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Evaluation of ARROW's Workforce Resiliency Training: A Qualitative Study

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2016

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Abstract

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Background: The World Health Organization (WHO) describes burnout as phenomenon that occurs in the occupational context when chronic work stress is not well managed and may be manifested through feelings of exhaustion, negative feelings towards the job, and diminished professional productivity. Atlanta's Resiliency Resources for Frontline Workers (ARROW) is a program aimed at delivering evidence-based resiliency training to frontline workers employed at Emory Healthcare and Grady Health System in Atlanta, Georgia. Although evidence-based interventions are proven to be effective, it is necessary to evaluate the implementation of the program to assess for program barriers and facilitators unique to the context and setting in which they are delivered.

Methods: A qualitative approach was taken to assess the emic perspective of past program participants. Four online, one-hour, semi-structured interviews with seven full-time employees from Emory Healthcare were conducted. Verbatim transcripts were created for the purposes of coding and analysis. The focus of this research was led by the following evaluation question: What are the implementation barriers and facilitators to ARROW's resiliency training?

Results: The resiliency training provided knowledge and skills that could be utilized to mitigate the factors contributing to burnout. Among all the skills learned, meditation was frequently reported to be utilized and effective in managing stressful situations. Additionally, increased knowledge on the importance of self-care helped participants refocus and prioritize their well-being. Barriers to the adoption of the skills learned included lack of time, staff shortages, increased work demands, and a work culture that does not prioritize well-being. Facilitators included schedule flexibility, supportive department leaders, and participation in other organizational level well-being programs.

Discussion: ARROW's training program was reported to have a positive impact on participants, and the skills and knowledge learned have been used to support other members of their respective teams. While the training was effective, participants reported a need for ARROW to increase their programmatic reach to influence the work culture and promote resilience among other frontline workers. Based on the research findings, recommendations were developed to improve ARROW programming.

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To the ARROW project team especially Principal Investigator, Dr. Nicholas Giordano, who welcomed the idea of this evaluation research to further improve programmatic efforts while also providing additional resources to conduct this research. To all the frontline workers from Emory Healthcare who participated in the research and provided valuable information on how to further improve the program.

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Introduction

The COVID-19 pandemic highlighted critical issues that the U.S. healthcare system has and continues to face, one such issue is increasing levels of burnout among hospital employees. Burnout experiences of frontline workers (FLWs) are impacting their mental well-being, job satisfaction, and ability to provide high-quality patient care.[1-6] If left unaddressed increasing levels of burnout among FLWs can maintain and enhance the staffing shortages hospitals are experiencing and may limit the quality of care that the U.S. population expects when seeking care.

Atlanta's Resiliency Resources for FLWs (ARROW) is a grant (U3NHP45397) funded by the Health Resources and Services Administration (HRSA) to Dr. Nicholas Giordano of the Nell Hodgson Woodruff School of Nursing at Emory University in Atlanta, Georgia. ARROW aims to support the health workforce of the Emory and Grady healthcare systems in the Atlanta Metro area though the use of evidence-based resiliency trainings to reduce, address, and prevent burnout.

The two evidence-based trainings offered by the ARROW program include the Community Resiliency Model (CRM®) and the Cognitively-Based Compassionate Training (CBCT®), these have been implemented in the hospital setting in the U.S. and have shown to increase the knowledge and skills needed to mitigate the harmful effects of burnout.[4,7] However, given the various contextual factors influencing the success or failure of health programs such as ARROW, there is a need to evaluate the program from the perspective of previous trainees to further improve programmatic efforts.

The purpose of this qualitative research is to evaluate the implementation barriers and facilitators of ARROW's training. In evaluating the ARROW program, recommendations will be made to improve the factors contributing to its positive impact and address those that are limiting the effects of the program; a particular focus will center on the effectiveness of the training delivery and the adoption of skills learned.

Literature Review

Overview

ARROW has a need to evaluate the effectiveness and adoption of the resiliency training skills taught to program participants who attended one or both trainings, CRM® and/or CBCT®. ARROW is a Nell Hodgson Woodruff School of Nursing program funded by the Health Resources and Services Administration (HRSA) to address mental health conditions, including stress and burnout, in the health workforce through evidence-based resiliency trainings.

The health workforce is known to experience high levels of stress and burnout influenced by repeated experiences of trauma related to patient care, increased use of complex technological devices and software, and most recently, the COVID-19 pandemic.[5,6,8] CRM® is an evidenced-based resiliency training based on the knowledge and understanding of stress with personal sensory techniques that can mitigate stressful situations; this model has proven effective in various healthcare and community settings with people of different socioeconomic status, ethnic backgrounds, and traumatic experiences.[4,9-11] CBCT® is a meditation-focused training developed from Buddhist traditional teachings, yet it is designed to be utilized by anyone regardless of their faith or absence thereof; the topics trained on include the value of

kindness, sensation of the breath, present-moment experience, personal ups and downs from a broader perspective, others' shared desire for wellbeing, interdependence, and others' vulnerabilities.[12]

The evaluation of public health programs helps uncover the value of program components for participants and staff. Through evaluation, participants can gain valuable resources and skills, and program staff can improve the program delivery and assess the impact of the intervention. The RE-AIM evaluation approach has been demonstrated to be useful in understanding and evaluating public health interventions at the system and individual level as it uncovers the components of a successful program and can help inform decisions regarding the merit of continued investment.[13]

Burnout in Healthcare

The World Health Organization (WHO) included burnout in the 11th Revision of the International Classification of Diseases (ICD-11) and described it as a phenomenon that occurs in the occupational context when chronic work stress is not well managed and may be manifested through feelings of exhaustion, negative feelings towards the job, and diminished professional productivity.[14] Burnout occurs in many professional settings in the U.S and globally and has been studied significantly in healthcare. Burnout can be felt and described in many ways. Still, common characteristics are shared by those who experience it, such as exhaustion, loneliness, decreased work productivity, and negative physical and social behaviors.[2,5,15,16]

In a meta-analysis of studies (n=61) researching high burnout among nurses (n=45,539) employed across 49 countries worldwide, 11.23% was the pooled-prevalence rate for high

burnout.[3] A 2017 survey assessing burnout and work-life integration comparing differences among U.S. physicians (n=3,971) and the general U.S. working population (n=5,198) among those aged 29-65 years of age found statistically significant ($p<0.001$) differences among physicians and the general workforce in scores of emotional exhaustion 36.4% (n=1437) vs. 24.8% (n=1285), depersonalization 18% (n=707) vs. 13.5% (n=699), and high unsatisfaction with work-life integration 15.9%(n=626) vs. 5.5%(n=286).[6]

Furthermore, clinical situations for nurses can increase stress levels and lead to burnout, and mitigating the factors that lead to stress is commonly left in the hands of nurses who are already struggling with many competing priorities in the workplace.[4] Among Physicians experiencing burnout, many have identified the growing administrative demands, changing metrics for measuring performance, and an increased burden to achieve a work-life balance as major factors. [1,5,6,16]

The sudden onset and prolonged effects of COVID-19 have negatively influenced healthcare performance globally, partly attributed to the impact on the mental health of the health workforce. As an influx of patients overwhelmed hospital systems, providers were expected to provide care with limited human and supply resources and increased personal fears related to the COVID-19 pandemic.[2,5] In a 2022 study on the challenges of COVID-19, depression, anxiety, stress, job burnout, and mental health symptomology was assessed in Pakistani healthcare employees of 30 hospitals; findings among participants (n=699) resulted in a consistently negative impact among all studied variables related to employee performance.[5]

Additionally, a U.S. 2020 qualitative study in a medical center in Washington, DC, FLWs were interviewed to assess the drivers and psychological factors of stress related to COVID-19. The major themes identified during the interviews (n=55) included fear of uncertainty, physical and psychological manifestations of stress, and building resilience. Reported differences in experiences with stress and individualized practices for stress mitigation are reasons for incorporating clinicians in organizational programs seeking to provide psychosocial support.[17]

The Triple Aim is a healthcare performance model characterized by three attributes: patient experience, population health, and costs. However, a growing concern about the impact of healthcare provider burnout on those three aims has resulted in the proposed addition of a fourth aim focused on the well-being of providers.[1] An emphasis on the work life of the health workforce is essential as burnout can lead to high staff turnover, decreased patient satisfaction, and diminished work performance leading to worsening health outcomes.[1]

Interventions to reduce the effects of burnout have varied, and many of the programs used to address mental well-being have primarily focused on the individual level. Individual mindfulness trainings have been shown to increase self-awareness and practice of burnout mitigating techniques such as meditation, grounding, tracking, and resourcing among members of the health workforce.[4,11,18-20] Individual interventions and organizational-level support for prioritizing holistic well-being are the most effective way of addressing the co-occurring burnout pandemic. A systematic review of randomized controlled trials (n=15) and cohort studies (n=37) of physicians (n=2914) in the U.S. found that individual interventions such as mindfulness trainings in addition to organizational level interventions such as duty hour limitations appears effective at reducing physician burnout (54% to 44%) in 14 studies.[21]

However, there is still a need to identify the best combination of individual and organizational interventions that best address the unique needs of groups of people in distinct types of organizations, given the significant differences in demographics and work settings that FLWs are employed in.

