Impact of Interdisciplinary Debriefing on Teamwork and Burnout

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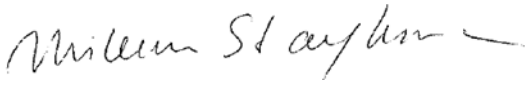

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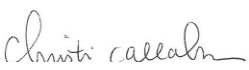

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Abstract

Healthcare workers are highly exposed to critical events. Prolonged exposure to these stressors can lead to burnout. One intervention that may decrease burnout is the implementation of interdisciplinary debriefing (IDD). Additionally, IDD may increase teamwork within a care team. *Purpose:* The purpose of this study is to identify the impact that IDD after critical events has on teamwork and staff burnout in intensive care unit (ICU) care teams. *Methodology:* The study is a quality improvement project and a quasi-experimental study with pre- and post-tests. The study takes place in three ICUs within a hospital in Southwest Virginia. The sample includes 36 full-time, multidisciplinary employees who directly interact with patients in the ICU setting. Code Lavender, an innovative hospital-wide alert, was introduced within the I-mobile system to initiate debriefing and gain support from other units. Burnout and teamwork were assessed before and after the 12-week implementation period using the Burnout Assessment Tool and the Nursing Teamwork Survey. *Results:* Baseline burnout was 2.32 and the baseline teamwork score was 3.88. There was a higher level of burnout in women and in nurses when compared to other professions. After the 12-week implementation period, participants who attended debriefing had a decrease in burnout compared to those who did not attend ($p < 0.05$). There was an increase in teamwork for those who attended debriefing, without statistical significance. *Implications:* IDD after critical events, and the utilization of code lavender, is a simple, feasible intervention that can decrease the level of burnout in ICU care teams. Healthcare leaders can use strategies to facilitate debriefing, leading to decreased turnover and costs associated with burnout.

Keywords: interdisciplinary, debriefing, burnout, teamwork

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Chapter 1: Introduction

Healthcare workers are highly exposed to critical events, including unexpected patient deaths. In 2020, in the United States, there were 1,226,305 patient deaths in medical facilities. In the state of Virginia in 2020, there were 29,120 patient deaths in medical facilities (Centers for Disease Control and Prevention [CDC], 2022). Patient deaths are reported to impact every healthcare provider in the care team. The care team may include attending physicians, residents/internists, nurses, patient care techs, case managers, and many other supportive personnel in various clinical settings. Hospital inpatient settings may include the emergency room, medical and surgical units, and intensive care units. In one study, the authors concluded that patient deaths affect approximately 100% of healthcare workers (Kostka et al., 2021). The Joint Commission received 1,441 reports of sentinel events in 2022 (Joint Commission, 2023). These are events that cause death, permanent harm, or severe harm. Furthermore, the number of sentinel events increased by 19% from 2021 to 2022, which is concerning (Joint Commission, 2023).

Many emotional responses are associated with patient death, including helplessness, sadness, guilt, and depression (Kostka et al., 2021). Additional feelings include embarrassment, remorse, or fear of additional patient deaths under their care (Draus et al., 2022). The experience of patient deaths can lead to physical exhaustion, loss of sleep, and loss of appetite (Draus et al., 2022). Healthcare workers often experience a phenomenon known as secondary traumatic stress and may be considered “second victims.” Dealing with death and critical events regularly impacts the emotional well-being of staff members, which can lead to burnout (Giles et al., 2019). With the experience of more patient deaths, there is an increase in burnout. Kelly et al.

(2020) reported that exposure to one patient death per month has a 3.31 increase on the emotional exhaustion scale compared to those who have not experienced death. Studies show that between 30 and 70 percent of healthcare workers may experience burnout, anxiety, secondary traumatic stress and consider themselves second victims (Cantu & Thomas, 2020; Colville et al., 2017; Draus et al., 2022; Gunasingam et al., 2015).

The job of nurses in a hospital setting is stressful. There is a high exposure to critical events, which can lead to burnout. As the largest representatives of healthcare professionals, nurses experience high burnout levels, further escalated by COVID-19 (American Association of Colleges of Nursing [AACN], 2023). Approximately 60% of nurses feel burnt out, and 75% feel stressed, exhausted, and frustrated (AACN, 2022). While there are a variety of factors that may be contributing to burnout, exposure to death and critical events has increased since the start of the pandemic (AACN, 2022).

Burnout impacts a nurse's overall performance, decreasing productivity and job performance (Theofanidis et al., 2022). The level of burnout is also linked to a higher turnover intent (Theofanidis et al., 2022; Wells-English et al., 2019). While burnout has a significant impact on nurses at an individual level, turnover, which is a result of burnout, can have a significant cost to the healthcare system.

The total cost for nurse turnover within United States hospitals is estimated at 5.9 to 8.5 million dollars per year (Bae, 2022). It is estimated that it costs between $21,514 and $88,000 for each nurse who leaves their current job (Bae, 2022). The cost of burnout may include the cost of recruiting new nurses, training new nurses, or hiring temporary staff to fill the nursing shortages. In 2021, the average cost of contract labor in each hospital was about 7.6 million dollars (Definitive Healthcare, 2023). Turnover can pose a significant financial burden on the healthcare

system. Therefore, steps should be taken to provide support to healthcare workers who may be exposed to critical events or patient deaths and who are experiencing burnout.

Furthermore, teamwork climate is a predictor of burnout (Galleta-Williams et al., 2020). Increased teamwork can contribute to increased patient satisfaction and improved patient outcomes (Gittell et al., 2000; Mazzocco et al., 2009; Rosen et al., 2018). Increased teamwork can also increase the level of communication among staff, decrease turnover, and decrease staff burnout (Knorring et al., 2019; Rosen et al., 2018). Therefore, teamwork should be promoted within the healthcare setting.

One intervention to help reduce burnout and improve teamwork is to consider the implementation of interdisciplinary debriefing (IDD). Research concluded that there are many benefits to IDD, including a higher perception of grief management and an increased ability to regulate emotions related to patient death (Hawes et al., 2020). Research also shows that healthcare workers express the desire to participate in IDD, and most IDD participants find it beneficial (Cantu & Thomas, 2020; Colville et al., 2017; Nadir et al., 2017). Some studies have shown that the implementation of IDD has been proven to increase teamwork, support team dynamics, and promote team unity (Kam et al., 2022; Nadir et al., 2017). However, the number of recent studies that are directly related to IDD and teamwork is small, so additional research on this topic is warranted.

Knowledge Gap

Much research has been conducted on the high prevalence of nurses' burnout and the benefits of IDD. Other studies showed that the implementation of IDD may impact burnout without showing statistical significance (Beres et al., 2022; Gunasingam, 2015; Gunuse, 2022). The lack of significance may be attributed to the Coronavirus (COVID-19) pandemic,

although this association cannot be concluded without further research. There are also limited studies to demonstrate if there is a correlation between IDD and teamwork. Most studies show a correlation between IDD and contributing factors to teamwork (Lyman, 2021; Nadir et al., 2017; Sugarman et al., 2021). However, there is a lack of studies that directly measured the impact of IDD on the perception of teamwork. Additionally, debriefing is not commonly used in clinical settings, even though participants tend to find debriefing helpful, meaningful, and valuable (Cantu & Thomas, 2020). More research is needed to identify if there is a direct correlation between IDD, burnout, and teamwork after critical events in acute care settings, especially considering the impact of COVID-19.

Purpose

The purpose of this study is to identify the impact IDD has on teamwork and staff burnout in an inpatient hospital setting. Therefore, this project will be guided by two questions: a) In ICU care teams, how does IDD after critical events, in comparison to no IDD, affect staff burnout after three months? and b) how does IDD after critical events, compared to no IDD, affect teamwork after three months? The hypotheses are as follows:

Burnout

- H_1: Interdisciplinary debriefing after critical events will affect staff burnout after 12 weeks.
- H_0 Interdisciplinary debriefing after patient deaths will not affect staff burnout after 12 weeks.

Teamwork

- H_1: Interdisciplinary debriefing after critical events will affect teamwork after 12 weeks.

- H_0 Interdisciplinary debriefing after patient deaths will not affect teamwork after 12 weeks.

Definition of Variables

For this study's purpose, the following key terms will be identified: critical event, debriefing, burnout, and teamwork. Conceptual and operational definitions will be described to guide the understanding of variables in this project.

A *critical event* is "any actual or alleged event or situation that creates a significant risk of substantial or serious harm to the physical or mental health, safety or wellbeing of a waiver participant" (Department of Human Service [DHS], 2008, para. 1). In the current study, any experience that is considered abnormal or unexpected, with a potential emotional impact, will be considered a critical event as the operational definition. Some examples may include a patient death, a breakdown in communication that caused harm, a delay in treatment that caused harm, or an error that caused an unexpected response. This term is subjective, so staff will be encouraged to ask for debriefing if they feel that there was an event that impacts mental health, safety, or well-being.

Debriefing is a "collaborative, reflective conversation following a simulated or clinical event" (Institute for Healthcare Improvement, 2021, para. 2). This concept was expanded to include multiple terms including post-resuscitation debriefing, hot debriefing, and stress debriefing, to describe IDD within a healthcare setting. For this current study, debriefing will be defined as structured sessions following a critical incident, utilizing the "Post-Code Pause" debriefing tool. The goal is to complete the debriefing by the end of the shift in which the incident occurred. The debriefing will be interdisciplinary and will be encouraged for all care team members involved.

Burnout is “a long-term stress reaction marked by emotional exhaustion, depersonalization, and a lack of sense of personal accomplishment” (Agency for Healthcare Quality and Research [AHQR], 2017, para. 1). In the current study, burnout will be measured using the Burnout Assessment Tool (BAT), presented in the methodology section.

Finally, teamwork is defined as “work done by several associates with each doing a part but all subordinating personal prominence to the efficiency of the whole” (Merriam-Webster, 2023, para. 1). When considering the healthcare team, this may include an interdisciplinary effort to provide care within a hospital setting. Teamwork will be directly measured using the Nursing Teamwork Survey (NTS) in this study.

Theoretical Framework

The Jobs Demand Resource Model (JD-R) will guide this study. The JD-R was introduced in 2001 by Demerouti et al. to explain how job demands, and job resources can impact burnout and life satisfaction. The JD-R model has some assumptions to explain the relationship. It assumes that regardless of the occupation, factors can be separated into job demands and job resources (Demerouti et al., 2001).

Job demands may include a variety of conditions such as contact with patients, work conditions, and environmental conditions (Demerouti et al., 2001). In the current study, the job demands would be exposure to critical events, which can potentially lead to burnout. On the other hand, job resources are work conditions that can promote stress if they are lacking. This may include things like pay, peer support, social support, and job control (Demerouti et al., 2001). In the current study, the job resource is IDD. The hypothesis is that IDD will impact burnout and teamwork, assuming that IDD is a work-related resource. Additionally, the

perception of teamwork can be associated with a job resource because it can be related to the social and peer support identified by the JD-R.

The third assumption of the JD-R model is that variables of burnout, including exhaustion and disengagement, can impact life satisfaction. They demonstrated that job demands were correlated with exhaustion and that the presence of job resources had a negative correlation with disengagement. The presence of these factors was correlated with decreased life satisfaction (Demerouti et al., 2001). Based on these results, it can be assumed that the stressors and resources of the job may impact life satisfaction. The JD-R framework will be used in this study to determine the impact of IDD, which is a resource, on the demands of the healthcare profession.

Summary

Healthcare workers are exposed to various critical events and stressors, including patient deaths. This exposure can impact physical and mental well-being and can increase burnout. Interdisciplinary debriefing is a simple intervention that may decrease burnout (Copeland & Liska, 2016; Hawes et al., 2020; Holbert & Dellasega, 2021; Kam et al., 2022). Additionally, IDD may also improve teamwork among care teams (Gougoulis et al., 2020; Kam et al., 2022; Lyman, 2021; Nadir et al., 2017). Considering the assumptions of the JD-R framework, the purpose of this study is to identify the impact that IDD has on teamwork and staff burnout in ICU care teams.

Chapter 2: Integrated Review of the Literature

This chapter presents a synthesized review of the literature related to the impact that IDD has on burnout and teamwork. Search strategies, including inclusion and exclusion criteria, are defined. Next, there is a synthesis of the literature, which includes experimental studies that relate directly to the current project. Finally, common themes are presented related to all variables: debriefing, burnout, and teamwork.

Search Strategies and Criteria

The Cumulative Index to Nursing and Allied Health Literature (CINHAL) was used to perform the literature review. Several searches were completed using different key terms. Articles within the time frame of 2013 and 2023 were included in the review to ensure the most recent, up-to-date information was included. Articles published before 2013 were excluded. All populations within an acute-care setting were considered, including pediatric and adult populations. For all searches, articles related to long-term care, outpatient settings, and simulated experiences were excluded since the exposure to critical events in these environments is different than in the inpatient setting. Published literature reviews, periodicals, and editorials were excluded from the current review. The results were evaluated based on the abstract, and irrelevant content was excluded.

Keywords included combinations of *debriefing, burnout, patient death, and critical events.* Additionally, the search was expanded as additional terminology seemed evident in the literature. Some additional keywords used included *second victim, secondary traumatic stress, and post-code pause.* Specific factors can be related to burnout. For example, stress and burnout have a positive correlation (Lee et al., 2021). Secondary traumatic stress and burnout also have a

positive correlation (Lee et al., 2021; Wells-English et al., 2019). Therefore, some factors were considered for review even if they did not specifically measure burnout directly.

The original CINHAL search included the keywords *debriefing* and *burnout.* The search produced 1,247 results. The time frame was narrowed down from 2013 to 2023, which left 719 results. After excluding articles based on the above-mentioned criteria, the initial search yielded 20 articles that were used in this literature review.

The second search used the key terms *teamwork* and *debriefing.* In the search, simulations were filtered out because of the large number of results related to simulated events. There were 1,671 total articles with this search. After including a time parameter from the year 2015 to 2023, there were 795 articles. The same exclusion criteria applied. Nine additional articles found were relevant and included in the analysis of the current literature.

A third search of CINHAL included the keywords *critical events* and *debriefing.* There were 3,584 total articles. The time frame was filtered to include 2013 to 2023 and simulation was excluded, which left 1,156 articles. The same exclusion criteria were used in this additional search. After evaluating the abstracts of each article, nine additional articles were used in the current literature review.

There were some additional searches to find supportive evidence of themes that emerged. For example, a search was done to identify interventions (not just debriefing) that can improve burnout. Another search included the key terms the *financial impact of burnout* to demonstrate the cost of the dependent variable. There were 16 articles that were reviewed related to supporting evidence.

In total, 54 articles were included in this literature review for critical appraisal and identification of common themes. Among those, only experimental studies were included in the

final synthesis of the literature review. These experimental studies will help evaluate the correlation between IDD, burnout, and teamwork to guide the methodology of the current study. Thus, 16 experimental studies were included in the synthesis in Chapter 2.

Analysis of Current Literature: Design, Framework, and Tools

Using the search criteria described above, 16 experimental studies similar in design to the current study were included in this literature synthesis. The study design, framework, and tools from previous studies are analyzed in this section.

Analysis of Study Design

While all 16 experimental studies had debriefing as the independent variable, the methods of debriefing and timing of debriefing varied slightly. The information from these 16 articles will help guide the methodology of the current study.

Four articles had a direct measurement of burnout. These four studies assessed for a direct correlation between debriefing and burnout using quantitative measurements (Beres et al., 2022; Gunasingam et al., 2015; Nerovich et al., 2023; Wells-English et al., 2019). Nine additional articles measured other factors that may contribute to burnout. Six of the 16 experimental studies measured teamwork or got qualitative feedback related to teamwork.

Among 16 studies included for literature review synthesis, 13 of the 16 studies used a quasi-experimental design. One study used a retrospective design (Wolfe et al., 2020) and the other had a crossover design (Kam et al., 2022). There was one randomized control trial when participants were randomly assigned to scheduled debriefing (Gunasingam et al., 2015).

Most studies used quasi-experimental design without randomization. The use of the quasi-experimental was appropriate because exposure to patient deaths in limited and it is

difficult to blind participants to their assigned group (IDD vs. non-IDD) when they work in the same working environments.

Most of the experimental design articles, 11 out of 16, were mixed method and provided both quantitative and qualitative data. The use of a mixed method design allowed the researchers to analyze data while gathering additional feedback from participants, which was essential to identify improvements to the debriefing process. This information helped determine the statistical significance of debriefing. Additionally, the qualitative studies used a grounded theory design. Grounded theory is a qualitative research methodology that uses inductive reasoning to analyze themes (Tie et al., 2019). The researcher collects data from participants and theories are extracted from the data collected (Tie et al., 2019). In the current study, qualitative data will be analyzed and coded using grounded theory. This ensures that the qualitative data is valuable to the research study.

Framework

There was no commonality with frameworks in the articles from the review of literature. Three of the articles mentioned conceptual frameworks that guided the studies. Sugarman et al. (2021) used the Plan-Do-Study-Act (PDSA) framework to introduce the implementation of debriefing in the emergency department. Other frameworks include the Ottowa's model of research use (Beres et al., 2022), and Watson's theory of human caring (Draus et al., 2022). These are frameworks that can be incorporated into multiple studies in various environments.

Sample Population

When reviewing the literature, sample populations in acute-care settings were commonly noted. Long-term care, palliative, and outpatient settings were excluded because they may have different exposures and processes than inpatient settings. Therefore, they may be misguiding for

the current study. Pediatric populations were included in the study if it was within an acute-care setting. Half (8) of the 16 articles studied IDD among healthcare workers in pediatric populations. The other eight studies evaluated IDD in adult populations.

Data Collection and Tools

There are a variety of tools that can measure burnout and teamwork. In the synthesis of literature, several tools have been identified. The tools are grouped into themes and presented below.

Measurement of Burnout. Four articles had a direct measurement of burnout. These four studies assessed for a direct correlation between debriefing and burnout using quantitative measurements (Beres et al., 2022; Gunasingam et al., 2015; Nerovich et al., 2023; Wells-English et al., 2019). Nine additional articles measured other factors that may contribute to burnout. Among the themes, some articles measured emotional support (Giles et al., 2019; Kam et al., 2022), coping (Holbert & Dellasega, 2021), stress (Arbios et al., 2022; Beres et al., 2022; Hawes et al., 2020), grief management (Kostka et al., 2021; Rodriguez et al., 2020), and job satisfaction or enjoyment (Arbios et al., 2022). While these studies do not directly measure burnout, they are characteristics that may impact burnout indirectly.

There are several tools used to measure burnout or components of burnout in previous studies. Some of the experimental studies used the Maslach Burnout Inventory (MBI) (Gunasingam et al., 2020) or the Professional Quality of Life (ProQOL) to measure burnout, compassion satisfaction, and secondary traumatic stress (Beres et al., 2020; Nerovich et al., 2023). The Hospital Anxiety and Depression Scale (HADS) was used in two studies to measure anxiety and depression among healthcare workers (Cantu & Thomas, 2020; Colville et al., 2017). Additionally, the Moral Distress Sale Revised (MDS-R) can be used to measure moral distress,

which may correlate with burnout (Browning & Cruz, 2018; Griggs et al., 2020). However, many of the experimental studies created tools to measure burnout. The concern with the creation of data collection tools is the lack of validity testing in research. While the Burnout Assessment Tool has become increasingly popular in research, it was not used in the experimental articles included in this literature review. Therefore, additional research with this validated tool may provide additional evidence related to burnout.

Measurement of Teamwork. Some tools can be used to measure teamwork. Within the literature review, some of these tools were identified. One data collection tool is the nursing teamwork survey, which can help measure teamwork within a nursing unit (Lyman, 2021). Another tool is the Practice environment scale of the nursing work index, which has a subscale that identifies teamwork within the work environment (Knorring et al., 2019). However, for the six experimental studies included in this literature review, original teamwork surveys were created by the researchers to determine the impact of IDD. There is limited research noted that measured teamwork using a validated data-collection tool.

Major Themes: Synthesis of Current Literature

Literature synthesis is an important part of the research process. Major themes have been identified and presented in this section. Themes were organized by relation to the major study variables including critical events, debriefing (IDV), burnout (DV), and teamwork (DV).

