Program Evaluation of a Pilot Occupational Stress Program

Shaína Naomi Escribano-Miranda

Bachelor of Science, The Pennsylvania State University, 2011
Master of Science in Nursing, University of Virginia, 2019

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Richard Westphal, PhD, RN, FAAN, PMHCNS-BC, PMHNP-BC (DNP Advisor)
Olivia Reichenbacker, DNP, RN, PMHNP-BC (Faculty Member)
Alison Okerlund, BSN, RN, CCRN (Practice Mentor)

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Abstract

Occupational stress is detrimental to physical and psychological health. Poor wellbeing of healthcare providers is associated with adverse patient outcomes and decreased provider retention. The purpose of this scholarly project was to conduct a program evaluation of Be Wise, a pilot program intended to impact occupational stress in a unit within an academic medical center. The Centers for Disease Control and Prevention framework for program evaluation in public health guided this scholarly project. Results of this program evaluation yielded various recommendations regarding program goals, data handling, and perceptions of effectiveness among staff. The overarching recommendation was to incorporate regular program evaluation into program processes. Results also revealed system implications related to engagement, turnover, and absenteeism trends that corresponded with program implementation. Ultimately, Be Wise increased awareness of mental wellness and stress in the workplace. The results of this program evaluation may guide current and future implementation of Be Wise.

Keywords: occupational stress, wellbeing, program evaluation

Program Evaluation of a Pilot Occupational Stress Program

Occupational stress is a detrimental, emotional and physical response that occurs when the requirements of an individual's job exceed the abilities, resources, and needs of the individual (National Institute for Occupational Safety and Health [NIOSH], 2014). Stress within the context of healthcare is unique in that repercussions may affect not only the individual but also other healthcare providers, clients, and families. In addition, stress that affects providers can potentially impact healthcare delivery and client health outcomes. The language used to describe injuries occurring due to occupational stress varies. One of the most common sequalae of occupational stress within healthcare is termed burnout.

Background and Significance

Occupational stress may result in a wide range of harmful physical and emotional responses that affect individual wellbeing (NIOSH, 2014). This topic is relevant to practice as poor wellbeing of healthcare providers is associated with poor patient safety outcomes such as medical errors (Hall, Johnson, Watt, Tsipa, & O'Connor, 2016). According to the Institute of Medicine's (IOM) Committee on Quality of Health Care in America (2000), up to 98,000 people per year die as a result of medical errors. Additionally, the IOM report suggests approximately 70 percent of adverse events are preventable and involve incidents such as medications errors, wrong-site surgeries, falls, and pressure ulcers.

In addition to serious adverse events, occupational stress in healthcare may affect nurse retention. Burnout and high workloads are associated with nurses' intention to leave their organization (Moloney, Boxall, Parson, & Cheung, 2018). Poor nurse retention and absenteeism leads to inadequate staffing and subsequent increased workloads. The effect of occupational stress on burnout and staffing is a repeating cycle that propagates itself as people leave the

organization due to factors that continue to worsen because fewer staff remain to tackle the demands of patient care.

Lastly, occupational stress negatively affects the individual. Symptoms of occupational stress injuries are expansive and may include irritability, anxiety, amotivation, sleep disturbances, substance use, and guilt (Nash, Westphal, Watson, & Litz, 2011). Furthermore, if untreated, symptoms may progress to serious illnesses such as depression, anxiety, substance abuse, and Post-Traumatic Stress Disorder (PTSD) (Nash, Westphal, Watson, & Litz, 2011). Occupational stress within healthcare is relevant because providers must undoubtedly be well in order to help their clients become well.

Occupational stress is associated with various sequelae including burnout. Consequences of occupational stress are complicated and affect all individuals and systems differently. Thus, a multifaceted approach is necessary to combat the potential injuries resulting from occupational stress in healthcare.

Problem

Currently, health care systems are seeking ways to mitigate occupational stress through different delivery platforms. Many institutions have created occupational stress reduction programs such as the United States Navy Caregiver Operational Stress Control Program, Mayo Clinic Resilient Mind, and the University of Virginia (UVA) Be Wise. The UVA program, Be Wise, is an evidenced informed pilot program founded on the aforementioned Navy program.

The Be Wise pilot program was implemented among staff in an intensive care unit in 2016. The purpose of this scholarly project was to complete a program evaluation of the Be Wise pilot program.

Review of Literature

A literature review encompassing occupational stress in nursing was conducted. Reviewed articles explored any form of occupational stress, including injury and reduction, experienced by nursing staff. Initially, search terms and inclusion criteria were broad to ensure a complete review of the evidence and are further explained in the subsequent paragraphs.

Literature Review Methodology

Searches were done in Cumulative Index of Nursing and Allied Health Literature (CINAHL), Cochrane Library, Education Resources Information Center (ERIC), PsycNET, and PubMed databases. Search terms included: "occupational stress," "burnout," "burn out," "nurse," and "nursing." Searches were adjusted depending on the particular database and Boolean operators such as "AND" and "OR" were utilized as necessary. In all databases, limiters were set to reflect the following inclusion criteria: literature published in the last ten years, English language, and full text availability. Age was not restricted and articles of all levels of evidence were permitted.

Additionally, secondary methods such as a grey literature search, ancestry search, and expert consultation were employed. The same inclusion criteria described above were utilized when conducting the secondary searches. A grey literature search for one hour utilizing Google resulted in articles for inclusion. The search terms utilized during the grey literature search were identical to those used in the aforementioned database search. An ancestry search, which consisted of scrutinizing reference lists of relevant articles, also resulted in the inclusion of pertinent articles. Lastly, an expert in the field provided additional references for consideration (R. Westphal, personal communication, May, 2019).

Initial search results were cataloged using a reference management software. The initial search resulted in 288 nonduplicate articles that were available in full text, written in English, and published in the last ten years. The titles of the initial 288 articles were screened for relevancy and this process resulted in 97 articles being retained. Any articles in which relevancy was not discernable advanced to the next phase of selection.

Next, abstracts were reviewed and exclusion criteria were applied. Exclusion criteria included: not nursing staff, not hospital setting, not non-pharmacological interventions, and not primary or secondary prevention methods. This process resulted in retention of 33 articles. If an abstract was unavailable for viewing through the reference management software, the article advanced to the next phase. In the next stage, the 33 remaining articles were obtained in full text. At this point, some articles were identified in which while the abstracts were in English, the articles themselves were in other languages and they were then excluded.

The remaining articles were read in full to determine relevance using the same inclusion and exclusion criteria stated above. The most significant exclusion criteria that affected the number of articles for review was the focus on staff other than nursing. There were various articles that focused on physicians, social workers, occupational therapists, students, or other staff whose role varies greatly from that of nursing and unlicensed nursing personnel. Only articles that focused on nursing staff were retained.

All levels of evidence were eligible for inclusion throughout each phase of the selection process described above. However, most articles that reached the final stage were experimental in nature. The final number of sources retained from this search was 11 and the selection process is summarized in the following diagram.

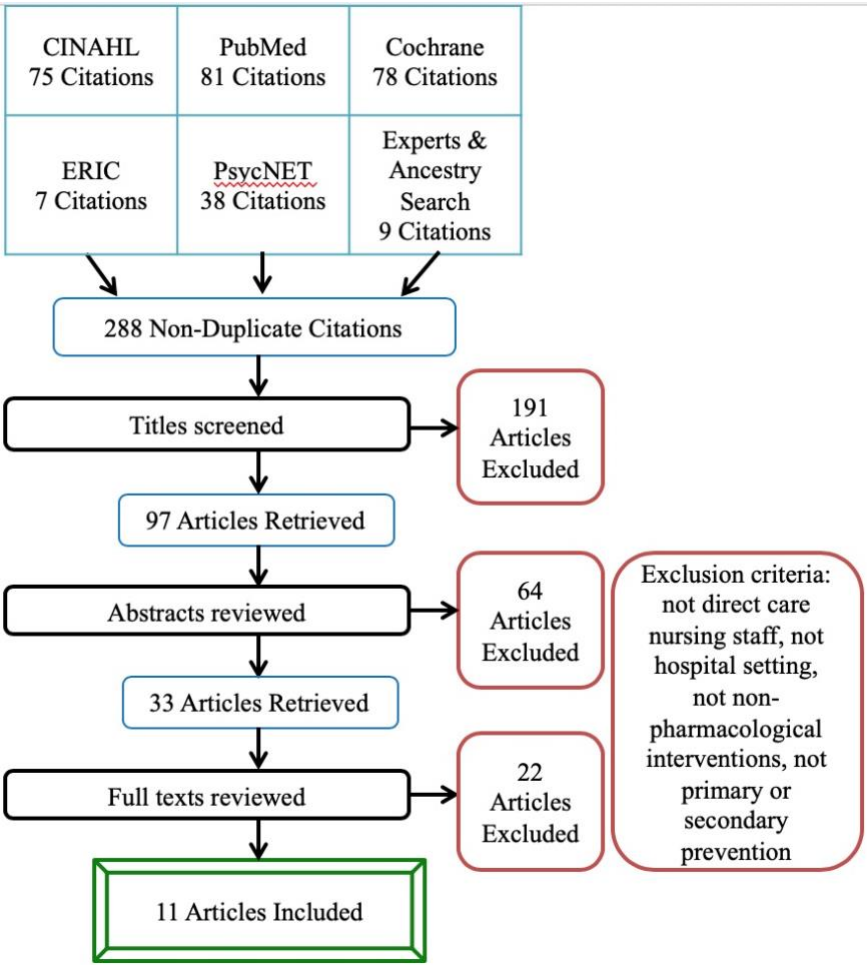

Figure 1. Flowchart of the primary search and initial article selection.

A secondary search augmented the literature review to further explore topics such as the prevalence of occupational stress and sequalae, recognition of burnout as a phenomenon, psychiatric consultation liaison nursing, program evaluation, and expert organizations acknowledgement of burnout. In order to obtain information about prevalence, a grey literature search in Google using the keywords "burnout" and "prevalence" resulted in three sources for inclusion. To discover literature on the recognition of burnout, an expert in the field provided two sources for inclusion (R. Westphal, personal communication, May, 2019). To locate literature on psychiatric consultation, a search in the aforementioned databases as well as Google

scholar using the keyword “psychiatric consultation liaison nursing” resulted in one source for inclusion. To obtain literature on program evaluation, a grey literature search as well as a search in the previously mentioned databases using the keywords “program evaluation” AND “health” OR “health program evaluation” resulted in two sources for inclusion. An expert in the field provided two sources concerning various organizations acknowledgement of burnout (C. Wiencek, personal communication, June 4, 2019). The final number of sources retained in the secondary search was ten.

Literature Review Results

This review (including primary and secondary searches) is based on 21 elements: six randomized controlled trials (RCT), two quasi-experimental studies, five sources representing opinions of national organizations and recognized experts, one integrative review, one systematic review, one source with various case reports, three non-experimental studies (national surveys), and two program evaluation guidelines.

Occupational stress in healthcare providers. In a nationwide survey, PRC Custom Research (2019) found that 15.6% of nurses reported burnout. Of nurses reporting burnout, 50% had no plans to leave their facilities. PRC also explored the association of nurses’ engagement, or commitment to their hospital and work, with burnout. Burnout was highest among unengaged nurses, with 41.9% of unengaged nurses reporting burnout. As engagement increased, burnout decreased as 14.9% of engaged nurses reported burnout and 7.6% of fully engaged nurses reported burnout. The poorest levels of engagement were from ER nurses as 18% were unengaged. Regarding age, the poorest levels of engagement were from millennials as 17.1% were unengaged. 18.4% of nightshift nurses were unengaged while 12.8% of dayshift nurses were unengaged.

Peckham (2015) found that among medical specialties, the rate of burnout in critical care physicians is approximately 53 percent, making critical care one of the most affected healthcare fields. These alarming statistics drove the Critical Care Societies Collaborative (CCSC) to publish a call to action that covers prevalence, risk factors, diagnosis, and sequalae of burnout (Moss, Good, Gozal, Kleinpell, & Sessler, 2016). Additionally, the Critical Care Societies Collaborative urges various entities with the capacity to affect burnout to accomplish certain tasks. While this call to action is towards the critical care community, the message is applicable to all healthcare fields.

Burnout recognized in ICD-10/11. The widespread recognition of burnout as an occupational phenomenon is relatively new. As recently as eight years ago, no officially accepted definition or valid diagnostic tool for burnout existed (Kaschka, Korczak, & Broich, 2011). Nonetheless, recent discoveries suggest burnout is a global phenomenon and various institutions are making the topic a priority. According to the World Health Organization (2019), burnout is in the future Revision of the International Classification of Diseases (ICD-11) releasing in 2022. In the current version, ICD 10, burnout is code Z73.0, a "state of vital exhaustion." This meager definition expands in ICD-11 as burnout is as a syndrome that results from chronic, unmanaged, occupational stress that manifests as the following: extreme lack of energy, negative feelings or detachment from one's occupation, and decreased occupational ability (World Health Organization, 2019).

Cause and effect of occupational stress. According to the National Institute for Occupational Safety and Health (NIOSH) (2014), occupational stress results from both stressful job conditions and individual factors. Conditions that lead to stress may include: task designs, management, interpersonal factors, work roles, career concerns, and environmental conditions.

Thus, occupational stress prevention should include both organizational change and individual stress management. The results of this literature review largely address individual stress management techniques for the reduction of occupational stress.

The "Stress… at work" manual (National Institute for Occupational Safety and Health, 2014) and "Combat and Operational Stress First Aid: Responder Training Manual" (COSFA) (Nash, Westphal, Watson, & Litz, 2011) provide an overview of occupational stress sources, injuries, and theoretical components of prevention in the workplace. The COSFA manual goes beyond theory as it presents a multifaceted approach for the assessment and preclinical care of stress injuries (Nash, Westphal, Watson, & Litz, 2011). This manual, created by the U.S. Navy (USN) and U.S. Marine Corps (USMC), is based on the premise that stress occurs across a continuum and individuals can experience stress without becoming ill.

Stress injuries. According to the *Combat and Operational Stress First Aid: Responder Training Manual*, the four causes of stress injury include: life threat, loss, inner conflict, and wear and tear (Nash, Westphal, Watson, & Litz, 2011). Life threat is a traumatic injury that involves an experience of death that provokes terror or helplessness. Loss is a grief injury that occurs after a loss of people, things, or parts of oneself. Inner conflict is a moral injury caused when one takes part in or observes behaviors that violate one's ethical beliefs. Wear and tear is a fatigue injury where one is overcome due to compounding stressors and inadequate respite. In regards to occupational stress in healthcare providers, burnout reflects the aforementioned wear and tear injury.

The various sources of stress injury described above inflict strain that cause one to fluctuate between wellness and illness. In order to conceptualize this range of health, the USN and USMC developed the stress injury continuum model (United States Marine Corps [USMC]

& United States Navy [USN], 2010). The stress injury continuum model, illustrated in Figure 2, is comprised of four main categories that range from "ready" (green) to "ill" (red). The "ready" category, which correlates with the color green, signifies optimal wellness. Next, the "reacting" category, depicted by the color yellow, indicates mild and fleeting distress often accompanied by behavioral and mood changes such as increased anxiety, sadness, or irritability. Subsequently, the "injured" category, portrayed by the color orange, represents severe or unwavering distress that leaves ongoing symptoms and memories. Lastly, the "ill" category, illustrated by the color red, signifies stress injuries that require professional care.

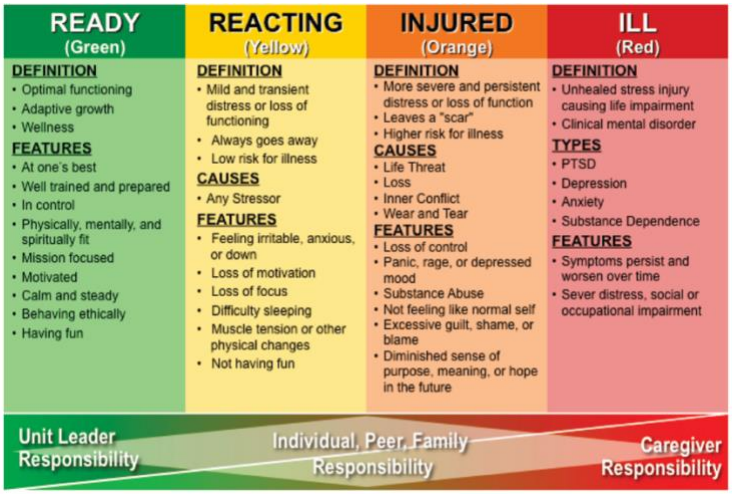

Figure 2. Stress injury continuum model depicting the full range of health from wellness to illness.

The Caregiver Occupational Stress Control (CgOSC) program, based upon the aforementioned stress injury continuum model (USMC & USN, 2010) as well as Combat and Operational Stress First Aid (COSFA), addresses occupational stress among healthcare providers (Nash, Westphal, Watson, & Litz, 2011). The CgOSC program is based on the following principles: timely detection of symptoms, peer support, and referrals to additional services as needed (U. S. Navy Bureau of Medicine and Surgery, 2011).

Complications of occupational stress, such as burnout, are especially prevalent among people in demanding occupations like emergency services personnel and healthcare providers (Moss et al., 2016). However, accounts of burnout are prevalent in all healthcare fields and settings (National Academy of Medicine, 2019a). Nurses and physicians are often most burdened as rates of suicide, depression, emotional exhaustion, and post-traumatic stress disorder are significant within these populations (National Academy of Medicine, 2019a).

Turnover. Burnout is associated with nurses' intention to leave their current facilities (Moloney, Boxall, Parson, & Cheung, 2018). National nurse turnover rates are increasing steadily, the rate increased from 16.8% in 2017 to 17.2% in 2018 (Nursing Solutions Incorporated [NSI], 2019). Of people who left their organizations in 2018, 92.7% were voluntary terminations. Additionally, nurses employed in mental health, telemetry, and emergency care had the highest turnover rates; while nurses in women's health, surgery, pediatrics, and burn care had the lowest rates. While national turnover statistics are rising, it is important to consider the limitations of current data. Figures representing voluntary terminations lack specificity in that they do not differentiate turnover related to professional growth or other personal situations from turnover related to occupational stress injury.

Solutions for occupational stress in healthcare providers.

Call to action. Moss et al. (2016) calls for the following actions on behalf of the Critical Care Societies. Individual healthcare providers are urged to take control of their wellness by remaining vigilant for symptoms of burnout in themselves and others. Unit leaders are advised to promote healthy workplaces and implement burnout management programs. Hospital administrators are tasked with utilizing metrics like job satisfaction and turnover rates as well as create regulations to limit the maximum number of consecutive workdays. Funding agencies and

research institutions are called upon to explore the topic of burnout. Professional organizations and academic institutions are responsible for educating their members on burnout and coping skills. Also, academic institutions should provide career counseling so that students are better equipped for the stress of their future occupation. Client advocacy groups are asked to inform clients and families about burnout as well as teach clients and families to work with healthcare providers and decrease interpersonal triggers associated with burnout. Lastly, policy makers are encouraged to create laws designed to improve client care, decrease costs, and overall reduce burnout.

A year after the Critical Care Societies Collaborative's call to action, the National Academy of Medicine (NAM) created an action collaborative on provider wellbeing and resilience (NAM, 2019a). The collaborative involves over 180 organizations dedicated to decreasing burnout among healthcare providers. Goals of the collaborative include: 1) Increasing awareness of anxiety, burnout, depression, stress, and suicide among healthcare providers, 2) Educating upon barriers to wellness, and 3) Improving client care by enhancing multidisciplinary, evidenced-based interventions for caregiver wellness. One of the major accomplishments of the collaborative is the launch of an online knowledge hub consisting of personal narratives, a conceptual model, and peer reviewed literature on the topic of clinician wellbeing and burnout.