In a quasi-experimental CRM® study among community and hospital FLWs (n=104), statistically significant differences were found for increased measures of well-being (P=0.056), decreased measures of secondary traumatic stress (p=0.011) and somatic symptoms (p=0.048), from baseline to 1-year follow-up, but no significant changes in resilience scores (p=0.222).[11] In a quasi-experimental study utilizing CBCT® among hospital chaplains (n=15), eight received the CBCT® training and seven did not, decreased measures of anxiety (p=0.041) and burnout (p=0.031) were statistically significant from baseline to post-training when compared to the control group but this change was not sustained when assessed at a 4-month follow-up.[7] A continued assessment of the impact of CRM® and CBCT® in participating FLWs employed in the Emory Healthcare system located in the Atlanta Metropolitan area is needed to assess the barriers and facilitators to ARROW's resiliency project.

Resiliency Trainings

Trained professionals utilize evidence-based wellness practices to teach various techniques on awareness and practical skills to mitigate burnout. CRM® is an evidence-based resiliency training focused on knowledge and understanding of stress and personal sensory techniques to reduce stressful situations and return the body to its "Resilient Zone." The "Resilient Zone" is the internal state of each individual at which they function best; stress and

trauma can move away from the “Resilient Zone” into either a high or low zone. The high zone is characterized by anxiety, anger, and irritability, and the low zone may be expressed by sadness, depression, fatigue, and numbness. The six skills used to expand the “Resilient Zone” and maintain individuals within its boundaries are zone tracking, resourcing, grounding, gesturing, help now, and shift and stay.[22]

A CRM® intervention was implemented in a Southern California community (n=57) designated as a Mental Health Provider Shortage Area that included Latinos (n=14), African Americans (n=16), LGBTQ (n=10), Asian/Pacific Islanders (n=9), and Veterans (n=9). Among participants, 98% reported that the skills learned were relevant and useful, and 93% reported using the skills daily. The CRM® method of instruction facilitates active engagement and discussion, tailoring the knowledge and skills to an individual, and promotes participants to define their state of well-being at which they function best, their “Resilient Zone”.[4,19] CRM® has an accompanying free phone application, iCHILL®, that provides resources on practicing and maintaining the six skills learned during the training and in a study there was reported increased usage from the 3-month (10%) to 1-year (22%) follow-up among FLWs (n=104) participating the training.[11] The phone application can help reinforce skills learned and promote sustained use of resiliency practices among program participants.

The CBCT® training has been utilized among various populations with positive results including increased feelings of self-compassion among low-income African American suicide attempters (n=52) receiving the training vs. those only receiving a support group meeting intervention (n=30), reduced burnout and anxiety among hospital chaplains who had CBCT® added to their regular chaplaincy training (n=8) vs. those who only received the regular

chaplaincy training without CBCT® (n=7), and reduced depressive symptoms and functional impairment due to fear of cancer recurrence among breast cancer survivors who participated in the CBCT® training (n=12) vs. those who were on the waiting list and had no intervention (n=16).[7,23,24] Furthermore, one-time wellness trainings have been demonstrated to increase knowledge of mental well-being and healthy practices but infrequently results in sustained behavior change; to address the behavioral change component, follow-up is often needed.[19]

Key Populations

In the U.S., the prevalence of mindfulness practices among the general workforce is relatively low, with estimates from 2002-2012 ranging between 0.3% and 11%; wide gaps are more evident among those who work in areas such as farming, the service industry, and blue-collar workers compared to white-collar workers.[25] Workers engaging in mindfulness can serve as promoters for increased mindfulness activities in the workplace. Therefore, those who actively practice mindfulness should be active collaborators when attempting to implement organizational-level training that is offered to employees who have never practiced or had previously practiced but no longer practice mindfulness.[25] Although there is an increased need for addressing the low uptake of mindfulness practices in the general workforce, there is a particular focus on the health workforce as levels of burnout continue to increase.

Mental health problems continue to rise, especially in the health workforce, and individual and organizational interventions are needed to address the issue. The increased accessibility to mental health benefits among employed individuals has not led to an increased usage of mental health services. Therefore, organizational offerings of mindfulness trainings

such as CRM® and CBCT®, incentivizing the use of mental health services, increasing engagement with groups known to have low usage rates of wellness practices including men and those of low socioeconomic groups, and creating a work environment that destigmatized mental health can help address the underutilization of available resources .[5,18,25]

ARROW Description

ARROW is a ~2.2-million-dollar HRSA grant led by the Principal Investigator Dr. Nicholas Giordano in Atlanta, Georgia. ARROW's purpose is to support the COVID-19 era health workforce with workforce-resiliency training to reduce, address, and prevent burnout, mental health conditions, substance use disorders, and suicide. Utilizing wellness trainings, including CRM® and CBCT®, ARROW intends to strengthen and sustain the mental health resources available to the 29-county Atlanta metropolitan community by training FLWs who are primarily employed with the Emory and Grady health systems. From its inception in March of 2022, ARROW has trained over 200 FLWs from various professions, including police officers, nurses, advanced practice providers, chaplains, and therapists (physical, occupational, and speech).

One of ARROW's objectives is to train at least 130 FLWs utilizing CRM® in Emory and Grady health systems. ARROW's effort to provide evidence-based resiliency trainings ensures that FLWs in these two large health systems have the tools necessary to mitigate the effects of burnout. Furthermore, this research aims to evaluate the implementation barriers and facilitators to the ARROW training using focus group discussions composed of past trainees. An evaluation of participants' experience with the CRM® and CBCT® training and their utilization

post-training can help identify what changes and/or support is needed to maintain a sustainable and positive impact on the resiliency of FLWs.

Evaluation Approach

Evidence-based interventions are those have demonstrated effectiveness in a controlled environment, but effectiveness of an intervention does not predict a positive uptake by the population it is intended, including those interventions specific to healthcare outcomes for patients, providers, and other disciplines in the health workforce.[26,27] The continued growth of interventions to address mental health can benefit from implementation science to address the systemic and individual factors that determine uptake among participants of mental health programs in the healthcare setting.[28] The National Institute of Mental Health and The Veterans Health Administration are two federal agencies that have adopted implementation science through initiatives that allocate financial resources to reduce the chasm between research and practice of interventions that address behavioral health.[28]

The RE-AIM evaluation model provides a framework to assess public health interventions, such as mental health trainings, by analyzing the multiple dimensions of impact which include reach, effectiveness, adoption, implementation, and maintenance.[13] The RE-AIM model is appropriate for evaluating ARROW's resiliency program as trainings are delivered in the context of large health systems. This framework incorporates a socio-ecological view that considers factors beyond the individual. The RE-AIM model has been utilized to evaluate various workplace health initiatives, including financial incentives for smoking cessation and promotion of workplace walking to increase physical activity among adults.[29,30] A review of effectiveness and adoption will be undertaken to assess barriers and facilitators of

implementing ARROW's CRM® training. Benefits gained by participants will help evaluate the effectiveness and uptake of resiliency practices and measure the level of adoption. The effectiveness component will primarily focus on the individual level, and the adoption component will assess organizational factors influencing the ability of participants to utilize the learned resiliency skills. Monitoring progress during implementation is essential to address program participation's benefits and/or consequences and assess and identify other factors that may limit the program's impact. In a health system, factors such as perceptions of mental health by individuals, departmental culture, resource availability, and the relevance of training can influence the success of trainings.[26]

Methodology

The ARROW project was created to support the COVID-19 era health workforce with workforce-resiliency training for health professionals and nursing to reduce, address, and prevent burnout, mental health conditions, substance use disorders, and suicide. Therefore, this evaluation project aims to assess the implementation barriers and facilitators of ARROW's CRM® and CBCT® trainings. A RE-AIM evaluation approach was implemented to focus on the effectiveness and adoption of the training. We conducted four online interviews with eligible participants to obtain an emic perspective of the training experience.

