and it is driven from category C where a clinician becomes likely to avoid patients. Category D gave rise to the third construct which is termed *arousal,* and it is the stress response associated with the trauma experienced second hand at work (Bride et al., 2007; Dominguez-Gomez & Rutledge, 2009; Nimmo & Huggard, 2013; Sabo, 2006).

The STSS measures STS symptoms based on the constructs mentioned above. It is composed of 17 items divided among each of the subscales as follows: intrusion (five items), avoidance (seven items), and arousal (five items). In each item, the participant is asked to rate on a scale of 1-5 scale how often each of the items is experienced over the past week where '1' is never, and '5' is very often. The scores in each subscale can be summed up for a total score; then, percentile ranges or a cut off score can be used to analyze results. A score above the 50^{th} percentile (or a score of 28) indicates mild, moderate, high, and severe STS, respectively as the score increases. A second way to analyze the score data is through screening for individuals who experience CF at the moderate to severe levels and who have a score above the cutoff of 38. Nevertheless, researchers do advise against using this scale as substitute for a clinical interview done by a professional because it is only a "screening tool" (Bride et al., 2007; Dominguez-Gomez & Rutledge, 2009).

Moreover, it is important to note that STSS was developed specifically for social workers interacting with traumatized clients (Dominguez-Gomez & Rutledge, 2009). Therefore, while the STSS has 'demonstrated construct validity' (Bride et al., 2007), it is not specific to providers

working in the ED context and this may place some limitations on the generalizability of the results obtained using this scale because different professions experience STS in different manners (Sabo, 2006); but that doesn't imply that STS is not experienced by emergency providers multiple times a day (Quinn, 2014). Also, Sabo's work brings up a concern regarding the instrument's inability to distinguish STS from PTSD or even depression given the much overlap between the symptoms of these psychological conditions (Sabo, 2006). This lack of specificity can increase the likelihood of inaccuracies in research using STSS if that concern is not adjusted for empirically.

Maslach Burnout Inventory (MBI)

MBI is an important tool for assessing BO in any profession seeking to solve human problems, because BO can help make a connection between the work environment and CF. The instrument is composed of 25 items which are distributed over four subscales that compromise the definition of BO as presented by the authors Maslach and Jackson (1981). The first subscale is *emotional exhaustion* which occurs with the inability to focus on the needs of the client due to feelings of emotional depletion. It is feelings of burden when one gets up to work, feelings of putting too much effort at work, and being drained by end of the day. Nine items are used to assess emotional exhaustion and a high score in this subscale is directly related to BO. The second is *depersonalization* subscale, which assesses the negative feelings consequent to the inability to perceive the client as a human in need of assistance and instead perceive him as a burden. A high score on the five items quantifying depersonalization indicates high levels of negative feelings, like lack of empathy towards the clients. *Personal accomplishment* is the third subscale and it quantifies the dissatisfaction of professionals with their own job performance.

This subscale contains eight items where a lower score indicates low satisfaction with one's own job performance. Finally, the fourth subscale is comprised of *involvement outside of work* and a high score in the three items under this subscale indicates high levels of involvement. Participants taking the MBI report the frequency of experiencing each item on a scale of 1 to 6 where '1' is a few times a year or less and '6' being every day. Then, participants evaluate the intensity of their experience of these feelings on a scale of 1 to 7 where '1' is very mild and barely noticeable and '7' is major and very strong feelings. Respondents have the option to check 'never' if the item is describing a feeling that they never experienced (Maslach & Jackson, 1981).