Psychiatric consultation liaison nursing. While occupational stress in healthcare is a rising priority, it is not a novel problem. To address this very subject, administrators at Cedars-Sinai Medical Center (CSMC) employed consultation by a psychiatric mental health APRN (Broom, Shirk, Pehrson, & Peterson, 2008). Starting in 1984, the APRN provided psychiatric mental health expertise for a workplace advocacy program, new graduate orientation and support

program, and the "All About Caring" program. "All About Caring," a program based on the Lant and Associates Spirit of Caregiving program, is a two-day, offsite workshop, that includes reflection and self-care practices. Data collected by CSMC suggests the program, facilitated by the APRN, resulted in positive improvements in individual staff as well as an improved workplace culture and decreased burnout. In various types of organizations, psychiatric consultation liaison nurses provide expertise in arenas such as leadership, evidenced based practice and research, multidisciplinary collaboration, education, and ethics (Broom et al., 2008).

Education interventions. Most experimental studies included in this review involved some sort of educational element; however, only one study included education geared towards client care. Redhead, Bradshaw, Braynion, & Doyle (2011) conducted a psychosocial intervention (PSI) program for mental health nursing staff that consisted primarily of education on cognitive behavioral therapy, coping skills, and working with clients diagnosed with a variety of psychiatric disorders. This study was based on the premise that nursing staff with specialized training provide better client care as well as report lower occupational stress. Nursing staff that took part in the program demonstrated increased knowledge of PSI and psychiatric disorders as well as improved attitudes regarding PSI. Staff in the experiment group also showed significant improvement in one component of the Maslach Burnout Inventory (MBI), depersonalization. There were no significant differences in the remaining components of the MBI, emotional exhaustion and personal achievement.

Cognitive behavioral techniques. Another study that utilized cognitive behavioral approaches, developed by Orly, Rivka, Rivka, & Dorit (2012) resulted in increased personal sense of coherence, decreased perceived stress, decreased fatigue, and increased vigor. Researchers developed a cognitive behavioral course geared towards nursing work as well as

seminars for participants to discuss work related issues. While researchers proved significance regarding some items in the Profile of Mood States scale (stated above), there were no statistically significant differences in tension, depression, anger, or confusion ratings.

Electronic delivery of interventions. A few researchers utilized innovative approaches to deliver their interventions. These novel approaches all included some form of electronic distribution. El Khamali et al. (2018) used simulation in creating a program to decrease job strain. The intervention was a 5-day course consisting of education on nursing theory, as well as role play for clinical decision making, teamwork, task prioritization, and debriefing. Results from the Job Content Questionnaire (JCQ) showed decreased job strain at 6 and 12 months. Results from the Copenhagen Psychosocial Questionnaire (COPSOQ) showed improved job satisfaction and decreased burnout. Researchers also determined decreased absenteeism and turnover among nurses in the experimental group compared to the control group.

Some researchers also used electronic means to deliver interventions to individual participants. Villani et al. (2013) created a self-help stress management training program accessible to participants through mobile phones. Participants watched eight self-help videos twice per week resulting in decreased anxiety as measured by the State Trait Anxiety Inventory as well as decreased denial and improved active coping as measured by the Brief Coping Orientation to Problems Experienced (COPE) questionnaire.

Hersch et al. (2016) also utilized electronic means in delivering a web-based stress management program. The program contained seven educational models that covered identification and management of stress, coping skills, and seeking mental health services. Additionally, nurse managers completed an extra leadership module. Results of the study showed less perceived stress as measured by the Nursing Stress Scale (NSS), but otherwise

showed no statistical significance in terms of symptoms of distress, coping strategies, substance use, and satisfaction.

Face to face delivery of yoga and mindfulness techniques. While some studies included interventions delivered via electronic capabilities, various studies incorporated physical, human interaction. Alexander, Rollins, Walker, Wong, & Pennings (2015) determined that a weekly yoga program increased health promoting behaviors as measured by the Health Promoting Lifestyle Profile II scale as well as improved mindfulness as measured by the Freiburg Mindfulness Inventory. The yoga intervention, delivered by an expert yogi with over 27 years of experience, included mindfulness, deep breathing, meditation, and postural alignment. The experimental group also showed some decreased burnout as measured by the MBI; emotional exhaustion and depersonalization decreased while there were no significant differences in personal achievement.

Another source that focused on mindfulness was Halm's (2017) integrative review consisting of 11 articles exploring the function of mindfulness in promoting self-care among nurses. Mindfulness interventions identified in the review included: meditation, yoga, body scan, self-compassion, and activation of internal kindness. Outcomes identified in the review included: psychological states, physiological states, satisfaction, relaxation, and wellbeing. Halm (2017) concluded that mindfulness exercises are associated with various holistic benefits for nurses.

Feasibility and acceptability. Most studies in this review focused on the evaluation of the effectiveness of stress reduction interventions on stress symptoms. However, one study evaluated the feasibility and acceptability of a resilience program. Mealer et al. (2014) found their three-month intervention was feasible and acceptable as evidenced by 100% attendance and

completion as well as high participant satisfaction scores. The researchers also evaluated secondary outcomes such as symptoms of anxiety, depression, and Post Traumatic Stress Disorder (PTSD). Their results showed significant reductions in depression symptoms but no differences in anxiety. Results also showed both the control and intervention groups had significant reductions in PTSD symptoms.

Outcomes other than physical or psychological stress. All studies in this review explored the physical or psychological manifestations of stress; however, some researchers addressed unique outcomes. For example, Sabancıogullari and Dogan (2015) created a professional identity development program in which participants set goals to attain professional satisfaction. Their program was effective as after completion, participants demonstrated improved professional self-concept as measured by the Professional Self Concept Inventory (PSCI). Participant burnout, measured with the MBI, improved (although not statistically significant) in all three components of burnout: personal accomplishment, emotional exhaustion and depersonalization. Regarding satisfaction, there was no statistical significance.

Measurement tools. Researchers utilized a variety of different tools to measure similar outcomes such as perceived stress, mood, coping skills, health behaviors, burnout and satisfaction. However, one tool, the MBI, surfaced repeatedly throughout the literature. The MBI consists of 22 items that measure professional burnout characterized by emotional exhaustion, depersonalization, and personal achievement (Maslach & Jackson, 1981). Several studies reported a decrease in burnout as measured by the MBI using interventions that involved professional identity, psychosocial interventions, and yoga (Sabancıogullari & Dogan, 2015; Redhead, Bradshaw, Braynion, & Doyle, 2011; Alexander et al., 2015).

Duration of intervention and outcomes. The length of stress reduction interventions found in this review ranged greatly from 5 days to 8 months. El Khamali et al.'s (2018) 5-day simulation course showed significant improvements in job strain up to 12 months after the intervention took place and improvements in job satisfaction, burnout, and absenteeism up to 6 months after the intervention. Redhead, Bradshaw, Braynion, & Doyle's (2011) 8-month PSI program showed improved knowledge, attitudes, and depersonalization immediately following their lengthy intervention.

The sustainability of the outcomes discovered in this review also varied. Two studies, El Khamali et al. (2018) and Sabancıogullari & Dogan (2015) evaluated not only immediate outcomes but also certain outcomes 6-12 months after their interventions. Both studies showed some improved outcomes after initial completion of the intervention. Sabancıogullari & Dogan (2015) showed improved professional self-concept at 6 months and El Khamali et al. (2018) showed decreased job strain at 6 and 12 months. Regarding burnout, Sabancıogullari & Dogan (2015) showed improvement in some components immediately after the intervention; however, these findings were not statistically significant and regressed by six months.

Program evaluation. The final component of the literature review included a focus on methods to evaluate programs like Be Wise. There are limited frameworks for the evaluation of health programs, especially programs that address occupational stress. The Donabedian (1966; 1980) model for quality care is a sequential, three-part approach to evaluate healthcare initiatives. The framework involves evaluating the structure, process, and outcomes of care delivery. Another widely utilized framework is the CDC (1999) framework for program evaluation in public health. The framework provides a detailed, sequential six-part method to evaluate health programs. Summarized findings of this review are located in Appendix A.

Literature Review Discussion

Prevalence of occupational stress in healthcare providers. While the stress experienced by clinicians in healthcare settings is widely recognized, the term occupational stress is not utilized frequently within healthcare literature. Studies related to the topic instead explore the phenomenon of burnout and other measures affected by occupational stress such as nurse engagement, retention, and turnover. Prevalence statistics are lacking, however in a national survey 15.6% of nurses reported burnout (PRC Custom Research, 2019). Statistics regarding nurse engagement may be helpful when exploring occupational stress and burnout because burnout was highest among unengaged nurses (41.9%) and lowest among fully engaged nurses (7.6%) (PRC Custom Research, 2019). Other distinguishing factors associated with poor engagement were age (millennials were most unengaged) and nurses who worked nightshift.

Organizational factors. NIOSH (2014) highlights the roles of both the individual and the organization in occupational stress management. Based on the available literature, the sources presented in this review emphasize interventions that affect individuals in hopes of decreasing occupational stress. The organizations, hospital systems in this case, are employing these programs and targeting individuals and teams within their workforces. Organizational components that affect occupational stress, which individuals have very little control over, include management factors such as staffing, environmental conditions, and design of tasks. The literature presented in this review minimally accounted for organizational components in the interpretation of their results. Future studies should place emphasis on the impact of organizational components, such as staffing, on individual and interpersonal interactions. Future research should ascertain the effect of team and organizational factors on occupational stress reduction in nursing.

Effective interventions. The interventions tested in the experimental studies in this review varied greatly and included: cognitive behavioral skills, coping skills, professional development, teamwork simulation, yoga, self-help videos, and mindfulness techniques. All studies measured the effects of the intervention on psychological outcomes such as perceived stress, burnout, and anxiety. All studies found effectiveness in at least one of their outcomes, however no studies proved statistical significance in all outcomes. Based on the results of this review, more research should explore the effectiveness of interventions, or bundle interventions, for occupational stress and stress injuries.

Adherence to the intervention. The designs of certain studies affected overall outcomes. Using a novel delivery system, Hersch et al. (2016) implemented a web-based stress management program. While this approach had advantages, it also had a significant limitation in that some nurses did not access the web-based program consistently or at all during the intervention period. Thus, this study was subject to compliance bias in which nonadherence by some participants may have affected the overall measurements of the intervention (Polit & Beck, 2012). It is important to consider the limitations such as this that are associated with self-paced or self-accessed interventions.

Outcomes of interest. Of the 19 sources in this review, eight randomized controlled trials and one integrative review explored the effectiveness of stress reduction interventions. Many studies explored attitudes, however only through satisfaction scores. While almost all studies included an educational component, most did not evaluate knowledge. Redhead, Bradshaw, Braynion, & Doyle (2011) evaluated participant knowledge and attitudes of PSIs after their educational program geared to equip nurses with specialty knowledge in order to work with psychiatric clients. This study did assess knowledge and attitudes, however only regarding

psychiatric methods taught in their specific PSI program geared towards psychiatric clients. No studies measured participant knowledge of occupational stress injuries such as burnout in the caregiver. More research should explore the effects of occupational stress reduction programs on participants' knowledge and attitudes of occupational stress injuries and stress reduction.

Length of interventions and duration of outcomes. Halm (2017) conducted an integrative review that explored mindfulness interventions. The interventions included in the integrative review were very similar to those found in this literature review in that most studies were experimental, controlled studies with or without randomization. Halm (2017) posits that perhaps the lack of evidence for long term burnout or satisfaction outcomes is due to the short duration of most interventions discovered in her review. On the contrary, this literature review discovered a wide range of intervention durations from five days to eight months. The evidence obtained in this literature review suggests the lack of long-term outcomes is not solely due to the length of interventions; but in part due to the short duration of outcome measurement and lack of follow up.

Only two studies measured extended outcomes after the completion of the initial intervention. Sabancıogullari & Dogan (2015) and El Khamali et al. (2018) gathered data six to 12 months after their interventions concluded. Sabancıogullari & Dogan (2015) found professional self-concept remained improved at six months after the completion of their 10-week professional development program. However, the researchers found no significant effects on burnout or satisfaction, perhaps suggesting these outcomes require other types of interventions or that effects faded by six months. El Khamali et al. (2018) found decreased job strain at both 6 and 12 months following their 5-day multimodal simulation program. There is no data upon outcomes such as burnout and satisfaction at 12 months.

It is unclear if the effects of the interventions in Sabancıogullari & Dogan (2015) and El Khamali et al. (2018) were initially successful and later faded at six to 12 months or if the interventions simply did not yield any significance. All other studies included in this review simply measured outcomes immediately following the interventions. Thus, more research should explore the sustained effects of interventions on long term burnout and occupational stress outcomes. Based on the various articles in this review, there is not sufficient evidence in the literature to determine the optimal times to measure outcomes.

Level of evidence. While most studies in this literature review are experimental trials exploring the effectiveness of stress reduction interventions, the strength and quality of these studies varies. Two of these experimental trials did not utilize randomization when allocating subjects to either the experimental or control groups (Sabancıogullari & Dogan 2015; Orly, Rivka, Rivka, & Dorit, 2012). Thus, these quasi-experimental studies are considered Level II evidence (Newhouse, Dearholt, Poe, Pugh & White, 2005). Additionally, the lack of randomization in the study by Sabancıogullari & Dogan (2015) resulted in a control group with more stress at baseline. This difference between groups at baseline is an example of how the design and methods of a study can distort the effects of an intervention.

The remaining experimental studies are all randomized controlled trials thus Level I evidence; however, these RCTs fall primarily in the category of C quality in which the studies are of low quality or have major limitations (Newhouse et al., 2005). While most studies employed randomization, despite this tactic in the study by Villani et al. (2013), the experimental group had more stress than the control group at baseline. Other major limitations identified in the majority of the RCTs relate to sampling methods. Of the eight experimental studies included

in this review, all had small samples ranging from 30 to 198 and only two studies (El Khamali et al., 2018; Alexander et al., 2015) conducted power analyses.

Additionally, most studies utilized convenience sampling, putting them at risk for volunteer bias where participants who self-select are innately different from those who do not volunteer (Polit & Beck, 2012). Of note is that the sampling method in the study by Sabancıogullari & Dogan (2015) consisted of choosing participants with the poorest baseline scores for inclusion. More high-quality evidence, utilizing randomization and random sampling, should explore the effectiveness of occupational stress interventions.

Objective and unbiased data. Another limitation that affected each study in this review is in regards to measurement tools. All researchers utilized some form of self-report measurement. While self-report tools are common, it is important to consider the possibility of a testing effect in which the measurement of outcomes prior to an intervention affects the future measurement of said outcomes and obscures the true effect of the intervention (Polit & Beck, 2012). Each participant self-reported outcomes such as burnout, satisfaction, and stress prior to participating in an intervention. They then repeated the same self-measurement tools at some point following the interventions. It is important to consider self-reporting may bias participants who likely understand that desired outcomes include improvement of previously measured outcomes. Also, in the context of the stress continuum and stress first aid, individuals are unaware that they have a stress injury in the beginning stages (Nash, Westphal, Watson & Litz, 2011). This is relevant to the limitation of self-reports as individuals in the early stages of a stress injury are unable to accurately self-report their symptoms.

Other examples of biases that may occur due to self-reporting are social desirability bias and obsequiousness bias. In social desirability bias, participants may give certain answers that

they believe to be socially acceptable and in obsequiousness bias, participants may report results that they believe are desirable to researchers (Polit & Beck, 2012). In order to remedy these biases, more research should incorporate outcomes measured by third parties. While researchers and participants may unknowingly bias outcomes, a blinded reviewer may provide more accurate measurements. Another way to limit bias is to include observable or more objective outcomes such as physical measurements like heart rate and blood pressure.

Program evaluation. There are few frameworks for the evaluation of health programs represented in the literature. The Donabedian (1996; 1980) model specifically evaluates patient care and that serves as a limitation when attempting to apply this model to other arenas. While the model is widely utilized within healthcare, it is more appropriate for the evaluation of patient care initiatives than it is for staff programs such as Be Wise. Since the CDC (1999) framework evaluates programs, rather than patient care, it is most suitable for use in this scholarly project. The CDC (1999) framework is described further in the methods section below.

Literature Review Conclusion

This literature review yielded a wide variety of studies, mostly experimental, exploring various stress reduction approaches with nursing staff. There are various important points to consider regarding occupational stress reduction programs in nursing. First, both individual and organizational characteristics influence occupational stress. Second, while the evidence supports the use of stress reduction programs within nursing, the long-term effects of these programs have not been adequately studied to produce unequivocal results about the ideal length of the intervention or for how long positive effects are sustained. More quality research should explore objective findings. Additionally, more research should determine the effectiveness of programs, rather than single interventions or bundles. Third, the studies included in this review did not use

reproduceable designs to provide strong results of the impact of interventions on knowledge, attitudes, or skill. No study evaluated stress reduction skills. Instead, existing evidence focuses on the effectiveness of interventions as determined by improvements in reported stress, burnout, and various other psychological symptoms. Lastly, there are few tested methods to evaluate health programs. The most applicable framework for evaluating the Be Wise program is the CDC (1999) framework for program evaluation.

Purpose of the Scholarly Project

The Be Wise pilot program was implemented on an intensive care unit within a large academic medical center in 2016. The purpose of this scholarly project was to complete a program evaluation of Be Wise, a pilot occupational stress program.

Methods

Conceptual Framework

In 1997, the Centers for Disease Control and Prevention (CDC) recognized a need for a structured, methodical approach to program evaluation in public health (CDC, 1999). Published in 1999, framework for program evaluation in public health guides the evaluation process as well as integrates ongoing evaluation into regular program management. The framework facilitated evaluations of a variety of initiatives such as HIV screening, obesity prevention, health promotion for older adults, and exercise programs.

Public health fosters the wellness of people where they "live, learn, work, and play" (American Public Health Association, 2019). While Be Wise is not a traditional public health program, it aims to promote the wellbeing of people where they work. Thus, the application of the CDC (1999) framework for program evaluation is appropriate for this scholarly project.

The CDC (1999) framework, depicted in Figure 3, is comprised of six sequential steps that delineate a plan for program evaluation: 1) Engage the stakeholders, 2) Describe the program, 3) Focus the evaluation design, 4) Gather credible evidence, 5) Justify conclusions, and 6) Ensure use and share lessons learned. The framework also includes the following four groups of standards that help determine effectiveness of the planned evaluation: utility, feasibility, propriety, and accuracy.

Centers for Disease Control and Prevention. Framework for program evaluation in public health. MMWR 1999;48 (No. RR-11)

Figure 3. CDC (1999) framework for program evaluation in public health (No.RR-11) consisting of six steps.

Design

The Be Wise program was evaluated using the CDC (1999) framework for program evaluation in public health. The evaluation took place in Fall 2019, three years after initial program implementation. The conceptual framework section outlines details regarding the design of this project. Additionally, each evaluation step is discussed further in the program evaluation section.

Question

The questions for the program evaluation, determined in Step 3, were informed and refined based on feedback from the stakeholders. The questions for this program evaluation were: 1) Is the program collecting appropriate data to address desired outcomes? And 2) What parts of the Be Wise program are most effective?