Population and Sample

The population involved in the ARROW project included FLWs employed at Emory Healthcare and Grady Health System in Atlanta, Georgia. Due to a delay in IRB approval from the Grady Health System, only eligible participants from Emory Healthcare were invited to

participate in the research. A total of 41 individuals were invited, 12 (29.3%) responded to the intake form, and seven (58.3%) of the respondents participated in the four online interviews implemented. The CBCT® training was attended by six participants (85.7%), one participant (14.3%) attended both the CBCT® and the CRM® trainings, and one participant (14.3%) attended only the CRM® training. Participating FLWs represented various professions including three (42.9%) nurse leaders, two (28.6%) advanced practice providers (one nurse practitioner and one physician's assistant), one (14.2%) research specialist in behavioral mental health, and one (14.2%) hospital administrator. Additionally, six (87.7%) participants self-identified as women, all seven (100%) were full-time employees, and two (28.6%) identified as an underrepresented minority*. Table 1 provides additional information on the participant's demographics who participated in the online interviews. A virtual setting was selected for the interview format, given that many FLWs have varied schedules and may reside in areas that would make it challenging to attend an in-person format.

Table 1. Characteristics of Participants in Online Group Interviews (n=7)

Demographics	**n, (%)**
Age Range	
20-29	1, (14.2)
30-39	2, (28.6)
40-49	2, (28.6)
50-59	2, (28.6)
Gender	
Woman	6, (85.7)
Man	1, (14.3)
*Underrepresented Minority**	
Self-identify	2, (28.6)
Do not self-identify	5, (71.4)

Employer	
Emory Healthcare	7, (100)
Employment Status	
Full-time	7, (100)
Professions	
Nurse Manager/Leader	3, (42.8)
Advanced Practice Provider (Nurse Practitioner or Physician's Assistant)	2, (28.6)
Administrator	1, (14.3)
Behavioral Mental Health	1, (14.3)

*Per the Health Resources and Services Administration (HRSA), an underrepresented minority (URM) is someone from a racial or ethnic group considered inadequately represented in a specific profession relative to the representation of that racial or ethnic group in the general population. People in the following groups are considered (URM): American Indian or Alaska Native, Black or African American, Native Hawaiian or Other Pacific Islander, and Hispanic (all races)[31]

Instrument

The interview guide was created in consultation with the principal investigator of ARROW and evaluation specialists in the Program Evaluation & Quality Improvement center; three evaluation questions with subsequence constructs led the development of the interview questions (see table 2 for question development process & Appendix A for the complete interview protocol). The purpose of this research is to assess the implementation barriers and facilitators of the ARROW training utilizing the RE-AIM evaluation framework with a particular focus on effectiveness and adoption. We are measuring effectiveness based on benefits gained and the impact of attending the training. Adoption is measured by assessing self-reported continued use of learned resiliency skills with a particular focus on organizational factors that limit or promote its use.

Table 2. Online Interview Question Development		
Evaluation Questions	**Constructs**	**Interview Questions**
What are the implementation barriers and facilitators to ARROW's resiliency training?	Barriers and facilitators	When you think about your experience with burnout in the workplace, what things come to mind?
		What factors influenced your decision to participate in the wellness training?
How have participants benefitted from attending an ARROW resiliency training?	Program context experience	Think back to when you completed the resiliency training; what were your thoughts on the content presented?
		What did you gain by attending the training?
What needs, ideas, and requests do ARROW trainees have for the improvement of resiliency trainings and additional support to improve mental well-being?	Support and recommendations	In organizations, some leaders are often either actively or minimally involved in promoting mental well-being among employees. How do you think involvement by leaders affects the mental well-being of the workforce?
		As you reflect on your overall experience with ARROW, how would you change the training to better serve FLWs like yourself?
		What other information would you like for the ARROW team to know about your experience with the resiliency training that has not already been covered by our discussion today?

The consent form was screen-shared prior to starting the discussion and was read by the facilitator with time appropriated for participants to ask questions related to the research or consent form. After reviewing the consent form, verbal confirmation of study participation and permission for audio recording and notetaker participation (when applicable) was requested. Following the consent process, an introductory activity to build trust, set expectations, and allow for introductions of participants was implemented and included sharing the participants first name, preferred pronouns, and the personal meaning of mental well-being.

Iterative changes to the interview guide occurred following the first interview. Initially, the Zoom chat option was used for the following question “What did you gain by attending the training?” to engage participants in the discussion. After responses were entered in the chat, the facilitator prompted the participants to further discuss those items that were entered multiple times. However, given the size of the interview groups the activity was removed in the proceeding discussions and was replaced with a discussion format to maintain consistency across interviews.

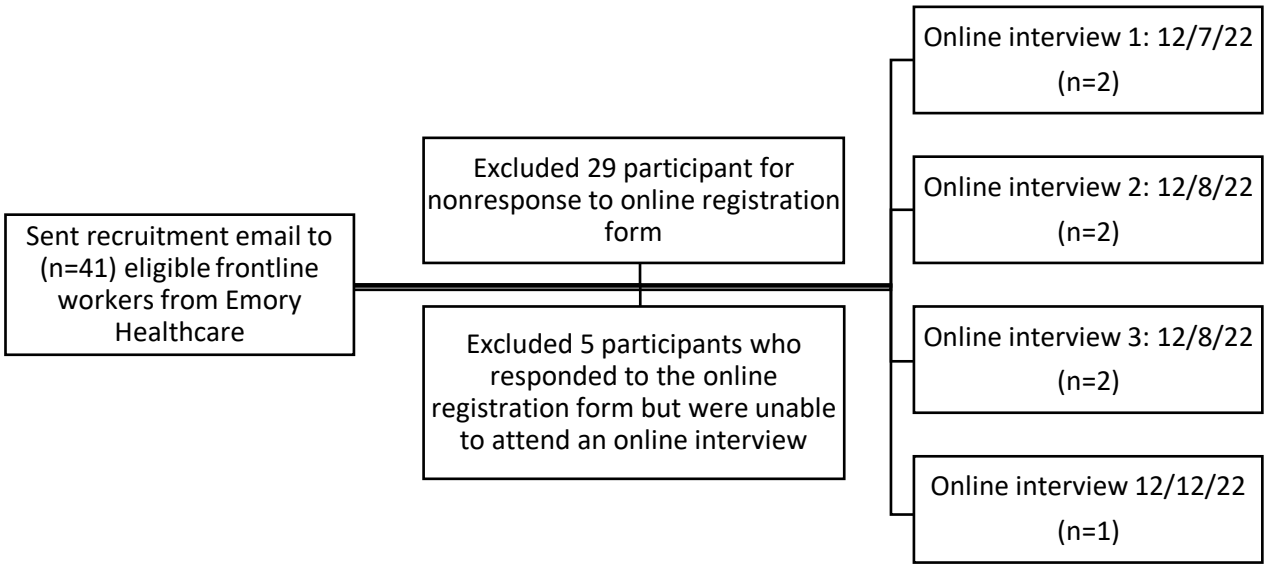
Procedures

The procedure of implementing the online interviews included formulating questions to measure implementation barriers and facilitators, creating a guide to facilitate the online interviews, developing an online Qualtrics recruitment form, facilitating the online group interviews through the Zoom online meeting platform, transcribing the audio-recorded interviews on a Microsoft Word document, performing a second review of the transcripts to assess accuracy, developing a coding book, coding data using MAXQDA software, refining codes after comparing the initial interview from two coders, updating the codebook, recoding the initial transcript and coding the remaining three, and finally creating thick descriptions around key themes found across participants by exporting coded segments to a Microsoft Word documents for analysis. Collaborating with the Emory Center’s Program Evaluation and Quality Improvement team (PEQI) and the Principal Investigator (PI) of the ARROW project (Dr. Nicholas Giordano) we developed questions related to barriers and facilitators to training enrollment, burnout factors, content relevance, diversity, skill utilization, sustainability, and recommendations.

Following the development of the questions, a template moderator's guide from a prior evaluation project was utilized and adapted to fit the needs of this research. The draft discussion guide was developed in coordination with PEQI staff (Janelle Gowgiel & JoAnna Hillman), and iterative adjustments were made for further refinement of question content, wording, and order. After completing the finalized draft, the PI was asked to review and confirm the guide's content.