The overall internal consistency for this instrument, as estimated by Cronbach's coefficient alpha, is high for both frequency and intensity of the items, and the test-retest reliability supports the reliability of the instrument. However, consistency is higher within the subscales, which speaks to how not all the subscales would contribute to BO in the same manner across different individuals. Convergent validity was tested for by finding correlations between the results of MBI and the following ratings: an independent behavioral rating by someone who knows the individual who is getting assessed, work environment characteristics that are associated with burnout, and outcomes that were hypothesized to be consequent to BO. All these variables correlated well with the MBI measurements. Correlation between frequency and intensity is low across the items, which indicates that the relationship between how often one experiences BO and how intensely it is experienced is not strong. Nevertheless, assessing the items two dimensionally can help point to new patterns between work circumstances and personality (Maslach& Jackson, 1981). Generally, the MBI assesses BO in

professions with the focus on helping people with problems. Thus, this instrument doesn't specifically address the uniqueness of the professional context in which an ED physician experiences BO. Yet, it has been commonly utilized in many medical contexts due to its versatility.

Table 2: Reporting on the reliability and the total internal consistency for each subscale within each instrument used to measure CF. Information below is compiled from the following sources: Bride et al. 2007; Dominguez-Gomez, & Rutledge, 2009; Hooper et al., 2010; Maslach & Jackson, 1981.

Method of measurement	Subscales (# of items)	Reliability		Overall Internal consistency	
Professional Quality of Life Scale (ProQoL)	*Compassion Satisfaction (10)* *Burn out (10)* *CF/STS (10)*	0.87 0.72 0.80		0.93	0.91
Secondary Traumatic Stress Scale (STSS)	*Intrusion (5)* *Avoidance (7)* *Arousal (5)*	0.80 0.87 0.83		0.93	
Maslach Burnout Inventory (MBI)		Frequency	Intensity	Frequency	Intensity
	Emotional exhaustion (9)	0.89	0.86	0.83	0.84
	Depersonalization (5)	0.77	0.72		
	Personal Accomplishment (8)	0.74	0.74		
	Involvement (3)	0.59	0.57		

More on the Instruments

Generally, all the instruments introduced are for purpose of screening for CF and none of them address all aspects or measure all symptoms of CF. Hospital administration staff who are seeking to improve the productivity of the work place, and who are concerned about provider wellness will need to be specific about what aspect of CF they want to measure when selecting the appropriate tool (Bride et al., 2007). The ProQoL Scale assesses experience of CF based on satisfaction with work, feelings resulting from work, and the psychological distress that results from working with traumatized patients. STSS is more specific to the psychological aspect of CF as it relates to PTSD symptoms. The last instrument, the MBI, is specific to BO feelings and disturbed emotions due to the provider's work environment. Ironically, according to Sabo, none of the instruments explored in this paper was specifically developed for the health care context although CF was first identified in the health care context of the ED. Also, the instruments do not explain how or why CF develops in certain individuals and not the others given that many work under the same stressful conditions of the ED. Instruments that can detect change over time in CF are still needed in order to conduct longitudinal studies on CF and understand how it develops (Hooper et al., 2010; Sabo, 2006). Moreover, Sabo suggests that future instruments to be developed should assess the positive qualities (like resiliency) in protecting a provider from CF, and allow a provider or a nurse to excel under pressure. Likewise, the role of negative qualities like self-sacrificing behavior and negligence of self-nurturing behavior still needs to be better understood (Sabo, 2011). Gaining knowledge on qualities that predispose or prevent CF will pave the way for effective interventions that help give back enthusiasm, energy, and compassion to providers.

Aim 3: Interventions and best practices in combating CF

Scholars have made many recommendations for providers, which include: work-life balance, provider well-being, and adopting healthy habits. Keeping up with technological advances in the medical field and having a true commitment to a life-time of education are important to ensuring constant competency and satisfaction with performance at a work (Collins & Long, 2002). Some researchers have acknowledged the medical institutions that have taken active steps to promote the well-being of their providers and to raise the quality of care in innovative ways. When it comes to interventions, it is difficult to separate interventions that target CF from those that target BO. Since both are forms of occupational stress, taking steps to make the work environment more satisfactory can effectively reduce both CF and BO. In the following section, I explore interventions that have high potential for being effective in combating CF and BO with the goal of promoting well-being of providers, and improving the quality of care from within.