Definition of Terms

Be Wise champions: Unit points of contact regarding Be Wise information, facilitators of Be Wise training and unit assessments, and developers of unit specific activities. Champions also provide feedback to unit management and the Be Wise team regarding unit implementation and needs as necessary (Be Wise Development Team, 2017).

Burnout: A psychological state in which the individual experiences emotional exhaustion, depersonalization and a decreased perception of personal accomplishment (Maslach & Jackson, 1981). Burnout results from the providers' interactions with the environment such as physical conditions, staffing levels, and other occupational factors (Gallagher, 2013). Recently, the definition of burnout has expanded as Espeland (2006) differentiates burnout from stress in that burnout is an insidious process resulting in both mental and physical fatigue. Additionally, while stress is an event that may result in positive or negative outcomes, burnout always results in helplessness and hopelessness.

Occupational stress: A detrimental, emotional and physical response that occurs when the requirements of an individual's job exceed the abilities, resources, and needs of the individual (National Institute for Occupational Safety and Health, 2014).

Occupational stress injury: Severe or persistent stress that exceeds individuals' coping capabilities and typically arises due to life threat, loss, inner conflict, or wear and tear (Nash, Westphal, Watson & Litz, 2011).

Stakeholder: People who are committed to the program, interested in the outcomes of the program evaluation and/or affected by the results of the program evaluation CDC (1999).

Stress first aid: Stress first aid is a flexible process to assess and provide preclinical care to people with psychological injuries. The goal of stress first aid is to prevent further injury and promote return to wellness (Nash, Westphal, Watson & Litz, 2011; Be Wise Development Team, 2017).

Setting

This scholarly project took place in a 15-bed intensive care unit at a 608-bed academic medical center with a Level 1 Trauma Center in the eastern United States. This inpatient unit has an average census of 14 and the staff provide care to a variety of complex surgical and trauma patients. Staff employed in the unit at the time of the evaluation included 47 Registered Nurses (RN), eight patient care technicians, three health unit coordinators, and one administrative assistant. The nurse manager granted approval for this program evaluation in July 2019.

Ethical Considerations

This evaluation posed a minimal risk to participants. Participants and stakeholders were able to decline to participate at any time during the project. The participants and data collected remained anonymous. Deidentified data was collected and secured using Qualtrics. The only people with access to the data were the DNP student, DNP advisor, statistician, and practice mentor. The DNP student completed human research training through the Collaborative Institutional Training Initiative. In Step 6, deidentified data trends were shared with

stakeholders. The UVA IRB determined this project did not require approval. Correspondence from the UVA IRB is located in Appendix B.

Program Evaluation

Step 1: Engage Stakeholders

In Step 1, potential stakeholders were contacted in order to ascertain their overall involvement prior to the start of the evaluation. While potential stakeholders included people involved in all aspects of the program, the key stakeholders were identified as the nurse manager and a representative of the Be Wise development team. In a face to face meeting with key stakeholders, their involvement in this program evaluation was determined. Both the nurse manager and development team representative agreed to participate in face to face meetings once per month during the evaluation starting Fall 2019. Their involvement included regular meetings to discuss progress, consultations as needed, facilitation of data collection as well as liaison with staff, champions, and the development team. The result of actions taken in Step 1 was a written stakeholder involvement plan. The detailed checklist for actions taken during this step are located in Appendix C.

Step 2: Describe the Program

In Step 2 the Be Wise program was described using narrative and graphic methods. A logic model depicting the connection between program activities and outcomes was developed. The detailed checklist for actions taken during this step are located in Appendix D.

Be Wise manual. The Be Wise manual contains a complex and detailed description of the program. Some of the topics covered in the manual include the purpose, goals, approach, principles, activities, and components of the Be Wise program. The following paragraphs highlight the topics in the Be Wise manual.

Purpose. The purpose of the Be Wise program is to develop individual resilience, unit resilience, and early response to stress injury (Be Wise Development Team, 2017).

Goals. The Be Wise program involves both prevention and intervention. Goals of Be Wise include: 1.) optimizing caregiver wellbeing in order to provide optimal care for clients and 2.) developing an honorable path of recovery for colleagues who experience a stress injury (Be Wise Development Team, 2017).

Approach. Caregiver wellbeing impacts caregiver performance. In order to improve caregiver wellbeing, the Be Wise approach consists of 1) enhancing individual resilience and interpersonal communication, 2) identifying and reducing unnecessary stressors, and 3) recognizing and responding to stress (Be Wise Development Team, 2017).

Principles. There are three major principles guiding the Be Wise program: 1) early recognition (teaching about stress, stress injuries, and the continuum model), 2) peer intervention (stress first aid), and 3) connection with services as necessary (stress first aid) (Be Wise Development Team, 2017).

Components of the program. The three major components of the Be Wise program are the stress injury continuum model, "growing the green" positive practices, and stress first aid.

Stress injury continuum model. The stress injury continuum depicts the range between wellness and illness. The continuum, shown in Figure 4, allows for recognizing and identifying stress and its impact on the individual. Interactions with stakeholders and staff demonstrate this is the most commonly used Be Wise component. Staff utilize the colors on the continuum to start dialogue about their state of wellbeing during the shift. Staff may also ask others how they are feeling by questioning where they place themselves along the continuum.

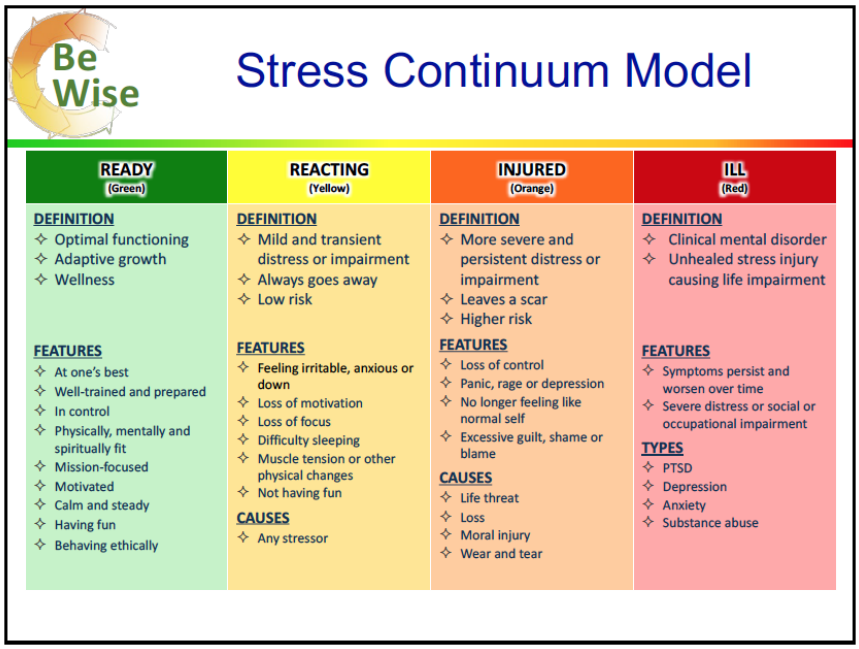

Figure 4. The Be Wise stress injury continuum depicting the range of health.

Growing the green. "Growing the green" refers to cultivating positive practices for individuals and the unit that are meant to foster wellness. The unit "grows the green" through various positive practices such as mindfulness, gratitude exercises, and communication techniques. One of the most utilized positive practices in the unit is the "3 good things" exercise. During team huddles, staff members identify three positive things that happened throughout the shift. The discussion often involves workplace success related to patient care but is open to all topics. Another positive practice employed by staff is guided meditation in the breakroom prior to starting the shift.

Stress first aid. Stress first aid is a flexible process to assess and provide preclinical care to people with psychological injuries. The goal of stress first aid is to prevent further injury and promote return to wellness. The steps of stress first aid, shown in Figure 5, are check, coordinate, cover, calm, connect, competence, and confidence (Nash, Westphal, Watson & Litz,

2011; Be Wise Development Team, 2017). Using stress first aid, staff members recognize and help colleagues that are experiencing stress.

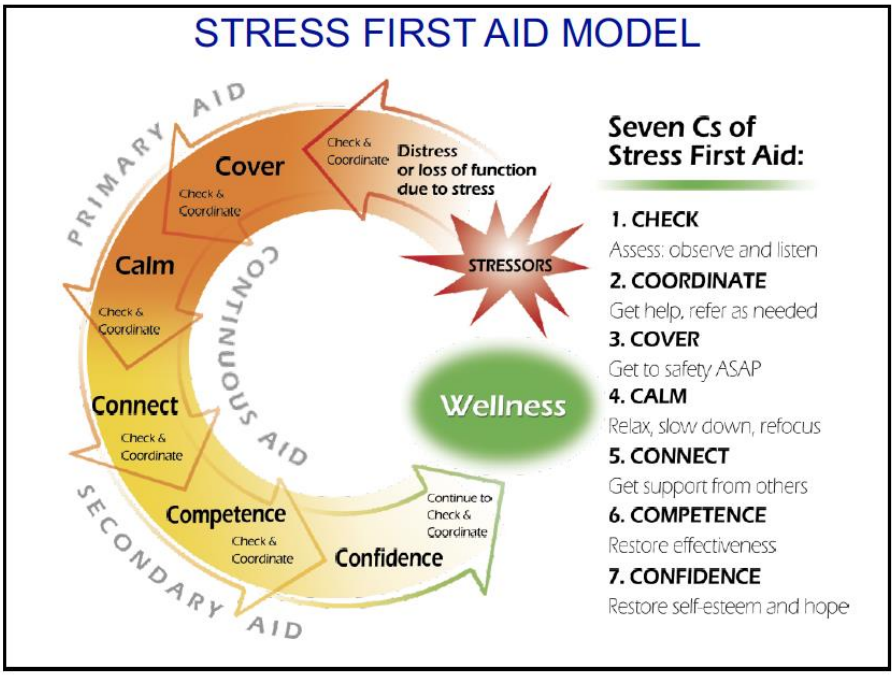

Figure 5. Stress First Aid model depicting the seven steps for helping an individual with a stress injury.

Unit requirements. The unit leadership strives for total staff exposure to Be Wise through the 15-minute awareness brief. Moreover, stress first aid is a required module for nurses to complete during in person unit competency training. The training consists of education on recognizing injury using the stress injury continuum model and employing stress first aid steps. Be Wise targets all staff that provide care on the unit; however, the majority of active participants are nurses.

Be Wise implementation timeline. Figure 6 depicts the implementation of Be Wise in the unit.

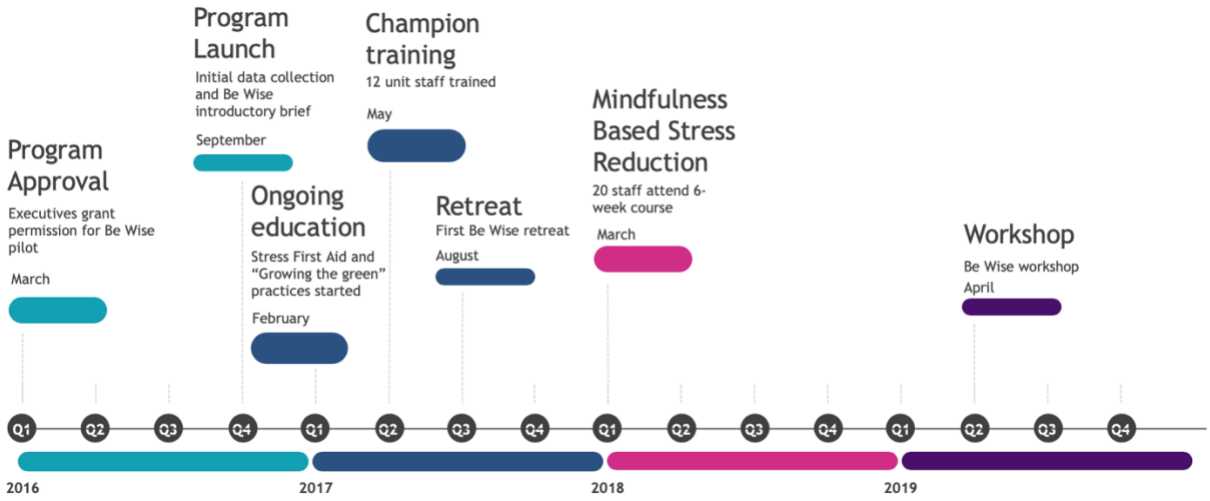

Figure 6. Timeline of Be Wise implementation and events in the unit starting in 2016.

Timeline highlights.

3/2016: Medical center executives granted permission for the Be Wise pilot program

9/2016: Be Wise pilot program began

- Initial data collection by Be Wise development team
    - ProQOL to measure professional quality of life
    - MBI to measure burnout
    - PSS to measure perceived stress
    - PTSD Checklist - Civilian Version (PCL-C) to measure PTSD symptoms
- Be Wise introductory awareness brief (15-minute in-service) to all staff by Be Wise development team
    - 126 staff at that time

2/2017: Stress First Aid class

3/2017: Unit based "growing the green" activities implemented

- Pre-shift mindfulness huddles, daily positive quotes, group yoga

5/2017: Champion training

- 12 Unit champions trained (nurses, occupational therapist, physical therapist, respiratory therapist, and nurse manager)
- Champions lead monthly in-services

8/2017: Be Wise retreat

3/2018: 20 staff attend Mindfulness Based Stress Reduction

4/2019: Be Wise workshop

9/2019: Program evaluation began

Logic model. Figure 7 utilizes Be Wise Development Team (2017) manual content to depict the Be Wise program. The key stakeholders provided feedback resulting in the finalized logic model. The following paragraphs present a narrative description of the logic model including the program inputs, activities, and outcomes.

Logic model inputs.

Scales, surveys, and questionnaires. The instruments utilized to assess staff during the Be Wise pilot program include the Professional Quality of Life Scale (ProQOL), Maslach Burnout Inventory (MBI), Perceived Stress Scale (PSS), and the PSTD Checklist Civilian Version (PCL-C).

Workforce data. Workforce data utilized to track program progress includes facility and unit data such as engagement scores and turnover rates.

Be Wise training resources. Written training resources were adapted from the manuals created for the United States Navy Caregiver Operational Stress Control Program. The main

resource is the Be Wise Development Team (2017) manual. Other resources include PowerPoint presentations created from content in the aforementioned manual.

Be Wise development team personnel. Leaders of the medical center granted approval for the development team led pilot program in March 2016. The Be Wise development team consists of eight multidisciplinary employees with backgrounds in business, nursing, medicine, psychology, and therapy.

Champion personnel. Be Wise champions serve as points of contact regarding Be Wise information for their units. Responsibilities of the champions include facilitating ongoing unit training through monthly in-services, participating in quarterly champion training, developing activities and tools based on unit needs, facilitating unit assessments, and providing feedback to unit and Be Wise leaders regarding unit needs (Be Wise Development Team, 2017). Be Wise champion training consists of instruction in various subjects including occupational stress outreach, resilience skills, stress first aid, peer support assessment and intervention, work environment assessment, and the stress continuum model. 12 champions including nurses, an occupational therapist, a physical therapist, a respiratory therapist, and the nurse manager underwent training in May 2017.

Staff. The staff provide care to a variety of complex surgical and trauma patients necessitating intensive care. Staff employed in the unit include 47 Registered Nurses (RN), eight patient care technicians, three health unit coordinators, and one administrative assistant.

Logic model activities and outcomes.

Staff assessment. In Fall 2016 the Be Wise pilot program began. The first step of the program included a staff assessment by the development team. The assessment included data collection through surveys and focus groups. Staff provided information using the following instruments: ProQOL, MBI, PSS, and PCL-C. Subsequently, in Spring 2018 a poor response rate resulted in unsuccessful recollection. Based on feedback from leadership, the Be Wise team incorporated historical workforce data such as engagement and turnover data. The resulting output of the staff assessment is a complete unit assessment. Using the unit assessment, leadership and staff gain an understanding of the unit health. Ideally, regular unit assessments result in long term measurement of unit progress.

Initial education and training. The introductory awareness brief is a 15-minute in-service that provides basic program information. Initially, the development team provided the awareness brief to 126 staff employed (in any capacity) in the unit in the Fall of 2016. Currently, new staff receive the awareness brief during initial orientation. Once staff receive the initial Be Wise information, staff become aware, learn, and ultimately utilize Be Wise components.

Ongoing education and training. The Be Wise program includes ongoing training through champion led in-services. Champions conduct and facilitate ongoing unit training through monthly in-services. Content covered at in-services varies depending on the needs of the unit but often includes positive practices and Be Wise education. As peers provide staff with ongoing education and training, they learn the Be Wise components, participate in regular in-services, and incorporate Be Wise concepts into the unit routine.

Skill building. One of the major components of the Be Wise program is skill building through "growing the green" positive practices. The term "growing the green" refers to

cultivating positive practices to foster wellness. The unit "grows the green" through various positive practices such as mindfulness, gratitude exercises, and communication techniques (Be Wise Development Team, 2017). Once exposed to positive practices, staff learn, utilize, and incorporate positive practices into unit routine.

Workshops. Be Wise workshops are day long training sessions held away from the hospital. Staff may participate in these workshops as both facilitators and attendees. Attendance at the workshops is completely voluntary. Content at the workshops includes Be Wise education through presentations, hands on groups exercises, group discussions, and multiple positive practices throughout the day. The Be Wise development team, unit leadership, and Be Wise champions facilitate the workshops. In August 2017, the development team held the first workshop, termed a retreat at the time. Another workshop was conducted in April 2019. By participating in Be Wise workshops, staff immerse themselves in peer facilitated Be Wise content, attend regularly, and incorporate Be Wise concepts into unit routine.

Breakfasts with Be Wise. Champions and the unit chaplain coordinate a breakfast event on the unit every other month. During breakfast, the champions and Chaplain facilitate a discussion regarding relevant topics. The topics covered often vary due to unit needs; however, they typically involve staff concerns or difficult patient situations. Breakfasts with Be Wise fall into the categories of ongoing educational and training as well as skill building ("growing the green" positive practices) depending on the content covered. The attendance of Be Wise breakfasts varies due to unit factors such as staffing, census, and patient acuities.

Inputs	Activities	Outputs	Outcomes		
			Short-term	Intermediate	Long-term
• Scales, surveys, questionnaires • Workforce data • Be Wise training manuals • Be Wise development team • Champions • Staff	Unit assessment (Surveys, focus groups, historical data)	Complete unit assessment	Leadership and staff gain understanding of unit health	Assessments are conducted regularly	Assessments are utilized to track unit progress
	Initial education and training (awareness brief)	Staff are provided with initial Be Wise information	Staff become aware of Be Wise components	Staff learn Be Wise components	Staff utilize Be Wise components regularly
	Ongoing education and training (Champion led in-services)	Staff are provided with Be Wise content	Staff learn Be Wise components from peers	Systematic, ongoing in-services	Incorporation of Be Wise concepts into unit routine and culture
	Skill building (Unit “growing the green” positive practices)	Staff are exposed to positive practices	Staff learn positive practices	Staff utilize positive practices	Positive practices are incorporated into unit routine and culture
	Workshops	Staff participate in Be Wise workshop	Staff are immersed and learn during a peer facilitated Be Wise workshop	Staff participate in regular workshops	Incorporation of be wise components into unit routine and culture

Figure 7. Be Wise logic model depicting program inputs, activities, outputs, and outcomes.

Step 3: Focus the Evaluation.

In conjunction with the stakeholders, the focus of the evaluation was determined during Step 3. A draft evaluation plan consisted of evaluation questions, indicators, data sources, and data collection methods. The detailed checklist for actions taken during Step 3 are located in Appendix E.