Next, an online recruitment form was created utilizing Emory Centers Qualtrics XM software account (See Appendix B for recruitment form). The form included demographic questions that would be utilized to stratify participants into various groups; these questions included: age-range, gender, underrepresented minority status, profession, employer, and employment status. Additionally, participants indicated their availability for interview days/ and time by selecting from various weekday (Monday-Friday) options within a four-week period from November 28th- December 20th, 2022, with available time options of 12 PM or 8 PM for interested participants to select from. These dates were selected due to research timeline and times offered were recommended by the PI to accommodate the various schedules of FLWs. The online Qualtrics form was sent from the grant project (ARROW) email account to eligible participants employed at Emory Healthcare. Eligible participants included those who had attended a resiliency training, CRM® and/or CBCT®, facilitated by an ARROW instructor. From the responses received, four online interviews were scheduled and implemented on December 7th at 12 PM, December 8th at 12 PM, December 8th at 8 PM, and December 12th at 8 PM (See Figure 1).

Figure 1. Recruitment Process



Participants who completed the registration form received a confirmation email with a Zoom link stating the date and time of their meeting and the consent form as an attachment for their records. The online interviews began with an overview of the study, review of the research consent form, and verbal confirmation for study participation and audio recording of the interview. A $25 Amazon e-gift card was given as an incentive to all participants who registered and attended an online interview. Verbatim transcription was conducted by the interviewer, reviewed a second time for accuracy, and personal identifiers such as participant names were de-identified to ensure privacy.

Analysis

At the completion of the verbatim transcription of the online interviews, the files were uploaded to MAXQDA to perform qualitative analysis. A total of seven codes with 13 inductive

subcodes and 12 deductive subcodes were created to further analyze the interviews. The codes mental well-being, burnout effects, and burnout amplifiers focused on the individuals experience with general well-being in the workplace. The codes training facilitators, training barriers, and training experience describe the participants perspective on ARROW's training. Finally, the code workplace culture identified factors including workplace interactions and available resources influencing the work environment.

The first online interview was coded by one researcher (ML) using the first iteration of the codebook and was compared to the coding by another member of the research team (JG). Upon further review of the two coded interviews, iterative changes were made to the codebook and recoding of the first interview was completed and the remaining three interviews were coded with the newest version of the codebook (See Appendix C for codebook). Segmented codes were retrieved from MAXQDA to a Microsoft Word document for analysis and development of thick descriptions.

Ethical Considerations

Institutional Review Boards from Emory and Grady were consulted to conduct online interviews with their respective employees. Emory University provided approval on 11/7/22 for online interviews with participants from the Emory Healthcare System, IRB #STUDY00005249. Grady Health System IRB approval was not received during the proposed research period, so no interviews were implemented for eligible participants employed within the Grady Health System. The PI drafted, submitted, and acquired the IRB approval and made available the consent form detailing the study procedures for collecting data from the online interviews.

The facilitator reviewed the consent form through screen-sharing, provided time for participants to ask questions, and finally requested verbal consent to proceed with the interview. Additionally, a copy of the consent form was attached to the email with the interview date and time to serve as a reference for their personal records. The Emory IRB approved the online interview guide, a request to record audio for follow-up transcription, and the provision of an incentive in the form of a $25 Amazon e-gift card for participation.

Results

Frontline Worker Characteristics

Of the seven participants from the online interviews, a majority self-identified as a woman (n=6), direct clinical care providers (n=5), and attendees of the CBCT® training (n=5). All participants were employed full-time with Emory Healthcare during the data collection period (November-December 2022). Age range options instead of actual age where reported, one participant was in the 20-29 range (physician's assistant), two participants were in the 30-39 range (nurse leader & administrator), two were in the 40-49 range (research specialist & nurse practitioner), and two were in the 50-59 range (nurse leader & nurse case manager) (See Table 1 for full demographic description of participants).

Overview

FLWs from Emory Healthcare system expressed individual and organizational factors that act as barriers and facilitators to ARROW's mission to reduce burnout among the health work force. Individual barriers in reducing burnout include chronic understaffing, increased workloads, frequent exposure to adverse patient outcomes, and feeling unsupported and

unappreciated by members of leadership. Individual facilitators mitigating burnout include establishing personal wellness practices, taking time off from work, and vocalizing needs to leadership. Organizational facilitators include the employee assistance program, an institutional peer support network, supportive leadership, and a work culture that prioritizes mental well-being. Overall, trainees had a positive experience with their training and frequently expressed the need to have more employees involved including departmental leaders so that they too can develop the skills to better support their colleagues and positively influence the work environment.

ARROW trainees reported gaining various skills from the training with meditation being the most frequently mentioned. Participants reported that the training was effective in imparting resiliency skills that personally benefitted them and has allowed them to be a supportive resource for other FLWs in their respective departments. The adoption and continued use of learned skills were reported to be influenced either positively or negatively based on access to space and time in the workplace, work culture, and additional resources to reference skills learned.

Themes

ARROW participants described various experiences during their respective resiliency training along with several influential encounters in the workplace related to burnout. Assessment of the four online interviews conducted led to the uncovering of various themes that were salient among all participants including the negative effects burnout has on their personal and professional lives mostly described as negative feelings towards work and the

people around them; *"I'm extremely tired and I don't have that same passion, empathy, and compassion for others"* (research specialist). Additionally, the ARROW training experience was consistently regarded in a positive light with references made about the practicality and real effect on their well-being and work environment; *"I'm in a position where I am able to help my co-workers and support them"* (nurse leader 1).

Mental Well-Being

Mental well-being refers to all personal mentions of well-being and practices. Most participants (n=5) mentioned practicing meditation to cope with work stresses, one of the participants had previously practiced meditation prior to her resiliency training and described it in the following way, *"Even before I took that workshop [CBCT], I do practice regular meditations … it was kind of a different side of it"* (nurse case manager).

Furthermore, all seven participants made references to mental well-being as a type of continuum; three explicitly use the term balance, while other described mental well-being as a spectrum (nurse leader 2), a journey to maintain the highs [of life] (nurse practitioner), becoming centered (Research specialist), and finding *"rest and rejuvenating activities in order to facilitate the less rejuvenating activities"* (physician's assistant).

Burnout Effects

Burnout effects refers to any mention of the effects felt by FLWs resulting from experiencing burnout. All participants (n=7) described feelings of loss of joy and disinterest in the work they do. *"People losing joy in what they do…losing the appreciation I'm thinking of a*

healthcare burnout…the common goal of doing well for others is lost…those kind of foundations of what brought us into healthcare gets tarnished" (nurse practitioner).

These burnout symptoms were mentioned by all seven participants as factors that impact their work productivity and relationships, one nurse described it the following way when asked about burnout in the workplace, *"For me… it upsets me, and I get angry and annoyed easily… obviously [burnout] affects my work because then I get snappy on the nurses or my colleagues, I'm distracted and… I'm not as efficient as I should be"* (nurse leader 1).

Burnout Amplifiers

Burnout amplifiers refers to any mention of factors that contribute to increased burnout in the workplace. All participants (n=7) mentioned staffing issues as contributing to their burnout. *"Being short-staffed is a burden that I think we feel almost daily even if it's not every shift...being constantly and continually understaffed in the hospital is causing some moral distress"* (nurse leader 2).

Many FLWs (n=6) stated that their constant exposure to negative health outcomes of patients and feeling unsupported by leadership plays a role in the development of burnout. *"I had a really tough case and I just cried on the floor in front of everybody, and it was awful mostly because I didn't feel like I wasn't supported, but I also didn't feel like people really knew what to do….and I think if the attending of the day had been different, it would have been different…or the senior nursing…that matters."* (physician's assistant).

Workplace Culture

Workplace culture refers to any mention of workplace interactions and available resources that influence the work environment. All seven participants mentioned that their interactions with leaders influence the culture, six mentioned having negative experiences with their leaders. *"It's like no matter what you do, it doesn't make any difference, I'm here as a robot….doesn't matter what my contribution is…nobody is paying attention to what you're saying, what you are doing … that would happen on a consistent basis then that's going to drag me down, [I] don't feel like doing anything... [I] don't feel like continuing the work, enjoying the work."* (nurse case manager).

Five participants mentioned experiences with institutional support programs as helpful in developing a culture of resiliency. *"She [staff member] was coming in the office and shared some devastating information, but I didn't know how to react to it…. I didn't' know how to help her but even after taking the [ARROW] training I still feel like it's over my head and I did refer her to BHS [employee assistance program]"* (administrator).