Critical Events

Critical events can lead to strong emotional responses. Healthcare workers are clearly exposed to critical events (Colville et al., 2017; Draus et al., 2022; Giles et al., 2019; Gunasingam et al., 2015; Kostka et al., 2021). Patient deaths affect approximately 100 percent of healthcare workers (Kostka et al., 2021). A critical event can impact the physical and mental

well-being of those involved (Giles et al., 2019; Kelly et al., 2020; Kostka et al., 2021). Some critical events that were debriefed in the literature include death, resuscitation, and intubation (Beres et al., 2020; Berg et al., 2014; Cincotti et al., 2021; Copeland & Liska, 2016; Hawes et al., 2020; Holbert & Dellasega, 2021; Kam et al., 2020; Nerovich et al., 2023; Sugarman et al., 2021; Wolfe et al., 2020). Additionally, other critical events include ethically challenging cases, mass casualty, critically ill children, unplanned withdrawal of life-sustaining measures, and acute deterioration (Cantu & Thomas, 2020; Gougoulis et al., 2020; Holbert & Dellasega, 2021; Nadir et al., 2017; Nerovich et al., 2023). Cantu and Thomas (2020) used a definition used in previous studies. They defined critical events as "self-defined traumatic events that cause individuals to experience such strong emotional responses that usually coping measures are ineffective" (Cantu & Thomas, 2020). This definition assumes the event is self-defined. Healthcare workers may be impacted differently by the same event, so it is important to offer options. In conclusion, various situations may be considered "critical events," so the term must be clearly defined when initiating debriefing.

Debriefing

Debriefing occurs in a variety of specific units. Seven of the 16 experimental studies evaluated IDD in an ICU setting (pediatric or adult populations). Five of the 16 experimental articles included IDD in an emergency room or trauma setting. The other four articles were not unit-specific; instead, they included several units within a hospital setting (Bohman et al., 2023; Copeland & Liska, 2016; Gunasingam et al., 2020; Kam et al., 2022)

In the literature review, many of the articles used the term *debriefing* (Bohman et al., 2023; Beres et al., 2022; Gunasingam et al., 2015; Holbert & Dellasega, 2021; Nadir et al., 2017; Nerovich et al., 2023; Wolfe et al., 2014). One of the studies used the term *bereavement*

debriefing to define the intervention of debriefing after critical events (Hawes et al., 2020). Other terms used included *cumulative stress debriefing* (Arbios et al., 2022), *hot debriefing* (Gougoulis et al., 2020; Sugarman et al., 2021), *a pause* (Copeland & Liska, 2016), and *post-resuscitation debriefing* (Kam et al., 2022; Lyman, 2021). Regardless of the terminology, these 16 studies include brief, real-time, interdisciplinary interventions to address the stress associated with several critical events.

Debriefing can be intradisciplinary or interdisciplinary. Some of the articles were intradisciplinary, meaning that the participants of the debriefing were from the same discipline. For example, one of the 16 experimental articles studied debriefing among physicians and residents (Gunasingam et al., 2020). The study by Gunasingam et al. (2020) was a randomized control trial that measured baseline burnout then used randomization to introduce debriefing to the experimental group. While 68% of doctors displayed evidence of burnout at baseline, there was no significant difference after scheduled debriefing was introduced to the doctors (Gunsingam et al., 2020). Two of the 16 experimental studies implemented debriefing among nurses (Arbios et al., 2022; Browning & Cruz, 2018). The rest of the experimental articles included interprofessional debriefing, meaning there were multiple disciplines involved with the debriefing process (Copeland & Liska, 2016; Holbert & Dellasega, 2021; Sugarman et al., 2021; Wolfe et al., 2020) The prevalence of interdisciplinary articles outweighs the intradisciplinary ones, which may be related to the importance of interprofessional collaboration in the healthcare setting.

Types and Timing of Debriefing. There were limited articles that focused on "cold debriefing," which is a debriefing process that occurs days to weeks after an event (Wolfe et al., 2020). Wolfe et al. (2020) examined the characteristics of cold debriefings in select pediatric

sites. The average time from incident to debrief was 26 days (Wolfe et al., 2020). There are more relevant studies related to “hot” debriefing, which is debriefing that takes place within minutes to hours of a critical event (Wolfe et al., 2020). Hot debriefing has been an effective way for participants to immediately assist with coping and return to work with a sense of purpose (Copeland & Liska, 2016; Holbert & Dellasega, 2021). Periodic scheduled debriefing is another option. Azizoddin et al. (2020) implemented nightly debriefing in an emergency room during the COVID-19 pandemic (Azizoddin et al., 2020). Other studies introduced scheduled weekly or monthly debriefing sessions (Arbios et al., 2022; Browning & Cruz, 2018; Griggs et al., 2020). In conclusion, there are several ways that implementation can be introduced in a hospital setting. Based on the number of studies that showed the benefit of hot debriefing over cold debriefing, a goal of the current study will aim to hold the debriefing in the same shift that the event occurred.

Debriefing Tools. Some debriefing tools include the “Post Code Pause” (Copeland & Liska, 2016), “Take Stock” (Sugarman et al., 2021), “Discern” (Kam et al., 2022), and the “Take 10 to Talk About It” (Gougoulis et al., 2020). These debriefing tools were originally created by the authors of the studies and were designed to guide hot debriefings in a variety of settings. The Post Code Pause (PCP) was used by Copeland and Liska in 2016. A pause, or moment of silence, is initiated first to acknowledge the passing of a patient or to allow for reflection on the critical event. Following the pause, there are seven questions used to guide a debriefing (Copeland & Liska, 2016). The questions are brief and direct and align with the goals of the current study. Therefore, the PCP will be utilized with minor revisions for this project.

Impact of Debriefing on Burnout. Regarding the correlation between IDD and burnout, the literature showed mixed results. Many articles demonstrated that IDD decreased the

contributing factors of burnout (Copeland & Liska, 2016; Hawes et al., 2020; Holbert & Dellasega, 2021; Kam et al., 2022). For example, one study showed that the mean on the stress scale decreased from 3.4 to 3.0 after IDD intervention (Hawes et al., 2020). There was also an increase in job satisfaction and emotional satisfaction after IDD sessions (Arbios et al., 2022; Nerovich et al., 2023; Soper, 2022). However, numerous articles concluded that the correlation between IDD and burnout was inconclusive due to lack of statistical significance (Beres et al., 2020; Browning & Cruz, 2018; Gunsingam et al., 2015; Nerovich et al., 2023). In these studies, there was an improvement in the level of burnout, even though statistical significance was not found (Beres et al., 2020; Browning & Cruz, 2018; Gunasginam et al., 2015; Nerovich et al., 2023). Since the results are variable, additional research is needed to evaluate the correlation between debriefing and burnout.

Impact on Teamwork. Nine articles assessed the correlation between debriefing and teamwork. There were two articles that showed an improvement in teamwork and team communication (Gougoulis et al., 2020; Lyman, 2021). Teamwork scores increased when more IDD sessions were attended and when formal debriefing was offered versus informal or no debriefing (Lyman, 2021). One study showed that team communication components increased after the implementation of debriefing, though it was not statistically significant (Berg et al., 2014). Sugarman (2021) determined that the "Take Stock" debriefing tool promoted a culture of teamwork. Four other articles discussed the correlation between teamwork factors, such as communication, team unity, or cohesion (Hawes et al., 2020; Kam et al., 2022; Nadir et al., 2017; Sugarman et al., 2021). However, other factors, such as team morale, were not correlated (Bohman et al., 2023). Additional research is required to investigate a more direct correlation between debriefing and teamwork.

Desire to Debrief. Regardless of the statistical significance of each study, one theme that emerged was a desire to debrief. Many healthcare workers have a desire to debrief after patient deaths (Cantu & Thomas, 2020; Colville et al., 2017; Laurendine et al., 2020; Nadir et al., 2017; Rodriguez et al., 2020). Additionally, there was positive feedback in many of the studies, even when quantitative data did not significantly impact the dependent variables. For example, participants tend to find debriefing helpful and meaningful (Berg et al., 2014; Browning & Cruz, 2018; Hawes et al., 2020; Holbert & Dellasega, 2021; Nerovich et al., 2023). Many participants would want to attend future debriefing sessions or would recommend introducing them into future practices (Arbios et al., 2022; Berg et al., 2014; Gunasingam et al., 2020; Holbert & Dellasega, 2021; Sugarman et al., 2021). Overall, positive feedback was evident in the research. Many studies concluded that the implementation may be beneficial. At the least, the intervention is feasible and practical.

Feasibility. Understanding the feasibility is important prior to implementation of debriefing in a hospital setting. The review of literature shows that the implantation of IDD is feasible (Cincotta et al., 2021; Nerovich et al., 2023). One study showed that during the study period when IDD was implemented, up to 85% of deaths were debriefed (Cincotta et al., 2021). Nerovich et al. (2023) had similar results. About 71% of critical events were debriefed (Nerovich et al., 2023). Considering the high level of compliance within the units, implementation of IDD can be considered feasible in a hospital setting. However, an understanding of barriers should be considered when planning for the project to ensure feasibility.

Barriers. Research has identified barriers to the implementation of debriefing. One of the largest barriers to debrief is staffing (Bohman et al., 2023; Cincotta et al., 2021; Wolfe et al., 2020). Another barrier is the acuity of the unit (Nerovich et al., 2023). Some other barriers

include time and the lack of financial support for the process (Bohman et al., 2023; Nadir et al., 2017; Nerovich et al., 2023; Wolfe et al., 2020). Finally, an identified barrier is a lack of interest in debriefing or a reluctance to talk about emotional events in some clinical settings (Nadir et al., 2017; Sugarman et al., 2021). It is important to identify barriers so they can be considered when implementing debriefing in the future.

The Role of the Healthcare Leader. Considering the desire to debrief and the potential benefits, nurse leaders can attempt to facilitate debriefing. Barriers to debriefing include lack of staffing, lack of time, and lack of financial resources (Bohman et al., 2023; Nadir et al., 2017; Wolfe et al., 2020). Therefore, leaders can address each of these barriers, which is what will be done in the current study. For example, additional staff can be on call or utilized from a different department when a debriefing is occurring. A short debriefing framework can be used so the sessions are not very time-consuming. The implementation can be evaluated continuously to identify new barriers that can be addressed. By facilitating the processes, the nurse leader can address the desire and provide the benefits associated with interdisciplinary debriefing (Bohman et al., 2023; Nadir et al., 2017; Wolfe et al., 2020). One associated benefit is the impact on burnout, the next theme identified in the literature review.

Burnout

Burnout has been a focus in healthcare for the past several decades. Schaufeli et al. (2020) introduced a tool to quickly and effectively evaluate the risk of burnout based on common burnout symptoms (Schaufeli et al., 2020). Several categories of burnout have been identified, including exhaustion, mental distancing, cognitive impairment, and emotional impairment. There may also be additional symptoms of burnout, including psychological distress and psychosomatic complaints (Schaufeli et al., 2020). There are many factors that impact burnout,

and it can greatly impact healthcare workers. This section will elaborate on several themes relating to burnout, which were identified from previous studies.

Factors Contributing to Burnout. Several factors can impact burnout. While burnout is multi-factorial, several themes emerged in this literature review. Organizational barriers can contribute to burnout and include things like staffing, ineffective policies, lack of resources, and disengaged administration (Hancock et al., 2020). Specifically related to the current project, exposure to high-stress situations can lead to burnout (Hancock et al., 2020). Additionally, poor team experiences can impact burnout. Factors that impact team experiences include a lack of control or appreciation in the workplace and negative team dynamics (Hancock et al., 2020). Many factors impact healthcare workers and should be studied.

Physical and Emotional Impact of Burnout. Burnout impacts people on a physical and emotional level. On a physical level, burnout may cause fatigue, loss of sleep, and loss of appetite (Draus et al., 2022). On an emotional level, burnout can impact the emotional well-being of healthcare workers (Giles et al., 2019). Burnout is correlated with helplessness, sadness, guilt, and depression (Kostka et al., 2021). When the physical and emotional impacts of burnout accumulate, there is an increase in turnover intent (Bourdeanu et al., 2020; Draus et al., 2022; Theofanidis et al., 2022). The physical and emotional impact of burnout can cause healthcare workers to miss work or leave their current position (Theofanidis et al., 2022). Therefore, it is important to address the issue of burnout among healthcare workers.

Financial Impact of Burnout. With an increase in turnover that may result from burnout comes a financial cost. When a nurse leaves the job, there is a financial expense for recruiting and training new nurses. There is also an expense for contract labor to fill the vacancy created when the nurse leaves. For each nurse that leaves their job, it costs an organization between

$21,514 and $88,000 (Bae, 2022). The average cost, per hospital, for contract labor is estimated at 7.6 million dollars (Definitive Healthcare, 2023). At a national level, the cost of nursing turnover is between 5.9 and 8.5 million dollars (Bae, 2022). The financial cost of burnout is significant, so the issue of burnout should be addressed.

Impact of Burnout on Patient Outcomes. Burnout impacts patient outcomes. When there is an increase in a component of burnout, there is decreased employee performance and productivity (Theofanidis et al., 2022). Emotional exhaustion is correlated with a decrease in the quality of care provided. In high-burnout environments, there is an increase in medication errors and nosocomial infections (Theofanidis et al., 2022). In conclusion, burnout has significant implications on healthcare workers, patients, organizations, and the healthcare community.

Impact of COVID Pandemic on Burnout. The level of stress and burnout is suspected to be higher since the start of the COVID-19 pandemic because of the increase in patient deaths and critical events. Many studies published over the past three years have focused on the impacts of COVID-19 on healthcare workers. In a 2021 study conducted at one intensive care unit, 80% of ICU employees reported feeling anxious, nervous, or on edge (Bucca et al., 2022). Additionally, 82% reported that they are worrying too much and 79% have a hard time relaxing. 55% felt sad, depressed, or hopeless (Bucca et al., 2022). Similarly, another study determined that 96.6% of participants demonstrated various levels of secondary traumatic stress, and over half of the participants experienced high and severe symptoms (Erkin et al., 2020). Many other recent articles recognized the impact of COVID-19 on the level of burnout (Azizoddin et al., 2020; Bucca et al., 2022; Cotarelo et al., 2023; Griggs et al., 2020). Of note, since the level of burnout has been so high at baseline due to COVID-19, it may impact the study results and make it difficult to identify a direct correlation between IDD and burnout with statistical significance.

Strategies to Decrease Burnout. Many interventions can help decrease burnout among healthcare workers. For this literature review, strategies may be at an individual or organizational level. Individual strategies would include things that individuals can do on their own to help manage burnout. Organizational strategies include interventions that an organization can do to help its employees manage burnout.

Individual Strategies. Individual activities can be used to decrease burnout. Individual interventions such as transcendental meditation (TM) can help reduce the level of burnout (Calarco & Stratton, 2023). TM is a meditation technique to promote restful alertness in the body and mind. One month after the implementation of transcendental meditation, there was a significant decrease in emotional exhaustion, depression, anxiety, and mental well-being (Calarco & Stratton, 2023). A previous systematic review found that additional activities include yoga, mindfulness, and psychosocial training (Aryankhesal et al., 2019). Yoga participants had fewer depressive symptoms after eight weeks compared to the control group that did not participate in yoga. Additionally, mindfulness decreased burnout symptoms in a pilot study (Aryankhesal et al., 2019). In conclusion, there are several techniques that can be used on a personal level to manage stress and decrease burnout.

Organizational Strategies. Organizational interventions include those provided within the facility's system to support employees. Organizational interventions may include providing rewards, whether it be financial, social, or recognition (Bourdeanu et al., 2020). Hazard pay has been an effective wellness intervention in hospitals, though it is not occurring as frequently as other interventions (Cotarelo et al., 2023). Soper (2022) suggested that giving practitioners a month each day to participate in professional development activities can help decrease secondary traumatic stress while promoting professional development (Soper, 2022). Another idea is

offering peer support programs (Chambers, 2021; Edrees et al., 2016). Debriefing is another intervention that can decrease burnout. Debriefing has been shown to help with coping, decrease stress, and improve patient outcomes (Hawes et al., 2020; Holbert & Dellasega, 2021; Wolfe et al., 2021). Debriefing ranks as an effective wellness intervention, even though the occurrence of group debriefing does not transpire frequently (Cotarelo et al., 2023). The reduction of burnout may be more achievable if multiple interventions are considered.

The Role of the Healthcare Leader. Leaders can take steps to decrease burnout. Within care teams, they can implement the JD-R model as a conceptual framework to mitigate the effects of burnout (Demerouti et al., 2001). Job demands must be identified in the specific unit, and may include staffing issues, exposure to critical events and patient deaths, and difficult interactions (Demerouti et al., 2001). Assessment tools, such as the MBI, can be used to determine the level of burnout within a care team. Once the problems are identified, resources can be provided to decrease the impact of job demands (Demerouti et al., 2001). Some effective strategies for nurse leaders include providing hazard pay, providing free food or snacks at work, providing recognition and thanks, and providing emotional and psychological resources (Cotarelo et al., 2023). Another option is the implementation of debriefing (Cotarelo et al., 2023), which is what we are implementing in the current study. Burnout is a dependent variable in the study, and teamwork is a second dependent variable. Teamwork will be explored next in the literature review.

Teamwork

The interprofessional team is vital in providing safe, quality patient care. Six of the 16 experimental studies measured teamwork or got qualitative feedback related to teamwork.

Trends were explored during the literature review and have been grouped into the following themes.

Components of Teamwork. There are many factors that can contribute to teamwork. Multiple factors play a role in overall teamwork. In one study, nurses and doctors were asked to describe events that had poor teamwork to identify factors that contributed to teamwork (O'Connor et al., 2016). Some factors identified included quality of collaboration, leadership, coordination, shared mental models, and communication (Costello et al., 2021; O'Connor et al., 2016; Orchard et al., 2012). Other factors may include partnership, cooperation, trust, and perception of backup/support (Costello et al., 2021; Orchard et al., 2012). Since these factors have been identified as contributing factors, these terms were identified during the literature review to identify the impact of IDD. For the current study, the goal is that debriefing will have a positive effect on some of these factors that contribute to teamwork.

Impact of Poor Teamwork. Poor teamwork can impact patient safety and quality of care. The teamwork factors with the highest risk of impacting patient safety include a lack of shared mental models and a lack of communication (O'Connor et al., 2016). Up to 70-80% of healthcare errors are related to poor team communication (Courtaney et al., 2013). Poor perception of teamwork is also correlated with higher turnover intent (Zaheer et al., 2019). This correlation may be because improved teamwork is associated with reducing workload and improving job satisfaction (Bosch & Mansell, 2015; O'Connor et al., 2016). Teamwork has a significant impact on patient safety and quality of care, so interventions to improve teamwork should be explored.

Interventions to Improve Teamwork. There are many interventions that can be done to promote teamwork. At an organizational level, policies can provide clear behavioral expectations

to avoid bullying and to promote professionalism between disciplines (O'Connor et al., 2016). Hiring more employees can lead to a less stressful work environment, which may help provide a culture of teamwork (O'Connor et al., 2016). Current research shows that the introduction of interprofessional teamwork training in undergraduate and medical educational programs may increase overall teamwork (Jakobsen et al., 2018; Raurell-Torreda et al., 2021).

At a unit level, more support can be offered to team members and communication training can help bridge the communication gap (O'Connor et al., 2016; Zaheer et al., 2019). Additionally, interdisciplinary shadowing may help team members understand the role of other professions, which may improve teamwork (O'Connor et al., 2016).

Another intervention, at the unit level, to improve teamwork and interprofessional communication is the introduction of IDD after critical events (Gougoulis et al., 2020; Lyman, 2021). There are very few recent articles that measure the direct impact that IDD has on teamwork. Six articles were identified and included in the literature review related to IDD and teamwork. In those studies, IDD showed to promote team unity, team cohesion, and an overall culture of teamwork (Hawes et al., 2020; Nadir et al., 2017; Sugarman et al., 2021). Berg et al (2014) also showed improvement in team communication, although statistical significance was not found. Therefore, additional research should be done to demonstrate a stronger and more direct correlation between IDD and teamwork.

The Role of the Leader. Leaders can do several things to promote teamwork within their team. Having a clear leader with a clear, transparent vision can help improve the interprofessional team (Nancarrow et al., 2013). Leaders should be good listeners and advocates for their team, which will promote a culture of trust and teamwork. They should provide their team members with appropriate resources and use recognition when teamwork is strong

(Nancarrow et al., 2013). For the current project, interdisciplinary debriefing will be used to improve communication and promote teamwork within the interdisciplinary team.

Gaps in Literature

Some gaps were identified during the literature review. The first gaps are related to the measurement of dependent variables. A limited number of studies have measured burnout or teamwork directly. Additionally, there are limited studies that use burnout and teamwork together as dependent variables of debriefing. Many of the recent experimental studies used data assessment tools that have not been verified to measure burnout and teamwork. Analysis typically used independent t-tests instead of paired t-tests, which may not show a true correlation between the independent and dependent variables.

COVID-19 has had a great impact on burnout and teamwork. Many studies between 2020 and 2023 showed that debriefing did not impact burnout or teamwork as expected. The observation may be because of the demands during COVID-19. Since the job demands were so high at baseline during COVID-19, a single intervention may appear to have an insignificant impact. The benefits of debriefing are controversial, considering the variance in results. Therefore, it is important to determine the correlation between IDD, burnout, and teamwork now that the peak of COVID-19 has passed.