Finalized focus areas. Based on feedback from stakeholders, the finalized focus areas for the program evaluation were determined as: 1) Is the program collecting appropriate data to address desired outcomes? and 2) What parts of the Be Wise program are most effective? Figure 8 shows the finalized focus areas as well as corresponding indicators, data sources, and data collection methods. The following program evaluation will serve to answer the questions posed in this section.

Evaluation Questions	Indicators	Data Source(s)	Data Collection Methods
Is the program collecting appropriate data to address desired outcomes?	• Desired goals and outcomes • Collected data	• Archival data • Be Wise manual • Survey • Focus groups	• Online • Face to face
What parts of the Be Wise program are most effective?	• Staff perception of most and least helpful Be Wise components • Staff perception of strengths and limitations • "How has Be Wise affected your practice?"	• Survey • Focus groups	• Online • Face to face

Figure 8. Evaluation plan measurement chart depicting the finalized focus areas, corresponding indicators, data sources, and data collection methods.

Step 4: Gather Credible Evidence

In Step 4, consulting with stakeholders resulted in data collection from both archival and new sources. The following section presents the evidence available for the program evaluation. A detailed checklist for actions taken during this step are located in Appendix F.

Archival data. Main sources of archival data included the Be Wise manual, baseline staff assessment, baseline focus groups, and workforce data. The information available in the Be Wise manual is described in detail in Step 2. All other archival sources are described in the following paragraphs.

Baseline staff assessment. The initial Be Wise baseline data collected in Fall 2016 by the development team consisted of information from surveys and focus groups.

Surveys. Staff completed the ProQOL, MBI, PSS, and PCL-C. Due to development team turnover, individual data was unavailable for the program evaluation; however, a unit baseline assessment consisting of aggregated data was available in the form of graphs created by the development team. Data recollection was attempted subsequently in Spring 2018; however due to a poor response rate, was never completed. The following summary is based on the available graphs of 2016 baseline data.

ProQOL. The ProQOL is a 30 item, Likert style survey that yields results regarding the worth one feels about his or her occupation in a helping profession (Stamm, 2010). ProQOL scores are divided into three categories and participants receive distinct scores for compassion satisfaction, burnout, and secondary traumatic stress. The first subcategory of the ProQOL is compassion satisfaction. Higher compassion satisfaction signifies increased pleasure and fulfilment related to work (Stamm, 2010). A compassion satisfaction score of 22 or suggests occupational issues or reflects an individual who attains satisfaction from tasks other than their

occupation (alpha scale reliability = 0.88). Regarding burnout, higher scores (over 42) are indicative of negative feelings regarding work (Stamm, 2010). Burnout scores less than 23 reflect positive feelings about the individual's effectiveness in their occupation (alpha scale reliability = 0.75). The last subcategory of the ProQOL is secondary traumatic stress. Scores above 43 are concerning and suggest trauma symptoms (Stamm, 2010). While the scale is not diagnostic, individuals with scores above 43 should examine their feelings about work (alpha scale reliability = 0.81).

Figure 9 depicts the ProQOL scores of staff collected in the November 2016 baseline wellbeing assessment. The red line indicates scores of staff that are at risk. Results from the baseline ProQOL indicate some staff at risk in each ProQOL subcategory. There was evidence of secondary traumatic stress as individuals scored in the low and moderate categories ($M = 22.71$, $SD = 5.57$) with many scores above the risk threshold. Figure 9 also indicates staff experiencing burnout ranging from low to moderate ($M = 23.26$, $SD = 5.65$). Lastly, some staff were at risk for compassion satisfaction; however, the mean score was outside of the risk threshold demonstrating that many staff derive satisfaction from their work and are thus protected from stress injury.

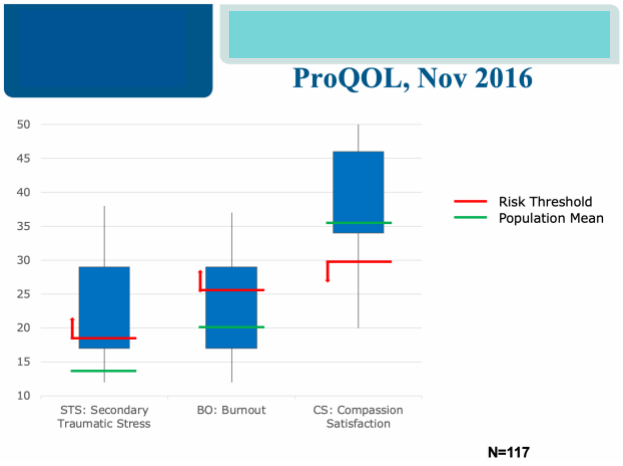

Figure 9. ProQOL scores by category from staff (N=117) in November 2016.

Maslach Burnout Inventory: Human Services Survey. The MBI-HSS is a 22-item Likert style tool that measures burnout and provides distinct scores in the categories of emotional exhaustion, depersonalization, and personal achievement (Maslach & Jackson, 1981). The latest publication of the MBI omits cutoff scores due to lack of diagnostic validity; however earlier versions provide low, moderate, and high classifications. Figure 10 depicts mean MBI scores for each category ranging from low to moderate. However, individual scores reflect depersonalization (M = 8.61, SD = 6.19), emotional exhaustion (M = 22.93, SD = 11.39), and personal accomplishment scores (M = 36.07, SD = 7.41) ranging from low to high. While average scores are low and moderate, the breakdown of individual scores indicates some staff were at risk for burnout.

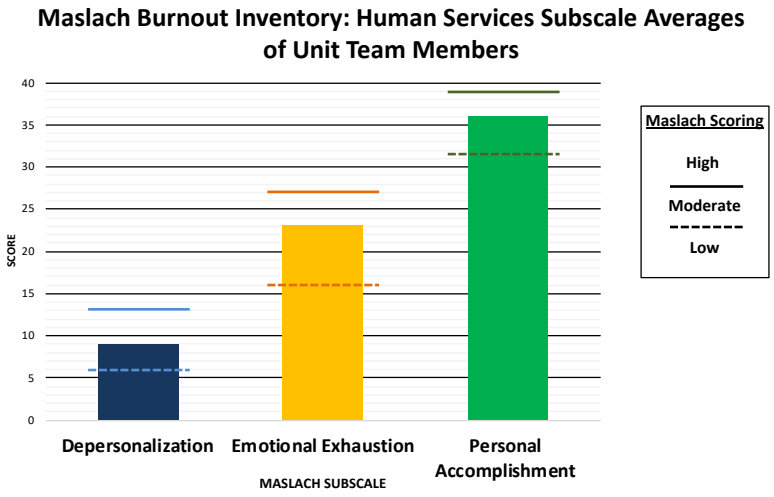

Figure 10. Average MBI scores ranging from low to moderate in all three components of burnout.

Perceived Stress Scale. The Perceived Stress Scale is a 14-item Likert style scale that measures perceived life stress in the past month (Cohen, Kamarck, & Mermelstein, 1983). Figure 11 shows nurses and technicians report the highest levels of stress among staff (M = 18).

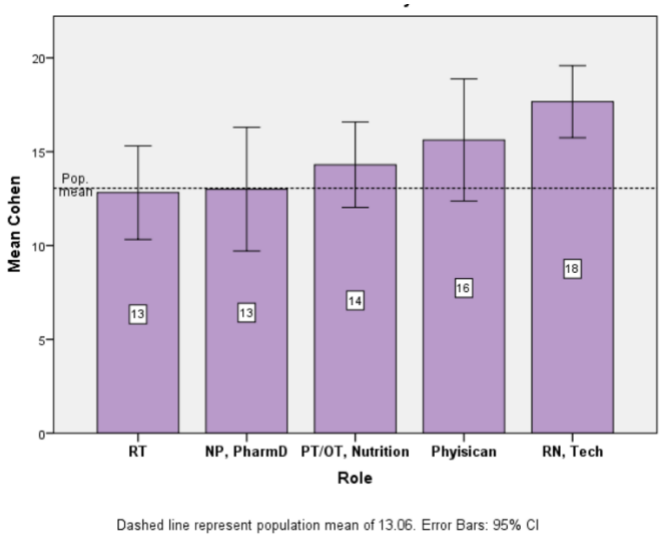

Figure 11. PSS scores by role performed in the unit.

Post-Traumatic Stress Disorder Checklist, Civilian Version. The PCL-C is a 17 item Likert style tool that measures the severity of PTSD symptoms (Weathers et al., 2013). Possible scores range from 17 to 85 with higher scores indicating severe PTSD symptoms. In the general population, the suggested cutoff score is 30 to 35. Figure 12 indicates multiple staff with scores above the recommended cutoff thus at risk for stress injury (*M* = 28.60, *SD = 11.53).*

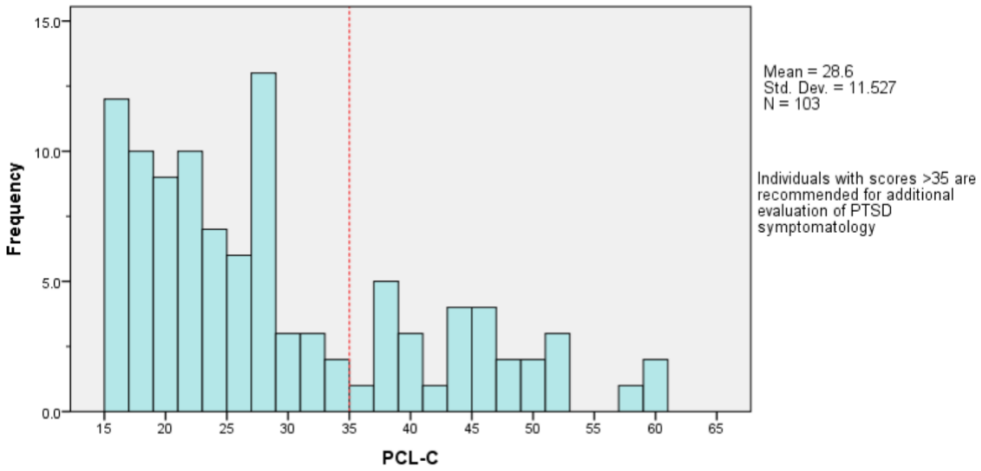

Figure 12. PCL-C results in staff. Some staff scored over the 30 to 35 score cut off for additional PTSD evaluation.

Baseline focus groups. Focus group questions centered on major stressors, stress mitigation techniques, times when staff provided excellent care, and things that might reduce staffs' occupational stress. Beyond identifying stressors and possible solutions, the focus group yielded information regarding unit culture. For example, the focus group summary revealed staff perceived a lack of respect among disciplines as well as a lack of autonomy at the unit level. Staff also perceive their work as meaningful and there is a strong sense of teamwork among colleagues.

Workforce data. Based on feedback from leadership, historical workforce data such as engagement scores, turnover rates, and absenteeism data were incorporated into the Be Wise process. The data available ranged from partial to full reports and are described in the following paragraphs. Table 1 describes turnover and absenteeism data as well as program milestones from FY 2016 to 2019.

Engagement. An external company collects engagement data throughout the health system annually. In 2017, the health system changed companies from Gallup to Press Ganey thus the data and individual survey questions vary depending on the year. Also, due to limitations in record keeping, engagement data available for the program evaluation ranged from partial to full reports.

Turnover. The health system tracks continuous turnover rates in each unit. Turnover data available for this program evaluation ranged from monthly to yearly turnover rates from 2016 to 2019.

Absenteeism. Absenteeism data, calculated internally at the unit level, reflects the total number of call outs for a designated period of time. The available absenteeism data includes total number of call outs per year from FY 2016 to 2019.

Table 1

Workforce Data and Program Milestones

Workforce Data	2016	2017	2018	2019
Turnover	22.1%	33.8%	15.5%	19.6%
Absenteeism	311	184	106	226
Program Milestones	N/A	Implemented (9/2016)	Retreat, mindfulness course (8/2017)	Workshop (4/2019)

New data. For this program evaluation, new data was obtained through a staff survey and various focus groups.

Staff survey. As part of the program evaluation, staff participated in a survey. Flyers posted around the unit, verbal announcements, and emails informed staff of the survey. Participation in the anonymous survey was completely voluntary. The survey consisted of four main content sections with a mix of rating scale, multiple choice, and short answer items. There was a total of 13 content related items and three additional items to obtain informed consent, the participants' role in the unit, and a unique identifier. The estimated time to complete the survey was 10-15 minutes. In order to maintain confidentiality, the survey did not have the option to save or return. The staff survey is located in Appendix G.

Survey respondents. The staff survey was open for 10 consecutive weeks starting at the end of September. A total of 45 responses were recorded; however, five people consented and did not begin the survey thus their responses were discarded. Also, the survey was open to SIMU staff for the purposes of larger data collection; however, these seven SIMU responses were omitted in this program evaluation. A total of 33 responses were utilized in this program evaluation, four of which were partial responses.

The majority of respondents were registered nurses (51%) and occupational therapy, physical therapy, or respiratory therapy (30%). Other staff that completed the survey included a licensed independent provider (LIP), patient care assistant, CNS, pharmacist, and administration.

Survey results: Goals and data. The following three goals (listed by order of importance) are most important to staff: facilitating a positive work environment, reducing personal stress, and staff retention. The remaining goals listed by order of importance were: enhancing resilience, optimizing caregiver wellbeing, helping peers with stress injuries, professional empowerment, identifying peers with stress injuries, and "other." Staff were also asked about the importance of data collection through self-assessment. Most respondents (75.75%) somewhat agree, agree, or strongly agree that self and unit assessments should be part of the Be Wise process. The amount of time that respondents were willing to spend on a Be Wise self-assessment survey ranged from 0 to 60 minutes (M = 12.19, SD = 10.99, *Mode* = 10.00).

Survey results: Participation. Most respondents participate in structured Be Wise initiatives on the unit less than once per month (55%). The second most selected answer (18%) was "Never." In regards to practicing Be Wise initiatives on their own, respondents selected their level of participation from the following choices: daily, three to six times per week, one to two times per week, less than once per week, and never. 30% of respondents reported participating in Be Wise initiatives less than once per week. The second most selected answer (21%) was "Daily."

Staff were also asked about their intentions to participate in future Be Wise initiatives. 33.33% of respondents believe Be Wise workshops should be offered three times per year. Other respondents prefer once per year (27.27%), twice per year (24.24%) and other (15.15%). Other free text responses include weekly and never.

To discern what Be Wise strategies are most helpful for staff, respondents were asked what Be Wise initiatives should be offered more frequently. Staff were asked to choose between Be Wise breakfast and conversation events, education and training, champion led in-services, positive practices, and workshops. Most respondents (52%) want Be Wise breakfasts and conversation events more frequently.

Survey results: Understanding. Survey respondents were asked what Be Wise concept they know most about and were given the following choices: four sources of stress injury, "growing the green" positive practices, stress continuum, and stress first aid. Most respondents (55%) report knowing most about the stress continuum followed by 27% of staff that report "I am not familiar with any of these concepts."

Survey results: Staff perception of helpfulness, strengths, and limitations. Respondents were asked what Be Wise component was most and least helpful. The majority of staff (75.86%) report positive practices as the most helpful Be Wise component followed by ongoing education (10.34%), initial Be Wise education and training (6.90%), and the wellbeing self-assessment (6.90%). Results about the least helpful component are consistent in that the most selected answer (37.93%) was the wellbeing assessment.

Survey respondents were also asked what they perceived as strengths and limitations of Be Wise. Regarding strengths, the concepts of increased awareness among staff and mental wellness surfaced most frequently. Other prevalent themes included: promoting positivity, implementation of new skills, and peer support. Regarding limitations, the concepts of time constraints and lack of participation arose most frequently. Other prevalent themes included a lack of knowledge and lack of monetary compensation. The top themes are discussed in greater detail in Step 5.

Survey results: Unit culture. Respondents were asked to rate the unit culture from one to 10 with one representing a poor, hostile environment and 10 representing an excellent and welcoming environment. Respondents provided ratings for overall culture, new staff coming onboard, having difficult conversations regarding clinical decisions with coworkers, supporting coworkers who are experiencing a stress injury, and staff members participating in professional growth. Having difficult conversations with coworkers received the poorest culture rating and ranged from 3 to 9 (M = 6.00, SD =1.62). Staff participating in professional growth received the highest culture rating and ranged from 5 to 10 (M = 7.41, SD =1.45). The overall culture rating ranged from 4 to 9 (M = 7.14, SD =1.22).

Focus groups. A total of three focus groups were held on 29 October, 10 November, and 13 November. There was a focus group held in the unit conference room during dayshift, nightshift, and on the weekend in order to engage a variety of staff members. The focus group format was modified to reflect the unit workflow. Focus groups sessions were flexible and allowed for staff to drop in as their schedules permitted in order to maximize participation. There was no audio recording during the focus groups; instead, the project lead took written notes. At a later time, a text analysis of the qualitative focus group data was conducted. Additionally, a champion focus group was attempted; however, due to scheduling conflicts the focus group was not held.

Focus group results. Participants of the focus groups were asked, "How has Be Wise affected your practice?" The idea of increased awareness, focus, or dialogue regarding mental wellness and stress injury was the most frequently occurring theme in the focus groups. Other major themes were promoting positivity and an improvement from past negative experiences. The main themes identified during focus groups are discussed in more detail in Step 5.

Step 5: Justifying Conclusions

During Step 5, data was analyzed to answer the focus area questions: 1) Is the program collecting appropriate data to address desired outcomes? and 2) What parts of the Be Wise program are most effective? The following section discusses data analysis and program recommendations. The detailed checklist for actions taken during this step are located in Appendix H.

Data analysis plan. The data presented in the following sections was analyzed using descriptive statistics such as measures of central tendency for numeric data and text analyses for non-numeric data. For text analysis, written notes from focus groups as well as free text survey responses were inputted into Excel. The transcribed data was reviewed for recurring concepts and given a concept tag. Excel formulas were then used to total the recurring concept tags and determine the most frequently recurring concepts.

Focus Area Question: Is the program collecting appropriate data to address desired outcomes? Answer: Partially. The first focus of the program evaluation was to determine if the data being collected was appropriate to determine the desired program outcomes. The CDC (1999) guidance regarding program creation and evaluation was utilized in order to address this focus area. The CDC recommends the use of logic models when creating a program. Logic models depict the link between resources and activities to goals or outcomes. Concise goals are essential to program success because they serve as benchmarks to measure program performance. In order to evaluate this focus area, the goals and data sources presented by the Be Wise manual, the nurse manager, and the development team were compared.

Goals and data sources. The Be Wise manual, development team, nurse manager, and staff all cite different goals as depicted in Figure 13 and Figure 14. One overlapping goal, which

all parties agree on, relates to stress. In Figure 13, related goals are color coded in order to visualize similarities between stakeholder goals. For example, green text shows goals related to responding to stress put forth by the manual, development team, and nurse manager. Blue text relates to identifying stress, orange text relates to interpersonal support, and light blue text relates to resilience. Of note is that the goals put forth by the stakeholders are not measurable as written.

	Source		
	Be Wise Manual	**Development Team**	**Nurse Manager**
Goals	Optimize caregiver wellbeing in order to provide optimal care for clients	**Identify individuals with stress injuries**	**Stress reduction of bedside worker**
	Develop an honorable path of recovery for colleagues who experience a stress injury	**Support individuals with stress injuries**	**Increased resiliency**
		Develop peer support capabilities within the team	Staff retention
		Professional empowerment	
Miscellaneous	Purpose • **Develop individual resilience, unit resilience, and early response to stress injury**		
	Approach • **Improve caregiver wellbeing to do our best work together** • **Enhance individual resilience** • **Enhance interpersonal communication** • **Identify and reduce unnecessary stressors** • **Recognize caregiver stress** • **Respond to caregiver stress**		

Figure 13. Summary of program goals from manual, development team, and nurse manager.