The two advanced practitioners (nurse practitioner and physician's assistant) mentioned the use of humor as part of their department's culture in dealing with work stressors. *"We make jokes in the ICU like my cold dead heart just because we see so much badness and sadness"* (physician's assistant). *"We're providers, we're nurses, and we can work in the ER [emergency room] and we have our own morbid humor"* (nurse practitioner).

Training Facilitators

Training facilitators refers to all mentions of factors that positively influence a FLW's ability to participate in a resiliency training. Most participants (n=6) mentioned their experience as a peer support influencing their decision to participate in the ARROW resiliency training. *"I chose to participate because…of the EMBRACE program at Emory and I wanted… to able to be a peer supporter…to share or talk to people…because there are more nurses [in the hospital] so I wanted to help"* (administrator). The remaining participant stated her program director enrolled her in the training.

One nurse participant mentioned previously being aware of a resiliency training but because it had an out-of-pocket expense, she did not register but when she learned about ARROW's no cost training she decided to attend. *"I believe one time before COVID I saw [an offering of] the CBCT in the email, you had to pay for it so I didn't join, and this time it was offered to us for free…[So} I took the opportunity to attend*" (nurse leader 1).

Training Barriers

Training barriers refers to all mentions of factors that negatively influence a FLW's ability to participate in a resiliency training. Unawareness of the ARROW training was reported by five participants to be a perceived contributing factor for non-attendance among their fellow colleagues. *"I don't think enough people know about this training… maybe also introduce [training] in orientation… especially [to] new grads and people who just need to know that there are resources here [Emory Healthcare]"* (research specialist).

Scheduling conflicts were mentioned by four participants (3 nurses and 1 administrator) as a limitation for others to enlist, two participants added that taking unpaid time to attend would discourage those who would otherwise enlist. *"When I thought of doing this [training] one factor [was] that I'm going to have to come on my day off and it's [a] two-day event [training]…I work three days and then I'm supposed to have my four days off, but now I have to spend my two days off to come to the program and [I] don't get paid"* (nurse leader 1).

Training Experience

Training experience refers to any mention of experiences felt by FLWs during their training. All seven participants stated they were satisfied with the training content and resiliency skills learned, two participants (nurse leader 2 and administrator) explicitly mentioned being highly satisfied with the training facilitators. *"'I really liked it [training], I thought it was very broad and…it had a lot of good speakers. I just remember the speakers were really good and I really liked the extra part you could go to…I liked the content"* (administrator).

Four participants recommended the provision of additional resources to promote the continued use of learned resiliency skills. *"Usually we take all these workshops, maybe remember it for a few day…the [CBCT] app [online application] was very helpful…I wished there was something with the CRM program too… some other way [so] practices are not forgotten"* (nurse case manager). Three participants (nurse practitioner, research specialist, and nurse) mentioned having a small group format for the program was beneficial as it allowed them to connect with each other. *"I actually liked the format that it was with my peers and colleagues, it actually helped with some openness in our culture"* (nurse practitioner).

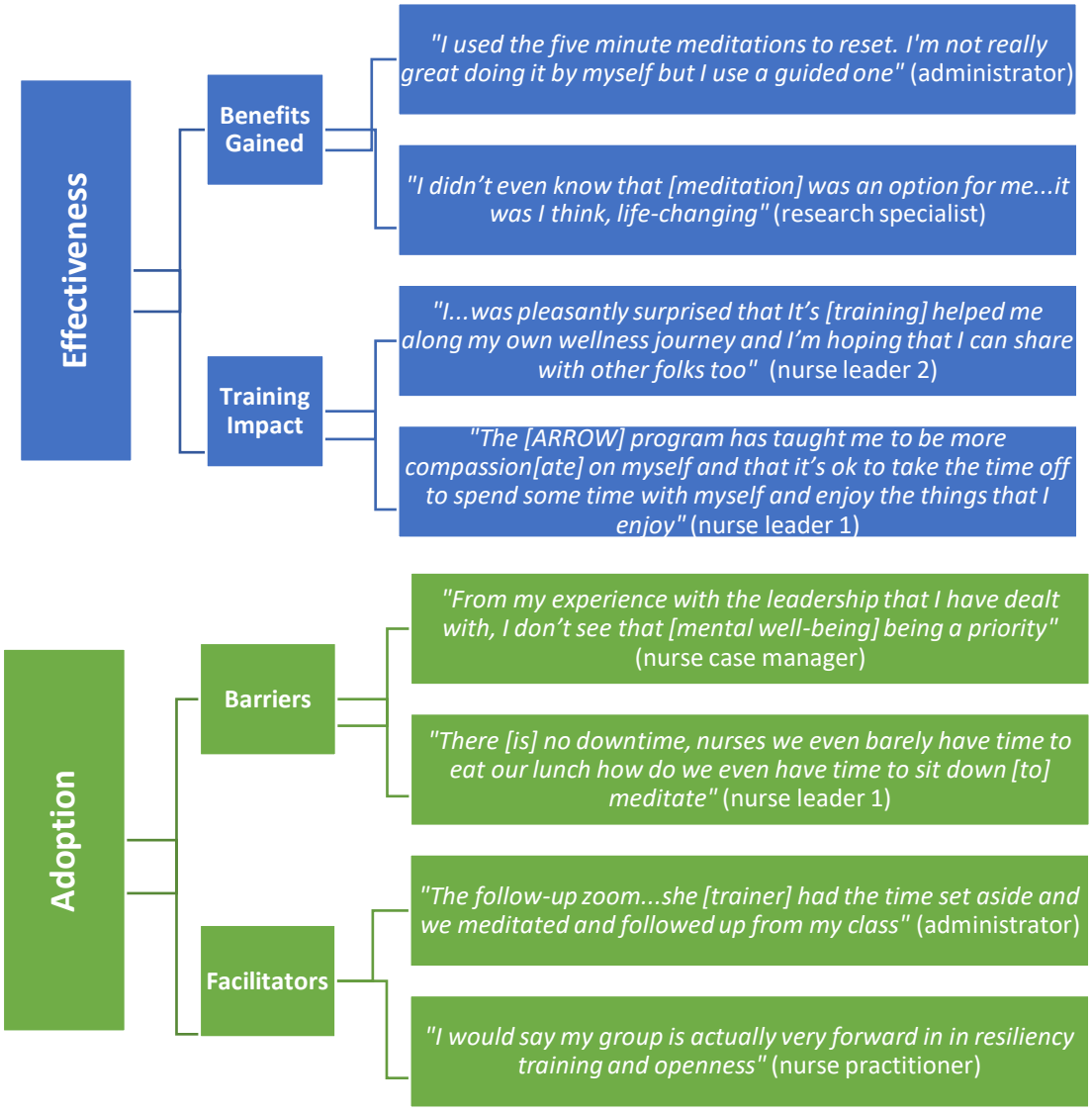
The skills learned in the resiliency training varied, but the skills requiring a minimal amount of time and perceived as most helpful were the easiest to implement and adopt. "*Some of the things we learned take longer, but some of the practices that we learned to help reset ourselves or to help others reset can be done very quickly… I've used that [skill] in several incidents… I actually had a nurse have a really massive panic attack, and I was able to just say, your safe and think about a time when you were safe and those kinds of words to help her get back stabilized for a few minutes"* (nurse Leader 2). "*Even if it's just five minutes, even if you don't do it right some people feel like meditation has to be sitting somewhere and sitting in a certain way, and it has to be an hour, but I think just it can be sitting or standing or whatever for just five minutes, it's just so helpful, just brings peace back"* (administrator). All participants mentioned limited time as a barrier to practicing the skills learned, and one participant stated that videos for her training were provided as a resource but given the amount of time required to watch them and due to the video quality, it was difficult to utilize. "*We get to keep the videos after the training so I can look back to it…the videos were not of great quality… I guess just really finding the time to watch all the videos"* (nurse Leader 1).

Although all participants described an overall positive experience with the training there were some aspects of the training that participants disliked. The nurse practitioner disliked the lack of project progress monitoring of reported to trainees. The research specialists who completed the training online stated she would have preferred to attend an in-person training. The physician's assistant mentioned the time allotted to the fight or flight concept during the training was unnecessary given her clinical background and wished more time was spent in practicing the skills.