Summary

The impact of burnout and poor teamwork has been identified, and strategies to reduce burnout and improve teamwork have been explored. IDD has been one of the efforts introduced in previous studies to improve burnout and teamwork, though there have been limited studies that demonstrate a correlation. Also, there is limited research that uses burnout and teamwork together as dependent variables. Furthermore, independent t-tests have been used frequently.

There is a lack of paired data, which may show a stronger relationship between IDD, burnout, and teamwork. Therefore, this research study will provide valuable data to the existing literature.

The results of this literature review will assist the planning of the current study. The current study will implement hot debriefing. The goal is to debrief during the same shift that the event occurs to improve burnout and teamwork. Strategies to reduce barriers identified for debriefings will be incorporated into the study plan/process and any new barriers identified will be addressed for future research. Validated tools like the Burnout Assessment Tool (BAT) and the Nursing Teamwork Survey (NTS) will be used to measure burnout and teamwork, respectively. Details of the methodology of the study will be discussed in Chapter 3.

Chapter 3: Methodology

This chapter introduces the methodology of the current project. The project involved introducing a new interdisciplinary debriefing process in Intensive Care Unit (ICU) care teams in a local hospital. The design, methods, population, procedures, data management, and analysis are described in this chapter.

Study Design

This project is a quality improvement (QI) project within the ICUs in a local hospital. The quasi-experimental design with a one-group pre and post-test was used. A new debriefing process was initiated after each critical event that occurred in the ICU. The new IDD process was utilized for 12 weeks during the study period in three intensive care units. The level of burnout was measured using the Burnout Assessment Tool (BAT) and teamwork with the Nursing Teamwork Survey (NTS). The assessment tools were administered at the beginning of the study and after 12 weeks. The independent variable was the IDD process, and the dependent outcome variables were burnout and teamwork scores. Analysis of the paired data was done to determine if IDD impacted burnout and teamwork in ICU care teams.

Study Subjects and Study Settings

This project was conducted at a level two trauma center in Southwest Virginia. The study subjects included members of the Intensive Care Unit (ICU) care teams. The hospital has three ICU units, including the surgical ICU (SICU), medical ICU (MICU), and cardiac ICU (CICU).

Prior to the implementation of the project, no specific debriefing was offered until September 2023, when a new process was initiated. At that time, the ICU director introduced debriefings as needed based on events that occurred in the units. In December, the process was developed to form the current practice. When a critical event occurred in the units, the ICU

director contacted the director of outpatient behavioral health services, which is located in a different building on the same campus. The directors coordinated a time, preferably within 48 hours of the critical event, for a debriefing. For the debriefing, the behavioral health unit sent a mental health worker to lead the debriefing. With this debriefing process, only nursing was involved. The sessions occurred approximately 48 hours after the critical event, which is considered a "cold" debriefing. Attendance was mandated for those involved with the event. The session lasted approximately one hour. It was difficult for a working nurse to attend because of the long duration of the debriefing. Additionally, if a nurse was not scheduled during the shift, they had to come to the hospital on their day off to participate in debriefing.

The goal of this project was to introduce a new, structured debriefing process. The new debriefing model replaced the existing one in the ICUs during the 12-week study period. The expectation was that staff participation was required, following the previous guidelines. Participation in the research study, which includes completion of the pre- and posttest surveys, was voluntary.

All full-time and part-time employees who have direct interaction with ICU patients were invited to participate in the study. Potential participants included nurses, attending physicians, medical residents and interns, case managers, physical therapists, and respiratory therapists. It was estimated that 85 employees were eligible to participate in the study, which included approximately 68 nurses, seven physician assistants or nurse practitioners, four attending physicians, and 5-10 supporting staff members.

Inclusion and Exclusion Criteria

Among the full-time or part-time employees who have direct care of ICU patients, only participants over the age of 18 were invited to the study. Excluded were (a) contracted laborers

who had short-term contracts ending within the 12-week implementation period and (b) as-needed (PRN) employees with different work obligations that may have impacted their perception of burnout or teamwork. All employees were expected to participate in debriefing, following the previous facility guidelines outside of the research study. The study participant must have been willing and able to complete the pre-intervention and post-intervention surveys. Participation in the research project component was voluntary and free of coercion. Techniques to ensure voluntary participation are described in detail in the recruitment section.

After describing eligibility requirements, no additional data was collected from the employees before the start of the study. Instead, the inclusion criteria were explained, and eligible employees were invited to participate. The researcher manually screened inclusion criteria during the data analysis phase.

Incentives were available for those who completed the research study in its entirety. Those participants who completed the pre-survey and the 12-week survey were invited to request an Amazon gift card. The gift card was valued at 10 dollars. If the participant was interested in the gift card, they must have contacted the researcher and provided their participant identification number (PIN) so participation could be verified. Upon verification, an electronic gift card was sent to the participant.

Sample Size

A power analysis was done with the assistance of a statistician. The Burnout Assessment Tool (BAT) manual provides psychometric testing information (Schaufeli et al., 2020). During the initial testing, the mean scores in each category had a standard deviation between 0.74 and 1.18 (Schaufeli et al., 2020). Based on those numbers, a standard deviation (SD) of one was used in the power analysis. The authors of the BAT utilized a color-coded chart (see Table 1). By

using this chart, it would take a decrease of about .5 mean points to lower the risk of burnout from at risk to no risk. Therefore, the effect size of 0.5 was used in the power analysis. Finally, the statistical value was set at .05 (*p-value)* and the power was set at .8, meaning there is an 80% chance of finding the statistical significance. Using these numbers, the power analysis determined that 34 participants were needed.

Data Tools

Burnout was measured using the work-related version of the Burnout Assessment Tool (Appendix H). It was developed and tested in 2020 by Schaufeli, Desart, and De Whitt as an alternative to the Maslach Burnout Inventory (Schaufeli et al., 2020). The use of the tool in research studies has increased since its introduction in 2020, though it was not used in any of the experimental studies discussed in the literature review. The assessment tool has the following subcategories: exhaustion, mental distancing, cognitive impairment, and emotional impairment. There are 23 Likert scale questions within these subscales and an additional 10 questions that measure secondary physical and psychosomatic symptoms. The complete 33-question survey was used for this study.

Each question was scored from 1 point to 5 points using a 5-point Likert scale. The Likert scale is measured as follows: *never (1), rarely (2), sometimes (3), often (4), and always (5).* To determine the level of burnout, the scores in each of the four core categories were added together and then divided by 33 to get the mean. The total score could range between 1 and 5. The scores were categorized into three levels: green (no risk for burnout), yellow (risk for burnout), and red (very high risk of burnout). The following table, available in the BAT manual, was used as a reference for each category.

Table 1

Color-Coded BAT Chart [Risk Classification]

	Total Core	Exhaustion	Mental Distance	Emotional Impairment	Cognitive Impairment	Secondary Symptoms
Green	1.00-2.58	1.00-3.05	1.00-2.49	1.00-2.09	1.00-2.69	1.00-2.84
Orange	2.59-3.01	3.06-3.30	2.50-3.09	2.10-2.89	2.70-3.09	2.85-3.34
Red	3.02-5.00	3.31-5.0	3.10-5.00	2.90-5.00	3.10-5.00	3.35-5.00

Note: This chart will be used during the analysis process of the BAT scores. Green is correlated with no risk of burnout. Yellow is correlated with a risk of burnout and red is correlated with a high risk of burnout.

In the current study, this assessment tool was given at the beginning of the study and after 12 weeks to identify a change in the level of burnout after implementing the new IDD process. The BAT was tested extensively, and the results support the reliability and validity of the BAT (Schaufeli et al., 2020). Cronbach's alpha ranged from .90-.92 for each subcategory, showing a high level of internal consistency. The BAT is publicly available, and permission for use was also obtained by the author (Schaufeli et al., 2020).

The Nursing Teamwork Survey (NTS) was used to collect information regarding the perception of teamwork (refer to Appendix J). The NTS was developed and tested in 2010 by Kalisch, Lee, and Salas (Kalisch et al., 2010) and has been used to test the perception of teamwork in a healthcare setting. The NTS has 33 questions and identifies five subcategories of teamwork: trust, backup, team orientation, shared mental model, and team leadership. Permission was granted by the author for the use during this study. The NTS was distributed on paper to ensure the data was secure in the current study.

Each questionnaire was scored from 1 point to 5 points using a 5-point Likert scale. The Likert scale is measured as ordinal data as follows: *rarely (1), 25% of the time (2), 50% of the time (3), 75% of the time (4), and always (5).* The questions in each subcategory can be

combined and the mean score can be identified with the range of 1 and 5. There are no specific thresholds to determine if there is good or poor teamwork. However, the higher the mean score, the higher the perception of teamwork.

The NTS was tested for psychometric soundness. The test-retest reliability coefficient was .92. The alpha coefficient, measuring internal consistency, was .94 overall (Kalisch et al., 2010). Convergent validity was determined by comparing the NTS and the SAQ Teamwork Climate. The correlation was .76 ($p = .01$) (Kalisch et al., 2010).

Study Procedures

Buy-In Meetings and Approval

Before the Institutional Review Board (IRB) application, the research and QI project idea was presented to the Chief Nursing Officer (CNO) and a letter of support was obtained from the study site (see Appendix B). The researcher met with the Nursing Director of the ICUs, and verbal support was obtained. During the initial meetings, current practices, gaps, needs, and desires were discussed to ensure that the study was in alignment with the values of the hospital and unit.

Institutional Review Board Approval

Before implementing the study project, IRB approval was obtained from the study site's corporate IRB. The approval was then sent to Radford University's IRB to obtain an IRB Authorization Agreement (IAA). The project was approved by both IRBs in April of 2024.

Pre-Implementation Phase

After IRB approval, the pre-implementation phase began. This included facilitators' training, introduction of the project to the staff, recruitment of study subjects, obtaining consent,

and obtaining baseline demographics, BAT scores, and NTS scores. The pre-implementation stage began on April 22, 2024.

Facilitator Training for Debriefing Sessions. During the project, three IDD facilitators were available to support the debriefing session. The researcher was the primary debriefing facilitator when available. For the current practice, the behavioral health director was facilitating debriefings. After discussion, it was decided that the behavioral health director would be invited to attend each debriefing during the study, but would not be trained to facilitate at that time. In case the researcher was not available, two additional employees were trained to facilitate the debriefings. The alternate employees were nurses within the quality department who did not work with ICU patients directly. These employees were recruited after IRB approval.

The researcher participated in a crisis intervention course available through the International Critical Incident Stress Foundation. The course was a 10-hour training aimed at leading a group debriefing. While the debriefing in this project was simple and required minimal training, the researcher sought additional training to gain fundamental knowledge of the debriefing process. There was a fee for this course, and contact hours were earned during this training program.

Additional internal employees received facilitator training on the debriefing process. The researcher conducted this training, which took approximately one hour to complete. During the training, facilitators were introduced to the project and to the Post-Code Pause. The new IDD process was designed to standardize the sessions. Therefore, the structure was simple and consistent. The Post-Code Pause requires little training and can be implemented by anyone available to facilitate a debriefing session.

Recruitment Phase with Baseline Data Collection

During the two-week recruitment period, the researcher of this study had several meetings with care team leaders, the nursing team, the physician team, and supportive care teams (physical therapy staff, respiratory therapy staff, and case managers) separately. During those meetings, the researcher provided study information sessions and handed over two envelopes. One envelope contained informed consent forms and the other contained three baseline surveys (demographic survey, BAT, and NTS).

The first step in the recruitment process was to address unit leadership. A meeting was set up between the researcher, the ICU director, and the ICU manager. At this meeting, the new debriefing process was explained, and concerns were addressed. In this facility, there is a daily, hospital-wide huddle for hospital leadership. During the daily huddle, the researcher explained the study to the hospital leadership. This was to keep the rest of the hospital informed of the current project. Other inpatient units within the hospital were required to send one nurse or leader down to the impacted ICU unit during their debriefing during the study. Therefore, education was essential for hospital leadership.

The nursing team, which included registered nurses and patient care techs, was invited to participate during their scheduled shifts. For one week, the researcher visited each unit in person to explain the study and answer questions. The explanation of the study was not confidential, so it was done at the nurse's station for convenient access for all team members. During day shift hours, the researcher presented at a convenient time during the shift. At that time, the researcher explained the study and handed each nurse two envelopes. One envelope contained two consent forms: one for the participant to sign and one for the participant to keep. The other envelope contained a paper copy of the NTS, the BAT, and a demographic survey for the participant to

complete. The envelopes were left with each member of the nursing care team during the shift. Employees who wished to participate in the study were asked to fill out all forms in both envelopes. If they did not wish to participate, they were asked to leave the papers blank and turn in the envelopes with the incomplete paperwork. Later in the shift, the researcher returned to the unit to collect all envelopes. The exact process happened during night hours. The researcher presented the study and the envelopes at a convenient time and then returned later in the shift to collect the envelopes.

By using this process, employees could learn about the study, ask questions, and had ample time to think about their decision to participate in the study, which was voluntary. The prospective participants had an opportunity to complete the paperwork in a private setting of their choosing to ensure that coworkers could not identify their choice. Additionally, confidentiality was maintained since papers were kept in sealed envelopes. Nursing directors, nurse managers, clinical coordinators, and clinical team leaders were not present during the informational meeting between the researcher and staff members. They were asked to leave the area. This process ensured that participants were not pressured or coerced to participate in the research study.

Respiratory therapy staff, physical therapy staff, and case managers were invited in a similar way. During the recruitment period, the researcher met with PT and OT, handed out envelopes, and explained the study. Case management and respiratory staff were approached in the same way. This process ensured each department had enough time to complete the surveys if they were interested in participating.

The medical residents and interns were not recruited because they rotated through the ICU rotations too frequently. It would be difficult to get pre-and-post data because the team is

not consistent. The intensivists, nurse practitioners, and physician assistants were approached with the same recruitment techniques described above.

Implementation of IDD

The implementation phase was 12 weeks long and began on Monday, May 5, 2024. During the implementation phase, the new debriefing process was initiated after critical events in the ICUs.

A critical event included any experience that was considered abnormal or unexpected and had a potential emotional impact on employees. Some examples could have included a patient death, a breakdown in communication that may have impacted the patient or the care team, or an intra or interdisciplinary conflict that may have impacted the patient or care team. Additional examples could have included an error that caused an unexpected response or a case of physical or verbal abuse towards the patient or staff member that may trigger an emotional response.

The term critical event is subjective, so staff were encouraged to ask for debriefing if they felt that there was an event that impacted mental health, safety, or well-being. Interdisciplinary debriefing was encouraged if the entire care team was impacted by the event. Individual support was available if the event did not impact the entire care team as much. Any care team member was able to reach out to the ICU charge nurse to initiate a debriefing. Actual reasons to debrief included two code blues, one of which ended in patient death.

When a critical event occurred, the charge nurse notified the patient safety department. The patient safety department contacted the researcher. After 5 p.m. or on weekends, the patient safety department was bypassed, and the researcher was contacted directly. When available, the researcher went to the site to facilitate a debriefing. The goal was to conduct the debriefing within the same shift, which follows the timing of many previous studies (Bohman et al., 2023;

Beres et al., 2022; Berg et al., 2014; Copeland & Liska, 2016; Gougoulis et al., 2020; Holbert & Dellasega, 2021; Kam et al., 2022; Nerovich et al., 2023; Sugarman et al., 2021). An I-mobile broadcast was sent out to the hospital 15 minutes before the beginning of the session. The broadcast was called "Code Lavender," which does not correlate with any existing code and had been agreed upon by the researcher and the CNO. The notification had 2 goals: 1) it gave team members involved a time of when debriefing would occur, and 2) it notified the rest of the hospital of the event.

Other units within the hospital were asked to send one nurse or nurse leader to the affected unit to help monitor the patients for the short duration of the meeting. The support from other units addressed the barrier related to the lack of staffing for IDD to occur, which was identified in past studies (Bohman et al., 2023; Cincotta et al., 2021; Wolfe et al., 2020). Within the other hospital units, leadership was supportive of the project. The QI project's success depended on a supportive culture within the hospital.

Once support arrived from additional units, the debriefing was conducted in one of the ICU break rooms. There was a break room in each ICU area that was inaccessible to the public. This location ensured privacy and confidentiality. Anyone in the room had to be a healthcare professional who had direct contact with the patient involved with the critical event.

Debriefing used the Post-Code Pause (PCP) structure introduced in 2016 by Copeland and Liska (2016). The author permitted the use of the debriefing format during this study with some modifications. The tool involved a 15-second pause followed by seven structured questions. While the questions were similar in content to those used by Copeland and Liska, they were individualized to meet the needs of the current study. The questions in Table 2 were used to guide the debriefing.

Table 2

Debriefing Questions

	Question
1.	Can someone please describe the event?
2.	What did the team do well?
3.	What intervention (s) do you wish would have or would have not been done?
4.	Where can we improve and grow on an individual or team level?
5.	What happened during the event that caused strong emotions?
6.	How are you feeling after the event?
7.	What do you need to be successful in returning to work right now?

Note: This table is the list of questions that will be used to guide each debriefing session. The full script is available in Appendix L.

Copeland and Liska (2016) found that debriefing using this tool allowed healthcare workers to pay homage to patients, return to work with a sense of focus, and improve team-related practices (Copeland & Liska, 2016). A later study found that the PCP may be more effective than the *Debriefing in Situ Conversation After Emergent Resuscitation Now (DISCERN)* in providing emotional support and promoting clinical education (Kam et al., 2022). Therefore, the PCP was chosen as the debriefing framework because it seems to align with the study's goals.

The PCP was conducted by either the researcher or a trained facilitator. Each debriefing lasted approximately 10 minutes, which addressed the identified barrier of time (Bohman et al., 2023; Nadir et al., 2017; Nerovich et al., 2023; Wolfe et al., 2020). While the debriefing was structured, open communication and expression of feelings and concerns were encouraged.

There was a recorder for the sessions using the form provided (See Appendix M). It was intended that the Nursing Supervisor would be the recorder. It was recognized that the supervisor has many roles within the hospital, but they were asked to attend a brief, 10–15-minute debriefing when possible. During the debriefing, the recorder used the “Debriefing Evaluation Form for Recorder” to take notes as questions were asked (See Appendix M). In this form, there

was also a set of questions that the recorder answered related to the participation, strengths, and weaknesses of the debriefing session (see Table 3). However, during the implementation period, the supervisor was not available to record, so the researcher completed the recording form related to each debriefing.

Table 3

Debriefing Evaluation for Recorder

	Question
1.	How many participants were present?
2.	How many participants spoke?
3.	Were there any identified barriers to debriefing?
4.	Do you have any other comments or feedback?

Note: The recorder will answer these questions at the end of every debriefing and return to the researcher.

A short post-debriefing evaluation (see Table 4 & Appendix N) was administered to each participant at the end of each session to identify the strengths and weaknesses of the debriefing and to assess the overall feedback and desire to debrief. It was anonymous and assessed the specific session attended. The post-debriefing evaluation was part of the research study, and the data will be included in Chapter 4. The facilitator collected the paper forms at the end of each session. These surveys were kept secure in a locked location for analysis. The short survey includes the following questions (Table 4):

Table 4

Post-Debriefing Evaluation (Participant)

	Question
1.	What did you like about the session?
2.	What do you think could be done to improve debriefing?
3.	Do you feel like this debriefing was helpful?
4.	Would you like to attend a debriefing after critical events in the future?

This is the post-debriefing evaluation form that study participants will complete at the end of each individual debriefing.

Post Intervention Phase

The implementation period was 12 weeks. At the end of 12 weeks, the BAT, the NTS, and the post-implementation survey were administered to the same groups of employees in the same manner as the pre-intervention surveys. The post-implementation survey asked for the participant's PIN (that they created at the beginning) so it could be matched to the pre-intervention survey. The post-implementation survey also included the number of critical events that the team members experienced and the number of debriefings that the participants attended.

The researcher rounded in each unit to present an envelope with the NTS and the BAT at a designated time during the shift, as explained earlier. The surveys were left with the employees and the researcher returned to collect the surveys later in the shift. Only participants who completed the pre-intervention survey were invited to take the post-intervention surveys. The reasoning is that this study is specifically aimed at seeing a direct correlation between IDD, burnout, and teamwork. The best way to do this was to compare scores from anyone who completed both pre-and-post surveys to obtain the most accurate representation. With the information obtained, statistics were analyzed. The analysis process is described in the next session.