General Recommendations for Providers at the ED

As Dr. Kaplan, president of the American College of Emergency Physicians (ACEP), said: "Resilience is about keeping ourselves healthy, effectively dealing with the stressful environment that we are in everyday when we work clinically, and being proactive about our wellness by paying attention to better work-life balance" (as cited in Quinn, 2014). Therefore, early intervention is very important and the professionals involved in helping providers should be familiar with the stressors of the ED environment (Rosenstein, 2013). For example, the ACEP has a well-being committee that has been around for thirty years providing peer-to-peer counseling (Stahl, 2013). Also, although coaching for physicians is still an emerging field, it uses

psychological techniques identified by Maslach as helpful to overcoming BO, which include: developing an internal locus of control, using positive psychology, and achieving alignment of provider personal values with professional duties. The goals of these coaching services are to raise self-awareness through introspection, and help restore a sense of accomplishment and control over life circumstances by encouraging engagement and reviving creative pursuits (Gazelle et al., 2014).

Also, Dr. Balentine, who is an emergency physician, found yoga useful to dealing with his stresses at the ED. Yoga made him aware of his own posture at work and enabled him sit in a healthier way. It also improved his flexibility and helped him breathe properly even under the work's stressors. He believes that even being able to feel the weight of the white coat can be a form of yoga useful in becoming more relaxed. This suggests that yoga can be a simple solution that is beneficial to ED providers. After all, a calmer provider can provide better care (Balentine & Galin, 2015).

Recommendations for ED Nurses

Nurses are required by their profession to maintain an ongoing therapeutic relationship with their patient that may be more involved than that of a physician. Sometimes, under intense circumstances involving patient trauma, a nurse is predisposed to CF. Boyle (2011) emphasizes the importance of learning to set boundaries on relationships with patients and their families, and gaining wisdom in handling ethical dilemmas. Therefore, education offered through nurse residency programs provides tips on interacting with patients and families under stressful situations (Boyle, 2011; Lombardo & Eyre, 2011). Also, a nursing school in the Midwestern part of the US incorporates into their nursing residency program skills on handling

challenges that may arise at work, and teaches nurses how to develop and maintain autonomy (Lombardo & Eyre, 2011). Moreover, involvement in nursing support groups and nursing professional associations has been shown to decrease the prevalence of CF among nurses because it allows them to discuss challenges, as well as learn from and support each other. It can also be a way to 'vent feelings without fear' and in a professional manner (Hooper et al., 2010).

Finally, hospitals with an Employee Assistance Program (EAP) can provide counseling on taking the right steps toward making their work experience more satisfactory and rewarding. Counseling through the EAP can assist nurses in formulating an action plan that involves changes in shift assignment, taking time off, or even limiting work hours. EAP can also offer classes on maintaining work-life balance through eating right, exercising, spending time with family, seeking assistance with family problems, meditation, and even journaling (Boyle, 2011; Lombardo & Eyre, 2011).

Emergency Medicine Residents Intervention: Did the 80hr restriction work?

The Accreditation Council for Graduate Medical Education (ACGME) made the decision to restrict resident hours to 80 hrs/wk in response to reported medical errors by fatigued and sleep deprived residents (Lowenstein, 2003).Therefore, this may well be an intervention with the most impact on work place issues like BO and CF. The 80 hrs/wk restriction was first implemented in New York after Libby Zion died due to a medical error made by a resident who was left to make medical decisions unsupervised (Solomon, 2013). In July of 2003, the ACGME decided to include all residency programs with all their specialties under the 80hrs/wk restriction. Also, it prohibited residents from having a continuous work duty for more than 24

hours. In 2009, The Institute of Medicine (IOM) conducted a study on human wakefulness and task performance (in aviation and truck driving) and found that 17 hours of wakefulness equated to 50mg/dL of blood alcohol and 24 hours of wakefulness equated to 100 mg/dL of blood alcohol which is well above the legal limit. The IOM called the ACGME to implement further restrictions on resident work hours and the ACGME responded with another restriction in 2011 (Solomon, 2013). This restriction is specific to first year residents because some studies reported that first year residents, also known as interns, are the most affected by sleep deprivation (Ault, 2010). Thus, interns' shifts were restricted to 16 hours and they were prohibited from moonlighting (Ault, 2010; House & Mutnick, 2014; Stader, 2010).