Effectiveness & Adoption Evaluation

The effectiveness of the ARROW training was described as valuable for personal and professional development. Multiple benefits were reported to be gained participants, these include, improved self-awareness, increased knowledge of well-being concepts such as self-compassion, and implementation of self-care practices such as meditation and deep breathing. The adoption of skills learned was influenced by multiple factors including available time, access to additional support post initial training, and work environment/culture (see Figure 2).

Figure 2. Effectiveness & Adoption

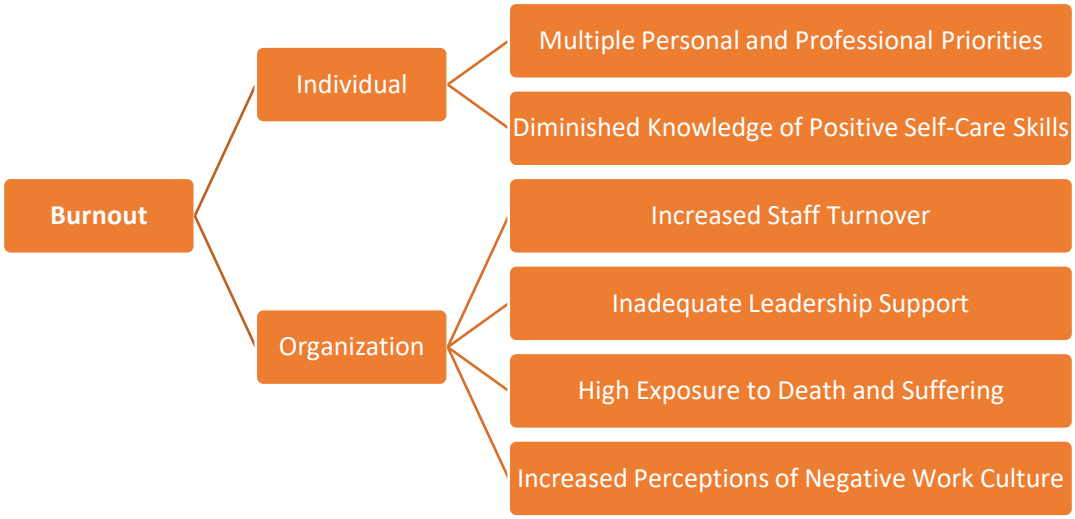


Discussion

FLWs in the healthcare sector have been instrumental in addressing the health needs of people experiencing sickness and infirmity. Their significance was especially highlighted during the various peaks of illness and death due to the COVID-19 epidemic. Their clinical and supportive care and compassion have been the tools people have relied on to get them through some of the most challenging situations they will ever face. However, repeated experiences with adverse patient outcomes and increased utilization of new technologies that limit time with patient care are known to increase stress and lead to burnout. [5,6,8]

At Emory Healthcare in Atlanta, Georgia, these same findings occurred along with repeated mentions of high levels of staff turnover leading to chronic understaffing and a perception of a work culture that does not prioritize mental well-being with a specific focus on leadership as the main contributor. FLWs in the study reported various factors that exacerbated burnout at the individual and organization level (see Figure 3). The burnout exacerbating factors described by participants led to mentions of feelings of anger, loss of compassion, and dread.

Figure 3. Factors exacerbating participant's burnout at the individual and organizational level.



Resiliency trainings in hospital settings have been shown to mitigate the effects of burnout by teaching participants various skills that can be utilized at work to reduce stress.[2,11,14] Overall, participants in the ARROW training were highly satisfied with the training content and the skills learned. Skills that required minimal effort and time to practice, such as deep breathing or a five-minute guided meditation, were the most utilized. Time and effort needed to implement skills are essential to consider when promoting the use of resiliency skills in the workplace, given that FLWs report heavy workloads and limited resources.

Institutional wellness programs such as Emory's peer support network and employee assistance program are resources participants have utilized in the past for support. These programs are a vital source of wellness information, including communications about the ARROW training. An institutional well-being program is essential especially during a crisis, i.e. the COVID-19 pandemic, as these programs can help prevent and mitigate burnout among hospital employees and foster a positive work environment. [32,33] Organizational support resources such as the ones established by Emory Healthcare are needed to promote a culture of wellness and resiliency. Still, a lack of interest and/or awareness of the resources available was mentioned as critical barriers by ARROW participants.

Study participants mentioned the availability of department-specific trainings and hospital wide activities focused on well-being and resiliency, but ongoing work demands and minimal relief to participate and attend the offerings were noted as a source of frustration. Participants mentioned having paid time off to attend organizational events and activities such as ARROW's resiliency training is necessary to improve accessibility to individual and organizational interventions targeting burnout of FLWs. A randomized clinical trial of an

intervention to promote well-being, job satisfaction, and professionalism among physicians from 2010-2012, implemented protected paid time off for participants to attend 19 biweekly one-hour long group discussions and found that when compared to eligible nonparticipants measures of well-being increased and measures of distress decreased. [34]

The ARROW training courses (CRM® and CBCT®) varied in format (virtual or in-person) and in time commitments (one day intensive or over multiple days), which catered to the various needs that arise due to scheduling conflicts. However, unpaid time to attend the training after experiencing a challenging work week while also managing other personal responsibilities was a perceived barrier for non-participation by other FLWs.

Work culture's influence on burnout was attributed to various factors, including the work setting and experiences with leadership. Participants working in environments where exposure to frequent adverse patient outcomes reported struggling through those situations and simply pushing through at times because they lacked the support to fully process the repetitive trauma they experienced. Frequent experiences with negative health outcomes, uncertainty during times of crisis (i.e. COVID-19 pandemic), high workload, and unsupportive leadership are factors contributing to burnout among healthcare providers.[2,5,16] A typical hospital has various departments treating a wide range of physical illnesses, but some, such as the intensive care units that care for the most critically ill patients or the emergency department which is the first point of contact for most people admitted to the hospital, share an unequal burden of chronic exposure to death and suffering resulting in higher levels of stress which increases the risk of developing burnout**.** [35, 36]

Additionally, leadership can enhance or mitigate the effects of stress and burnout that FLWs experience daily. Participants who reported having leaders who care and listen to them stated their leaders positively influenced them to participate in the training, including one participant who stated her manager directly registered her to the ARROW training. In contrast, study participants who reported negative experiences with their leadership, including not feeling validated for raising concerns or no expression of appreciation for their work, stated that they feel leadership does not prioritize mental well-being. Negative interactions with leadership are a known predictor of burnout among U.S. healthcare providers.[16] Although working at a hospital may have built-in stressors, supportive leadership can mitigate these stressors and help promote a healthier work culture that promotes well-being and resiliency among the health workforce.[2,16]

Strengths & Limitations

The strengths of this study stem from the diverse perspectives captured from the various professions represented in the interviews. Studies on burnout and resiliency programs in the healthcare setting have often targeted clinical care providers, however in this qualitative research we were able to recruit non-clinical personnel including a research assistant and a hospital administrator further expanding the understanding and knowledge of the experiences of FLWs more broadly.

A limitation of this study was the low sample size. We invited 41 eligible participants, 12 (29.3%) responded but only seven (17.1%) individuals participated in a virtual online interview. FLWs' varied schedules may have influenced their ability to participate during the research period (11/28/22-12/20/22) and times offered (12 PM or 8 PM). Also, because we were unable

to receive IRB approval from Grady Health System during the research period, ARROW trainees employed with Grady were ineligible to participate in the online interviews, so their perspectives are not captured in this research. Additionally, given that the wellness trainings began in March and the online interviews occurred in November and December, the extended time gap between the training and data collection period may have influenced an individual's willingness to participate in the group interviews and/or to recall their training experiences fully. Furthermore, this research primarily focused on the influence of the ARROW training on resiliency for individuals in their work setting; this delimitation helped narrow the scope of the study but may have missed other influential factors related to resiliency that are outside of the work environment such as family, community, culture, etc.

Recommendations

FLWs in this study reported various individual and organizational sources of stress exacerbating their experiences with burnout (see Figure 3). The ARROW project, through its delivery of resiliency trainings has helped promote awareness of mental well-being and the utilization of practical skills that can be utilized in the workplace to mitigate the adverse effects of burnout. Although a single isolated training is insufficient to address all the concerns FLWs have reported, it is a starting point that can help FLWs take positive steps to improve their mental well-being and start conversations to promote a positive work environment and establish a culture of resiliency.[16] Based on the responses from participating FLWs, the following recommendations will further support and promote engagement with the ARROW training.

1. Utilize a mix of communication channels including social media, posters/flyers, mobile text messaging, and in-person visits to hospital departments and established groups/committees to improve visibility and knowledge of ARROW program and impact.