In Figure 14, the goals of each stakeholder are presented next to the data sources. Green colored text signifies a match between goals and corresponding data sources. Of note is that not all goals have a corresponding data source that measures or tracks progress of said goal.

	Goals	Data Sources
Be Wise Manual	Goals • Optimize caregiver wellbeing in order to provide optimal care for clients • Develop an honorable path of recovery for colleagues who experience a stress injury	• Baseline unit assessment • Various instruments that measure stress, self-care, resilience, and life satisfaction available in manual • Focus groups
	Purpose • Develop individual resilience, unit resilience, and early response to stress injury	
	Approach • Improve caregiver wellbeing to do our best work together • Enhance individual resilience • Enhance interpersonal communication • Identify and reduce unnecessary stressors • Recognize caregiver stress • Respond to caregiver stress	
Be Wise Development Team	Identify individuals with stress injuries	• Baseline unit assessment • Focus groups
	Support individuals with stress injuries	
	Develop peer support capabilities within the team	
	Professional empowerment	
Nurse Manager	Stress reduction of bedside worker	Workforce data • Retention/turnover • Engagement • Absenteeism
	Increased resiliency	
	Staff retention	

Figure 14. Summary of goals and corresponding data sources from manual, development team, and nurse manager.

Goals and data sources according to the Be Wise manual. The Be Wise manual provides guidance labeled purpose, goals, approach, and principles. All of these aforementioned concepts are similar in content. As per the program manual, the data collected from participants is comprised of the unit assessment surveys and other instruments which measure stress, self-care, resilience, and life satisfaction that are located in the Be Wise manual. The data collected through the unit assessment and Be Wise instruments correlate directly with the goals of identifying stressors and recognizing caregiver stress. The remaining Be Wise goals are not measured by any Be Wise mandated data sources.

Goals and data sources according to the development team. The Be Wise development team collected extensive data regarding the presence and severity of stress injury symptoms

during the baseline staff assessment in Fall 2016. The collection of the survey data correlates directly with one of the development team goals to identify individuals with stress injuries; however, recollection has not occurred since initial program implementation. Staff underwent a battery of surveys and results showed symptoms of burnout, stress and post-traumatic stress. During the initial implementation of Be Wise the summarized data was shared with staff.

The Be Wise development team also collected data from focus groups that provided subjective insight regarding the remaining development team goals which were to support individuals with stress injuries, develop peer support, and facilitate professional empowerment. Through the focus groups, development team members were able to discern the current practice regarding above goals and possible ways to approach said goals. However, the progress and outcomes of the remaining goals (supporting individuals with stress injuries, developing peer support, professional empowerment) were not officially measured or tracked as part of the Be Wise program.

Goals and data sources according to the nurse manager. The nurse manager identified staff retention as one of the goals of the Be Wise program. The workforce data, specifically turnover data, serves to adequately measure staff retention. Rolling, 12-month turnover data is continuously available on the medical center dashboard. Additionally, the dashboard displays information regarding new hires, terminations, and terminations by length of service. Another goal identified by the nurse manager was stress reduction. As an indicator of stress injury risk, the nurse manager utilized Item 69 of the engagement survey related to sleep disturbances. The last goal identified by the nurse manager, increased resiliency, is not measured or tracked as part of the Be Wise process.

Goals according to staff. The survey respondents perceive facilitating a positive work environment, reducing personal stress, and staff retention as the three most important goals of the Be Wise program. The goals of stress reduction and increased retention coincide directly with the nurse managers goals, showing collaboration between unit leadership and staff regarding Be Wise goals.

Summary of recommendations. This program evaluation yielded various recommendations regarding goals, objectives, data sources, data collection, and documentation. In the following paragraphs, evidence gathered in Step 4 was utilized to draw conclusions and provide recommendations.

Overall goals. The recommendations are to clarify the Be Wise goals so that they are concise, measurable, and agreed upon by all stakeholders as well as create unit specific objectives. Currently, there is a disconnect between stakeholders regarding program goals. This is likely due to the nature of the program in that the implementation is at the unit level. The goals in the manual are broad because the unit champions are meant to incorporate goals tailored to their unit's needs. Additionally, the Be Wise manual reads as if the major goal of the program is to decrease stress in order to optimize clinician wellbeing. A thorough evaluation of the Be Wise manual and discussion with Be Wise experts suggests the overarching goal of Be Wise is to incorporate the program into unit routine in order to change the culture. Aims of the program are less about decreasing individual stress and instead about having unit tools in place to cope with stressors. Thus, program outcomes may be appropriately tracked by process indicators that reflect program utilization and participation.

To clarify the official Be Wise manual, the current goals and outcomes could serve as the theoretical background for the program. New and succinct goals that can be routinely measured

should be distinctly labeled as program goals. Additionally, it is the responsibility of the implementing unit champions to create and measure objectives tailored specifically to unit needs. In doing so, unit stakeholders can choose measurable outcomes to determine success. Examples of goals include the short-term, intermediate, and long-term outcomes outlined in the logic model. These proposed goals can be measured using thorough documentation of the occurrence of Be Wise activities and attendance of staff members. Based on the logic model as well as feedback from the nurse manager and the development team, proposed goals and corresponding data sources are described in Figure 15. Stakeholders should add frequencies and timelines to the proposed goals in order for accurate outcome measurement.

Goals	Data Sources
Short-term	
Leadership and staff gain understanding of unit health	Baseline unit assessment
Staff learn Be Wise components	Knowledge tests after training
Staff are immersed in Be Wise content during peer facilitated workshops	Document events to include: time/date, brief description, and attendance
Intermediate	
Unit health assessments are conducted regularly	Repeat unit assessment
Systematic, ongoing in-services are offered	Document events to include: time/date, brief description, and attendance
Staff utilize positive practices	Staff conduct audits to measure use of Be Wise components on the unit
Staff participate in regular in-services and workshops	Document events to include: time/date, brief description, and attendance
Long-term	
Assessments are utilized to track unit progress	Repeat unit assessment
Staff utilize Be Wise components regularly	Staff conduct audits to measure use of Be Wise components on the unit
Be Wise components are incorporated into unit routine and culture	Staff conduct audits to measure use of Be Wise components on the unit

Figure 15. Proposed short-term, intermediate, and long-term goals and data sources.

Data sources. Based on the proposed goals and objectives, the necessary data sources for the Be Wise program include unit assessments, knowledge tests, documentation of events, attendance, and random audits. If stakeholders choose to incorporate other goals, workforce data may prove relevant. Engagement, turnover, and absenteeism data may be utilized in order to

show trends between workforce data and Be Wise events. The following paragraphs will provide recommendations regarding individual engagement items to track peer support, professional empowerment, retention, and stress. Refer to Table 2 for the scores of select, individual engagement items from 2018 and 2019. Copyright restrictions prohibit the release of individual engagement items. Table 2 was modified to reflect content but not the specific engagement items.

Table 2

Individual Engagement Items

Item	2018	2019
Overall Score	4.01	3.87 (-0.19)
Support		
Organizational support	3.78(+0.20)	3.49(-0.31)
Peer support	4.31(+0.02)	4.27(+0.04)
Professional Empowerment		
Perception of influence in the organization	4.08(+0.14)	3.92(-0.04)
Retention		
Intent to stay with the organization	3.82(+0.50)	3.67(-0.16)
Intent for longevity in the organization	3.74(+0.12)	3.40(-0.59)
Stress		
Manageable occupational stress	3.66	3.60(+0.07)

Note. Data within the parentheses represent how the unit compares to the facility. For example, (+0.20) signifies the unit scored 0.20 above the facility. Items without parentheses represent items for which facility data was unavailable.

Data sources for unmeasured development team goals. An option for measuring peer support, a goal proposed by the development team, is to utilize engagement Item 11 that reflects organizational support, Item 66 that reflects peer support, and the overall RN to RN teamwork and collaboration themes. Regarding the goal of professional empowerment, components of the engagement report that can be utilized include Item 50 that relates to perception of influence in

the organization as well as the overall autonomy, professional development, and interprofessional relationships themes.

Data sources for unmeasured nurse manager goals. A recommendation to further measure stress reduction is to track Press Ganey Item 43 that relates to an individual's perception of manageable occupational stress. In both 2018 and 2019, staff scored above the overall facility. Also, of interest are items 67, 68, and 70 that relate to detaching from work in order to enjoy personal time. While the engagement survey provides relevant information, the data is not individualized. A repeated PSS (done during the initial unit assessment) could obtain individual stress measurements and distinguish any changes over time.

Regarding the retention goal, the nurse manager could augment the current data, turnover rates, by including engagement data. Specifically, Press Ganey Item 20 reflects intent to stay in the organization. Also, the team could track Item 26 that reflects intent for longevity in the organization.

Lastly, the nurse manager also identified increased resiliency as a goal; however, this goal is not currently monitored. A recommendation is to track the Press Ganey Resilience Index (RI) that is a part of the engagement summary. The RI is comprised of both activation and decompression (Press Ganey, 2019). Activation relates to finding meaning in providing patient-centered care and decompression relates to the individuals' capability to disconnect from their occupation. Overall, the RI measures how employees recuperate and stay engaged despite occupational difficulties (Press Ganey, 2019).

Data sources: Limitations of workforce data. While workforce data shows trends between the Be Wise program and unit metrics, the data cannot prove program effectiveness. Due to several limitations, workforce data cannot draw conclusions regarding the program. For

example, due to attrition and wavering participation, aggregated scores may not reflect current staff or participating Be Wise staff. Specifically, the annual engagement survey does not capture turnover. Also, workforce data is subject to a multitude of confounding variables such as individual mental health, unit staffing, patient acuities, and team dynamics. Other confounding factors include events within the organization such as leadership changes or increased workload and stress associated with accreditation visits.

Data collection. The baseline wellbeing assessment (conducted by the development team in 2016) was a major component of the Be Wise program. Discussion with the development team stakeholder confirms the major purpose of the baseline wellbeing staff assessment is to provide staff with awareness of their collective stress injury symptoms. Once staff recognize the symptoms and concerns present within the group, they are introduced to Be Wise components as a method to combat said concerns.

While the battery of baseline surveys achieved the development team's goal of identifying those with stress injuries, participants in this program evaluation found baseline data collection to be time consuming and tedious. Information gathered during this program evaluation suggests respondents prefer quick and concise data collection methods. The total amount of time that survey respondents were willing to spend on a Be Wise self-assessment survey ranged from zero to 60 minutes (M = 12.19, SD = 10.99, *Mode* = 10.00). Most survey respondents are willing to spend 10 minutes on a self-assessment. Survey results also show most respondents (75.75%) somewhat agree, agree, or strongly agree that self and unit assessments should be part of the Be Wise process. However, respondents (37.93%) also view the self-assessment as the least useful Be Wise tool when compared to initial education/training, ongoing education (in-services), positive practices, and workshops.

In order to adjust the data collection methods to better suit the unit, a recommendation is to limit the amount of surveys given to staff. Rather than measuring caregiver symptoms through a battery of surveys as is current practice for the wellbeing assessment, one survey should suffice. Conducting the selected survey at regular intervals will allow stakeholders to track changes. Another suggestion is to incorporate a systematic and ongoing assessment into the workflow so as to not give the perception of an increased workload. For example, a brief stress assessment where staff are regularly asked one or two questions regarding their stress level.

Documentation. Acquiring historical and current data to conduct this program evaluation proved difficult. Issues included missing data, inability to access data due to personnel changeover, storage of aggregated data rather than individual data, and limited documentation regarding steps taken during program implementation itself.

A recommendation is to maintain process record keeping. At a minimum, Be Wise records should reflect a timeline of Be Wise events, a brief description of all events, and staff attendance. An official Be Wise record is essential for ongoing and future program evaluation. Archival participant data should be kept for future use. Relevant information such as individual, rather than aggregated, data from the baseline unit assessment as well as any workforce data should be secured, retained, and accessible. To prevent any data loss, the data must be stored in a way that is not affected by staff changeover and multiple people should have knowledge regarding data storage procedures.

Focus Area Question: What parts of the program are most effective? Answer: "Growing the green" positive practices and brief interventions. In order to determine what Be Wise components were perceived as most effective, the staff were asked three different

questions. First, survey respondents were asked what Be Wise components were most and least helpful. Second, survey respondents were asked to list strengths and limitations of the program. Third, focus group participants were asked to describe how Be Wise affected their practice.

Helpfulness of Be Wise components. Most staff (75.86%) perceive positive practices as the most helpful Be Wise component. Feedback provided during the focus groups coincides with survey results and various participants cited brief, frequent practices as most impactful. Brief practices are likely the easiest for staff to participate in. They are likely impactful because they provide immediate gratification.

The recommendation is to focus resources and energy on brief, frequent practices rather than larger scale events that occur less often. A recommendation is for Be Wise Champions to focus on regular employment of positive practices. Champions should recruit other staff so that more staff regularly lead the team in positive practices. Recurrent but brief practices are the most sustainable way to ensure continued use of Be Wise and will likely gain maximum participation.

Staff reported (37.93%) that the wellbeing assessment is the least helpful Be Wise component followed by ongoing education (20.69%), workshops (17.24%), positive practices (13.79%), and the initial Be Wise education and training (10.34%). Further information from the survey and focus groups revealed participants feel the wellbeing assessment is too taxing and time consuming as well as least impactful in comparison to Be Wise components that actively serve to address wellness. The assessment is likely not as helpful as other program components because it does not provide a way to address stress. While the wellbeing assessment is an essential component of Be Wise, restructuring the assessment may better meet the needs of the

participants. Specific recommendations regarding the wellbeing assessment are located in the prior focus area section.

Strengths. Survey respondents were asked what they perceived as the greatest strength of the Be Wise program. The two concepts that arose most were increased awareness and mental wellness.

Increased awareness. One theme that emerged in the text analysis of survey data was that the program served to increase awareness. Staff provided answers regarding increased awareness, focus, and dialogue surrounding mental wellness and stress injuries. This theme also emerged in focus groups as staff members discussed how Be Wise affected their practice and is summarized in greater detail in the following section. Of note is that awareness, specifically recognizing stress injury, is one of the major steps in the Be Wise process.

Mental wellness. Another theme that surfaced in the text analysis of survey data was that the program facilitated the mental wellbeing of participants. Respondents provided answers regarding the promotion of self-awareness, resilience, and decreased burnout.

Staff perceive the greatest strengths of the Be Wise program are increased awareness and the promotion of mental wellness. The Be Wise development team and unit administration may continue to facilitate the focus and promotion of mental wellness by expanding Be Wise.

Limitations. Survey respondents were asked what they perceived as the greatest limitation of the Be Wise program. The two concepts that arose most were time constraints and lack of participation.

Time constraints. The most prominent theme that emerged in the analysis of survey data was time. Respondents mentioned difficulty participating in Be Wise initiatives because of lack of time to participate during work or on their days off. Respondents also stated that Be Wise

events are not scheduled far enough in advance to request scheduling changes in order to attend events.

The theme of time constraints also emerged during focus group discussions. Staff identified timing as a major limitation of the Be Wise program. Overall, staff find it difficult to participate in Be Wise activities because there is rarely time to participate during the shift. One of the major events (Breakfasts with Be Wise) occurs at 0800, which is a busy time at the start of the shift. Lack of monetary compensation also prevents many staff from participating on their days off. Additionally, some nightshift staff desire to participate but find that all activities occur on dayshift.

Increased opportunities to participate may mitigate a lack of time. A recommendation to remedy time constraints is to schedule Be Wise events well in advance in order for staff to adjust their schedules accordingly. Additionally, offering Be Wise practices and events during slower times on the unit as well as during evenings and nightshifts may maximize participation from all staff. During focus groups, staff recommended future Be Wise events occur during traditionally slower times such as from 1300-1500 and during nightshift. Recruiting nightshift Be Wise champions will serve to include a variety of staff.

Lack of participation and events. One theme that emerged in the text analysis of survey data was an overall lack of participation in limited Be Wise events. Respondents provided answers regarding the need for increased opportunities to participate in Be Wise, specifically more unit champions and events. Respondents also mentioned the necessity for buy in from LIPs and rotating residents.

The theme of limited participation and events was also prevalent in the focus groups. Staff discussed that the participation in and frequency of Be Wise varies significantly. Staff

agree that Be Wise events and practices are dependent on the staff members who are actively leading the program as Champions. The use of positive practices such as the "three good things" initiative waivers depending on who is working and leading the shift. Overall, staff believe Be Wise initiatives should be offered more frequently and recommend the use of regular, small events or practices over larger scale initiatives.

To address participation, a recommendation is to recruit and train more Be Wise champions. With more Be Wise champions available to lead events, the unit can maximize participation. Additionally, the Be Wise development team can include LIPs through a partnership with LIP department heads. Lastly, unit champions and the development team should work to increase the frequency of Be Wise events. The team should consider devoting energy to frequent, brief events rather than large scale quarterly events.

The effect of Be Wise on practice. During the focus groups, staff members were asked how Be Wise affected their practice and work on the unit. The focus groups revealed three major themes regarding the effect of Be Wise on practice.

Increased awareness and dialogue among staff. One of the major themes revealed during the focus groups was that Be Wise affected practice on the unit by increasing awareness of and dialogue around stress injuries. Staff discussed that the Be Wise program and events serve as "conversation starters" that increase their ability to communicate with coworkers. Staff compared the current culture where people talk about difficult issues to the culture prior to program implementation and on other units where there is no opportunity for such discussion. Staff also discussed how the program has increased self-awareness related to stress they are experiencing in and out of work. Due to their increased awareness, some staff have incorporated Be Wise techniques into their personal practice.

Promoting positivity. Another major theme that surfaced during the focus group was that Be Wise affected unit culture by encouraging positivity. Staff discussed that incorporating Be Wise practices into the shift facilitates an increasingly peaceful mood. Staff also mentioned that Be Wise facilitates a positive culture because it enables participants to be proactive with mental wellness. Lastly, staff discussed that incorporating Be Wise, specifically positive practices, is beneficial to their daily routine as Be Wise content is desirable in comparison to other parts of the work routine. For example, staff enjoy hearing "3 good things" during team huddles that in the past only addressed work issues such as completing training or tasks.

Improvement from past negative experience or culture. Staff also mentioned that Be Wise has helped shift the atmosphere from a complaining based, negative workplace to a more positive space. Staff discussed that being positive at work is so engrained in current unit culture that being negative is now considered taboo. In the past, staff felt stressed but had no outlet to express themselves nor did they feel their stress was acknowledged. Thus, staff perceive unit improvement because discussions about mental wellness are now prevalent.

Three major themes surfaced in the discussion of the effects of Be Wise on practice. First, staff feel that Be Wise facilitates positivity in the workplace. Second, Be Wise increases the awareness and dialogue surrounding mental health. Third, staff perceive an improvement from previous negative experiences and overall unit culture. Results reveal modest return despite limited program implementation. A recommendation is to foster these effects through increased participation and program expansion. As previously mentioned, recruiting more Be Wise champions will maximize frequency of events and participation.

Additional recommendations.