Protection of Human Subjects

Informed consent was collected at the beginning of the project from all participants. The consent was submitted in a closed envelope with no other information that linked them to the study. An additional envelope was submitted that contained the demographic data, NTS, and BAT for the study. The consent was kept in a locked cabinet at one campus, and the additional study data was kept at a separate location. Only the researcher and the DNP project team have

access to the data. All data relating to the study will be kept secure for three years. At the end of the three years, the data in paper format will be shredded. These interventions help maintain participant confidentiality.

Participant demographic data was collected at the start of the study. In that initial survey, the participant was asked to create a participant identification number (PIN). The PIN included the participant's mother's maiden name initials (first name initial, last name initial) and their mother's birth year (xxxx). The use of a PIN allows analysis of the data while protecting confidentiality.

At the end of the study, participants could contact the researcher to receive an Amazon gift card. The gift card was valued at 10 dollars. If they chose to receive the gift card, they must have provided the researcher with the PIN so complete participation can be verified. At this time, the researcher will only reference a list of PINs that do not contain any other study information.

Risks

Like any study, there was a risk of a break in confidentiality. A breach could have occurred with the data collection process. This risk was minimized by keeping informed consent separate from the study data. Additionally, the papers are kept in a locked location, and only the researcher has physical access. The nature of debriefing involved many employees, so coworkers could identify those who participated in debriefing. It was an understood risk of the intervention and was explained at the beginning of the study. To help protect privacy, the debriefing occurred in a dedicated room with closed doors. While other participants were involved, people outside of the debriefing process were not able to see or hear the session.

There was an additional risk of emotional distress involved with the IDD. While debriefing can have many benefits, it may also initiate emotional responses during the session.

To minimize this risk, the Employee Assistance Program (EAP) was available for healthcare workers who were feeling distressed. The EAP provides six counseling sessions, free of charge, for hospital employees. The EAP contact number was provided at each debriefing session.

There were no identified physical or financial risks associated with the study. The purpose of the study was fully identified for participants prior to the start of the study. The facilitator of each debriefing recorded the number of participants, how many people spoke, if there were any barriers identified, and any other feedback or comments (Table 3). Study participants will not see this questionnaire and will not know the results of these questions. Deception will not be used in this study.

Benefits

There may be direct benefits associated with participating in the study. Participating in debriefing may decrease burnout. Research has shown that debriefing may improve job satisfaction and improve emotional satisfaction (Arbios et al., 2022; Nerovich et al., 2023; Soper, 2022). Debriefing may also decrease stress (Hawes et al., 2020). Additionally, interdisciplinary debriefing may improve teamwork and communication within care teams (Gougoulis et al., 2020; Lyman, 2020).

There are also indirect benefits to participating in this study. The results of this study will be analyzed to determine the impact on healthcare workers. The results may lead to a change in clinical practices in the hospital. Additionally, the results can be used in the healthcare setting as evidence-based practice, which may impact clinical standards at a multidisciplinary level. Any results that will be used outside of the study will be presented in an aggregate form.

Data Protection and Management

Participant demographic data was collected at the start of the study, and each participant created a participant identification number (PIN). The PIN was used on additional surveys, so it is possible to link the pre and post-test results. Consent was obtained at the beginning of the study separate from any other data. The consent is kept in a locked office at Radford University, which is monitored by RU security. The researcher is the only individual with keyed access to the consent forms.

Additional study data, including the NTS, the BAT, and the demographic data, is kept in a locked location in a home office. Only the researcher has a key to the paper data. The researcher, the DNP project chair, the DNP committee members, and a statistician had access to view the data to ensure accurate collection and analysis of the data. The results from BAT and the NTS were inputted into an Excel spreadsheet for analysis at the end of the project. The PIN was used, but the data will does contain names or identifying information. The electronic data will be kept on a password-protected computer and will not be transferred electronically without encryption.

Data Collection Process

The demographic data was collected from each participant at the beginning of the project (see Appendix E). At the end of the 12-week project, the post-implementation questionnaire was completed (see Appendix F). The questionnaire asked for the number of critical events that they experienced during the implementation period and the number of debriefings that the participants attended. Since the PIN was collected on each survey, pre-and-post data could be linked during analysis.

The two dependent variables, teamwork and burnout, were measured using different tools. Teamwork was measured using the Nursing Teamwork Survey, and burnout was measured using the Burnout Assessment Tool (BAT) (Schaufeli et al., 2020). The information was collected at the beginning of the project and at the end of the 12-week implementation period.

Data Analysis

First, the baseline analysis was done using the 35 participants who completed the pre-surveys. Once all pre-implementation surveys and post-implementation surveys were collected, the raw data was reviewed. To measure the direct impact of IDD on burnout and teamwork while controlling individual variation of burnout and teamwork perceptions at baseline, only participants who completed both pre- and post-surveys were included. For this analysis, survey data from the participants who did not complete both pre-and post-surveys were excluded. A paired T-test was used to evaluate the impact that IDD had on burnout and teamwork while considering those who did not participate in debriefing as the control group and the group who participated in debriefing and completed the post-test as the intervention group.

Type 1 or type 2 errors can arise during research. A type 1 error can occur when the null hypothesis is rejected when it should not be. Type 2 errors occur when the null hypothesis is not rejected when it should be. The best way to decrease these errors is to test an appropriate sample size (Kim et al., 2022). A power analysis was done, and it was determined that 34 participants would be the minimum number of participants needed to decrease errors. The Statistical Package for the Social Sciences (SPSS) was used for analysis during the project. A statistician was consulted throughout the study process to get guidance with calculations and analysis.

Descriptive Statistical Analysis

Demographics were collected during the pre-implementation phase, as described earlier. Baseline demographics were analyzed using Table 5, located in Appendix O. Frequency and percentage were used to analyze the categorical variables, along with ranges. These categorical variables included age group, gender, role, education level, and former experience with debriefing. The mean and standard deviation (SD) were used for interval/continuous variables, which included years in the current role and years in the current facility (rounded to the nearest whole year).

The post-implementation questionnaire asked how many critical events the participant experienced and how many debriefing sessions were attended. These variables were analyzed with mean and SD. The level of burnout (total BAT score) and teamwork scores (total NTS) were analyzed for the baseline and 12 weeks after implementation using mean and standard deviation. Burnout level was analyzed in total score as well as for individual scores for each category of the BAT (exhaustion, mental distancing, cognitive impairment, emotional impairment, and secondary symptoms) for the baseline and 12-week data.

Inferential Statistic Analysis

To evaluate the differences between baseline score and 12-week scores after IDD, the values obtained from the BAT and NTS were analyzed using a two-tailed paired t-test with a p-value of 0.05. The paired t-test was used instead of an independent t-test because the same participants were being compared at different times. In paired analysis, it is assumed that each data set, independently, has its mean and variance (IBM, 2022). The p-value was calculated to determine clinical significance. A p-value less than 0.05 will be considered statistically significant, and the null hypothesis will be rejected when the p-value is under 0.05.

Burnout. The null hypothesis is that IDD will have no effect on staff burnout after 3 months. The paired t-test was used to evaluate the difference in burnout scores between the pre-test and the post-test after 12 weeks. A p-value under .05 was considered to be statistically significant.

Teamwork. The null hypothesis of this study is that IDD will have no effect on teamwork after 3 months. The paired t-test was used to identify a change between the pre-test and the post-test. A p-value less than .05 was considered statistically significant.

Chapter 4: Results

This chapter presents the results of the study. The purpose of the study was to determine if the implementation of interdisciplinary debriefing after critical events in the ICU impacts burnout and teamwork. The research questions are as follows: a) In ICU care teams, how does IDD, in comparison to no IDD, affect staff burnout after three months? and b) how does IDD, compared to no IDD, affect teamwork after three months? The hypotheses were considered, and additional analysis was done based on the data gathered throughout the project.

Description of Sample

At the beginning of the project, baseline data was collected. The preliminary data collection period lasted one week. The researcher conducted in-person recruitment to various units throughout the hospital, as described in Chapter 3. Information was collected using the BAT, the NTS, and the demographic data sheet (see Appendix E). Demographic data is summarized in Table 5.

Thirty-six participants consented to the study and completed the baseline demographic questionnaire (n = 36). Of those 36 participants, 35 completed the baseline BAT and NTS surveys. 28 females (77.8%) and eight males (22.2%) completed demographic data. Ages ranged from 18 to 65, with the majority of the participants falling in the 26-35 years old range (61.1%).

The sample included 24 registered nurses (66.7%), one attending physician (2.8%), one case manager (2.8%), three physical therapists (8.3%), two physician assistants (5.5%), two nurse practitioners (5.5%), two occupational therapists (5.5%), and one speech and language pathologist (2.8%). Of the 36 participants, 12 held an associate degree (33.3%), 15 held a bachelor's degree (41.7%), seven had a master's degree (19.4%), and two held a doctorate degree (5.6%). There was only one part-time employee. The rest of the participants (97.5%) were

full-time ICU employees. The average number of years the participants have been employed at the facility was 4.29 years (SD 4.86). When asked about the length of time in their current role, the average was 4.56 years (SD 5.45).

Many of the employees had no previous experience with debriefing in any setting (n = 16, 44.4%). There were 12 participants who had minimal experience with debriefing, which was considered 1-2 sessions in the past (33.3%). There were four participants who have attended 3-5 debriefing sessions in the past (11.1%) and four participants who have experienced over five debriefing sessions in the past (11.1%). When asked about current (within the past six months) debriefing experience in the current ICU, 27 participants stated that they had no experience (75%). Six participants participated in one recent debriefing (16.7%). One participant had participated in 2-3 current debriefing sessions (2.8%), and two participants had participated in over three current debriefing sessions (5.6%).

Table 5

Baseline Demographic Data

Gender	**Frequency (n)**	**Percent (%)**	
Male	8	22.2%	
Female	28	77.8%	
Prefer not to Answer	0	0%	
Age Range	**Frequency (n)**	**Percent (%)**	
18-25 years	5	13.9%	
26-35 years	22	61.1%	
36-45 years	4	11.1%	
46-55 years	4	11.1%	
56-65 years	1	2.8%	
Over 65 years	0	0%	
Role	**Frequency (n)**	**Percent (%)**	
Registered Nurse	24	66.7%	
Attending Physician	1	2.8%	
Case Manager	1	2.8%	
PT	3	8.3%	
PA	2	5.5%	
NP	2	5.5%	
OT	2	5.5%	
SP	1	2.8%	
Education	**Frequency (n)**	**Percent (%)**	
Associate	12	33.3%	
Bachelor	15	41.7%	
Masters	7	19.4%	
Doctorate	2	5.6%	
Employment Status	**Frequency (n)**	**Percent (%)**	**Mean**
Full Time	35	97.5%	
Part-Time	1	2.5%	
Number of Years Employed			4.29 (sd. 4.86)
Number of Years Current Role			4.56 (sd. 5.45)
Previous Experience with Debriefing	**Frequency (n)**	**Percent (%)**	**Mean**
None	16	44.4%	
1-2 Sessions	12	33.3%	
3-5 Sessions	4	11.1%	
Over 5 Sessions	4	11.1%	
Current Debriefing Experience	**Frequency (n)**	**Percent (%)**	
None	27	75%	
1 Session	6	16.7%	
2-3 Sessions	1	2.8%	
Over 3 Sessions	2	5.6%	

Note: This is a record of all demographic data collected at the start of the study (n=36).

Pre-Intervention Burnout and Teamwork Scores

At the beginning of the study, the BAT and NTS were administered to get baseline scores. Of the 36 participants who signed consent and completed demographic data, 35 completed the BAT and the NTS. The level of burnout and the perception of teamwork were analyzed. Additionally, individual demographic characteristics were analyzed to determine if there is a correlation with the baseline level of burnout or the perception of teamwork in ICU care teams.

At the beginning of the study, the mean BAT score was 2.32. According to the color-coded BAT chart provided by the authors, the participants are, on average, at low risk for burnout. This number was lower than expected. Of the 35 participants, five were at risk (14.3%), and two were at very high risk of burnout (5.7%).

The mean baseline NTS score was 3.88. Kalisch (2010) does not provide a reference for determining a "high" or "low" perception of teamwork. Instead, the pre-intervention mean will be compared to the post-intervention mean to determine if debriefing impacts teamwork.

Correlation Between Burnout and Teamwork

Baseline data was analyzed to determine if the perception of teamwork impacted the level of burnout using Spearman's *Rho* correlation. Spearman's coefficient was .183 with a *p* value of 0.292. Therefore, this study found no correlation between the baseline perception of teamwork and the level of burnout.

Factors Attributing to Burnout and Teamwork

Burnout

Individual participant factors were analyzed to determine if there was a correlation with burnout (see Table 7). Spearman's *rho* correlation was used to determine if there was a correlation between the BAT and age range, education level, the number of years employed at the

facility, the number of years in the current role, previous experience with debriefing, and current ICU debriefing experiences. There was no correlation between BAT score and age range (*rho* = -.102; p = .560), education level (rho = -.183; p = .292), and number of years employed (rho =.070; p = .693), or the number of years within the current role (rho = .030; p = .863). Additionally, there was no correlation between BAT scores and previous debriefing experience (rho = .106; p = .546) or current ICU debriefing experiences (rho = .042; p = .809).

The ANOVA was used to determine if there were differences in BAT score based on participant role. When comparing all individual groups, there was no difference (p = .244). There was a significantly higher participation rate among nurses (n = 23) versus non-nurses (n = 12). When comparing nurses with non-nursing roles, nurses had a higher burnout (mean 2.4, SD .44, vs. mean 2.1, SD .26; p = .024). Additionally, a t-test demonstrated that women had a significantly higher level of burnout than men (mean 2.4, SD .41 vs. 2.0, SD .28; p = .025).

Teamwork

The same tests were used to determine if there was a correlation between teamwork and each individual factor (see Table 7). NTS score did not correlate with age range (Spearman's rho = -.257, p = .136) education level (rho = -.178; p = .307), years employed at the facility, (Spearman's rho -.035, p=.844) or years in the current role (Spearman's rho = -.032; p = .857). Additionally, there was no correlation between NTS score and past debriefing experience (rho = -.073; p = .679) or current ICU debriefing history (rho = .303; p = .077). Using baseline data, there was no correlation between teamwork and the participants' past experiences with debriefing (Spearman's rho = -.073, p = .679). No differences were observed among different roles (f = 1.025, p = .411). When comparing nurses versus non-nurses, there was no difference observed with NTS score (p = .213). Finally, a t-test determined that there was no difference

between males and females (mean 4.061 vs. 3.832; p = .348). In conclusion, the data analysis showed no relationship between the perception of teamwork and the individual participant characteristics.

Table 6

Factors Contributing to Burnout and Teamwork

Factor	**Burnout**		**Teamwork**	
(Spearman's Correlation)	**Spearman's Rho**	**p-value**	**Spearman's Rho**	**p-value**
Age Range	-.102	.560	-.257	.136
Years Employed at Facility	.07	.693	-.035	.844
Years in Current Role	.03	.863	-.032	.857
Past History with Debriefing	.106	.546	-.073	.679
Recent History with Debriefing	.042	.809	.303	.077
Education (Undergraduate vs. graduate)	-.183	.292	-.178	.307
Factor	**Burnout**		**Teamwork**	
(T-test)	**Mean difference**	**p-value**	**Mean Difference**	**p-value**
Gender	.387	.025	.228	.348
Factor	**Burnout**		**Teamwork**	
(ANOVA)	**F-value**	**p-value**	**F-value**	**p-value**
All Roles	1.977	.156	1.025	.411
Nurses vs. All Other Roles	5.642	.024	1.609	.213

Note: This is the correlation factors between individual factors and burnout and factors and teamwork.

Interdisciplinary Debriefing

During the 12-week implementation period, there were seven rapid responses and 22 code blues that were called between the three units. However, only two debriefings took place during that time. For both debriefings, the reason was code blue, one of which ended in a death and another that did not.

The 10-minute debriefing was guided by the 7-question Post-Code Pause. During the debriefing, the participants discussed the events surrounding the codes, what they felt went right, and what could be improved. There was a strong sense of teamwork among the participants. Emotions were discussed and there was a focus on emotions while caring for family members as

well. The team pointed out that they are “used to” seeing these types of critical events and that they did not need additional resources right now. Barriers and strategies were also discussed.

For the two debriefings, a total of 10 debriefing evaluations were returned from participants. The survey had four questions: Did you find the debriefing helpful? Would you attend another debriefing? What did you like about the debriefing? What improvements could be made? The anonymous surveys were returned to the researcher at the end of each debriefing. Ten participants (100%) said that the debriefing was helpful, and all 10 participants (100%) said that they would attend another debriefing.

When asked, “what did you like about the debriefing,” all 10 participants wrote in comments. The themes within the comments include the ability to talk about and express feelings (n = 6), discussion of the codes and process improvement (n = 2), the availability of the debriefings (n = 3), and the organization of the debriefings (n = 2).

When asked, “What improvements could be made?”, four participants made suggestions. Recommendations included a) presenting available resources at each debriefing, b) ensuring debriefing happens more frequently, c) finding a time that wasn’t as busy, and d) involving family if they were impacted.

There were between 4 and 6 participants for each debriefing. Of the 10 participants, nine were actively engaged. Barriers included the acuity of the patients and the lack of a “good time” to debrief. There were also no supporting nurses that showed up from other units, which was an expectation with code lavender. Barriers will be discussed in detail in Chapter 5.

Impact of Debriefing on Burnout and Teamwork

The first hypothesis was that interdisciplinary debriefing would impact staff burnout after 12 weeks. Burnout was measured using the BAT score, which was administered at the beginning

of the study and the end of the 12 weeks. An ANOVA with repeated measures was used to determine if debriefing had an impact on burnout. There were 16 participants who completed the post-surveys. Of the 16, three participants participated in debriefing. In the group of 13 participants who did not participate in the debriefing, there was no significant change in the BAT score between the pre- and post-surveys (2.109 vs. 2.037). However, for the three participants who participated in debriefing, there was a significant decrease in the BAT score (2.680 vs. 2.148; $p < .05$). Therefore, it can be assumed that debriefing had a strong effect on these participants.

The second hypothesis was that interdisciplinary debriefing would impact teamwork after 12 weeks. Teamwork was measured using the NTS, which was administered at the beginning of the study and the end of the 12 weeks. An ANOVA with repeated measures was used to determine if debriefing had an impact on teamwork. There was no significant change in teamwork for the 13 participants who did not participate in debriefing. However, for the three participants who attended debriefing, there was an improvement in the perception of teamwork (3.93 vs. 4.37; $p > .05$). Therefore, there was an increase in the teamwork for those who participated in debriefing, though there was no statistical significance demonstrated.

Table 7

Correlation Between Debriefing, Burnout, and Teamwork

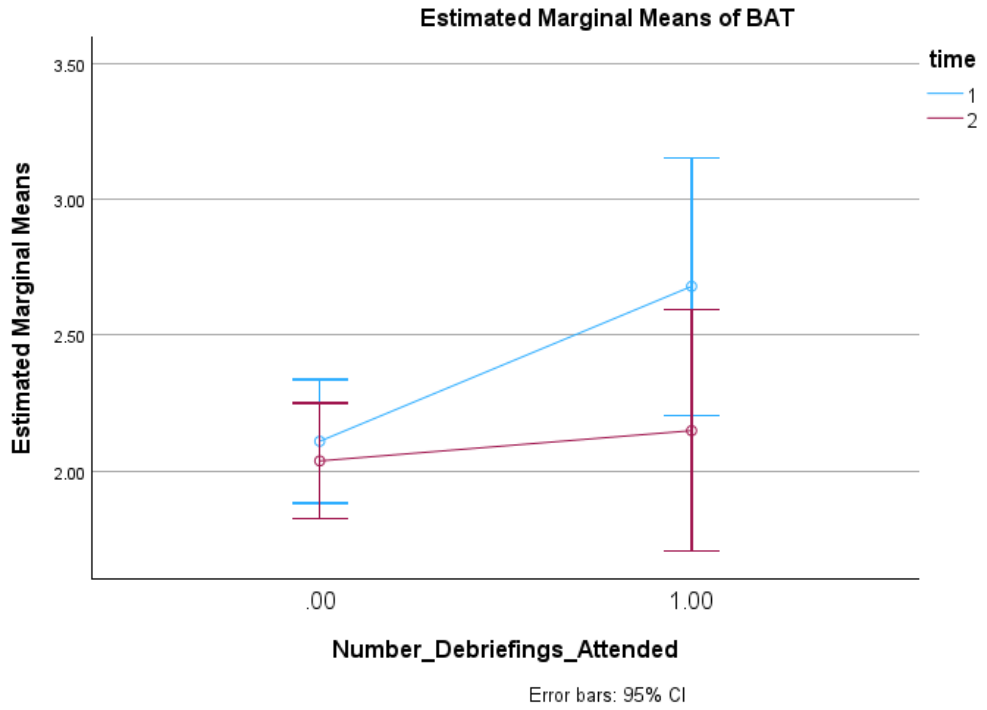
			95% Confidence Interval		
BAT		**Mean**	**Lower Bound**	**Upper Bound**	**p-value**
	No debriefing Pre	2.109	1.881	2.337	
	No debriefing Post	2.037	1.823	2.251	p = ns
	Debriefing Pre	2.680	2.205	3.155	
	Debriefing Post	2.148	1.704	2.593	p < .05
			95% Confidence Interval		
NTS		**Mean**	**Lower Bound**	**Upper Bound**	
	No Debriefing Pre	4.010	3.586	4.434	

No Debriefing Post	3.986	3.717	4.255	p = ns
Debriefing Pre	3.936	3.053	4.818	
Debriefing Post	4.374	3.814	4.934	p = ns

Note: This table shows the data gathered from the ANOVA with repeated measures.