2. Establish a central registration online site that provides a calendar of trainings with dates, format, and time commitment. This intervention will allow participants to select their preferred format (virtual vs. in-person), training preference (CRM® vs. CBCT®), and time commitment (one day vs. over several days/weeks).

3. Maintain a small group setting during trainings to promote engagement and the development of relationships among participating FLWs.

4. Provide additional digital and physical resource materials to support the continued use of learned skills. Digital resources may include phone applications and web links with additional information and resources, video recording of session attended, and presentation slides/materials. Physical resources may include printed course booklets/handouts, an easily accessible “how-to” wallet/hospital badge size reference card, and course content posters/flyers that are placed in working spaces.

5. Offer optional short refresher courses with flexible formats (in-person and virtual) to review course material, practice skills learned, and time for open discussion to reengage with participants and provide additional support.

An improvement in ARROW programming can have immediate and short-term effects, but organizational changes must also be made to maintain a sustainable movement of positive

attitudes and practices related to mental well-being. This research uncovered the following recommendations for Emory Healthcare from the perspective of full-time FLWs.

1. Improve awareness of institutional support programs periodically to ensure all employees know about the resources available to them.
2. Incorporate resiliency training in new hire orientation and as an ongoing education requirement for current employees.
3. Adopt processes that permit FLWs to take time off during work to participate in hospital sanctioned mental well-being activities.
4. Listen, acknowledge, and support the emotional needs of FLWs.
5. Increase training of leadership/managerial staff on resiliency knowledge and skills to promote a positive work culture.
6. Incentivize resiliency among FLWs through the incorporation of well-being goals in performance evaluations and offering paid time off to attend resiliency trainings.

ARROW programming and Emory Healthcare must coordinate to ensure current efforts will address individual and organizational factors exacerbating burnout. The recommendations above offer direct feedback from FLWs on how those efforts can be further improved. A nurse leader in the study had the following prediction if the status quo is maintained; *"If we can't talk about it [mental health] in the workplace, the high level of burnout, the high level of stress, the high level of moral distress; your folks [employees] are not going to stay long if you're not respecting them as human beings, as whole people, including their mental health"* (nurse leader 2).

Conclusion

FLWs need both individual and organizational support to address the many factors that contribute to and exacerbate burnout in the workplace. ARROW's evidence-based resiliency trainings were effective in delivering key skills and knowledge for mitigating burnout and enhancing well-being and based on reported experiences these skills have been adopted and continually used by trainees. The skills learned have centered on an individual's improved mental well-being but the stated use with other FLWs may be a catalyst for the promotion of a positive work culture which was noted to be lacking along with mentions of unsupportive leadership by some participants. Additionally, organizational support programs such as Emory Healthcare's peer support program can further promote and enhance individual efforts made by hospital employees. Although there are inherent stressors to working in a hospital healthcare system, the combined efforts of individual resiliency trainings and organizational support programs may be the most effective strategy in mitigating stress and burnout among FLWs. Continued research on the integration of individual based interventions and organizational support programs is needed to help uncover the factors that enhance, promote, and mutually reinforce each other so that mental well-being among FLWs in the hospital setting is improved and burnout is reduced.

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Appendix

Appendix A.

PEQI: ARROW Resiliency Training Evaluation
Online Discussion Protocol

Facilitator Key:

- **Bolded sections are representative of headings**
- *Italicized sections are to be read out loud by the facilitator*
- Underlined sections are instructions for the facilitator and should not be read

Evaluation Questions:

What are the implementation barriers and facilitators to ARROW's resiliency training?

How have participants benefitted from attending an ARROW resiliency training?

What needs, ideas, and requests do ARROW trainees have for improving resiliency trainings and increasing mental well-being?

Participants: FLWs who have completed CRM and/or CBCT ARROW training.

Stage One: Greeting, Introduction, Purpose, and Consent.

- *Good (time of day) everyone. I want to thank you all for coming today. My name is Mario and this is my colleague _____, we are a part of ARROW's evaluation team. The purpose of today's online focus group is to get a better understanding of your experience with Atlanta's Resiliency Resources fOr FLWs (ARROW) resiliency training through a series of questions about barriers and facilitators of the training, experience with training content, and support and recommendations to support frontline worker in achieving their highest level of mental well-being.*

- *We hope that by understanding your experiences and perspectives as a frontline worker who participated in the training, we can refine and improve our programming to achieve ARROW's goal of increasing resiliency and well-being.*

- *I will now read the consent form for our group discussion, and after fully reviewing the form, I will ask for your verbal consent to continue.*

Share the screen with the consent form document and read it verbatim. After reading the consent form, inform participant of audio recording and notetaker (if applicable), ask the participants to unmute and confirm their consent to continue.

Stage Two: Utilities, Notetaking, Active Participation, Recording.

- *I would like to remind everyone that there are no right or wrong responses to the questions asked today, so please share as much information as you are comfortable with. Each of you was selected to participate in this discussion, so we are interested in hearing your views and opinions.*

- *I want to remind everyone that this group discussion is voluntary, and you are free to share or not share your views and leave the discussion if you choose to by selecting the end meeting option on your screen. The audio and video options are available in the zoom toolbar and can be found at the bottom of your zoom screen. The microphone icon on the left corner is used to mute and unmute. The camera icon can be found directly to the right of the microphone icon and is used to start or stop the video. We ask that respect be maintained during the discussion as we may have opposing viewpoints, which are acceptable and encouraged, so please speak up respectfully if you have something different to share from the views of others, as there are no right or wrong answers. Finally, we ask that you do not discuss the views of others or share information from this discussion outside of this group. This discussion will last approximately one hour. Does anyone have any questions before we begin?*

If there are no other questions, let us start with introductions, and then I will give you a brief overview of the ARROW program you participated in.

Begin Recording

Participant Introductions

Let us start by having everyone introduce themselves. Please share your first name, preferred pronouns, and the meaning of mental well-being to you.

The facilitator should demonstrate first as an example.

Great, thank you for introducing yourselves. Now I would like to give you an overview of the program.

ARROW Resiliency Training Overview:

ARROW's purpose is to support the COVID-19 era health workforce across the Atlanta metropolitan area with workforce-resiliency training for front-line workers to reduce, address, and prevent burnout, mental health conditions, substance use disorders, and suicide. You are here today because you have participated in an ARROW resiliency training. Now we will begin our discussion by getting a better understanding of burnout in the workplace. As a previously employed hospital nurse, I often normalized difficult feelings and experiences and as FLWs from different professions, we each have our own unique experiences in the workplace. Now, I would like to learn more about your experience.

Questions:

Barriers and Facilitators

1. *When you think about your experience with burnout in the workplace, what things come to mind?*

Prompt: *Of the things you have mentioned, it appears X is a common response among the group. Why do you think X is a shared experience by most of the group? Of your responses, which ones are frequently experienced in the workplace? Which experiences are less frequent?*

2. *What factors influenced your decision to participate in the wellness training?*

Prompt: *How did you hear about the training? Were you encouraged by someone else? What do you think can motivate other FLWs to participate in the training?*

Program Content Experience

Now let us discuss your experience with the resiliency training content.

3. Think back to when you completed the resiliency training; what were your thoughts on the content presented?

Prompts: *Was it relevant to your work environment? How was it reflective of the diversity encountered in your workplace? Which topics did you find useful? Which topics did you not find useful?*

4. What did you gain by attending the training?

Prompts: *What skills did you learn? Which ones have been the easiest to incorporate into your daily work routine? What factors make it difficult to practice resiliency skills in the workplace? Looks like X is mentioned multiple times, will someone discuss further why X was important to them?*

Support & Recommendations

5. In organizations, some leaders are often either actively or minimally involved in promoting mental well-being among employees. How do you think involvement by leaders affects the mental well-being of the workforce?

Prompts: *What do you think an involved leader does differently than a leader who is not? What actions taken by leadership would provide the most benefit to your mental well-being?*

6. As you reflect on your overall experience with ARROW, how would you change the training to better serve FLWs like yourself?

Prompts: *What other delivery methods would be beneficial to increase access to more FLWs? What other topics related to mental well-being would you benefit from learning in future trainings?*

Final question:

7. Finally, what other information would you like for the ARROW team to know about your experience with the resiliency training that has not already been covered by our discussion today?

Conclusion:

Thank you for your time today and for sharing insights to support the improvement of ARROW's resiliency program. As a token of our appreciation, ARROW will email your $25 Amazon e-gift card within the next week. If you have any questions, please feel free to reach out to us via email. Hope you have a great rest of your day!