The decision caused much division among experts in emergency medicine training. Some emergency specialists felt that the decision was "misguided" because decreasing shift hours on interns shifts the burden to other upper level residents who will have the stress of compensating by seeing the patients which the interns would have seen (Stader, 2010). Also, a "shift mentality" is viewed by many as contradictory to the duty of a physician to serve patients, but leaders in emergency medicine acknowledge, nevertheless, that workforce trends are definitely heading towards shifts (Ault, 2010). Another criticism is the concern about how a shorter shift would lead to more hand-offs, and would raise the chances of medical error or compromise patient safety. Moreover, many are concerned that residents under the restriction will not get to see as many patients as the earlier residents traditionally have; and therefore, those residents will not achieve mastery by the end of their training (House & Mutnick, 2014; Schulte, 2015). On the other hand, supporters of the ACGME decision argue that well-rested residents make fewer mistakes and serve the patients well (Schulte, 2015). They even point to

the fact that the expectations from resident have not changed as they are expected to see more patients in less hours (which negates the effect of implementing a restriction); and for this reason, they call for restricting work quantity as well. In addition, some view hand-offs as opportunities for residents to connect together and learn from each other, and in a way, it rejuvenates the energy in care giving. The supporters for ACGME restriction emphasize that much has changed in health care and patient complexity; therefore, it is important to spend quality time in training rather than mere long hours (Solomon, 2013; Lowenstein, 2003). Perhaps a more moderate opinion is that from Lowenstein (2003) which suggests limiting the number of patients seen rather than limit the number of hours to allow for more teaching opportunities and to help those considering a career in academic medicine pursue their dreams. Evidently, there is a need to agree upon how to optimize patient care and safety, while providing residents with quality training and at the same time not neglect their well-being.

To settle the divisions, a current study is being conducted called Comparative Effectiveness of Models Optimizing Patient Safety and Resident Education (iCOMPARE). Participating hospitals have the ACGME's permission to temporarily lift the 80 hrs/wk restriction off the interns for the study's purposes. Participating hospitals will be randomized into two groups; where one group expects residents to work under current restrictions, and the other expects them to work 28 consecutive hours with only four hours of protected sleep. Then, those two groups will be followed for a year before switching them (cross-over design) and following them for another year. Although results are expected to be published in a couple of years, it will be very useful to empirically assess the effectiveness of the resident duty hour restriction as an intervention to reduce BO from the work place (House & Mutnick, 2014).

Free Standing Emergency Centers

Free Standing Emergency Centers (FECs) are satellite facilities operating under larger health institutions but at the same time privately owned by the emergency physicians that work there. These became official in 2014 and research done has shown them to be helpful to improving "job satisfaction and preventing BO". They also alleviate crowding, and provide more training sites for ED residents. FECs are common in states like Texas, Colorado, Rode Island, and Delaware (Ybarra & Dayton, 2015).

Resident/Faculty Wellness at OHSU

The House Officers' Association (HOA) at OHSU conducted a wellness survey (November 2009- January 2010) and found that 51% of OHSU's residents/fellows are not utilizing the care resources to maintain their own well-being, and 90% of that population reported having to delay seeking care/treatment due to their inability to leave work. For this reason, the HOA proposed some solutions to improve access to care for residents/fellows by providing them a list of clinics in OHSU or off-campus where they can access family medicine, internal medicine, pediatrics, or OB/GYN. Residents are also allowed four and a half hours per year to be utilized for seeking preventative/non-urgent care for self or child (OHSU Policy, 2010).