Figure 1

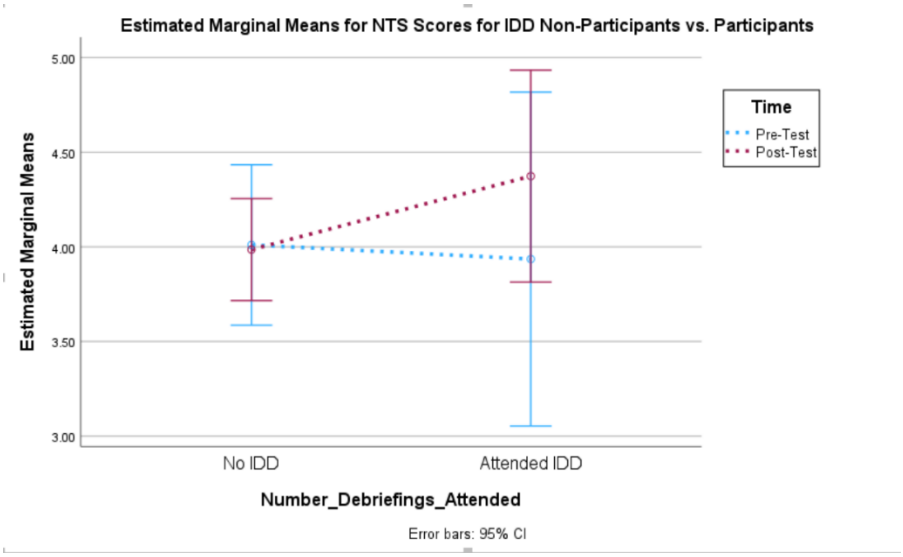
Correlation Between Debriefing and BAT



Note: This is a visual representation of the relationship between debriefing and BAT score. The three participants who attended debriefing (group 2) had a significant change that falls outside of the estimated marginal means ($p < .05$).

Figure 2

Correlation Between Debriefing and Teamwork



Note: This is a visual representation of the relationship between debriefing and NTS score. The three participants who attended debriefing (group 2) had no significant change, and the scores fall within the estimated marginal means ($p > .05$).

In summary, this study showed that the baseline burnout score was relatively low and teamwork was higher than expected among ICU nurses. However, burnout is higher in females and nurses when compared with all other healthcare roles. This study supported that debriefing may have a strong effect on burnout with *p* value less than 0.05. There was a slight improvement in teamwork scores in the briefing group after IDD, although there was no statistical significance. The perception about the conducted debriefing sessions was positive with being able to express feelings after the critical events, to discuss codes events and process for improvement, and to make the debriefing session available. However, actual numbers of debriefings were small, compared with the number of codes occurred during the study periods. Chapter 5 provides additional discussion related to barriers and challenges of conducting debriefings in this study, along with strategies to improve.

Chapter 5: Discussion

This chapter discusses the study's findings, comparing with prior studies. Challenges, strategies for improvement, strengths, limitations of the study, and implications for future research and clinical practice were also identified.

Effects of IDD on Burnout

The purpose of this study was to identify the impact that IDD after critical events had on teamwork and staff burnout in an inpatient hospital setting. The first research question was: In ICU care teams, how does IDD after critical events, in comparison to no IDD, affect staff burnout after three months? This study found that debriefing after critical events decreased burnout for those who participated in the debriefing session. These results are consistent with some previous studies that showed that debriefing can decrease burnout or factors that contribute to burnout (Copeland & Liska, 2016; Hawes et al., 2020; Holbert & Dellasega, 2021; Kam et al., 2022). The current study utilized many of the techniques that have been proven successful in past studies. For example, Copeland and Liska (2016) incorporated a moment of silence before the debriefing questions. Additionally, the current study used "hot" debriefings, which is consistent with some previous studies. Holbert and Dellasega (2021) used real-time debriefings after distressing events, similar to the current study. The techniques utilized may explain the similarities between the results.

Effects of IDD on Teamwork

The second research question was: how does IDD after critical events, compared to no IDD, affect teamwork after three months? In the current study, the null hypothesis was kept, demonstrating that debriefing after critical events didn't affect the perception of teamwork. However, there was an increase of teamwork score in staff who participated IDD, even when

statistical significance was not found. In contrast, in those who did not participate IDD, there was a slight decrease in teamwork score, without statistical significance. This finding is consistent with Berg et al. (2014), which showed an increase in teamwork without statistical significance. In addition, several previous studies showed an increase in teamwork and team communication utilizing debriefing session after critical events (Gougoulis et al., 2020; Lyman, 2020).

The current study was not able to find the statistical significance, although there was increase in teamwork score in group who participated IDD. These results could have been impacted by several factors. There was a much higher level of teamwork in the ICU care teams than anticipated at baseline, and thus there was limited room for improvement after the intervention. The small sample size and attribution rate may have skewed the data as well. Finally, the limited number of debriefing sessions may have contributed to lack of statistical significance.

Factors Attributing to Burnout and Teamwork

Several observations emerged during the study. First, the overall level of burnout was significantly lower than expected, and the overall perception of teamwork was much higher than expected. At baseline, the average BAT score was 2.32 (range 0-5), and the average NTS score was 3.88 (range 0-5). Those results indicate a low risk of burnout within the three ICU units, which was unexpected considering the workload of the ICU care team. This could be explained by the characteristics of the interdisciplinary ICU team. Ervin et al. (2019) states that the structural and situational demands of the ICU are unique compared to other generalized care teams. For this reason, ICU care teams must trust each other's skills and knowledge (Ervin et al., 2019). The unique challenges within the ICU may create a stronger camaraderie within the care team. The current study also demonstrated that baseline burnout was higher in females and

higher in nursing roles compared to non-nursing roles. The higher burnout may be related to a higher representation of females (77.8%) and nurses (66.7%). However, the difference could be related to the amount of hands-on time with patients that nurses have compared to other professions within the ICU. Additionally, the difference in burnout could be contributed to the expectations and demands of each individual role.

In this current study, only 35 staff participated in this study among 85 eligible participants. It is possible that the level of burnout and teamwork does not reflect the true level of burnout and teamwork of the overall care team. The level of burnout within the care team can be much higher than reported. There is a chance that employees who felt burned out were not willing to participate in the research study. Additionally, the employees who did not participate may have had a lower sense of teamwork, which may have contributed to the decision not to participate.

Resources within the unit may impact the level of burnout as well. It was observed that nursing assistants were not available in the ICU settings, which is different than other general units. During the data collection process, the tools were generally appropriate for the study. However, on the NTS measurement tool, there was one question that several participants left blank. Upon analysis, it was determined that the questions were related to the relationship with the certified nursing assistants. While the data was still appropriate to analyze, the use of nursing assistants may impact the perception of teamwork.

Barriers and Challenges

The barriers that were identified in the current study were consistent with the ones found in previous studies. The acuity of the unit, the lack of time, and the reluctance to debrief were

barriers identified in the past and in the current study (Nadir et al., 2017; Nerovich et al., 2023; Sugarman et al., 2021).

It was evident that the intensive care unit is a difficult environment in which to conduct debriefing. Like previous studies, many nurses in the ICUs stated that they were too busy or did not feel the need to debrief, even when strategies were utilized to decrease barriers. There was one occasion when the researcher went to debrief, and the entire care team was unavailable, mostly because they were actively caring for the critically ill patient after the critical event. Debriefing may be beneficial in other inpatient units because, in many cases, the patient involved with the critical event is transferred to the ICU. Therefore, the other unit may have a bigger opportunity to debrief after the patient leaves.

These barriers occurred, even when strategies were utilized to address them. During the study period, seven rapid responses and 22 code blues were called. Only two debriefings took place. This demonstrates that education and the need for extra support from leaders is essential to success of debriefing after critical events.

Strategies for Success of Implementation

The participation in debriefing and the introduction of code lavender may have been more successful if there had been an established debriefing policy. While the ICU director had recently introduced a debriefing process, it was not yet an expectation. Instead, the researcher relied solely on the nurse leadership to initiate a conversation about debriefing. Ideally, a debriefing should occur after each critical event to help address the emotions associated with the event and improve the quality of care in the future. Therefore, incorporating debriefing into the expectations and standards of care may lead to positive outcomes versus optional debriefing.

The utilization of IDD may be facilitated with the use of multiple modalities. Code lavender and hot debriefing have many benefits. However, anecdotal comments emphasized that some healthcare workers would prefer to wait a few days before discussing an event. During additional conversations with the leadership team, it was concluded that in some cases, when debriefing was not possible during the shift, it may be an option to debrief after. Additionally, the behavioral health unit was interested in a long-term option, allowing staff to reach out even after the initial debriefing. In conclusion, a facility may benefit from using multiple strategies to address burnout using debriefing.

Application of Theoretical Model

The JD-R Model guided this study (Demerouti et al., 2001). The JD-R model states that when job demands are high, and job resources are low, the level of burnout increases. Critical events that occur during job performance (Demand) can result in the emotional burden to healthcare providers. Stressors should be eliminated or reduced to support the emotional burden. Debriefing after critical events has been shown to be helpful to reduce staffs' emotional burden, and can be considered a resource, as defined by the JD-R model. This study observed that when debriefing was provided after the critical event, there was a decrease in the level of burnout for those who participated in IDD, supporting this theoretical model. The decrease in burnout could be attributed to other new resources provided by the facility, but no other known factors were introduced during the study period.

Strengths and Limitations

There were many strengths identified in the current study. Code Lavender was created in the I-mobile system as a hospital-wide alert. The term "lavender" is known within the facility to promote mental well-being and maintains a meaning of "calmness." However, there is no current

utilization of such alert. This novel technique aimed to reduce known barriers to debriefing. This is the first study, to the best of our knowledge, that utilizes Code Lavender, a hospital-wide systematic approach to facilitate debriefing.

There were limited studies that paired the data to help demonstrate a true relationship between debriefing, the level of burnout, and the perception of teamwork. In the current study, a PIN was used to link pre- and post-surveys and identify participants who participated in debriefing among all participants. To identify the pure effect of IDD in this study, only the subjects who completed both pre- and post-study surveys were used and compared the burnout and teamwork scores in two groups (IDD vs. non-IDD), depending on their participation of IDD. Despite the small size, this study was able to find the statistical significance of the effect of IDD on staff burnout.

Several limitations were identified during the study. The study was conducted in one facility and from three intensive care units, not including other inpatient units. Thus, the study's findings may not be generalizable outside of the UTI setting. Additionally, one goal of the study was to have a multidisciplinary sample. However, registered nurses (n = 24 out of 34) significantly outnumbered the total of all other roles combined. This can be expected considering the dynamics of the care team, but other roles may not have been represented evenly for this study. In addition, only 35 subjects among 95 eligible staff participated in the study and completed the pre-survey. This may not represent the true burnout level and teamwork of the overall care team in the settings.

For this current study, only 35 subjects participated in the study and completed pre-survey but only 16 completed the post-surveys (45.7% completion rate). According to the power analysis, 34 participants must have completed both the pre- and post-surveys to demonstrate

significance. Only two debriefings occurred during the study period. There were ten debriefing participants during the two sessions, but only three of the debriefing participants completed the post-survey. During the study periods, it was difficult for the researcher to monitor the occurrences of critical events because there was no association with the specific facility. Therefore, the researcher relied strictly on the nurse leaders to initiate the debriefing process. The study showed no significant correlation between IDD and teamwork, but the project's validity would be questionable, and generalization of the study findings is limited due to the small number of debriefings and participants.

Additionally, it was assumed that both the IDD group and the non-IDD group were exposed to critical events, considering having 22 codes and seven rapid responses during the study periods in three units. However, not all patients may have experienced a critical event. Of the 16 participants who completed the post-survey, only nine reported that they experienced a critical event during the study period. For those who did not complete the post-survey, there is no way to determine if they experienced a critical event. The level of involvement with the critical event and the amount of direct care was not examined. Thus, there is a possibility that our findings can be affected due to the differences in exposure to the direct involvement of critical events rather than IDD sessions.

Finally, another limitation was the lack of structure around the debriefing expectations. During the planning phase, it was assumed that the debriefing would be expected as part of the quality improvement project. However, the debriefing remained optional throughout the study. While there are benefits to offering optional debriefing, a structured debriefing policy would have benefited this study.

Implications for Future Research

This study showed a relationship between IDD utilizing Code Lavender and a decreased level of burnout. However, this study failed to observe the relationship between debriefing and increased teamwork. Additional research should be done to replicate the results and identify the relationship on a larger scale. Future studies should be conducted as a hospital-wide intervention to determine the impact on other units. Given the physical and psychological demands of these units, inpatient units and emergency departments may also benefit from debriefing after critical events. In addition, establishing a debriefing policy with infrastructure in team and process may encourage participation. Future studies of IDD with a debriefing policy will allow further analysis of the impact of debriefing on burnout or teamwork.

Lastly, NTS is a widely used and validated tool to measure teamwork among healthcare workers. However, we found some questionnaires of NTS are not relevant based on the settings. In future studies, it is recommended to modify questions as needed to ensure that all questions are relevant to the individual.

Implications for Clinical Practice

Code Lavender, a hot debriefing model, is a feasible intervention that may help decrease burnout in a hospital setting. As healthcare leaders, a decrease in burnout can lead to an increase in employee satisfaction, a decrease in turnover, and a decrease in the cost associated with burnout. Therefore, this intervention may be beneficial to the entire healthcare system. Hospital-wide debriefing policies may encourage participation, which can positively impact the staff and the facility. Additionally, nurse educators can encourage participation in self-care strategies such as debriefing for new nurses to help combat burnout among healthcare workers.

Conclusion

While this study showed no relationship between debriefing and teamwork, it showed a significant relationship between debriefing after critical events and the decreased level of burnout. Healthcare leaders can consider the JD-R model to compare job demands and job resources to provide workers with debriefing opportunities to lessen the burden of burnout. Barriers have been identified to help healthcare leaders implement strategies to encourage participation. Future research should address these barriers and conduct larger studies to measure the feasibility of Code Lavender to facilitate debriefing sessions and validate the positive results of the current study.

References

Agency for Healthcare Quality and Research. (2017). *Physician burnout.* Retrieved from https://www.ahrq.gov/prevention/clinician/ahrq-works/burnout/index.html

American Association of Colleges of Nursing. (2022). *Nursing shortage fact sheet.* https://www.aacnnursing.org/news-data/fact-sheets/nursing-shortage

American Association of Colleges of Nursing. (2023). *Nursing workforce fact sheet.* https://www.aacnnursing.org/news-data/fact-sheets/nursing-workforce-fact sheet#:~:text=Nurses%20comprise%20the%20largest%20component,5%25%20from%2 2021%0to%202031

Arbios, D., Srivastava, J., Gray, E., Murray, P., & Ward, J. (2022). Cumulative stress debriefings to combat compassion fatigue in a pediatric intensive care unit. *American Journal of Critical Care, 31* (2), 111-118. https://doi.org/10.4037/ajcc2022560

Aryankhesal, A., Mohammadibahsh, R., Hamidi, Y., Alidoost, S., Behzadifar, M., Sohrabi, R., & Farhadi, Z. (2019). Interventions on reducing burnout in physicians and nurses: A systematic review. *Medical Journal of the Islamic Republic of Iran, 33*(7). https://doi.org/10.34171/mjiri.33.77

Azizoddin, D. R., Gray, K. V., Dundin, A., & Szyld, D. (2020). Bolstering clinician resilience through an interprofessional, web-based nightly debriefing program for emergency departments duringthe COVID-19 pandemic. *Journal of Interprofessional Care, 34*(5), 711-715. https://doi.org/10.1080/13561820.2020.1813697

Bae, S. (2022). Noneconomic and economic impacts of nurse turnover in hospitals: A systemic review. *International Nursing Review, 69*(3), 392-404. https://doi.org/10.1111/inr.12769

Beres, K. E., Zajac, L. M., Mason, H., Krenke, K., & Costa, D. K. (2022). Addressing

compassion fatigue in trauma emergency and intensive care settings: A pilot study. *Journal of Trauma Nursing, 29*(4), 210-217. https://doi.org/10.1097/JTN.0000000000000663

Berg, G. M., Hervey, A. M., Basham-Saif, A., Parsons, D., Acuna, D. L., & Lippoldt. D. (2014). Acceptability and implementation of debriefings after trauma resuscitation. *Journal of Trauma Nursing, 21*(5), 201-208. https://doi.org/10.1097/JTN.0000000000000066

Bohman, A., Hanks, J., & Carr, A. (2023). Improving long-term sustainability for a pediatric acute care emergency event debriefing process. *Journal of Pediatric Health Care, 37*(4), 456. https://doi.org/10.1016/j.pedhc.2023.04.007

Bosch, B., & Mansell, H. (2015). Interprofessional collaboration in health care. *Canadian Pharmacists Journal, 148*(4), 176-179. https://doi.org/10.1177/1715163515588106

Bourdeanu, L., Zhou, Q., DeSamper, M., Pericak, K., & Pericak, A. (2020). Burnout, workplace factors, and intent to leave among hematology/oncology nurse practitioners. *Journal of the Advanced Practitioner in Oncology, 11*(2), 141-148. https://doi.org/10.6004/jadpro.2020.11.2.2

Browning, E. D., & Cruz, J. S. (2018). Reflective debriefing: A social work intervention addressing moral distress among ICU nurses. *Journal of Social Work, End of Life, and Palliative Care, 14*(1), 44-72. https://doi.org/10.1080/15524256.2018.1437588

Bucca, A., Ullrich, L., Rahman, A., Smith, C., Johnson, M., Allanson-Dundon, A., Corwin, D., James, J., Marchionni, C., Bratis, L., & Bendas, E. (2022). Unmasking the truth of health care worker's well-being during the COVID-19 pandemic. *Critical Care Nurses, 42*(4), 20-26. https://doi.org/10.4037/ccn2022769

Calarco, M. M., & Stratton, K. J. (2023). The impact of transcendental meditation: Reducing

burnout and enhancing well-being in frontline healthcare clinicians during the COVID-19 pandemic. *Online Journal of Issues in Nursing, 28*(3), 10913734.