Appendix B.

As a past trainee of ARROW's resiliency training, we hope to better understand your experience through a one-hour online group discussion. Your insights are valuable to us, and as a sign of appreciation, we will provide you with a $25 Amazon e-gift card!

First Name

Last Name

Email

What is your age in years?
20-29
30-39
40-49
50-59
60 or older

Which best describes your gender?
Transgender
Non-binary
Woman
Man
Prefer not to respond
Other

Do you self-identify with any of the following racial or ethnic groups? American Indian or Alaska Native, Black or African American, Native Hawaiian or other Pacific Islander, or Hispanic/Latino
Yes
No
Prefer not to respond

Which ARROW resiliency training did you attend?
Community Resiliency Model (CRM)
Cognitively-Based Compassion Training (CBCT)
Both
Don't know

In which health system do you currently work?
Emory
Grady
Prefer not to respond
Other

What is your employment status?
Full-time
Part-time
Contract worker
Prefer not to respond

Which best describes your job?
Nurse
Nurse Manager/Leader
Advanced Practice Provider (Nurse Practitioner or Physician's Assistant)
Therapist (Physical, Occupational, or Speech)
Police Officer
Public Safety Officer
Chaplain
Administrator
Prefer not to respond
Other

Which of the options below are you available to attend a one-hour online group discussion?

Appendix C.

Type	Code	Code Description	Subcode	Subcode Description	Illustrative Quote
Inductive	1. Mental Well-being	Refers to all personal mentions of well-being and practices	1.1 Coping Strategies	Describes the various practices participants utilize when faced with the effects of burnout	Taking certain number of days every quarter is part of my annual goals….because it's part of my performance review I do take a few days off every quarter instead of just powering through-Nurse
Inductive			1.2 Individual Perspectives	Describes a participant's personal view on the topic of mental well-being	Well-being to me encompasses not just one aspect of my mental or physical [health] but overall, all areas as a person and having the balance.-Nurse
Deductive	2. Burnout Effects	Refers to any mention of the effects felt by FLWs resulting from experiencing burnout	2.1 Strained Relationships	Describes the negative influence burnout has on relationships in and out of the work environment	I worked five positions at four hospitals because of the staffing shortage….within 90 days they're gone [new staff]….I'm also a mother and a wife and in school, so I'm doing all these things and my health is horrible. -Research Specialist
Inductive			2.2 Work Impact	Describes the effects of burnout experiences on participant's ability to perform their job functions	When I show up to work….even the smallest things feel like so much work, and I just kind of don't care….feels futile…this work I'm doing isn't changing anything-Physician's Assistant
Deductive			2.3 Negative Sensations	Describes the various physical and/or emotional symptoms participants describe when experiencing burnout	I feel angry because I feel like as a bedside nurse more and more work is put on our plate, we're not getting the resources we need, and patients are getting sicker….we keep the same ratio of patients and nurses…I wonder if they [leadership] cares about what we do-Nurse
Deductive	3. Burnout Amplifiers	Refers to any mention of factors that contribute to increased burnout in the workplace	3.1 Staffing Shortages	Describes the impact that working understaffed has on participant's level of burnout	Being short-staffed is a burden that I think we feel almost daily even if it's not every shift….being constantly and continually understaffed in the hospital is causing some moral distress-Nurse
Inductive			3.2 Work Setting	Describes how working in a particular unit/department may influence a participant's level of burnout	I work in an ICU, I'm a PA, and a lot of time a lot of the things we are doing are just kind of depressing and sort of moving at a glacial

					speed… we see so much badness and sadness.- Physicians Assistant
Deductive			3.3 Increased Work Demands	Describes the development of burnout due to increased work responsibilities with limited resources	I think of the amount of people that it takes to do the work…if you expect the same quality….they're going to have to work more hours… I just feel like it's almost the balance is unequal, you no longer have the right number of people….to complete the tasks- Administrator
Deductive			3.4 Technology Use	Describes all mentions of the challenges encountered when utilizing technology in the workplace	The beginning of the year we had a new scheduling system [UKG] then in a few months we started the EPIC [electronic health record system]…there wasn't the support we hoped for…we have to call other departments to see if they found some fixes….it feels like it's being forced to us… we still work short…our patient acuity has not changed…more load is put on our plate…how much more can we do?-Nurse
Inductive	4. Training Facilitators	Refers to all mentions of factors that positively influence a FLW's ability to participate in a resiliency training	4.1 External Motivations	Describes the various external influences that may encourage participation in a resiliency training	I took the opportunity when it [CBCT] was offered free to me…I had an idea for going because I'm part of the EMBRACE-Nurse
Inductive			4.2 Internal Motivations	Describes a participant's intrinsic motivation to improve resiliency for self-development and/or to support others	I took the opportunity to attend the program for my personal benefit and at the same time having the desire to be able to help my coworkers and colleagues when they are going through difficult time-Nurse
Deductive			4.3 Wellness Experience	Describes a participant's previous exposure to wellness/resiliency content external to the ARROW project	I chose to participate [CBCT] because it's part of the EMBRACE program at Emory-Administrator
Deductive			4.4 Leadership Support	Describes the extent to which an institutional leader positively influences the ability of employees to participate in a resiliency training	I'm grateful to work with my boss who keeps an open mind and supports well-being-Nurse
Deductive			4.5 Peer Support	Describes the extent to which peers positively influence other colleagues to participate in a resiliency training	My group is actually very forward in resiliency training and openness- Nurse Practitioner
Inductive	5. Training Barriers	Refers to all mentions of factors that	5.1 Work Schedule	Describes the challenges related to work hours that limit the ability to attend a resiliency training	I am in a business role so I could pick far in advance to block off a whole day…but a

		negatively influence a FLW's ability to participate in a resiliency training			lot of people can't do that especially nurses…they would have to take a day off and then you're asking them to potentially do it on their own time-Administrator
Inductive			5.2 Limited Awareness	Describes the negative influence of having minimal exposure to training communication sources on participants ability and/or willingness to attend a training	I don't think enough people know about the training…maybe also introduce that [Resiliency Training] in orientation to new grads and people who just need to know that there are resources here [Emory Healthcare]-Research Specialist
Deductive			6.1 Recommendations	Describes ideas that participants offered to enhance the training experience	Promote it more…I know that doing the one-day class is not enough to really experience the benefits…maybe somehow the staff can be compensated [to attend]-Nurse
Inductive			6.2 Skills Utilization Barriers	Describes all the factors limiting the use of learned resiliency skills	I know that at work there is just no time…we [nurses] barely have time to eat our lunch…how do we even have time to sit down and meditate-Nurse
Inductive			6.3 Skills Utilization Facilitators	Describes all the factors promoting the use of learned resiliency skills	I liked that we get to keep the videos after the training so I can look back-Nurse
Deductive			6.4 Satisfaction	Describes the extent to which participants were satisfied with the ARROW training	I really liked it [training], I thought it was very broad…and had a lot of good speakers…and I really liked the extra part [optional follow-up class] you could go to -Administrator
Inductive			6.5 Training Dislikes	Describes all mentions of the elements of the training participants disliked	I do wish we would of did the class in person-Research Specialist
Deductive	6. Training Experience	Refers to any mention of experiences felt by FLWs during their training	6.6 Positive Gains	Describes the tools and knowledge gained from attending the training	A nurse had a really massive panic attack and I was able to use some of that, [learned skills in the training] and say "your safe" and "think about a time when you were safe" to help her-Nurse
Inductive	7. Workplace Culture	Refers to any mention of workplace interactions and available resources that	7.1 Peer Interactions	Describes the verbal and/or nonverbal communication among FLWs (FLWs)	If I am not the nurse working today, I feel pressure at home to come in and help….I feel pressure from colleagues from everyone-Nurse

Deductive		influence the work environment	7.2 Leadership Standing	Describes the real or perceived extent to which a leader influences the work environment from the participant's perspective	I had a really tough case and I just cried on the floor in front of everybody….I didn't feel like people really knew what to do..if the attending of the day had been different, it would have been different.-PA
Inductive			7.3 Institutional Wellness Initiatives	Describes the resources, services, and organizational practices occurring at the health system related to well-being	After COVID I went through such a difficult time that I had to get help…when the hospital started the program [EMBRACE] I thought it could help….I reached out to EBSTOP [replaced by BHS]…for the sake of my sanity- Nurse