While OHSU values striving for excellence at all times, its Resident/ Faculty Wellness Center offers a self-assessment scale of perfectionism called Multidimensional Perfectionism (by Hewitt & Flett) to detect tendencies toward maladaptive perfectionism. The same program also provides self-help handouts on how to effectively combat maladaptive perfectionism and decrease stress at work, thereby providing an avenue for alleviating BO and making CF less likely to be experienced. Moreover, the Resident/Faculty Wellness program recognizes the

need of residents to receive support in times when overwhelmed by personal or professional demands; therefore, the program provides free and confidential coaching and counseling. Other resources that this program provides include: access to self-help groups around Portland, and even sleep and relaxation apps that use homogenized sounds to reduce background noise and aid in sleep.

A Stanford Intervention

The ED at Stanford implemented a "time banking" program to help emergency medicine faculty maintain a work-life balance. In this program, they can earn credits from doing tasks like: mentoring, serving on committees, or even covering for a colleague and these credits can be used on home services like having home-delivered meals to help free time for family. The credits can also be used in work-related tasks like assisting in grant writing. The program had many positive results which include improved work satisfaction (which increased by 60%), more physicians agreeing to cover for others (doubled to 83%), and most importantly no turnover. The program has also been very successful in helping women keep their interest in academic medicine all while balancing work-family demands. Consequently, the amount of women feeling supported by their institution increased from 29% to 57% (Schulte, 2015).

The Culture of Medicine emphasizes perfectionism and hails the ability to excel and be efficient under severe stress, even with much time constraints and high patient volume. This mentality has contributed to physician fear about being viewed as less competent if they were to seek interventions to deal with BO or CF at work or even pursue available resources for self-care (Rosenstein, 2013; Schulte, 2015; Gazelle et al., 2014). By endorsing the "time banking" program, Stanford aims to challenge this "iron-man" culture of medicine and to increase

provider satisfaction (Schulte, 2015). Finally, Rosenstein (2013) emphasizes that physicians should not perceive CF as a blow to their self-esteem and asserts that they are entitled to confidential counseling and support.

Discussion and Conclusion

The conclusions to this literature review come to an agreement with those reached by Lombardo & Eyre (2011), Bellolio et al. (2014), Collins & Long (2003), Dominguez-Gomez & Rutledge (2009), Rosenstein (2003), and other researchers. More research is still needed to better understand the factors which lead to CF symptoms. For example, personal characteristics that make a person more prone to CF or more protected from it should be further investigated. Understanding these factors can add to residency training the needed elements that help providers adopt the characteristics which are protective from CF. Moreover, proactively eliminating or reducing work environment factors that negatively affect provider well-being and their productivity is another benefit of appreciating the role certain work-environment related factors play in CF. When it comes to the instruments, compassion satisfaction, which is measured in ProQoL, is a subscale that negatively correlates with CF and understanding why compassion satisfaction is found in some providers and not others can provide key information as to what aspects need to be changed in work (Bride et al., 2007). Finally, more studies are needed to compare and assess the effectiveness of CF interventions, find whether certain interventions work best in some professional environments and not others, and determine which interventions are most versatile.

CF deprives providers of enjoying their careers in emergency medicine. When provider's emotional, psychological, or even physical well-being is compromised, it becomes difficult to contribute productively; and consequently, they may enjoy less professional success. Raising awareness among the physicians, hospital administration, and even the general public is an important step to de-stigmatizing CF in the professional environment. Also, taking active steps to minimize BO will help re-ignite their professional enthusiasm, which got those providers into medicine; the beautiful field which summons technology and scientific knowledge to the arena of suffering and illnesses. Despite the negatives encountered when working in emergency medicine, rewarding experiences of healing and survival can definitely resonate with the provider who experiences them. Emergency medicine is a mentally stimulating field with the intriguing aspect of diagnosing and providing short-term treatments to insure patients are either stabilized or admitted to the hospital. The more the provider is able to experience the aspects of medicine that lured him/her into the field, the more likely his/her satisfaction with his/her career will be; and in the long run, turnover will become unlikely. But reaching positive results doesn't occur passively, only proactive steps can make positive change possible.