Cantu, L. & Thomas, L. (2020) Baseline well-being, perceptions of critical incidents, and openness to debriefing in a community hospital emergency department clinical staff before COVID-19, a cross-sectional study. *BMC Emergency Medicine, 20*(82), 1-8. https://doi.org/10.1186/s12873020-00372-5

Centers for Disease Control and Prevention. (2022). *Underlying cause of death, 1999-2020: Deaths occurring through 2020*. CDC Wonder. Retrieved from https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=40C1C743150870F88832BB4B1

Chambers, R. S. (2021). Developing a peer support program to mitigate compassion fatigue in health care: A quality improvement project. *Nebraska Nurse, 64*(1), 4-5. https://www.healthecareers.com/nurse-resources/nursing-publications/nebraska/nebraska nurse-february-2021

Cincotta, D. R., Quinn, N., Grindlay, J., Sabato, S., Fauteux-Lamarre, E., Beckerman, D., Carroll, T., & Long, E. (2021). Debriefing immediately after intubation in a children's emergency department is feasible and contributes to measurable improvements in patient safety. *Emergency Medicine Australia, 33*(2021), 780-787. https://doi.org/10.1111/17426723.13813

Colville, G. A., Smith, J. G., Brierley, J., Citron, K., Nguru, N., Shaunak, P., Tam, O. & Perkins Porras, L. (2017). Coping with staff burnout and work-related post-traumatic stress in intensive care. *Pediatric Critical Care Medicine, 18*(7), e267-e273. https://doi.org/10.1097/PCC.0000000000001179

Copeland, D., & Liska, H. (2016). Implementation of a post-code pause. *Journal of Trauma Nursing, 23*(2), 58-64. https://doi.org/10.1097/JTN.0000000000000187

Costello, M., Rusell, K. & Coventry, T. (2021). Examining the average scores of nursing teamwork subscales in an acute private medical ward. *BMC Nursing, 20*(84), 1-10. https://doi.org/10.1186/s12912-021-00609-z

Cotarelo, A., McLean, M., Rahman, N., Alves, B., & Kulkarni, M. (2023). Effectiveness of hospital-directed wellness interventions in COVID-19: A cross-sectional survey. *Western Journal of Emergency Medicine, 24*(3), 597-604. https://doi.org/10.5811/westjem.57306

Courtenay, M., Nancarrow, S., & Dawson, D. (2013). Interprofessional teamwork in the trauma setting: A scoping review. *Human Resource Health, 5*(11), 57. https://doi.org/10.1186/1478-4491-11-57

Definitive Healthcare. (2023). Average contract labor expenses at U.S. hospitals. *Healthcare Insights.* https://www.definitivehc.com/resources/healthcare-insights/hospitals-by highest-contract-labor expenses#:~:text=How%20much%20do%20hospitals %20spend,the%20highest%20contract%20labor%20expenses.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). A model of burnout and life satisfaction among nurses. *Journal of Advanced Nursing, 32*(2), 454-456. https://doi.org/10.1046/j.1365-2648.2000.01496.x

Department of Human Services. (2008). *Critical incident reporting policy.* DN 533 (8-2008). https://www.nd.gov/dhs/info/pubs/mfp/docs/critical-incidents-reporting-policy.pdf

Draus, C., Mianecki, T., Musgrove, H., Bastien, D., Greggs, D., Halash, C., Bellamy, C., Lewis, A., & Mackenzie, W. (2022). Perceptions of nurses who are second victims in a hospital

setting. *Journal of Nursing Quality Care, 37*(2), 110. https://doi.org/116.10.1097/NCQ.0000000000000603

Edrees. H., Connors, C., Paine, L., Norvell, M., Taylor, H., & Wu, A. W. (2016). Implementing the RISE second-victim support program at the Johns Hopkins Hospital: A case study. *BMJ Open, 2016*(6), e011708. https://doi.org/10.1136/bmjopen-2016-011708

Erkin, O., Konakci, G., & Duran, S. (2020). Secondary traumatic stress in nurses working with patients with suspected/confirmed COVID-19 in Turkey. *Prospectives in Psychiatric Care, 2021*(57), 1664-1672. https://doi.org/10.1111/ppc.12733

Ervin, J. N., Kahn, J. M., Cohen, T. R. & Weingart, L. D. (2019). Teamwork in intensive care units. *American Psychology, 73*(4), 468-477. https://doi.org/10.1037/amp0000247

Galleta-Williams, H., Esmail, A., Grigoroglou, C., Zghebi, S. S., Yue-Zhou, A., Hodkinson, A., & Panagioti, M. (2020). The importance of teamwork climate for preventing burnout in UK general practices. *European Journal of Public Health, 30*(4), 36-38. https://doi.org/10.1093/eupub.ckaa128

Giles, T. M., Hammad, K., Breaden, K., Drummond, C., Bradley, S., Gerace, A., & Mur-Cochran, E. (2019). Nurses' perceptions and experiences of caring for patients who die in the Emergency department setting. *International Emergency Nursing, Nov.*(47), e100789. https://doi.org/10.1016.j.ienj.2019.100789

Gittell, J., Fairfield, K., Bierbaum, B., Head, W., Jackson, R., Kelly, M., Laskin, R. Lipson, S., Siliski, J., Thornhill, T., & Zuckerman, J. (2000). Impact of relational coordination on quality of care, postoperative pain and functioning, and length of stay. *Medical Care, 38*(8), 807-819. http://dx.doi.org/10.1097/00005650-200008000-00005

Gougoulis, A., Trawber, R., Hird, K., & Sweetman, G. (2020). 'Take 10 to talk about it': Use of a

scripted, post-event debriefing tool in a neonatal intensive care unit. *Journal of Pediatrics and ChildHealth, 56*(7), 1134-1139. https://doi.org/10.1111/jpc.14856

Gunasingam, N., Burns, K., Edwards, J., Dinh, M. & Walton, M. (2015). Reducing stress and burnout in junior doctors: the impact of debriefing sessions. *Postgrad Medical Journal, 2015*(91), 182-187. https://doi.org/10.1136/postgradmedj-2014-132847

Gunuse, N. P., Inan, F. S., Usten, B., Serttas, M.m Sayin, S., & Toksot, S. Y. (2022). The effect of a nurse-led intervention program on compassion fatigue, burnout, compassion satisfaction, and psychological distress in nursing: A randomized control trial. *Perspectives in Psychiatric Care, 58*, 1576-1586. https://doi.org/10.1111/ppc.12965

Griggs, S., Hampton, D., Edward, J., & McFarlin, J. (2020). Impact of case review debriefings on moral distress of extracorporeal membrane oxygenation nurses. *Critical Care Nursing, 43*(3), 12-18. https://doi.org/10.4037/ccn2023870

Hancock, J., Witter, T., Comber, S., Daley, P., Thompson, K., Candow, S., Follett, G., Somers, W., Collins, C., White, J., & Kits, O. (2020). Understanding burnout and moral distress to build resilience: A qualitative study of an interprofessional intensive care unit team. *Journal of Canadian Anesthesiologists, 67*, 1541-1548. https://doi.org/10.1007/s12630-020-01789-z

Hawes, K., Goldstein, J., Vessella, S., Tucker, R., & Lechner, B. (2020). Providing support for Neonatal intensive care unit health care professionals: A bereavement debriefing program. *American Journal of Perinatology, 39*(4), 401-408. https://doi.org/10.1055/s0040-1716481

Holbert, E., & Dellasega, C. (2021). De-stressing from distress: Preliminary evaluation of a

nurse-led brief debriefing process. *Critical Care Nursing Quarterly, 44*(2), 230-234. https://doi.org/10.1097/CNQ.0000000000000356

IBM. (2022). *Power analysis of paired-sample T Test.* https://www.ibm.com/docs/en/spss-statistics/saas?topic=means-power-analysis-paired-samples-t-test

Institute for Healthcare Improvement. (2021). *Linking quality, safety, and wellness through health care debriefing.* Retrieved from https://www.ihi.org/insights/linking-quality safety-and-wellness-through-health-care-debriefing

Jakobsen, R. B., Gran, S. F., Grimsmo, B., Arntzen, K., Fosse, E., Frich, J. C. & Hjortdal, P. (2018). Examining participant perceptions of an interprofessional simulation-based trauma team training for medical and nursing students. *Journal of Interprofessional Care, 32*(1), 80-88. https://doi.org/10.1080/13561820.2016.1255184

Joint Commission. (2023). *Sentinel event data 2022 annual review.* Retrieved from https://www.jointcommission.org/resources/sentinel-event/sentinel-event-data-summary

Kam, A. J., Gonsalves, C. L., Nordlund, S., Hale, S. J., Twiss, J., Cupido, C., Brar, M., & Parker, M. (2022). Implementation and facilitation of post-resuscitation debriefing: A comparative crossover study of two post-resuscitation debriefing frameworks. *BMC Emergency Medicine, 22*(1), 1-13. https://doi.org/10.1186/s12873-022-00707-4

Kalisch, B., Lee, H., & Salas, E. (2010). The development and testing of the nursing teamwork survey. *Nursing Research, 59*(1), 42-50. https://doi.org/10.1097/NNR.0b013e3181c3bd42

Kelly, L. A., Gee, P. M., & Butler, R. J. (2021). Impact of nurse burnout on organizational and positional turnover. *Nursing Outlook, 69*, 96-102. https://doi.org/10.1016/j.outlook.2020.06.008

Kim, M., Mallory, C., & Valerio, T. (2022). *Statistics for evidence-based practice in*

nursing (3rd ed). Jones & Bartlett Learning.

Knorring, M., Griffiths, P., Ball, J., Runesdotter, S., & Lindqvist, R. (2019). Patient experience of communication consistency amongst staff is related to nurse-physician teamwork in hospitals. *Nursing Open, 7(2)*, 613-617. https://doi.org/10.1002/nop2.431

Kostka, A. M., Borodzicz, A., & Krzeminska, S. A. (2021). Feelings and emotions of nurses related to dying and death of patients—A pilot study. *Psychology Research and Behavioral Management, 14*, 705-717. https://doi.org/10.2147/PRBM.S311996

Laurendine, A. M., McCarthy, C. V., Farmer, L., & Gettis, M. A. (2020). Interdisciplinary perspectives on neonatal intensive care resuscitation with debriefing initiatives. *Pediatric Nursing, 46*(5), 245-253.

Lee, H., Baek, W., Lim, A., Lee, D., Pang, Y., & Kim, O. (2021). Secondary traumatic stress and compassion satisfaction mediate the association between stress and burnout among Korean hospital nurses: A cross-sectional study. *BMC Nursing, 20*, 115. https://doi.org/10.1186/s12912-021-00636-w

Lyman, K. (2021). The relationship between post-resuscitation debriefing and perceptions of Teamwork in emergency department nurses. *International Emergency Nursing, 57* (2021), e101005. 10.1016/j.ienj.2021101005

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

Mazzocco, K., Petitti, D., Fong, K., Bonacum, D., Brookey, J., Graham, S., Lasky, R., Sexton, B., & Thomas, E. (2009). Surgical team behaviors and patient outcomes. *American Journal of Surgery, 197*(5), 678-685. https://doi.org/10.1016/j.amjsurg.2008.03.002

Melnyk, B. M., & Finout-Overholt, E. (2019). *Evidence-based practice in nursing and*

healthcare (4th ed.). Wolters Kluwer.

Merriam-Webster. (2023). *Teamwork.* Dictionary. https://www.merriamwebster.com/dictionary/teamwork

Mitchell, J. T., & Everly, G. S. (1997). Critical incident stress debriefing (CISD). *An operations manual for the prevention of traumatic stress among emergency service and disaster workers.* https://corpslakes.erdc.dren.mil/employees/cism/pdfs/Debriefing.pdf

Nadir, N., Bentley, S., Papanagnou, D., Bajaj, K., Rinnert, S., & Sinert, R. (2017). Characteristics of real time non-critical incident debriefing practices in the emergency department. *Western Journal of Emergency Medicine, 18*(1), 146-151. https://doi.org/10.5811/westjem.2016.10.31467

Nancarrow, S. A., Booth, A., Ariss, S., Smith, T., Enderby, P., & Roots, A. (2013). Ten principles of good interdisciplinary teamwork. *Human Resources for Health, 11*(19). https://doi.org/10.1186/1478491-11-19

Nerovich, C., Derrington, S. F., Source, L. R., Manzardo, J., & Manworren, R. C. B. (2023). Debriefing after critical events is feasible and associated with increased compassion satisfaction in the pediatric intensive care unit. *Critical Care Nurse, 43*(3), 19-28.

O'Connor, P., O'dea, A., Lydon, S., Offiah, G., Scott, J., Flannery, A., Lang, B., Hoban, A., Armstrong, C., & Bryne, D. (2016). A mixed-method study of the causes and impact of poor teamwork between junior doctors and nurses. *International Journal for Quality in Healthcare, 28*(3), 339-345. https://doi.org/10.1093/intqhc/mzw036

Orchard, C. A., King, G. A., Khalili, H., & Bezzina, M. B. (2012). Assessment of interprofessional team collaboration scale (AITCS): Development and testing of the

instrument. *Journal of Continuing Education Health Professionals, 32*(1), 58-67. https://doi.org/10.1002/chp/21123

Raurell-Torreda, M., Rascon-Hernan, C., Malagon-Aguilera, C., Bonmati-Tomas, A., Bosch-Farre, C., Gelabert-Vilella, S., & Romero-Collado, A. (2021). Effectiveness of a training intervention to improve communication between/awareness of team roles: A randomized clinical trial. *Journal of Interprofessional Nursing, 37*(2), 479-487. https://doi.org/10.1016/j.profnurs.2020.11.003

Rodriguez, A., Spilker, A. & Goyle, D. (2020). Grief among neonatal intensive care nurses. *MCN, 45*(4), 228-232. https://doi.org/10.1097/NMC.0000000000000634

Rosen, M. A., DiazGrandos, D., Weaver, S. J., Dietz, A. S., Benishek, L. E., Thompson, D., & Pronovost, P. J. (2018). Teamwork in healthcare: Key discoveries enabling safer, high quality care. *American Psychologist, 74*(4), 433-450. http://dx.doi.org/10.1037/amp0000298

Schaufeli, W. B., Desart, S., & De Witte, H. (2020). Burnout assessment tool (BAT)—Development, validity, and reliability. *International Journal of Environmental Research and Public Health, 17*(24), 9495-9516. https://doi.org/10.3390/ijerph17249495

Soper, K. (2022). Reducing burnout and promoting professional development in the palliative care service. *Journal of Hospice & Palliative Nursing, 24*(3), 181-185. https://doi.org/10.1097/NJH.0000000000000847

Sugarman, M., Graham, B., Nelmes, P., Langston, S., & Mathew, J. (2021). Implementation of the 'TAKE STOCK' hot debrief tool in the ED: A quality improvement project. *Emergency Medicine Journal, 38*(8), 579-584. https://doi.org/10.1136/emermed-2019-208830

Theofanidis, D., Boukas, A., & Foundtouki, A. (2022). A 'new pandemic' at hand: Burnout of nursing staff. *International Journal of Caring Sciences, 15*(1), 2028. Chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.internationaljournalofcaringsciences.org/docs/41.theofaidis.pdf

Tie, Y. C., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE Journal,* (7). 10.1177/2050312118822927

Tuckey, M. R., & Scott, J. E. (2014). Group critical incident stress debriefing with emergency services personnel: A randomized control trial. *Anxiety, Stress, and Coping, 27*(1), 38-45. http://dx.doi.org/10.1080/10615806.2013.809421

Wells-English, D., Giese, J., & Price, J. (2019). Compassion fatigue and satisfaction: Influence on turnover among oncology nurses at an urban cancer center. *Clinical Journal of Oncology Nursing, 23*(5), 487-493. https://doi.org/10.1188/19.CJON.487-493

Wolfe, H. A., Wegner, J., Sutton, R., Seshadri, R., Niles, D. E., Nadkarni, V., Duval-Arnould, J., Sen, A. I., & Cheng, A. (2020). Cold debriefings after in-hospital cardiac arrest in an international pediatric resuscitation quality improvement collaborative. *Pediatric Quality and Safety, 5*(4), e319. https://doi.org/10.1097/pq9.0000000000000319

Zaheer, S., Ginsburg, L., Wong, H. J., Thomson, K., Bain, L., & Wulffhart, A. (2019). Turnover intention of hospital staff in Ontario, Canada: Exploring the role of frontline supervisors, teamwork, and mindful organization. *Human Resources for Health, 17*(66), 1-9. https://doi.org/10.1186/s12960-019-0404-2

Appendix A: IRB Approval

Notification of IRB Exempt Status

04/01/2024

RE: Protocol Sponsor: Shannon Souther (Radford University)
Protocol Number: *N/A*
Protocol Title: *Impact of Interdisciplinary Debriefing on Teamwork and Burnout*
IRB Assignment Number (If Applicable): *N/A*

Dear *Shannon Souther*:

YOU ARE CAUTIONED TO READ THIS LETTER CAREFULLY AND IN ITS ENTIRETY. IT CONTAINS IMPORTANT INFORMATION ABOUT YOUR RESEARCH PROPOSAL AND YOUR RESPONSIBILITIES AS A PRINCIPAL INVESTIGATOR. THE IRB IS REQUIRED BY FEDERAL LAW TO REPORT ALL SERIOUS OR CONTINUING NONCOMPLIANCE WITH THESE REQUIREMENTS.

Notice of IRB Exemption Decision:
Your submitted research plan has been determined as not needing IRB oversight. This is because your you are either a) not engaging in research with human subjects as defined by federal regulations; b) engaging in research with human subjects deemed excluded from IRB oversight per 45CFR46.102(l) OR c) engaging in research with sufficient human subject protections in the design to meet one or more IRB exemption criteria set forth at 45CFR46.104.

NOTE THAT IRB APPROVAL FOR THIS ACTIVITY IS SUBJECT TO FURTHER INSTITUTIONAL APPROVAL AND OVERSIGHT. THE INSTITUTION CAN DECLINE TO PARTICIPATE IN OR SUPPORT RESEARCH ACTIVITIES FOR THEIR OWN REASONS AT ANY TIME. IF YOU HAVE QUESTIONS ABOUT INSTITUTIONAL APPROVAL, CONTACT YOUR SUPERVISOR. YOU OR THE INSTITUTION MAY NOT, HOWEVER, ALTER THE MATERIALS WITHIN THE SCOPE OF THIS IRB APPROVAL WITHOUT FURTHER REVIEW BY THE IRB AS DESCRIBED HEREIN.

Even though your research activity has been determined to be exempt from IRB oversight, you still must adhere to the submitted research plan, all institutional policies and the principles of research ethics as set forth in The Belmont Report to maintain that exempt status.

Scope of Exemption:

This IRB exempt determination includes and IS LIMITED to the following:

- Protocol: *NA*

- *[Anything Else Reviewed– Be as descriptive as possible].*

While you do not need to submit continuing review requests to this IRB, **all other reporting obligations to the IRB and your institution apply and the IRB reserves the right to contact you in the future to verify that there have been no changes to this research plan.**

Requesting Changes To Your Research Plan: If you wish to modify this activity, you must submit a request to the IRB and receive IRB approval in writing before implementing the proposed modification (unless the change is necessary to eliminate an apparent immediate hazard to subjects, then notification is due within 5 calendar days). This not only includes modifying the protocol or consent form but all research activity affiliated with this approval, such as adding advertisements, identifiable data fields, questionnaires etc.

Interim Reporting Requirements: Any of the following occurrences are expected to be reported to the IRB within five (5) business days of your becoming aware. Failure to timely report on any of the following is a serious violation of IRB requirements and regulations may require the IRB to report such noncompliance to federal authorities. Note that this report to the IRB does not substitute for any other reporting obligations (i.e. to the sponsor or other institution committee/official).

- **Unanticipated Problems Involving Risks To Subjects Or Others**
  - **Adverse events** are considered reportable unanticipated problems if they are a) Serious; b) Unexpected; and c) Related (or probably related) to the research. For the avoidance of doubt, an event is automatically deemed "serious" if it v) death or a life-threatening condition (i.e. places the subject at immediate risk of death from the event as it occurred); w) an inpatient hospitalization or prolongation of an existing hospitalization; x) a persistent or significant disability/incapacity; y) a congenital anomaly/birth defect; OR z) an event that requires intervention intended to prevent one of the above.
  - **Other unanticipated problems** that are not adverse events (i.e. problems associated with a medical device under investigation, breach of subject confidentiality such as through theft or loss of study data etc.) must be reported if they suggest that the research places subjects or others at a greater risk of harm (including physical, psychological, economic, or social harm) than was previously known or recognized.
- **Deviations from the approved research plan or regulations.**
- **Unresolved subject complaints.**
- **Notification of audit/inspection or other inquiry by a state or federal agency.**
- **Suspensions or termination** of the research activity by the study sponsor or your institution.

[This sentence is generally required for drug studies and can be left in as general template languoge] In accordance with section 5.11.1(b) of the International Conference on Harmonization's Guideline For Good Clinical Practice, this IRB hereby states that it is organized and operates according to such guidelines and their applicable laws and regulations. This IRB is also registered in the United States IRB registry to conduct reviews under both FDA and OHRP under registration number IRB___NA_____.

_____

If you have any questions or concerns, please contact our office at __540-776-4000_____.

Sincerely,

Chief Nursing Officer

LewisGale Medical Center

Salem, Va 24153

Radford UNIVERSITY | Research Compliance Office

Institutional Review Board

April 12, 2024

TO:	Shannon Souther
RE:	Radford Acknowledgment of IRB Approval
STUDY TITLE:	Impact of Interdisciplinary Debriefing on Teamwork and Burnout
IRB REFERENCE #:	None

The Radford University Institutional Review Board (IRB) acknowledges the HCA IRB review and exempt determination of the above-referenced study.

If changes are made to the project, a copy of the HCA IRB-approved modification application and approval letter are to be forwarded to the Radford University Research Compliance Office-IRB.

The Radford University IRB would like to thank you for your hard work and for keeping us informed.

Good luck with this project!

Radford University Institutional Review Board
Irb-iacuc@radford.edu
https://www.radford.edu/content/research-compliance/home.html

Cc: Euna Lee, Ph.D.