Regular program evaluation. The CDC (1999) framework recommends incorporating evaluation within routine program processes. As such, the Be Wise program should include an integrated and ongoing evaluation plan. Based on the findings of this evaluation, nursing leadership should designate evaluation to certain individuals. Evaluations should occur regularly and their frequency should be determined in conjunction with stakeholders and the development team. Stakeholders may choose to utilize the proposed goals and data sources in their continuous evaluation of Be Wise.

Correct program misconceptions. The program evaluation revealed misconceptions as well as a total lack of knowledge regarding Be Wise among some participants. Champions and leaders should ensure staff receive Be Wise education in order to maximize participation. Additionally, some participants expressed their dislike with Be Wise because they perceived it as a mindfulness program. While Be Wise employs mindfulness tactics, it is a multifaceted program that includes a myriad of approaches. Participants who dislike certain components can be engaged using other approaches across the stress continuum. A recommendation is to eliminate any negative perceptions by employing needs-based tactics.

Health system implications.

Engagement. Figure 16 summarizes engagement percentile rankings on the unit from 2017 to 2019. Unit administration tracked the item reflecting few sleep disturbances related to work since initial Be Wise implementation. The score for this item increased from the 1st percentile in 2017 to the 83rd percentile in 2019. As an indicator of stress injury, the improvement of sleep disturbances among staff is a relevant finding. Sleep disturbance is a common precursor or manifestation of many psychiatric conditions (APA, 2013). Thus, a shift

from the 1st to 83rd percentiles suggests fewer sleep disturbances and decreased risk for future stress injury among staff reporting engagement.

The item reflecting intent to stay with the organization may provide insight regarding pending turnover. This item increased from the 1st percentile in 2017 to the 69th percentile in 2018. The 2017 score on this item (1st percentile) correlates with the highest turnover rate in the past four years, 33.8%. Similarly, the increased score on this item (69th percentile) in 2018 corresponds with a decreased turnover rate, the lowest in the last four years, at 15.5%. Unit scores of this engagement item are consistent with historical turnover rates.

The item representing interdisciplinary collaboration provides insight regarding teamwork, a key component of patient safety. This item increased from the 23rd percentile in 2017 to the 98th percentile in 2018. In 2019, the item score decreased, however remains above the 2017 score at the 43rd percentile. Administrators may consider incorporating historical patient safety data to explore connections.

Survey Item	Percentile Ranking		
	2017	2018	2019
Sufficient unit staffing	1st %ile	69th %ile	65th %ile
Few sleep disturbances related to work	1st %ile	69th %ile	83rd %ile
Staff satisfaction	1st %ile	41st %ile	3rd %ile
Intent to stay with the organization	1st %ile	33rd %ile	19th %ile
Interdisciplinary collaboration	23rd %ile	98th %ile	43rd %ile

Figure 16. Percentile rankings for select engagement items from 2017 to 2019.

Turnover. According to Melnyk (2019), losing a new nurse within the first year of practice can cost up to three times the nurse's annual salary. Costs account for recruitment, orientation, training, and filling any temporary vacancies. A current unit job listing indicates the hourly wage of a nurse ranges from $26.22 to $43.40. The estimated cost of turnover for a junior

nurse is calculated using the minimum hourly wage of a nurse, $26.22. Using the minimum hourly wage results in a conservative estimate of costs related to losing a new nurse on the unit. The minimum hourly wage, $26.22, is multiplied by 40 (hours per week) by 52 (weeks in a year) to total $54,537. To account for benefits, an added 33% (fringe and benefits rate) results in a total annual salary of $72,534. The cost of losing a new nurse amounts to three times the estimated yearly salary at $217,603.

Figure 17 depicts the turnover rate over time and shows a decline in turnover from 33.8% in 2017, after Be Wise implementation, to 15.5% percent in 2018. The decreased turnover rate corresponds with active Be Wise program implementation. This is a relevant finding in that the costs avoided by preventing and decreasing unit turnover may outweigh the costs of Be Wise resources. In 2017, a 33.8% turnover rate indicates 18 employees left the unit. The estimated cost of losing a new nurse ($217,603) is multiplied by 18 to determine the cost of turnover in 2017 amounted to $3.9 million dollars. In contrast, after active Be Wise implementation, the costs of turnover decreased to $1.7 million in 2018.

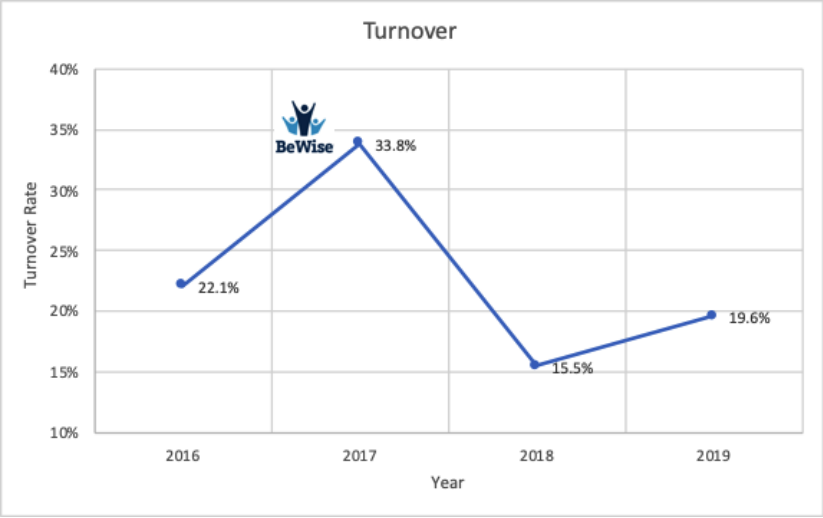

Figure 17. Unit turnover rate from 2016 to 2019.

Absenteeism. Figure 18 depicts absenteeism over time. The figure shows a drastic decrease in absenteeism from 2017 to 2018, shortly after the implementation of the Be Wise program. Also, the decreased absenteeism trend correlates with active Be Wise implementation. This is a relevant finding in that the costs of filling call outs may outweigh the costs of Be Wise resources.

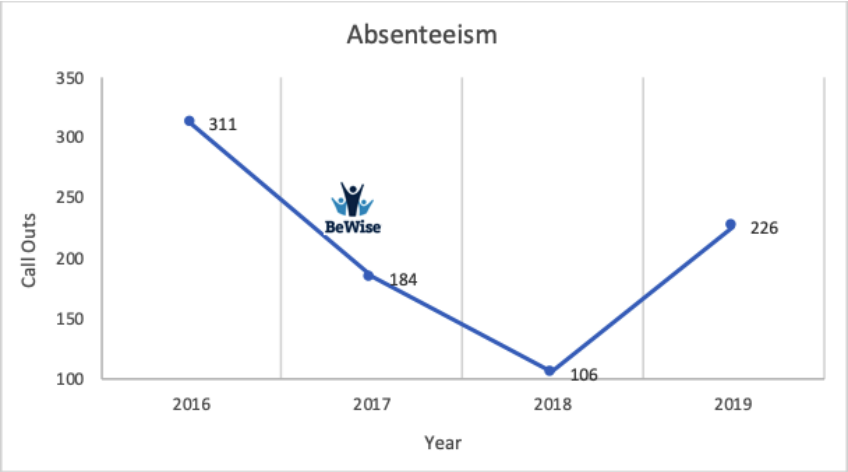

Figure 18. Unit absenteeism from 2016 to 2019.

The average hourly wage of a unit nurse ($34.81) was multiplied by 12 hours to determine manpower costs per shift ($417.72). Using an average hourly wage accounts for nurses with varying levels of experience and seniority. When staff call out, it is typical of leadership to offer incentive pay starting at an additional $10 per hour which amounts to $537.72 per shift. If staff choose to fill call out gaps they may qualify to receive overtime pay which could amount to $746.58 per shift.

As there were 311 call outs in FY 2016, $417.72 was multiplied by 311 resulting in $129,910.92 shift costs. Based on the above shift costs that account for incentive pay and overtime, it cost between $129,910.92 and $232,186.38 to fill call outs in FY 2016. Additionally, absent staff typically opt to collect paid time off wages adding to the costs incurred by the organization. In contrast, absenteeism decreased to 106 call outs in FY 2018 resulting in

significant reductions in shift costs. Based on the same calculations described above, it cost significantly less (between $44,278.32 and 79,137.48) to fill call outs in FY 2018.

Strengths and limitations of workforce data. The main advantage of utilizing workforce data is that collection occurs as part of an ongoing process integrated into the current workflow. A limitation is that workforce data is subject to systematic errors influenced by factors such as staffing. However, as data measurements occur uniformly across the health system, any errors are occurring equally throughout the organization resulting in data that is still valid for comparison.

Another limitation relates to the calculation of turnover costs. Estimated turnover costs utilize an entry level nurse salary since most staff are nurses. In reality, staff other than nurses may earn less than the nurse hourly wage. However, any difference in salary between employees is offset by the fact that many nurses will also get paid more due to seniority and experience.

Step 6: Ensuring Use and Lesson Learned

During Step 6, evaluation findings were disseminated to stakeholders for their review and future use. In a meeting with the key stakeholders, the findings were discussed in order to determine how results may be utilized to guide future action. The recommendations adopted by the stakeholders are discussed in the nursing practice implications section of this paper. The detailed checklist for actions taken during Step 6 are located in Appendix I.

Sustainability plan. Routine program evaluation is an essential component of program management. Throughout the program evaluation, stakeholders and staff were informed of the processes that guided the evaluation. Upon completion of my evaluation, the findings were disseminated and discussed with stakeholders and unit staff. Stakeholders were educated on the full program evaluation process as well as the results of the evaluation.

Discussion

Nursing Practice Implications

Poor wellbeing is associated with adverse patient safety outcomes (Hall et al., 2016) and intention to leave the organization (Moloney et al. 2018). Thus, a successful program that impacts factors related to occupational stress and improves provider wellbeing would benefit any health system. Results and lessons learned from this evaluation may guide current implementation of Be Wise in the unit. Additionally, the findings of this evaluation can impact future use of Be Wise in other units throughout the medical center.

In Step 6, the DNP student and stakeholders discussed how evaluation findings could affect future program actions. Stakeholders are in the process of acting upon the recommendation of increased participation as they are seeking more unit champions and expanding the program to a sister unit. Another accepted recommendation is that the unit and development team plan to clarify overarching and specific unit goals so they are tailored to the target unit. Results of this program evaluation have also impacted various development team decisions. The development team is currently pursuing expansion to other units within the health system as well as developing a facility wide champion training program. Lastly, the development team is working to restructure data collection by establishing a brief, systematic, and ongoing stress assessment.

Strengths and Limitations

A strength of this project was that the CDC (1999) framework provides specific guidance for the completion of an evaluation. Using the framework, the evaluation plan adapted to suit the needs of the unit. While the framework provided specific tasks and requirements for each evaluation step, the process was flexible and allowed for alterations as necessary. Another

strength was the support from stakeholders to complete the evaluation. Both the nurse manager and development team supported the evaluation as it was the first review of the pilot program. Stakeholders planned to use results of this evaluation to guide future program implementation.

Another strength was that the Be Wise pilot started in 2016 thus baseline data as well as periodic facility data was available. A limitation regarding data collection was the lack of recollection since baseline. Additionally, it proved difficult to obtain some archival data due to staff attrition and loss of data. Lastly, new data was subject to recall bias as staff members were recanting their experiences with Be Wise over the last three years.

Another limitation of this project relates to respondent burden among stakeholders. As the pilot program started in 2016, some stakeholders were oversaturated with surveys and at times it was difficult to gain assistance and participation. Talking with unit staff revealed a number of other demands, unrelated to Be Wise, such as unit peer reviews and engagement surveys added to respondent burden.

Gaining participation among Be Wise champions also proved difficult. A champion focus group was attempted; however, due to personal and work-related scheduling conflicts, did not occur. The challenges experienced while implementing this program evaluation confirm the personal and occupational demands experienced by staff present a strain that limits participation in unit events.

DNP Essentials

In the context of the DNP essentials, this scholarly project is most in line with Essential III (Clinical Scholarship and Analytical Methods for Evidence-Based Practice) and Essential VII (Clinical Prevention and Population Health for Improving the Nation's Health). This scholarly project meets criteria of Essential III as it involved designing and implementing a program

evaluation examining outcomes within a unit in a healthcare organization. This scholarly project meets criteria of Essential VII as it involved analyzing data, synthesizing concepts, and evaluating a program related to occupational health of healthcare providers.

Products of the Scholarly Practice Project

The product of this scholarly project was the complete program evaluation. In Step 6 of the evaluation plan, results were disseminated to stakeholders for review and future use. A stakeholder meeting was conducted in which the evaluation findings were discussed, with a focus on utilizing the evaluation to guide future actions. The program evaluation may also be useful to the medical center, as the Be Wise program or components of the program may be beneficial on other units.

Upon completion of this scholarly project, a manuscript will be submitted for publication to the Journal of the American Psychiatric Nurses Association (JAPNA). JAPNA author guidelines are located in Appendix J. The approved manuscript will also be submitted to Libra, UVA's scholarly repository.

Future Scholarly Work

Existing research around occupational stress primarily focuses on interventions that affect individual mental wellness characteristics. Scholarly work is needed to determine the effectiveness of programs, rather than interventions or bundles, such as Be Wise on both individual and unit characteristics. Areas of interest may include individual characteristics such professional empowerment, perceived stress, and other psychological symptoms. Unit characteristics of interest may include peer support, engagement, turnover, and absenteeism.

Conclusion

Throughout the literature there is a widespread acknowledgement that occupational stress and subsequent burnout among healthcare providers is a major problem. The NAM's (2019b) recent stance in "Taking Action Against Clinician Burnout: A systems approach to professional well-being" urges professional entities to act against burnout as it is a major, multifaceted issue for healthcare providers and organizations. While Be Wise and this program evaluation predate the National Academy of Medicine's (2019b) publication, the pilot unit has answered the call and acted towards reducing clinician burnout since Be Wise implementation in 2016. Rather than employing single interventions, the Be Wise program is a culmination of tactics that target both individual and organizational factors with the capabilities to affect burnout.

A recurrent theme throughout this evaluation was that Be Wise increased awareness of mental wellness and stress in the workplace. Many staff members view Be Wise as a positive addition to their workplace, although this sentiment was often coupled with an additional, unwanted workload associated with program activities. Additionally, this program evaluation yielded various recommendations regarding program goals, data handling, and perceptions of effectiveness among staff. The overarching recommendation is that Be Wise requires routine evaluation incorporated into program processes. Regular program evaluation will allow stakeholders to determine program success as well as implement program improvement based on unit needs.

Current literature supports that occupational stress results from both individual and organization factors; yet available evidence focuses primarily on individual factors. Be Wise is consistent with existing evidence in that many program principles and activities gear towards individuals. However, the Be Wise program attempts to fill current gaps by going beyond

individual approaches and incorporating peer, unit-based tactics. The Be Wise program, led by champion peers, fosters wellness at both the individual and unit level. Future scholarly work should explore programs, such as Be Wise, rather than single interventions.

References

Alexander, G., Rollins, K., Walker, D., Wong, L., & Pennings, J. (2015). Yoga for self-care and burnout prevention among nurses. *Workplace Health & Safety, 63*(10), 462-471. doi.org/10.1177/2165079915596102

American Public Health Association. (2019). What is public health? Retrieved from https://www.apha.org/what-is-public-health

Andrew, L. & Brenner, B. (2015). Physician suicide. Retrieved from http://emedicine.medscape.com/article/806779 (accessed May 4, 2016).

Be Wise Development Team. (2017). Be Wise Unit Team Training. UVA Health System, Charlottesville, VA.

Broom, C., Shirk, M. J., Pehrson, K. M., & Peterson, K. (2008). Perspectives on psychiatric consultation liaison nursing psychiatric-mental health advanced practice nurses: Transforming nursing practice. *Perspectives in Psychiatric Care*, *44*(2), 131–134. doi.org/10.1111/j.1744-6163.2008.00163.x

Centers for Disease Control and Prevention. (1999). *Framework for program evaluation in public health* (No.RR-11). Retrieved from https://www.cdc.gov/eval/framework/index.htm

Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, 386-396.

Donabedian, A. (1966). Evaluating the quality of medical care. *Milbank Memorial Fund Quarterly*, 44(Suppl), 166–206.

Donabedian, A. (1980). Methods for deriving criteria for assessing the quality of medical care. *Medical Care Review*, 37(7), 653–698.

El Khamali, R., Mouaci, A., Valera, S., Cano-Chervel, M., Pinglis, C., Sanz, C… Papazian, L. (2018). Effects of a multimodal program including simulation on job strain among nurses working in intensive care units: A randomized clinical trial. *Journal of the American Medical Association, 320*(19), 1988-1997. doi.org/10.1001/jama.2018.14284

Espeland, K. E. (2006). Overcoming burnout: How to revitalize your career. *The Journal of Continuing Education in Nursin*g, *37*(4), 178-184. Retrieved from doi.org/10.3928/00220124- 20060701-04

Gallagher, R. (2013). Compassion fatigue. *Canadian Family Physician, 59*(3), 265-268. Retrieved from https://www.cfp.ca/content/59/3/265.short

Hall, L.H., Johnson, J., Watt, I., Tsipa, A., O'Connor, D.B. (2016). Healthcare staff wellbeing, burnout, and patient safety: A systematic review. *PLOS ONE, 11*(7). doi:10.1371/journal. pone.0159015

Halm, M. (2017). The role of mindfulness in enhancing self-care for nurses. *American Journal of Critical Care*, *26*(4), 344–348. doi.org/10.4037/ajcc2017589

Hersch, R. K., Cook, R. F., Deitz, D. K., Kaplan, S., Hughes, D., Friesen, M. A., & Vezina, M. (2016). Reducing nurses' stress: A randomized controlled trial of a web-based stress management program for nurses. *Applied Nursing Research*, *32*, 18–25. doi.org/10.1016/j.apnr.2016.04.003

Institute of Medicine Committee on Quality of Health Care in America. (2000). *To err is human: Building a safer health system*. L.T. Kohn, J.M. Corrigan, & M.S. Donaldson (Eds.). Washington, DC: National Academies Press. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/25077248

Kaschka, W. P., Korczak, D., & Broich, K. (2011). Burnout: A fashionable diagnosis. *Deutsches Aerzteblatt Online, 108*(46), 781-787. doi.org/10.3238/arztebl.2011.0781

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. Journal of Occupational Behavior, 2, 99-113. doi:10.1002/job.4030020205

Mealer, M., Conrad, D., Evans, J., Jooste, K., Solyntjes, J., Rothbaum, B., Moss, M. (2014). Feasibility and acceptability of a resilience training program for intensive care unit nurses. *American Journal of Critical Care, 23*(6), 97-105. doi:10.4037/ajcc2014747.

Melnyk, B.M. (2019). Making an evidenced-based case for urgent action to address clinician burnout. American Journal of Accountable Care, 12-14.

Moloney, W., Boxall, P., Parsons, M., & Cheung, G. (2018). Factors predicting Registered Nurses' intentions to leave their organization and profession: A job demands-resources framework, *Journal of Advanced Nursing, 74*(4), 864-875. doi:10.1111/jan.13497

Monsalve-Reyes, C. S., San Luis-Costas, C., Gómez-Urquiza, J. L., Albendín-García, L., Aguayo, R., & Cañadas-De la Fuente, G. A. (2018). Burnout syndrome and its prevalence in primary care nursing: a systematic review and meta-analysis. *BMC family practice*, *19*(1), 59. doi:10.1186/s12875-018-0748-z

Moss, M., Good, V. S., Gozal, D., Kleinpell, R., & Sessler, C. N. (2016). An Official Critical Care Societies Collaborative Statement: Burnout Syndrome in Critical Care Healthcare Professionals. *Critical Care Medicine*, *44*(7), 1414–1421. doi.org/10.1097/CCM.0000000000001885

Nash, W. P., Westphal, R. J., Watson, P. J., & Litz, B. T. (2011). Combat and Operational Stress First Aid: Responder Training Manual. Washington, DC: U.S. Navy, Bureau of Medicine and Surgery.