Works Cited

1- Abendroth, M. (2011, January 31). Overview and summary: compassion fatigue (CF): caregivers at risk. *OJIN: The Online Journal of Issues in Nursing*, *16*(1). Doi: 10.3912/OJIN.Vol16No01OS01

2- Ault, A. (2010, November 1). ACGME: reduce resident duty hours in first year.*American College of Emergency Physicians*. Retrieved October 18, 2015, from http://www.acep.org/Content.aspx?id=70629

3- Balentine, B., &Galin, S. (2015, September 14). Benefits of yoga for emergency medicine.*American College for Emergency Physicians*. Retrieved October 14, 2015, from http://www.acepnow.com/article/benefits-of-yoga-for-emergency-physicians/

4- Bellolio, M. F., Cabrera, D., Sadosty, A. T., Hess, E. P., Campbell, R. L., Lohse, C. M., &Sunga, K. L. (2014, May 29). Compassion fatigue is similar in emergency medicine residents compared to other medical and surgical specialties. *Western Journal of Emergency Medicine*, *15*(6), 629-635.Doi: 10.5811/westjem.2014.5.21624

5- Boyle, D. (2011). Countering compassion fatigue: A requisite nursing agenda. *The Online Journal of Issues in Nursing*, *16*(1).Doi: 10.3912/OJIN.Vol16No01Man02

6- Bride, B. E., Radey, M., &Figley, C. R. (2007). Measuring compassion fatigue. *Clinical Social Work Journal*, *35*(3), 155-163.doi:10.1007/s10615-007-0091-7

7- Chart book. (n.d.). American Hospital Association. Retrieved November 17, 2015, from http://www.aha.org/research/reports/tw/chartbook/index.shtml

8- Collins, S., & Long, A. (2003). Too tired to care? The psychological effects of working with trauma. *Journal of psychiatric and mental health nursing*, *10*(1), 17-27. DOI: 10.1046/j.1365-2850.2003.00526.x

9- Dominguez-Gomez, E., & Rutledge, D. N. (2009). Prevalence of secondary traumatic stress among emergency nurses. *Journal of Emergency Nursing*, *35*(3), 199-204.doi:10.1016/j.jen.2008.05.003

10- Dyrbye, L. N., West, C. P., Satele, D., Boone, S., Tan, L., Sloan, J., &Shanafelt, T. D. (2014). Burnout among US medical students, residents, and early career physicians relative to the general US population. *Academic Medicine*, *89*(3), 443-451.

11- Fenton, J. J., & Fenton, A. N. (2014, August, 14) Opinion: Emergency physicians should take cautious approach to incentives that boost patient satisfaction.*ACEP Now: The official Voice of Emergency Medicine*. Retrieved November 19, 2015, from:http://www.acepnow.com/article/opinion-emergency-physicians-take-cautious-approach-incentives-boost-patient-satisfaction/?singlepage=1

12- Figley, C. (1995). Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized. Brunner/ Mazel: New York.

13- Gazelle, G., Liebschutz, J. M., &Riess, H. (2015, December, 20). Physician Burnout: Coaching a Way Out. *Journal of general internal medicine*, *30*(4), 508-513. Doi:10.1007/s11606-014-3144-y

14- Hooper, C., Craig, J., Janvrin, D. R., Wetsel, M. A., &Reimels, E. (2010, May, 18). Compassion satisfaction, burnout, and compassion fatigue among emergency nurses compared with nurses in other selected inpatient specialties. *Journal of Emergency Nursing*, *36*(5), 420-427.doi:10.1016/j.jen.2009.11.027

15- House, H., &Mutnich, R. (2014, May 28). Duty hour requirements to be subjected to scientific evidence (Finally) - *ACEP Now: The Official Voice of Emergency Medicine*. Retrieved October 18, 2015, from http://www.acepnow.com/article/duty-hour-requirements-subjected-scientific-evidence-finally/