Appendix B: Letter of Facility Support

LETTER OF SUPPORT

PERMISSION TO USE PREMISES, AND/OR SUBJECTS

Dear Amy Woods,

I Shannon Souther, student of Radford University, School of Nursing with Dr. Euna Lee,Chair of the Committee, would like to request kindly your permission to use the premises of LewisGale Medical Center (referred to as "facility" here within) and recruit subjects to conduct a study entitled "Implementation of Interdisciplinary Debriefing (IDD) After Patient Deaths". Healthcare workers are highly exposed to critical events, including unexpected patient deaths. Exposure to a high number of deaths can lead to helplessness, sadness, and depression (Kosta et al., 2021). These feelings can lead to burnout. The implementation of interdisciplinary debriefing (IDD) can improve emotional regulation and improve grief management skills (Eng et al., 2015; Keene et al., 2010). IDD can also improve teamwork and a sense of unity within a healthcare unit (Lyman, 2021). The purpose of this project is to study is to initiate IDD in an ICU setting to assess the impact on teamwork and staff burnout. It is guided by the following question: In ICU care teams, how does IDD, compared to no IDD, affect teamwork and staff burnout after 3 months?

An Institutional Review Board approval will be obtained prior to the initiation of the study.

Please check any that apply:

✓ I hereby authorize Shannon Souther, student of Radford University School of Nursing, to recruit subjects for participation in a conduct a study entitled "Implementation of Interdisciplinary Debriefing After Patient Deaths".

✓ I hereby authorize Shannon Souther, student of Radford University School of Nursing, to use LewisGale Medical Center when publishing results from the study entitled "Implementation of Interdisciplinary Debriefing After Patient Deaths".

Amy W Woods — 8-23-23

Signature — Date

Name: Amy Woods
Title: CNO
Address of Facility: 1900 Electric Road, Salem, VA 24153
Phone Number: 540-776-4000
Email Address: amy.woods@hcahealthcare.com

Appendix C: Recruitment Letter

Dear Lewis Gale ICU employees,

I am inviting you to be part of my research project about teamwork and burnout. I am a Doctor of Nursing Practice (DNP) student at Radford University. This project is part of my final DNP project. The purpose of the research is to identify the impact that interdisciplinary debriefing (IDD) has on teamwork and staff burnout in ICU care teams. If you participate in my project, you will complete three paper surveys today. The surveys you will take will measure your level of burnout and your perception of teamwork in your unit. Another survey gathers your demographic information. It is expected to take approximately 15 minutes to complete those three surveys today.

Starting around March 18, 2024, the ICUs will implement a new, short, interdisciplinary debriefing process after critical events. Participation in the debriefing is required based on your current practice guidelines. However, participation in the research study, including completion of the surveys, is voluntary. Debriefing participants who consent to the research study will complete a short, four-question survey to determine the effectiveness of the individual debriefing session. Information will be collected related to the characteristics of the debriefing session. Names of the participants or speakers during sessions would not be recorded. The post-debriefing evaluation survey will be anonymous. This data is part of the research project and will not be available to the study participants. The estimated time for the debriefing session and completion of the debriefing survey is 10-15 minutes for each debriefing you attend.

At six weeks and 12 weeks, you will take the same two surveys that you completed today, to measure the Burnout and your perception of teamwork levels. Additionally, there will be a short, 3-question questionnaire in weeks six and 12. The total time to complete these surveys is less than 15 minutes. The project will be conducted over approximately 16 weeks. Two weeks will be used to gather preliminary data, 12 weeks will be used to implement the new debriefing process, and two weeks will be used to collect final data. To be eligible to participate, you must be a part-time or full-time LGMC employee who will have direct interaction with ICU patients over the next 12 weeks. You must be willing to complete the baseline surveys and the surveys in six weeks and 12 weeks. At the end of the study project, an Amazon gift card will be provided to participants who completed all pre-test surveys and two post-test surveys. The value of the gift card will range from 10 to 20 dollars depending on the number of eligible participants.

As in any study, there is a possibility of a breach in confidentiality during the data collection process. However, measures will be taken to protect privacy and confidentiality. During the debriefing sessions, you will be in an interdisciplinary group, so employees will know that you participated in the study. Additionally, debriefing can trigger emotions related to critical events that can cause emotional distress. Participating in this study may have a direct impact on your level of burnout and your perception of teamwork within your unit. Indirectly, the results of this study may lead to a change in practice within your facility. Also, the study results will contribute to the current research regarding healthcare burnout and teamwork.

Participation is voluntary, but I hope you will choose to be part of this project!

For more information, please contact me at the phone number or email address below. You have been given two envelopes. One envelope has the consent for the study and one envelope has the surveys to complete. If you choose to participate, please sign one consent form and seal it in the envelope. The second consent is yours to keep for your records. Please complete the other surveys and seal the second envelope. I will return to collect the envelopes before the end of the shift.

Thank you,
Shannon Souther
Radford University
ssouther@radford.edu
540-835-3473

Appendix D: Informed Consent Form

Title of Project: Impact of Interdisciplinary Debriefing on Teamwork and Burnout
Researcher: Shannon Souther
DNP Project Team: Dr. Euna Lee, Dr. Milena Staykova, Dr. Christie Callahan

PIN= Mothers initials (first and last (maiden) name initials) and your mother's year of birth. For example: My mother's maiden name is Jane Doe and she was born in 1960. My PIN is JD1960.

Your PIN: _____

I invite you to take part in a research study related to teamwork and burnout at Lewis Gale Medical Center. The purpose of this study is to determine the impact that interdisciplinary debriefing has on teamwork and burnout in ICU care teams. Participation in debriefing is expected as part of your current practice guidelines. However, taking part in this research study, including the completion of all surveys, is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue participation at any time without penalty or loss of benefits. I urge you to discuss any questions with the researcher. If you decide to participate you must sign this form to show that you want to take part. If you decide to take part in this research study, your participation will last approximately 16 weeks.

Section 1. Purpose of the Research

The purpose of this research study is to identify the impact that interdisciplinary debriefing has on teamwork and burnout within ICU care teams.

Section 2. Procedures

If you participate in my project, you will complete three paper surveys today, which will take approximately 15 minutes. The surveys you will take will measure your level of burnout and your perception of teamwork in your unit. Another survey will gather your demographic information. Starting around March 18, 2024, the ICUs will implement a new interdisciplinary debriefing process after critical events. Participation in the debriefing is expected as part of your current practice guidelines outside the study. However, participation in the research study, including completing all surveys, is voluntary. Debriefing participants who consent to the research project will complete a short, four-question survey to determine the effectiveness of the individual debriefing session. This questionnaire is part of the research project, and the data will be analyzed during the study. The estimated time to participate in debriefing and completion of the survey will take approximately 10-15 minutes for each session. You will take the same two surveys you took today in week six and week 12. Additionally, you will complete a short post-intervention questionnaire to determine your exposure to critical events and your participation in debriefing. It is expected to take less than 15 minutes to complete the three surveys at the six-week and 12-week marks.

Section 3. Time Duration of the Procedures and Study

The total time of the study is 16 weeks. Two weeks will be used to collect baseline data. The implementation of interdisciplinary debriefing will last 12 weeks. Finally, post-surveys will be collected for two weeks after the implementation period. The estimated date of the study conclusion is June 17, 2024. The time is an estimate and will be based on the outcome of the recruitment phase.

Section 4. Discomforts and Risks

As in any study, there is a chance of a breach of confidentiality during the data collection process. However, measures will be taken to protect privacy and confidentiality. This risk will be minimized by keeping informed consent separate from study data. Additionally, the paper will be kept in a locked location, and only the researcher will have physical access. During the debriefing sessions, you will be in an interdisciplinary group, so employees will know you participated in the study. To help protect privacy, the debriefing will occur in a dedicated room with closed doors. While other participants will be involved, people outside of the debriefing process cannot see or hear the session.

Additionally, debriefing can trigger emotions related to critical events that can cause emotional distress. To minimize this risk, the Employee Assistance Program (EAP) is available for healthcare workers who are feeling distressed. The EAP provides six counseling sessions, free of charge, for hospital employees. The EAP contact number will be provided at each debriefing session and will be included in the consent form.

Section 5. Potential Benefits

There may be direct benefits associated with participating in the study. Participating in debriefing may decrease burnout. Additionally, interdisciplinary debriefing may impact teamwork and communication within care teams.

There are also indirect benefits to participating in this study. The results of this study will be analyzed to determine the impact on healthcare workers. The results may lead to a change in clinical practices in the hospital. Additionally, the results can be used in the healthcare setting as evidence-based practice, which may impact clinical standards at a multidisciplinary level. Any results used outside the study will be presented in an aggregate form.

Section 6. Statement of Confidentiality

Participant demographic data will be collected at the start of the study, and each participant will create a participant identification number (PIN). The PIN will be used on additional surveys, so it is possible to link the pre and post-test results. Consent will be obtained at the beginning of the study separate from any other data. The consent will be kept in a locked office at Radford University, which is monitored by RU security. The researcher is the only individual with keyed access to the consent forms.

Additional study data, including the NTS, the BAT, and the demographic data will be kept in a locked location in a home office. Only the researcher will have a key to the paper data. The researcher, the DNP project chair, the DNP committee member, and a statistician will have access to view the data to ensure accurate collection and data analysis.

The Statistical Package for the Social Sciences (SPSS) was used for analysis during the project. A statistician was consulted before the study started to help with calculations and analysis. The results from BAT and the NTS will be inputted into an Excel spreadsheet for analysis at the end of the project. The PIN will be used, but the data will not contain names or identifying information. The electronic data will be kept on a password-protected computer and will not be transferred electronically without encryption.

Section 7. Costs for Participation
There are no anticipated costs related to participation in the study.

Section 8. Compensation for Participation
If you complete the pre-surveys, the surveys at week 6, and the surveys at week 12, you will be eligible to request an Amazon gift card. The value of the gift card will range from 10 to 20 dollars depending on the number of participants. You may contact the researcher and provide your PIN to request the gift card. The researcher will verify completion and send an electronic gift card.

Section 9. Research Funding
Funding disclosure: There was funding from Sigma to offset the costs of the gift cards provided to eligible participants.
Conflict of Interest: The researcher is a faculty member and a DNP student at Radford University. Additionally, the researcher is an HCA employee. The associations are not expected to impact the process or results of the study.

Section 10. Voluntary Participation
Taking part in this research study is voluntary. If you choose to take part in this research, your primary responsibilities will include the completion of surveys at three-time intervals and the participation in debriefing after critical events in the ICU. You do not have to participate in this research. If you choose to take part, you have the right to stop at any time. If you decide not to participate or if you decide to stop taking part in the research later, there will be no penalty or loss of benefits to which you are otherwise entitled.

Section 11. Contact Information for Questions or Concerns
You have the right to ask any questions you may have about this research. If you have questions, complaints, or concerns, contact Shannon Souther at (540) 835-3473

If you have questions about your research rights or concerns about the research, contact Radford University's Research Integrity Office at 540-831-6504.

For more information about participation in a research study and about the Institutional Review Board (IRB), a group of people who review the research to protect your rights, please visit Radford University's IRB's website at https://www.radford.edu/content/research-compliance/home/irb.html

Signature and Consent/Permission to be in the Research
Before making the decision regarding enrollment in this research you should have discussed this study with the researcher, reviewed the information in this form, and had an opportunity to ask questions that you may have.

Your signature below means that you have received this information, have asked the questions you currently have about the research and those questions have been answered. Please keep the extra copy of this form for your records and submit the signed copy in the envelope.

Participant: By signing this consent form, you indicate that you are voluntarily choosing to take part in this research.

_____

Signature of Participant Date Time Printed Name

Researcher: Your signature below means that you have explained the research to the participant/participant representative and have answered any questions he/she has about the research.

_____

Signature of Researcher Date Time Printed Name

Appendix E: Demographic Data (Pretest)

PIN= Mothers initials (first and last (maiden) name initials) and your mother's year of birth. For example: My mother's maiden name is Jane Doe and she was born in 1960. My PIN is JD1960.

Your PIN: _____

1. **Age (Circle One)**

18-25 Years old	26-35 Years old	36-45 Years old	46 – 55 Years old	56-65 Years old	Over 65 years old

2. **Gender (Circle One)**

Male	Female	Prefer not to answer

3. **Role (Circle One)**

Registered Nurse	Attending Physician	Resident/Intern	Case Manager
Respiratory Therapist	Physical Therapist	Patient Care Tech	Other (list):

4. **Education Level**

High School Diploma or Lower	Some College	Associate Degree	Bachelor Degree	Masters Degree	Doctorate Degree

5. **Past Experience with Formal Debriefing: Any setting (Circle One)**

None	1-2 sessions in the past	3-5 sessions in the past	Over 5 sessions in the past

6. **Recent (Past 6 months) Debriefing Experience with THIS ICU**

None	1 session	2-3 sessions	Over 3 sessions

7. **Employment Status (Circle One)**

Full-Time	Part-Time	PRN	Traveler

8. **Years in Current Role (Round to nearest whole year)**

_____

9. **Years at Current Facility (Round to the nearest whole year)**

_____

Appendix F: Post-Implementation Questionnaire

PIN= Mothers initials (first and last (maiden) name initials) and your mother's year of birth. For example: My mother's maiden name is Jane Doe and she was born in 1960. My PIN is JD1960.

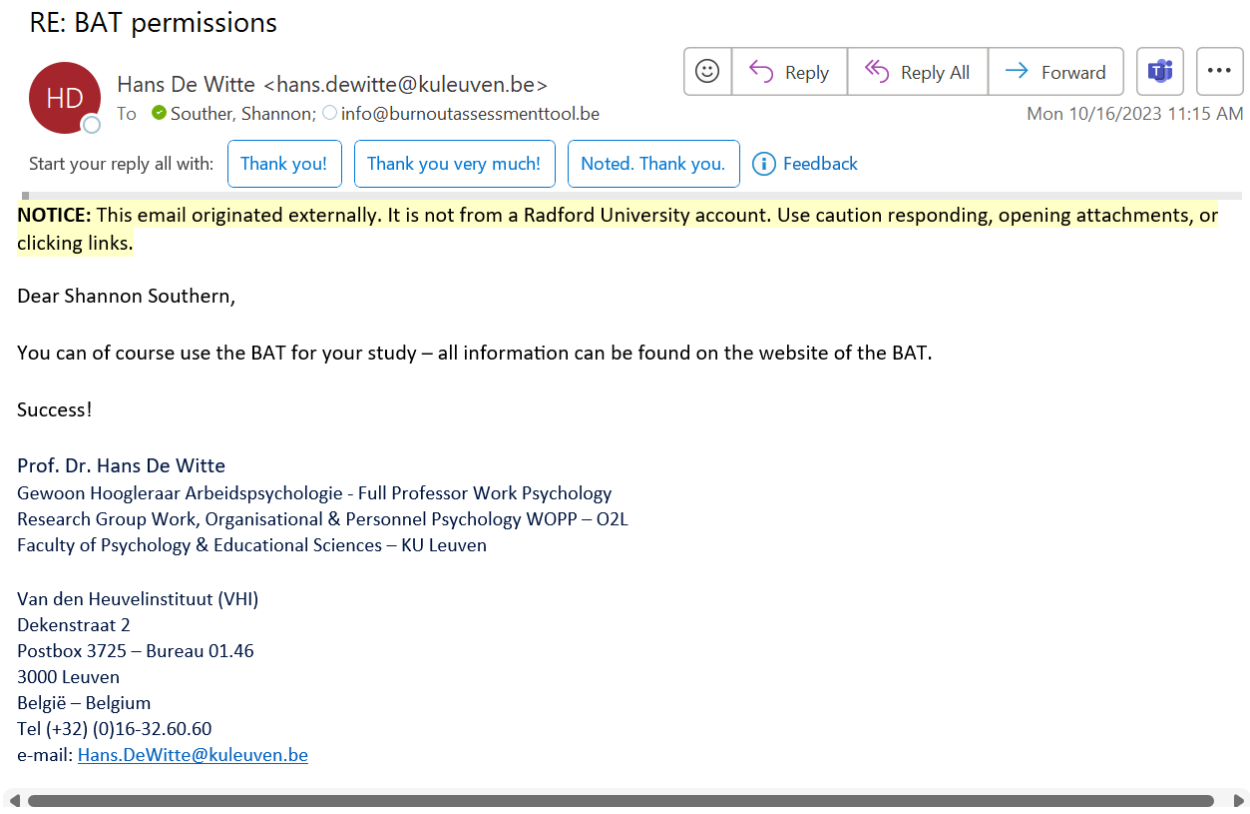
Your PIN: _____

1. **How many critical events have you experienced since the start of the project (March 18)?**

----

2. **How many debriefing sessions have you attended since the start of the project (March 18)?**

Appendix G: Burnout Assessment Tool Permission



RE: BAT permissions

HD

Hans De Witte <hans.dewitte@kuleuven.be>

To Souther, Shannon; info@burnoutassessmenttool.be

Reply | Reply All | Forward

Mon 10/16/2023 11:15 AM

Start your reply all with: Thank you! | Thank you very much! | Noted. Thank you. | Feedback

NOTICE: This email originated externally. It is not from a Radford University account. Use caution responding, opening attachments, or clicking links.

Dear Shannon Southern,

You can of course use the BAT for your study – all information can be found on the website of the BAT.

Success!

Prof. Dr. Hans De Witte
Gewoon Hoogleraar Arbeidspsychologie - Full Professor Work Psychology
Research Group Work, Organisational & Personnel Psychology WOPP – O2L
Faculty of Psychology & Educational Sciences – KU Leuven

Van den Heuvelinstituut (VHI)
Dekenstraat 2
Postbox 3725 – Bureau 01.46
3000 Leuven
België – Belgium
Tel (+32) (0)16-32.60.60
e-mail: Hans.DeWitte@kuleuven.be

Appendix H: Burnout Assessment Tool (Pre & Posttest)

BURNOUT ASSESSMENT TOOL ENGLISH VERSION

Work-related version of the BAT

Instruction

The following statements are related to your work situation and how you experience this situation.

Please state how often each statement applies to you.

Scoring

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

Core symptoms

	Never	Rarely	Sometimes	Often	Always
Exhaustion					
1. At work, I feel mentally exhausted*	☐	☐	☐	☐	☐
2. Everything I do at work requires a great deal of effort	☐	☐	☐	☐	☐
3. After a day at work, I find it hard to recover my energy*	☐	☐	☐	☐	☐
4. At work, I feel physically exhausted*	☐	☐	☐	☐	☐
5. When I get up in the morning, I lack the energy to start a new day at work	☐	☐	☐	☐	☐
6. I want to be active at work, but somehow I am unable to manage	☐	☐	☐	☐	☐
7. When I exert myself at work, I quickly get tired	☐	☐	☐	☐	☐
8. At the end of my working day, I feel mentally exhausted and drained	☐	☐	☐	☐	☐
Mental distance					
9. I struggle to find any enthusiasm for my work*	☐	☐	☐	☐	☐
10. At work, I do not think much about what I am doing and I function on autopilot	☐	☐	☐	☐	☐
11. I feel a strong aversion towards my job*	☐	☐	☐	☐	☐
12. I feel indifferent about my job	☐	☐	☐	☐	☐
13. I'm cynical about what my work means to others*	☐	☐	☐	☐	☐

Citation: Schaufeli, W.B., De Witte, H. & Desart, S. (2019). *Burnout Assessment Tool (BAT) – Test Manual.* KU Leuven, Belgium: Internal report.