National Academy of Medicine. (2019a). Clinical well-being knowledge hub. Retrieved from https://nam.edu/clinicianwellbeing/

National Academy of Medicine. (2019b). *Taking action against clinician burnout: A systems approach to professional well-being.* National Academies Press.

National Institute for Occupational Safety and Health. (2014). Stress… at work. Retrieved from https://www.cdc.gov/niosh/docs/99-101/default.html#What%20Is%20Job%20Stress?

Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013). The PTSD Checklist for *DSM-5* (PCL-5). Retrieved from www.ptsd.va.gov

Newhouse, R., Dearholt, S., Poe, S., Pugh, L.C., White, K. (2005). *The Johns Hopkins Nursing Evidence-based Practice Rating Scale.* Baltimore, MD: The Johns Hopkins Hospital; Johns Hopkins University School of Nursing.

Nursing Solutions Incorporated. (2019). 2*019 National health care retention and RN staffing report.* Retrieved from http://www.nsinursingsolutions.com/Files/assets/library/retention-institute/2019%20National%20Health%20Care%20Retention%20Report.pdf

Orly, S., Rivka, B., Rivka, E., & Dorit, S. (2012). Are cognitive-behavioral interventions effective in reducing occupational stress among nurses? *Applied Nursing Research, 25*(3), 152-157. doi.org/10.1016/j.apnr.2011.01.004

Peckham, C. (2015). Physician burnout: It just keeps getting worse, *Medscape Lifestyle Report.* Retrieved from https://www.medscape.com/viewarticle/838437_1

Polit, D.F. and Beck, C.T. (2012). Nursing Research: Generating and Assessing Evidence for Nursing Practice. 9th Edition, Lippincott, Williams & Wilkins, Philadelphia.

Press Ganey. (2019). UVAMC 2019 Employee Survey.

PRC Custom Research. (2019). *National nursing engagement report*. Retrieved from https://prccustomresearch.com/wp-content/uploads/2019/PRC_Nursing_Engagement_Report/PRC-NurseReport-Final-031819-Secure.pdf

Redhead, K., Bradshaw, T., Braynion, P., & Doyle, M. (2011). An evaluation of the outcomes of psychosocial intervention training for qualified and unqualified nursing staff working in a low-secure mental health unit. *Journal of Psychiatric and Mental Health Nursing, 18*(1), 59-66. doi.org/10.1111/j.1365-2850.2010.01629.x

Sabancıogullari, S., & Dogan, S. (2015). Effects of the professional identity development programme on the professional identity, job satisfaction and burnout levels of nurses: a pilot study. *International Journal of Nursing Practice, 21*(6), 847-857. doi.org/10.1111/ijn.12330

Stamm, B.H. (2010). The Concise ProQOL Manual, 2nd Ed. Pocatello, ID: ProQOL.org.

U. S. Navy Bureau of Medicine and Surgery. (2011). Caregiver Occupational Stress Control Team Training Workbook.

United States Marine Corps and United States Navy. (2010). *Combat and operational stress control* (MCRP 6-11C/NTTP 1-15M). Quantico, VA: Marine Corps Combat Development Command.

Villani, D., Grassi, A., Cognetta, C., Toniolo, D., Cipresso, P., & Riva, G. (2013). Self-help stress management training through mobile phones: An experience with oncology nurses. *Psychological Services*, *10*(3), 315–322. doi.org/10.1037/a0026459

World Health Organization. (2019). Burn-out an "occupational phenomenon": International Classification of Diseases. Retrieved from https://www.who.int/mental_health/evidence/burn-out/en/

Appendix A

Primary Search Studies

Reference	Design	Subjects & Setting	Sample Size	Intervention	Outcomes	Quality & Limitations
Orly, Rivka, Rivka, & Dorit (2012)	quasi-experimental; no randomization	Nurses (age 28-60) from several departments within one hospital with 5 years experience in both clinical and administrative roles; snowball sampling; Israel	36 total; 20 intervention, 16 control	CBI course (64 hours total) using cognitive behavioral concepts as they relate to work and 5 seminars to discuss issues related to work; intervention duration - four, 1-hour meetings once a week; compared to only seminars	Statistically significant decrease of stress and manifestations of stress: Stronger sense of coherence, decreased perceived stress, decreased fatigue, and increased vigor. No statistically significant changes were detected in four POMS subscales: tension, depression, anger, and confusion.	Level II; small sample, no randomization, only one hospital, self-report measurements
Sabancıogullari & Dogan (2015)	quasi-experimental; no randomization	Nurses in a university hospital; those who scored lowest on baseline assessments for professional self-concept were chosen; Turkey	63 total; 33 intervention, 30 control	Professional Identity Awareness Development Education Programme based on Professional Self Image (Strasen, 1992); focus on goal setting and professional satisfaction; intervention duration ten weeks (2-hour sessions once per week); compared to no intervention	No statistical significance found regarding manifestations of stress such as burnout or satisfaction. Significant improvement in professional self-concept after intervention and at 6 months.	Level II; no randomization, control group had more stress at baseline, small sample, only within one hospital, nurses with poorest scores were chosen for inclusion, self-report measurements

Reference	Design	Subjects & Setting	Sample Size	Intervention	Outcomes	Quality & Limitations
Redhead, Bradshaw, Braynion, & Doyle (2011)	RCT	Direct care nursing staff working on an inpatient mental health unit; England	42 total; 22 intervention and 20 control	Psychosocial intervention training program: licensed staff - 16 half day sessions over 8 months; unlicensed staff - 8 half day sessions; intervention duration - 8 months; compared to no intervention	Statistically significant improvement in knowledge, attitudes, and some manifestations of stress: Increased knowledge of PSI, improved attitudes, improved in one component of burnout (depersonalization); no differences in emotional exhaustion or personal achievement	Level I; convenience sampling, no power analysis, small sample, only one unit, proximity of staff in experiment vs. control, some outcomes measured through unvalidated tools, self-report measurements
El Khamali et al. (2018)	RCT	ICU nurses with at least 6 months experience (8 adult ICUs in France); France	198 total; 101 intervention and 97 control	Program including 1) nursing theory, 2) simulation on clinical decision making, teamwork, and task prioritization, and 3) debriefing; intervention duration - 5 days; compared to no intervention	Statistically significant improvement in some manifestations of stress: Decreased job strain and isostrain (combination of job strain and low social support) at 6 and 12 months. Secondary outcomes were only presented at 6 months: improved job satisfaction, decreased burnout, decreased absenteeism and decreased turnover.	Level I; proximity of nurses in control vs experiment group, self-report measurements

Reference	Design	Subjects & Setting	Sample Size	Intervention	Outcomes	Quality & Limitations
Alexander et al. (2015)	RCT	Nurses; self-selected; no previous experience; Texas, USA	40 total; 20 intervention, 20 control	Weekly yoga (self-awareness, conscious/deep breathing, postural alignment, meditation) and handouts; intervention duration - 8 weeks; compared to no intervention	Statistically significant improvement in some manifestations of stress: Increased health promoting behaviors and mindfulness components, decreased burnout components (emotional exhaustion and depersonalization); no differences in personal achievement	Level I; small sample, convenience sampling, self-report measurements
Villani et al. (2013)	RCT	30 female oncology nurses, average 22 years experience; Italy	30 total; 15 intervention and 15 control	Self-help stress management training using mobile phones; participants watched eight 15-minute videos twice per week while control group watched 8 "neutral videos" twice per week; intervention duration - 4 weeks	Statistically significant in decreasing some symptoms of stress: Decreased anxiety, improved active coping, and decreased denial.	Level I, experimental group had more stress at baseline, small sample, self-report measurements
Hersch et al. (2016)	RCT	RNs in six hospitals; VA and NY, USA	total 104; 52 each	Web based stress management program for nurses; seven modules (assessment, identification, and management of stress; negative coping, seeking counseling) plus one extra module for managers; intervention duration - three months; compared to no intervention	Statistically significant in decreasing perceived stress. No differences in coping, symptoms of distress, work limitations, substance use, or satisfaction.	Level I; small sample, self-report measurements, some nurses did not access program

Reference	Design	Subjects & Setting	Sample Size	Intervention	Outcomes	Quality & Limitations
Mealer et al. (2014)	RCT	ICU nurses; self-enrolled; USA	33 total; 14 intervention and 15 control	Multimodal resilience training program consisting of 1) two-day mindfulness and written exposure workshop, 2) twelve 30-minute written exposure sessions with feedback, 3) 15-minute mindfulness practice three times per week, 4) 30-45 minutes of exercise three times per week, and 5) event triggered counseling sessions; duration - 3 months; compared to no intervention	Statistically significant improvement in some manifestations of stress: depression decreased but not anxiety. Both control and intervention group had significant reductions in PTSD. Program was feasible and acceptable as evidenced by 100% attendance, completion, and high satisfaction scores.	Level I; small sample, not sufficiently powered, convenience sampling, self-report measurements

Nonexperimental References from Primary Search

Reference	Summary of relevant material
Halm, M. (2017). The role of mindfulness in enhancing self-care for nurses. American Journal of Critical Care, 26(4), 344–348. Level III; integrative review of 11 sources; mostly controlled studies, both randomized and nonrandom	Mindfulness interventions include: body scan, meditation, yoga, and intentional activation of kindness, gratitude, and self-compassion. Improvement on outcomes include: physiological states, psychological symptoms, satisfaction, relaxation, and well-being. Posits that many interventions are short duration thus perhaps explaining the lack of evidence supporting long term outcome effects in burnout or satisfaction.
Nash, W. P., Westphal, R. J., Watson, P. J., & Litz, B. T. (2011). Combat and Operational Stress First Aid: Responder Training Manual. Washington, DC: U.S. Navy, Bureau of Medicine and Surgery. Level IV; manual; opinion of committee of experts	Provides a multifaceted approach for assessment and care of stress injuries based on Stress Continuum Model. Based on theory that people can find themselves somewhere along this continuum at all times and individuals can experience stress and simultaneously be well.
National Institute for Occupational Safety and Health. (2014). Stress… at work. Level IV; manual; opinion of national organization comprised of recognized experts	Occupational stress is common in America's workforce. Occupational stress results from both stressful job conditions and individual factors. Conditions that lead to stress include: task designs, management, interpersonal factors, work roles, career concerns, and environmental conditions. Occupational stress prevention includes both organizational change and individual stress management.

Appendix B

Correspondence from IRB

Loeb, Laura (ll2dm) <ll2dm@virginia.edu> Sep 23, 2019, 2:57 PM

to me

Hi Shaina,

Thank you for explaining a bit more about the background. After further evaluation by our staff, we've determined that, as you say, this would be considered program evaluation. This means you do not need to get IRB approval. You may need approval from the department to do this evaluation, but that is something you'll need to determine yourself.

At this point, since you do not need our approval, let me know if you would like us to close out the IRB protocol.

Let me know if you have questions!

•••

Best,
Laura

--

Laura Loeb, PhD
Research Compliance Manager
Institutional Review Board for Social & Behavioral Sciences
University of Virginia

Appendix C

Step 1

CDC Program Evaluation Framework Checklist for Step 1

Engage Stakeholders

The first step in the CDC Framework approach to program evaluation is to engage the stakeholders. Stakeholders are people or organizations that are invested in the program, are interested in the results of the evaluation, and/or have a stake in what will be done with the results of the evaluation. Representing their needs and interests throughout the process is fundamental to good program evaluation. A program may have just a few or many stakeholders, and each of those stakeholders may seek to be involved in some steps or all six steps. This checklist helps identify stakeholders and understand their involvement in the evaluation.

Although "Engaging Stakeholders" is the first of the 6 steps, the first three steps of the CDC Framework are iterative and can happen in any sequence. For instance, identifying the right stakeholders may make more sense to do for your evaluation after drafting the purpose, user, and use of the evaluation that happens in Step 3. That said, this checklist will help you think through the key points in identifying and engaging stakeholders throughout your evaluation.

☐ Brainstorm potential stakeholders. These may include, among others:
- ☐ People affected by your program
- ☐ People involved in implementing the program or conducting the evaluation
- ☐ People who will use the results of the evaluation. These may include internal staff, partners, program participants, community members, and other organizations, among others

In brainstorming the list be sure to think broadly, including in your list:
- ☐ People in the above categories who share your priorities, and people who don't
- ☐ People in the above categories who are critics as well as supporters

☐ Especially if the list is very long, try to extract the subset of most important stakeholders. Some helpful criteria for identifying whether a person or organization is a key stakeholder include that they:
- ☐ Increase the credibility of your program or your evaluation
- ☐ Are responsible for day-to-day implementation of the program activities that are being evaluated and will need to implement any changes
- ☐ Can advocate for the changes to the program that the evaluation may recommend, OR actively oppose the recommended changes
- ☐ Fund or authorize the continuation or expansion of the program

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Program Performance and Evaluation Office

☐ Discuss with key stakeholders individually the best way to engage them—in person, phone, email etc. Regardless of chosen medium, in the engagement discussions get clarity on the following questions: [NOTE: If a preliminary logic model for the program has been completed, then use it to help frame and target the questions.]

- ☐ What do you see as the main outcomes of the program?
- ☐ What do you see as the main activities of the program?
- ☐ Which of the activities and outcomes are most important to you? That is, to retain your involvement and support, which activities must be effectively implemented and/or which outcomes achieved?
- ☐ What do you see as the most important evaluation questions at this time?
- ☐ [If outcomes are included] How rigorous must the design be?
- ☐ Do you have preferences regarding the types of data that are collected (e.g., quantitative, qualitative)?
- ☐ What resources (e.g., time, funds, evaluation expertise, access to respondents, and access to policymakers) might you contribute to this evaluation effort?
- ☐ In what parts or steps of this evaluation would you want to be involved? All or just some specific ones?
- ☐ How would you like to be kept apprised of this evaluation? How best to engage you in the steps in which you want to be involved?
- ☐ (How) will **you** use the results of this evaluation?

☐ Examine the results of the stakeholder discussion for insights related to development/refinement of the program description and logic model. Also examine for a starter set of important evaluation questions, which will be elaborated during Step 3.

☐ Especially if there are many stakeholders, summarize the results of the engagement discussions with a [simple or detailed as you prefer] plan for stakeholder involvement, including which stakeholders will participate/provide input during the major stages of the project and what their roles and responsibilities will be for each step.

Appendix D

Step 2

CDC Program Evaluation Framework Checklist for Step 2

Describe the Program

A **logic model** is a graphic depiction (road map) that presents the shared relationships among the resources, activities, outputs, and outcomes/impacts for your program. It depicts the relationship between your program's activities and its intended effects, in an implicit 'if-then' relationship among the program elements — if I do this activity, then I expect this outcome. Among other things, a logic model helps clarify the boundary between 'what' the program is doing and 'so what'—the changes that are intended to result from strong implementation of the "what."

A logic model can focus on any level of an enterprise or program: the entire organization, one of its component departments or programs, or just specific parts of that department or a program. Of course, the boundary between "what" and "so what" will vary accordingly.

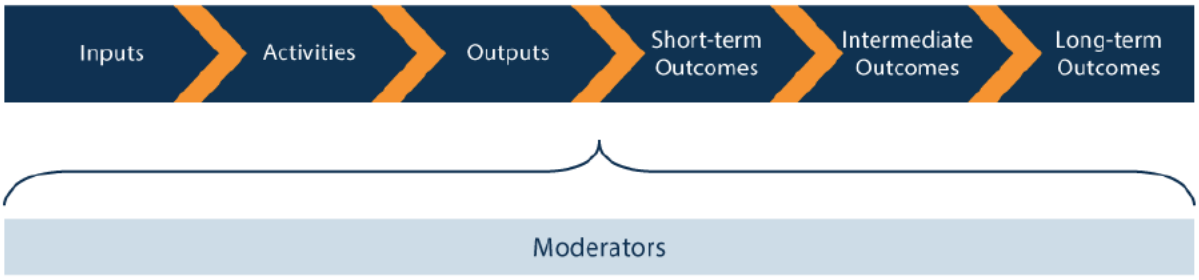
Related Terms

Logic models are the most common, but not the only, name applied to a visual depiction of a program. Here are some names of others approaches that either replicate or closely resemble logic models in their format and intent. There are occasions where one approach/format is a better fit than another, but often any of these will work equally well:

- Program Roadmaps
- Theory of Change
- Theory of Cause
- Theory of Action
- Concept(ual) Maps
- Outcome Maps
- Logical Frameworks (LogFrames)

Logic models differ widely in format and level of detail. Here are some key terms used in logic models, although not all are employed in any given model:

- Inputs: The resources needed to implement the activities
- Activities: What the program and its staff do with those resources
- Outputs: Tangible products, capacities, or deliverables that result from the activities
- Outcomes: Changes that occur in other people or conditions because of the activities and outputs
- Impacts: [Sometimes] The most distal/long-term outcomes
- Moderators: Contextual factors that are out of control of the program but may help or hinder achievement of the outcomes



Let's get started. Here are the key steps to developing a useful logic model:

- ☐ Gather information available on the program, including but not limited to:
  - ☐ Mission and vision
  - ☐ Goals and objectives
  - ☐ Current program descriptions such as websites, program descriptions, fact sheets
  - ☐ Strategic plans
  - ☐ Business, communication, and marketing plans
  - ☐ Existing/previous logic models
  - ☐ Existing performance measures and/or program reviews

- ☐ Review the information and extract from it to create a two-column table including:
  - ☐ Column 1: Activities: What the program and its staff do.
  - ☐ Column 2: Outcomes: Who or what beyond the program and its staff needs to change and how. In generating outcomes, it helps to Identify the target audiences for program activities and the action they must take in order for the activities to be successful.
  - ☐ Within the list in column 2, identify the most distal outcome: What is the big public health problem you aim to address with your program?

- ☐ Clarify the activities and outcomes with stakeholders* to ensure:
  - ☐ Appropriate classification; no activities are actually outcomes and no outcomes listed are actually activities
  - ☐ No major redundancy in list of activities or list of outcomes
  - ☐ No major missing activities or outcomes

☐ Decide whether the activities should be ordered sequentially. If so:
- ☐ Think about the "logical" relationship among the activities—which may or may not be the same as how they unfold over time— and determine if some activities need to occur before others can be implemented
- ☐ Order the activities within the columns into earlier or later activities to reflect the sequential relationships

☐ Decide whether the outcomes should be ordered sequentially
- ☐ Think about the "logical" relationship among the outcomes-- will some outcomes logically need to occur before others can be achieved?
- ☐ Move the outcomes into columns to reflect the sequence in which the outcomes should occur. Label the columns as needed (i.e., short-, mid, long-term; or [proximal, intermediate, distal)

☐ Check in with your stakeholders
- ☐ To ensure the activities and outcomes reflect their understanding of the program to ensure:
  - There are no major missing activities or outcomes
  - The logical progression of activities
  - The logical progression of the outcomes
- ☐ To (re)affirm the intended uses of the logic model (i.e., assess implementation, assess effectiveness, performance measurement, strategic planning)

The intended uses of the logic model, will determine which, if any, of the elaborations below would make the logic model more useful.