16- Huggard, P., & Unit, G. (2013). A systematic review of the measurement of compassion fatigue, vicarious trauma, and secondary traumatic stress in physicians. *Australasian Journal of Disaster and Trauma Studies*, *2013*, 1. Retrieved from: http://trauma.massey.ac.nz/issues/2013-1/AJDTS_2013-1_Nimmo.pdf
17- Joinson, C. (1992). Coping with compassion fatigue. *Nursing*, *22*(4), 116-118.
18- Lombardo, B., & Eyre, C. (2011). Compassion fatigue: A nurse's primer. *OJIN: The Online Journal of Issues in Nursing*, *16*(1).Doi: 10.1353/pbm.2003.0026
19- Lowenstein, J. (2003). Where have all the giants gone?: Reconciling medical education and the traditions of patient care with limitations on resident work hours. *Perspectives in Biology and Medicine*, *46*(2), 273-282.Doi:10.1353/pbm.2003.0026
20- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of occupational behavior*, *2*(2), 99-113. Retrieved from:http://www.aagbi.org/sites/default/files/Maslach.pdf
21- OHSU Policy for Resident/Fellow. (2010, May 27). Retrieved November 11, 2015, from https://www.ohsu.edu/xd/education/schools/school-of-medicine/gme-cme/gme/resident-fellow-wellness-program/upload/ResidentFellow-Wellness-Policy-2010.pdf
22- Quinn, R. (2014, September 14). Resiliency key to staying healthy, battling physician burnout .*ACEP Now: The Official Voice of Emergency Medicine*. Retrieved October 18, 2015, from http://www.acepnow.com/article/resiliency-key-staying-healthy-battling-physician-burnout/
23- Rosenstein, A. H. (2013). Addressing physician stress, burnout, and compassion fatigue: the time has come. *Israel journal of health policy research*,*2*(1), 32. Retrieved from http://www.biomedcentral.com/content/pdf/2045-4015-2-32.pdf
24- Sabo, B. M. (2006). Compassion fatigue and nursing work: can we accurately capture the consequences of caring work?. *International journal of nursing practice*, *12*(3), 136-142. Retrieved from http://onlinelibrary.wiley.com/store/10.1111/j.1440-172X.2006.00562.x/asset/j.1440-172X.2006.00562.x.pdf?v=1&t=ih6v15x4&s=326726794ca9c4ffa554be015dfd2c8e629012d1
25- Sabo, B. (2011). Reflecting on the concept of compassion fatigue. *Online Journal of Issues in Nursing*, *16*(1).**DOI:** 10.3912/OJIN.Vol16No01Man01
26- Scaletta, T. (2014). News: ED-CAHPS Surveys: Take Steps Now to Ease the Future. *Emergency Medicine News*, *36*(7B).doi: 10.1097/01.EEM.0000452783.98151.b6
27- Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., &Oreskovich, M. R. (2012, October 8). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of internal medicine*, *172*(18), 1377-1385.doi:10.1001/archinternmed.2012.3199
28- Solomon, R. (2013, May 1). Are shorter work hours for medical interns harming patients? - ACEP Now. Retrieved October 18, 2015, from http://www.acepnow.com/article/shorter-work-hours-medical-interns-harming-patients/
29- Stader, D. (2010, November 5). EMRA's 2011 ACGME Duty Hours Summary and Analysis of Potential Impact on Emergency Medicine Residencies. *Emergency Medicine Residents Association*. Retrieved October 18, 2015, from http://www.emra.org/students/advising/_to_sort/emra's-2011-acgme-duty-hours-summary-and-analysis-of-potential-impact-on-emergency-medicine-residencies/
30- Stahl, L. (2013, July 1). Can emergency physician stress lead to bigger problems? - *ACEP Now: The Official Voice of Emergency Medicine*. Retrieved October 18, 2015, from http://www.acepnow.com/article/can-emergency-physician-stress-lead-bigger-problems/