☐ If **depicting the program logic** in a roadmap format is desirable, then:
- ☐ Write each of the existing activities and outcomes on a sticky note, or equivalent
- ☐ Move the notes around to allow for drawing of lines to depict logical relationships
- ☐ Draw in lines remembering that lines may go from:
  - One or more activities to a subsequent activity
  - One or more activities to an outcome
  - One or more proximal outcomes to a more distal outcome

☐ If **outputs** are desired because stakeholders would like clarification of the direct result of the activities, then using the logic model table or (better) the roadmap:
- ☐ Identify the activities for which outputs are desired
- ☐ Identify the link between those activities and their successor activities or outcomes
- ☐ Thinking about that logical link, what are the key attributes of the activity that must be present for it to produce its successor activity or outcome
- ☐ Place the outputs in the appropriate place in the logic model table or roadmap

☐ If **inputs** are desired because stakeholders would like clarification of necessary resources to implement the program, then:
- ☐ Identify the key inputs without which the program cannot be implemented. Think about broad categories such as staff, equipment, data, funds, and partnerships.
- ☐ Place the inputs into a column to the left of the activities in the logic model.
- ☐ If it is important to see the link between each input and the activity it affects, then draw arrows from each input to the related activity

☐ If **moderators** are desired because—in the view of stakeholders and users—clarification of potential facilitators or barriers in the larger environment is necessary:
- ☐ Identify the key moderators, thinking of broad categories such as political, economic, social, and technological
- ☐ Identify what links in the program logic will be facilitated or impeded by the presence or absence of sufficient levels of the moderator. Remember moderators can facilitate or impede the ability of one activity/output to generate a successor activity/output, one activity/output to generate an outcome, a proximal outcome to generate a more distal outcome
- ☐ Be especially conscious of key moderators without which the program cannot be implemented
- ☐ Place the moderators into the appropriate place in the logic model table or roadmap.
- ☐ If using a roadmap, decide whether to leave the moderators in one block at the bottom of the logic model or draw lines from each moderator to the logical link it will facilitate or hinder
- ☐ Review and affirm or further refine with stakeholders, especially those who will use the logic model

☐ Review and affirm the elaborations of the logic model with stakeholders to ensure it accurately represents the program and the relationships among the components

☐ Create a narrative to go with the logic model. A one-page logic model will not be able to capture all the nuances of the program. The narrative will help explain the components of the logic model and how they work together to accomplish the outcomes. The narrative should include the following:
- ☐ An expanded description of the activities, outcomes, and other components of the logic model
- ☐ Any key linkages between activities, between activities and outcomes, and between different outcomes
- ☐ Attribution v. contribution to outcomes, etc.
- ☐ Stakeholder expectations for what will be accomplished, etc.

*Stakeholders are people or organizations that are invested in the program, are interested in the results of the evaluation, and/or have a stake in what will be done with the results of the evaluation. This definition is found in *Checklist for Step 1: Engage Stakeholders*.

Appendix E

Step 3

CDC Program Evaluation Framework Checklist for Step 3

Focus the Evaluation

In Step 2 you described the entire program, but usually the entire program is not the focus of a given evaluation. Step 3 is a systematic approach to determining where to focus this evaluation, this time. Where the focus lies in the logic model is determined, in conjunction with stakeholders, through application of some of the evaluation standards. While there are more than 30 standards, the most important ones fall into the following four clusters:

- **Utility:** Who needs the information from this evaluation and how will they use it?
- **Feasibility:** How much money, time, skill, and effort can be devoted to this evaluation?
- **Propriety:** Who needs to be involved in the evaluation to be ethical?
- **Accuracy:** What design will lead to accurate information?

☐ The standards help you assess and choose among options at every step of the framework, but some standards are more influential for some steps than others. The two standards most important in setting the focus are "utility" and "feasibility." Ensure that all stakeholders have common understandings of the phases (formative/summative) and types of evaluations (needs assessment/process/outcome/impact).

☐ Using the logic model, think through where you want to focus your evaluation, using the principles in the "utility" standard:

- ☐ Purpose(s) of the evaluation: implementation assessment, accountability, continuous program improvement, generate new knowledge, or some other purpose
- ☐ User(s): the individuals or organizations that will employ the evaluation findings
- ☐ Use(s): how will users employ the results of the evaluation, e.g., make modifications as needed, monitor progress toward program goals, make decisions about continuing/refunding
- ☐ Review and refine the purpose, user, and use with stakeholders, especially those who will use the evaluation findings

☐ Identify the program components that should be part of the focus of the evaluation, based on the utility discussion:

- ☐ Specific activities that should be examined
- ☐ Specific outcomes that should be examined
- ☐ Specific pathways from activities to specific outcomes or outcomes to more distal outcomes
- ☐ Specific inputs or moderating factors that may or may not have played a role in success or failure of the program

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☐ Refine/expand the focus to include additional areas of interest, if any, identified in Steps 1 and 2
- ☐ Does the focus address key issues of interest to important stakeholders?
- ☐ Did the program description discussion identify issues in the program logic that may influence the program logic?
- ☐ Are issues of cost, efficiency, and/or cost-effectiveness important to some or all stakeholders?

☐ Refine/expand the focus to include additional areas of interest based on the propriety and accuracy evaluation standards
- ☐ Are there components of the program—activities, outcomes, pathways, or inputs/moderators that must be included for reasons of "ethics" or propriety?
- ☐ Are there components of the program—activities, outcomes, pathways, or inputs/moderators that must be included to ensure that the resulting focus is "accurate"?

☐ "Reality check" the expanded focus using the principles embedded in the "feasibility" evaluation standard
- ☐ The program's stage of development: Is the focus appropriate given how long the program has been in existence?
- ☐ Program intensity: Is the focus appropriate given the size and scope of the program, even at maturity?
- ☐ Resources: Has a realistic assessment of necessary resources been done? If so, are there sufficient resources devoted to the evaluation to address the most desired items in the evaluation focus?

☐ At this point the focus may still be expressed in very general terms—this activity, this outcome, this pathway. Now, convert those into more specific evaluation questions. Some examples of evaluation questions are:
- ☐ Was [specific] activity implemented as planned?
- ☐ Did [specific] outcomes occur and at an acceptable level?
- ☐ Were the changes in [specific] outcomes due to activities as opposed to something else?
- ☐ What factors prevented the activities in the focus from being implemented as planned? Were [specific inputs and moderating factors] responsible?
- ☐ What factors prevented (more) progress on the outcomes in the focus? Were [specific moderating factors] responsible?
- ☐ What was the cost for implementing the activities?
- ☐ What was the cost-benefit or cost-effectiveness of the outcomes that were achieved?

☐ Consider the most appropriate evaluation design, using the four evaluation standards—especially utility and feasibility—to decide on the most appropriate design. The three most common designs are:

- ☐ Experimental: Participants are randomly assigned to either the experimental or control group. Only the experimental group gets the intervention. Measures of the outcomes of interest are (usually) taken before and after the intervention in both groups.
- ☐ Quasi-experimental: Same specifications as an experimental design, except the participants are not randomly assigned to a "comparison" group.
- ☐ Non-experimental: Because the assignment of subjects cannot be manipulated by the experimenter, there is no comparison or control group. Hence, other routes must be used to draw conclusions, such as correlation, survey or case study.

Some factors to consider in selecting the most appropriate design include:

- ☐ With what level of rigor must decisions about "causal attribution" be made?
- ☐ How important is ability to translate the program to other settings?
- ☐ How much money and skill are available to devote to implementing the evaluation?
- ☐ Are there naturally occurring control or comparison groups? If not, will selection of these be very costly and/or disruptive to the programs being studied?

☐ Start the draft of the evaluation plan. You will complete the plan in Step 4. But at this point begin to populate the measurement table (see example below) with:

- ☐ Program component from logic model (activity, outcome, pathway)
- ☐ Evaluation question(s) for each component

Evaluation Questions	Indicators	Data Source(s)	Data Collection Methods

Figure 1: Evaluation Plan Measurement Table

☐ Review and refine the evaluation focus and the starter elements of the evaluation plan with stakeholders, especially those who will use the evaluation results.

Appendix F

Step 4

Gathering credible evidence

Definition	Compiling information that stakeholders perceive as trustworthy and relevant for answering their questions. Such evidence can be experimental or observational, qualitative or quantitative, or it can include a mixture of methods. Adequate data might be available and easily accessed, or it might need to be defined and new data collected. Whether a body of evidence is credible to stakeholders might depend on such factors as how the questions were posed, sources of information, conditions of data collection, reliability of measurement, validity of interpretations, and quality control procedures.
Role	Enhances the evaluation's utility and accuracy; guides the scope and selection of information and gives priority to the most defensible information sources; promotes the collection of valid, reliable, and systematic information that is the foundation of any effective evaluation.
Activities	• Choosing indicators that meaningfully address evaluation questions; • Describing fully the attributes of information sources and the rationale for their selection; • Establishing clear procedures and training staff to collect high-quality information; • Monitoring periodically the quality of information obtained and taking practical steps to improve quality; • Estimating in advance the amount of information required or establishing criteria for deciding when to stop collecting data in situations where an iterative or evolving process is used; and • Safeguarding the confidentiality of information and information sources.

Adapted from Joint Committee on Standards for Educational Evaluation. Program evaluation standards: how to assess evaluations of educational programs. 2nd ed. Thousand Oaks, CA: Sage Publications, 1994.

Appendix G

Staff Survey

My role on the unit is:

A. Administration/Leadership
B. Licensed Indepdent Provider
C. Occupational Therapy, Physical Therapy, or Respiratory Therapy
D. Other
E. Unit Y Patient Care Assistant/Technician
F. Unit Y Registered Nurse
G. Unit X Patient Care Assistant/Technician
H. Unit X Registered Nurse

1. The Be Wise program has several goals. Of the following, what are the three most important to you? Rank three of the following from 1 to 3 with 1 being the most important and 3 being the least important.
   A. Enhancing resilience
   B. Facilitating a positive work environment
   C. Helping peers with stress injuries
   D. Identifying peers with stress injuries
   E. Optimizing caregiver wellbeing
   F. Other: _____
   G. Professional empowerment
   H. Reducing personal stress
   I. Staff retention

2. How often do you participate in **structured** Be Wise initiatives while at work such as in-services, huddles, and conversations about morally distressing patients?
   A. 1-2 times per week
   B. 1-2 times per month
   C. Less than once per month
   D. Never

3. How often do you utilize Be Wise initiatives such as positive practices (for example: mindful breathing) **on your own?**

A. Daily
B. 3-6 times per week
C. 1-2 times per week
D. Less than once per week
E. Never

4. Be Wise workshops (day long training sessions that are held away from the hospital) should be offered:
   A. Once per year
   B. Twice per year
   C. Three times per year
   D. Other _____

5. The original Be Wise process included a self-assessment using a series of surveys (For example - Professional Quality of Life Measure, Perceived Stress Scale). It is important to me to have self and unit assessments as part of the Be Wise process.

Strongly Disagree	Disagree	Somewhat Disagree	Neither or N/A	Somewhat Agree	Agree	Strongly Agree

6. On average, how much time (in minutes) are you are willing to spend on a Be Wise self-assessment survey?

   _____

7. What Be Wise strategy should be offered more frequently?
   A. Be Wise breakfasts & conversation
   B. Initial education and training (Awareness brief provided at any time including social day)
   C. Ongoing education (Champion led in-services)
   D. Other: _____
   E. Positive practices (mindful breathing etc.)
   F. Workshops (day long training sessions that are held away from the hospital)

8. There are four major concepts used in Be Wise. What concept do you know most about?
   A. Four Sources of Stress Injury Model
   B. “Growing the Green” (Positive practices, workshops, in-services)
   C. Stress Continuum (Green, yellow, orange, and red zones)

D. Stress First Aid (Seven C's: Check, coordinate, cover, calm, connect, competence, and confidence – a guide to helping someone with a stress injury)
E. I am not familiar with any of these

9. What Be Wise component has been ***most*** helpful?
   A. Initial education and training (Awareness brief provided at any time including social day)
   B. Ongoing education (Champion led in-services)
   C. Positive practices (mindful breathing etc.)
   D. Wellbeing assessment (ProQOL scales etc.)
   E. Workshops

10. What Be Wise component has been ***least*** helpful?
   A. Initial education and training (Awareness brief provided at any time including social day)
   B. Ongoing education (Champion led in-services)
   C. Positive practices (mindful breathing etc.)
   D. Wellbeing assessment (ProQOL scales etc.)
   E. Workshops

11. Rate the unit culture from 1 to 10 with 1 representing a poor, hostile environment and 10 representing an excellent and welcoming environment in regards to:

Overall culture

1	2	3	4	5	6	7	8	9	10

New staff coming onboard

1	2	3	4	5	6	7	8	9	10

Having difficult conversations regarding clinical decisions with your coworkers

1	2	3	4	5	6	7	8	9	10

Supporting coworkers who are experiencing a stress injury

1	2	3	4	5	6	7	8	9	10

Staff members participating in professional growth (For example - going back to school or being promoted)

1	2	3	4	5	6	7	8	9	10

12. What is the greatest ***strength*** of the Be Wise program?

13. What is the greatest ***limitation*** of the Be Wise program?

14. The Be Wise team would like to track your responses over time. To do this, you will create a unique code. We will not be able to determine your identity using this code.

The first characters of your code are your mother's first and middle initials. The next characters of your code are your father's first and middle initials. For example, John Doe is participating in this survey. His mother's name is **A**nnie **M**ay Doe. His father's name is **G**eorge **E**dward Doe. John Doe's unique code is: AMGE

Please enter your unique code below:

Appendix H

Step 5

Justifying conclusions

Definition	Making claims regarding the program that are warranted on the basis of data that have been compared against pertinent and defensible ideas of merit, value, or significance (i.e., against standards of values); conclusions are justified when they are linked to the evidence gathered and consistent with the agreed on values or standards of stakeholders.
Role	Reinforces conclusions central to the evaluation's utility and accuracy; involves values clarification, qualitative and quantitative data analysis and synthesis, systematic interpretation, and appropriate comparison against relevant standards for judgment.
Activities	• Using appropriate methods of analysis and synthesis to summarize findings; • Interpreting the significance of results for deciding what the findings mean; • Making judgments according to clearly stated values that classify a result (e.g., as positive or negative and high or low); • Considering alternative ways to compare results (e.g., compared with program objectives, a comparison group, national norms, past performance, or needs); • Generating alternative explanations for findings and indicating why these explanations should be discounted; • Recommending actions or decisions that are consistent with the conclusions; and • Limiting conclusions to situations, time periods, persons, contexts, and purposes for which the findings are applicable.

Adapted from Joint Committee on Standards for Educational Evaluation. Program evaluation standards: how to assess evaluations of educational programs. 2nd ed. Thousand Oaks, CA: Sage Publications, 1994.

Appendix I

Step 6

Ensuring use and sharing lessons learned

Definition	Ensuring that a) stakeholders are aware of the evaluation procedures and findings; b) the findings are considered in decisions or actions that affect the program (i.e., findings use); and c) those who participated in the evaluation process have had a beneficial experience (i.e., process use).
Role	Ensures that evaluation achieves its primary purpose — being useful; however, several factors might influence the degree of use, including evaluator credibility, report clarity, report timeliness and dissemination, disclosure of findings, impartial reporting, and changes in the program or organizational context.
Activities	• Designing the evaluation to achieve intended use by intended users; • Preparing stakeholders for eventual use by rehearsing throughout the project how different kinds of conclusions would affect program operations; • Providing continuous feedback to stakeholders regarding interim findings, provisional interpretations, and decisions to be made that might affect likelihood of use; • Scheduling follow-up meetings with intended users to facilitate the transfer of evaluation conclusions into appropriate actions or decisions; and • Disseminating both the procedures used and the lessons learned from the evaluation to stakeholders, using tailored communications strategies that meet their particular needs.

Adapted from a) Joint Committee on Standards for Educational Evaluation. Program evaluation standards: how to assess evaluations of educational programs. 2nd ed. Thousand Oaks, CA: Sage Publications, 1994; and b) Patton MQ. Utilization-focused evaluation. 3rd ed. Thousand Oaks, CA: Sage Publications, 1997.

Checklist for ensuring effective evaluation reports

- Provide interim and final reports to intended users in time for use.
- Tailor the report content, format, and style for the audience(s) by involving audience members.
- Include an executive summary.
- Summarize the description of the stakeholders and how they were engaged.
- Describe essential features of the program (e.g., in appendices).
- Explain the focus of the evaluation and its limitations.
- Include an adequate summary of the evaluation plan and procedures.
- Provide all necessary technical information (e.g., in appendices).
- Specify the standards and criteria for evaluative judgments.
- Explain the evaluative judgments and how they are supported by the evidence.
- List both strengths and weaknesses of the evaluation.
- Discuss recommendations for action with their advantages, disadvantages, and resource implications.
- Ensure protections for program clients and other stakeholders.
- Anticipate how people or organizations might be affected by the findings.
- Present minority opinions or rejoinders where necessary.
- Verify that the report is accurate and unbiased.
- Organize the report logically and include appropriate details.
- Remove technical jargon.
- Use examples, illustrations, graphics, and stories.

Adapted from Worthen BR, Sanders JR, Fitzpatrick JL. Program evaluation: alternative approaches and practical guidelines. 2nd ed. New York, NY: Addison, Wesley Logman, Inc. 1997.

Appendix J

JAPNA Submission Guidelines

The *Journal of the American Psychiatric Nurses Association* is a professional, double-blind peer-reviewed journal that welcomes original articles in English. The Journal publishes research and other scholarly works designed to provide new knowledge that is clinically relevant to psychiatric nurses and to inform psychiatric nurses and others about significant issues in mental health/psychiatric care. We invite submissions of manuscripts relevant to psychiatric nursing that describe critical and timely analysis of emerging issues and trends, and discuss innovative models of practice as they relate to changing systems of health care. Types of manuscripts published include: Original Research Reports, Review Articles, Quality Improvement Manuscripts, Discussion Papers, Brief Reports, Book Reviews, and Letters to the Editor.

MANUSCRIPT PREPARATION

ORGANIZATION AND BASIC FORMATTING OF THE MANUSCRIPT

- Prepare ALL manuscripts using the style and standards outlined in the *Publication Manual of the American Psychological Association* (*APA*), 6th edition.
  - Use 12-point font and one-inch margins at the top, bottom, right, and left.
  - Double-space all pages, including the abstract, text, references, table
  - s, and legends.
  - ALL ABSTRACTS SHOULD BE NO MORE THAN 250 WORDS.
  - Number pages consecutively beginning with the title page.
  - Include a running head (shortened version of the title) at the top of each page to identify the manuscript. The running head must not contain any author names or initials.
- IMPORTANT! MANUSCRIPT FILES UPLOADED FOR REVIEW SHOULD NOT INCLUDE ANY OF THE AUTHORS' NAMES OR INSTITUTIONAL AFFILIATIONS TO FACILITATE BLIND PEER REVIEW. THE EXCEPTION TO THIS IS BOOK REVIEWS WHICH WILL BE REVIEWED BY EDITORIAL STAFF AND DO NOT NEED TO BE BLINDED.
- For Military/VA Authors: Please refer to your organization's publication submission policy/process and include a copy of publication approval from your organization.
- Please complete the AUTHORSHIP CONTRIBUTION STATEMENT available here and in the Instructions and Forms on the JAPNA submission site, and submit this with the manuscript.