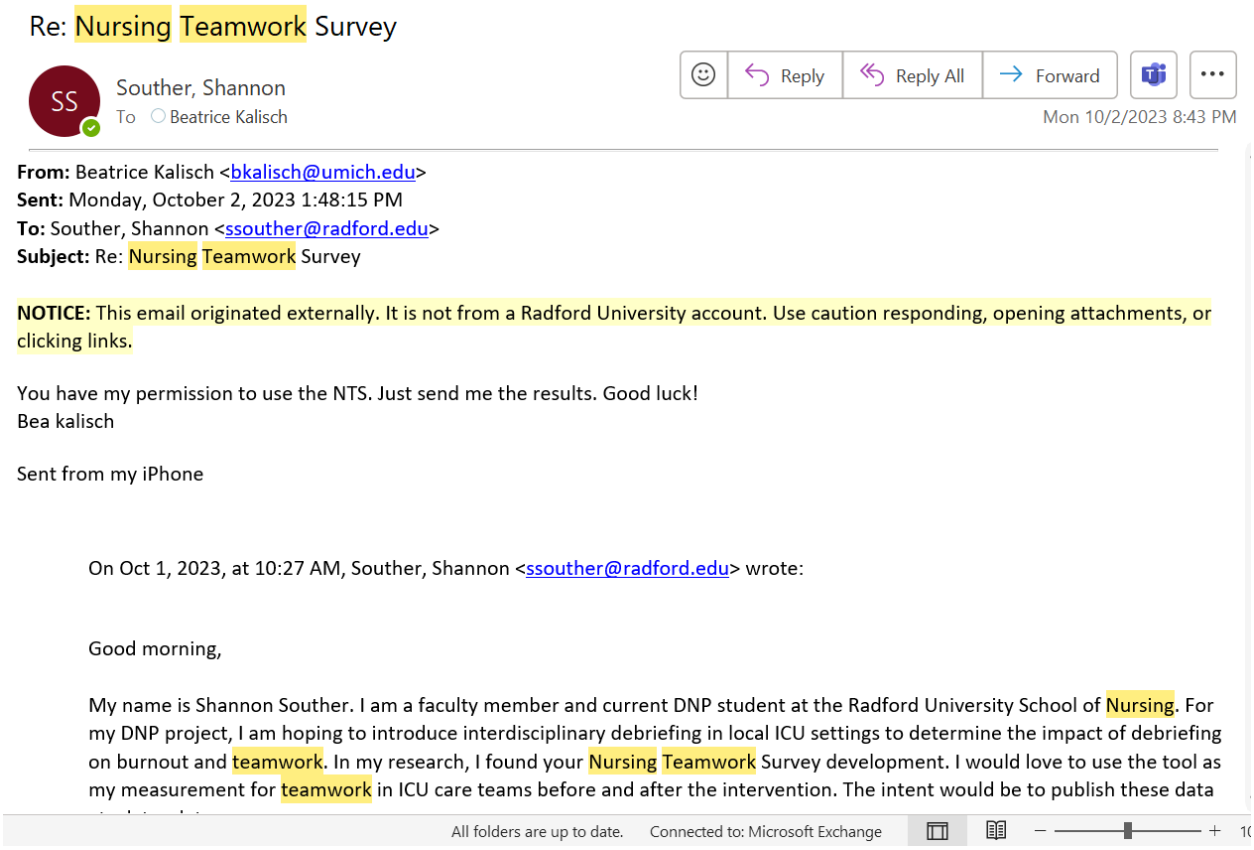
	Never	Rarely	Sometimes	Often	Always
Cognitive impairment					
1. At work, I have trouble staying focused*	☐	☐	☐	☐	☐
2. At work I struggle to think clearly	☐	☐	☐	☐	☐
3. I'm forgetful and distracted at work	☐	☐	☐	☐	☐
4. When I'm working, I have trouble concentrating*	☐	☐	☐	☐	☐
5. I make mistakes in my work because I have my mind on other things*	☐	☐	☐	☐	☐
Emotional impairment					
6. At work, I feel unable to control my emotions*	☐	☐	☐	☐	☐
7. I do not recognize myself in the way I react emotionally at work*	☐	☐	☐	☐	☐
8. During my work I become irritable when things don't go my way	☐	☐	☐	☐	☐
9. I get upset or sad at work without knowing why	☐	☐	☐	☐	☐
10. At work I may overreact unintentionally*	☐	☐	☐	☐	☐

Note: * = Short version

Secondary symptoms

	Never	Rarely	Sometimes	Often	Always
Psychological complaints					
1. I have trouble falling or staying asleep	☐	☐	☐	☐	☐
2. I tend to worry	☐	☐	☐	☐	☐
3. I feel tense and stressed	☐	☐	☐	☐	☐
4. I feel anxious and/or suffer from panic attacks	☐	☐	☐	☐	☐
5. Noise and crowds disturb me	☐	☐	☐	☐	☐
Psychosomatic complaints					
6. I suffer from palpitations or chest pain	☐	☐	☐	☐	☐
7. I suffer from stomach and/or intestinal complaints	☐	☐	☐	☐	☐
8. I suffer from headaches	☐	☐	☐	☐	☐
9. I suffer from muscle pain, for example in the neck, shoulder or back	☐	☐	☐	☐	☐
10. I often get sick	☐	☐	☐	☐	☐

Appendix I: Nursing Teamwork Survey Permission



Re: Nursing Teamwork Survey

SS Souther, Shannon
To Beatrice Kalisch

Reply | Reply All | Forward

Mon 10/2/2023 8:43 PM

From: Beatrice Kalisch <bkalisch@umich.edu>
Sent: Monday, October 2, 2023 1:48:15 PM
To: Souther, Shannon <ssouther@radford.edu>
Subject: Re: Nursing Teamwork Survey

NOTICE: This email originated externally. It is not from a Radford University account. Use caution responding, opening attachments, or clicking links.

You have my permission to use the NTS. Just send me the results. Good luck!
Bea kalisch

Sent from my iPhone

On Oct 1, 2023, at 10:27 AM, Souther, Shannon <ssouther@radford.edu> wrote:

Good morning,

My name is Shannon Souther. I am a faculty member and current DNP student at the Radford University School of Nursing. For my DNP project, I am hoping to introduce interdisciplinary debriefing in local ICU settings to determine the impact of debriefing on burnout and teamwork. In my research, I found your Nursing Teamwork Survey development. I would love to use the tool as my measurement for teamwork in ICU care teams before and after the intervention. The intent would be to publish these data

All folders are up to date. Connected to: Microsoft Exchange

Appendix J: Nursing Teamwork Survey (Pre- & Posttest)

PIN= Mothers initials (first and last (maiden) name initials) and your mother's year of birth. For example: My mother's maiden name is Jane Doe and she was born in 1960. My PIN is JD1960.

Your PIN: _____

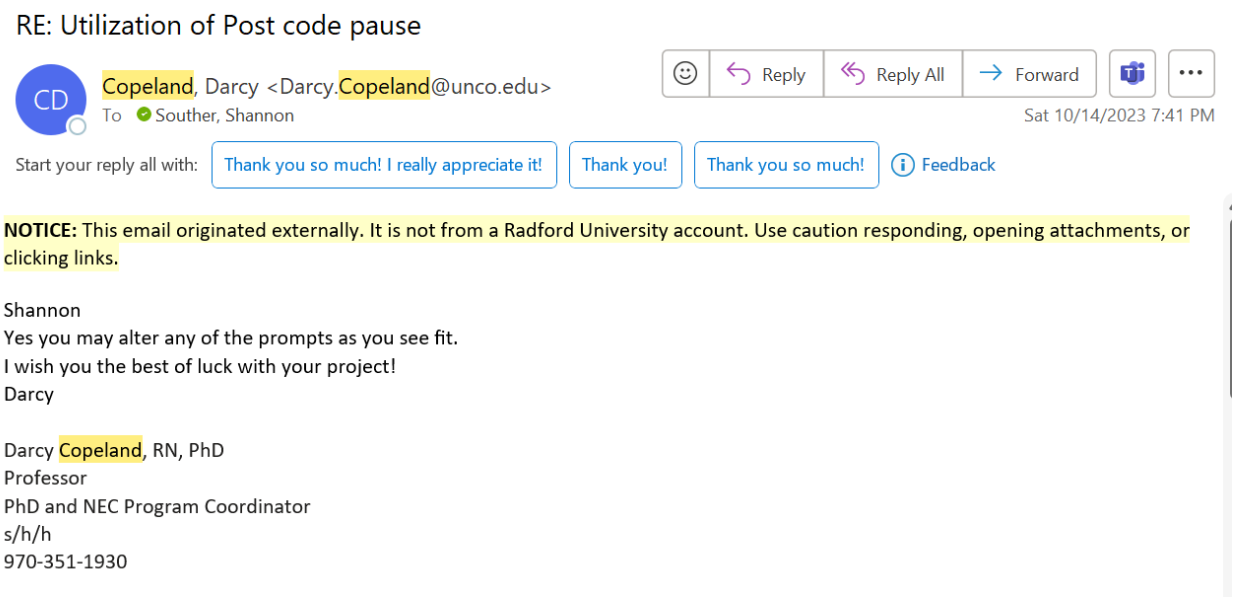
Please answer the questions the best you can based on your interaction with the ICU care teams.

Nursing Teamwork Survey					
	Rarely	**25% of the time**	**50% of the time**	**75% of the time**	**Always**
All team members understand what their responsibilities are throughout the shift.					
The nurses who serve as charge nurses or team leaders monitor the progress of the staff members throughout the shift.					
Team members frequently know when another team member needs assistance before that person asks for it.					
Team members communicate clearly what their expectations are of others.					
Mistakes and annoying behavior of teammates are not ignored but are discussed with the team member.					
When changes in the workload occur during the shift (admissions, discharges, patients' problems etc.), a plan is made to deal with these changes.					
Team members know that other members of their team follow through on their commitment.					
The nurses who serve as charge nurses or team leaders balance workload within the team.					
My team believes that to do a quality job, all of the members need to work together.					
The shift change reports contain the information needed to care for the patients.					
Team members usually return from breaks on time.					

Team members respect one another.					
When a team member points out to another team member an area for improvement, the response is never defensive.					
Team members are aware of the strengths and weaknesses of other team members they work with most often.					
If the staff on one shift is unable to complete their work, the staff on the on-coming shift do not complain about it.					
Staff members with strong personalities do not dominate the decisions of the team.					
Most team members tend to deal with conflict rather than avoid it.					
Nursing assistants and nurses work well together as a team.					
The nurses who serve as charge nurses or team leaders are available and willing to assist team members throughout the shift.					
Team members notice when a member is falling behind in their work.					
When the workload becomes extremely heavy, team member's pitch in and work together to get the work done.					
Feedback from team members is often helpful rather than judgmental					
My team readily engages in changes in order to make improvements and new methods of practice.					
Team member information with each other.					
Team members clarify with one another what was said to be sure that what was heard is the same as the intended message.					
Team members work together to achieve the total work of the team.					
The nurses who serve as charge nurses or team leaders give clear and relevant directions as to what needs to be done and how to do it.					
Within our team, members are able to keep an eye out for each other without falling behind in our own individual work.					

Team members understand the role and responsibilities of each other.					
Team members willingly respond to patients other than their own when other team members are busy or overloaded.					
Team member's value, seek and give each other constructive feedback.					
When someone does not report to work or someone is pulled to another unit, we reallocate responsibilities fairly among the remaining team members.					
Team members trust each other.					

Appendix K: Post-Code Pause Debriefing Script Permission



RE: Utilization of Post code pause

CD

Copeland, Darcy <Darcy.Copeland@unco.edu>

To Souther, Shannon

Reply | Reply All | Forward

Sat 10/14/2023 7:41 PM

Start your reply all with: Thank you so much! I really appreciate it! | Thank you! | Thank you so much! | Feedback

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Shannon
Yes you may alter any of the prompts as you see fit.
I wish you the best of luck with your project!
Darcy

Darcy Copeland, RN, PhD
Professor
PhD and NEC Program Coordinator
s/h/h
970-351-1930

Appendix L: Debriefing Script
Interdisciplinary Debriefing After Critical Events (Script)

(If the event involved a death)

"Thank you all for taking the time to participate in this debriefing. First, we are going to take 15 seconds in a moment of silence to honor the patient."

(If the event did not result in death)

"Thank you all for taking the time to participate in this debriefing. First, we are going to take 15 seconds of silence to reflect on the event that occurred."

Then….

"The purpose of this session is to identify strengths and opportunities, and acknowledge emotions associated with this event. This is not intended to be a blaming session but may include constructive feedback that impacts the entire care team. This is expected to take approximately 10 minutes and participation is completely voluntary. "

(The questions will guide the rest of the debrief)

1. Can someone briefly describe the event?
2. What did the team do well?
3. What intervention (s) do you wish would have or would not have been done?
4. Where can we improve and grow on an individual or team level?
5. What happened during the event that caused strong emotions?
6. How are you feeling after the event?
7. What do you need to be able to be successful in returning to work right now?

After the 7 questions (see below)

"I want to thank everyone again for taking the time to attend. If you have any further questions or concerns, please come see me after the session ends. I would like to ask you to complete this short survey regarding this individual debriefing so we can consider your feedback for future debriefing. It will take less than 3 minutes."

Appendix M: Debriefing Evaluation Form (Filled by Recorder)

(The nursing supervisor should complete this form when they are available. If the nursing supervisor is not present, the debriefing facilitator will complete this form)

During debriefing session, the recorder will summary the sessions based on the Post-Code Debriefing Questionnaires. Complete the four additional questions after the sessions while evaluating the overall perception on the debriefing session.

During the Debriefing Session.

1. Brief description of event [IDD-Q1]

2. What happened during the event that caused strong emotions? [IDD-Q5]

3. How are you feeling right now? [IDD-Q6]

4. What went well during the event? [IDD-Q2]

5. What interventions do you wish had been done or done differently? [IDD-Q3

6. As a team, what can we improve on? [IDD-Q4]

7. Is there anything you need to make you successful returning to work right now? [IDD-Q7]

Additional Question After Debriefing Session

How many participants were there? _____

How many people spoke? _____

Were there any identified barriers to debriefing?

Any other comments or feedback?

EAP number (If participants need additional resources):

Appendix N: Post-Debriefing Evaluation (Participant)

Did you find the debriefing helpful?

Yes No

Would you attend another debriefing?

Yes No

What did you like about the debriefing?

What improvements could be made?

Appendix O: Baseline Demographic Data (Table 5)

Table 5

Baseline Demographic Data

Gender	**Frequency (n)**	**Percent (%)**	
Male	8	22.2%	
Female	28	77.8%	
Prefer not to Answer	0	0%	
Age Range	**Frequency (n)**	**Percent (%)**	
18-25 years	5	13.9%	
26-35 years	22	61.1%	
36-45 years	4	11.1%	
46-55 years	4	11.1%	
56-65 years	1	2.8%	
Over 65 years	0	0%	
Role	**Frequency (n)**	**Percent (%)**	
Registered Nurse	24	66.7%	
Attending Physician	1	2.8%	
Case Manager	1	2.8%	
PT	3	8.3%	
PA	2	5.5%	
NP	2	5.5%	
OT	2	5.5%	
SP	1	2.8%	
Education	**Frequency (n)**	**Percent (%)**	
Associate	12	33.3%	
Bachelor	15	41.7%	
Masters	7	19.4%	
Doctorate	2	5.6%	
Employment Status	**Frequency (n)**	**Percent (%)**	**Mean**
Full Time	35	97.5%	
Part Time	1	2.5%	
Number of Years Employed			4.29 (sd. 4.86)
Number of Years Current Role			4.56 (sd. 5.45)
Previous Experience with Debriefing	**Frequency (n)**	**Percent (%)**	**Mean**
None	16	44.4%	
1-2 Sessions	12	33.3%	
3-5 Sessions	4	11.1%	
Over 5 Sessions	4	11.1%	
Current Debriefing Experience	**Frequency (n)**	**Percent (%)**	
None	27	75%	
1 Session	6	16.7%	
2-3 Sessions	1	2.8%	
Over 3 Sessions	2	5.6%	

Note: This is a record of all demographic data collected at the start of the study (n=36).

Appendix P: Factors Contributing to Burnout and Teamwork (Table 6)

Table 6

Factors Contributing to Burnout and Teamwork

Factor	**Burnout**		**Teamwork**	
(Spearman's Correlation)	**Spearman's Rho**	**p-value**	**Spearman's Rho**	**p-value**
Age Range	-.102	.560	-.257	.136
Years Employed at Facility	.07	.693	-.035	.844
Years in Current Role	.03	.863	-.032	.857
Past History with Debriefing	.106	.546	-.073	.679
Recent History with Debriefing	.042	.809	.303	.077
Education (Undergraduate vs. graduate)	-.183	.292	-.178	.307
Factor	**Burnout**		**Teamwork**	
(T-test)	**Mean difference**	**p-value**	**Mean Difference**	**p-value**
Gender	.387	.025	.228	.348
Factor	**Burnout**		**Teamwork**	
(ANOVA)	**F-value**	**p-value**	**F-value**	**p-value**
All Roles	1.977	.156	1.025	.411
Nurses vs. All Other Roles	5.642	.024	1.609	.213

Note: This is the correlation factors between individual factors and burnout and factors and teamwork.

Appendix Q: Correlation Between Debriefing, Burnout, and Teamwork (Table 7)

Table 7

Correlation Between Debriefing, Burnout, and Teamwork

			95% Confidence Interval	
BAT		**Mean**	**Lower Bound**	**Upper Bound**
	No debriefing Pre	2.109	1.881	2.337
	No debriefing Post	2.037	1.823	2.251
	Debriefing Pre	2.680	2.205	3.155
	Debriefing Post	2.148	1.704	2.593
			95% Confidence Interval	
NTS		**Mean**	**Lower Bound**	**Upper Bound**
	No Debriefing Pre	4.010	3.586	4.434
	No Debriefing Post	3.986	3.717	4.255
	Debriefing Pre	3.936	3.053	4.818
	Debriefing Post	4.374	3.814	4.934

Note: This table shows the data gathered from the ANOVA with repeated measures.

Appendix R: Review of Literature Matrix

		EVIDENCE MATRIX (Modify spreadsheet as needed)							
Article	**1. Key words 2. Database Searched 3. Number articles found(total)**	**Author, Year, Title Source**	**1. Purpose 2. Research question (if used) 3. Independent and Dependent variable**	**1. Name of Theoretical/Conceptual Framework**	**1. Method/ (QL or QN) 2. Design 3. Sample**	**1. Data Collection Tool/Name of Survey/ Questionnaire 2. Number of questions 3. Level of Measurement/ scale**	**1. Type of Statistics (*descriptive+ **inferential 2. Validity/ reliability (if none-NA) 3. Level of Evidence**	**1.Results (add numbers i.e. p-value, mean, t-test) 2. Conclusions (bullet the key findings)**	**1. Limitations 2.Recommendations for further study 3. Value of the Information**
Bohman et al. (2023)	critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Bahman, A., Hanks, J., & Carr, A. (2023). Improving long-term sustainability for a pediatric acute care emergency event debriefing process. *Journal of Pediatric Health Care, 37* (4), 456. https://doi.org/10.1016/j.pedhc.2023.04.007	This quality improvement project aimed to evaluate a newly implemented clinical debriefing process for emergent events outside the ICU setting in a pediatric, urban academic hospital.	NA	Mixed-method Post-intervention survey. (No intervention in this study, was to determine sustainability of existing debriefing) 174 surveys completed Workers in a pediatric, urban academic hospital, outside of the ICU setting.	Post debrief survey filled out by charge RN to identify barriers. QR code available to electronic survey. Feedback survey sent to all staff to identify barriers and thoughts. Questions not identified. Nominal data	Descriptive: percentage No inferential identified. NA Level III	Barriers include staffing (34%), time (24%), Charge RN not available (18%) not all team members present (34%). =	Limits: none identified. Future: Adress barriers for future compliance Impact: None identified. Barriers can be addressed to help encourage compliance and utilization of a post event debriefing

Calarco & Stratton (2023)	Reducing burnout, healthcare CINHAL 4631 total 2847 from 2013	Calarco, M. M & Stratton, K. J. (2023). The impact of transcendental meditation: Reducing burnout and enhancing well-being in frontline healthcare clinicians during the COVID-19 pandemic. *Online Journal of Issues in Nursing, 28* (3), 10913734	Purpose: Determine the feasibility and effectiveness of TM in **reducing burnout** and enhancing emotional well-being in a sample of **healthcare** clinicians who have cared for COVID-19 patients. No research question IV: Transcendental meditation DV: Burnout, emotional well-being	NA	Quantitative Pre/post survey. 1 month post, 3 months post. Quasi-experimental Invited over 6000 HCW (physicians, registered nurses, respiratory therapists, and advanced practice providers). 32 participants were included in the final study.	MBI to measure burnout PHQ-9 to measure depression GAD-7 for anxiety WEMWBS to measure well-being REDCap to send electronic survey Likert scales-ordinal data	Descriptive: Percentage, mean Inferential: p value, g value, Ci No validity/reliability Level III	Change in emotional exhaustion from baseline to post -8.02 on MBI (p= .0004 Depression baseline to post -4.64 (p<.0001) Anxiety baseline to post -4.55 (p<.0001) Wellbeing scale increased 6.61 (p= .0006)	Limits: small sample size, no randomization, mostly female, mostly nurses (hard to generalize) Future: Larger sample size, use methods to encourage participation Value: Easy intervention to reduce burnout and increase well-being in healthcare workers.
Nerovich et al. (2023)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Nerovich, C., Derrington, S. F., Source, L. R., Manzardo, J., & Manworren, R. C. B. (2023). Debriefing after critical events is feasible and	The team's objective was to create a sustainable debriefing process that allowed time for reflection and encouraged team communication after critical patient events. The goal of the debriefing process was to reduce burnout and secondary traumatic stress among	Rapid Review of Resuscitation (R3)	Mixed-method QI project, quasi-experimental 222 potential PICU staff. 104 (47%) responded. Nurses, physicians, CAN, RT, secretary,	ProQOL (30 Likert questionS) 6 open-ended questions Ordinal (Likert scale), open-ended.	Descriptive: Demographic, mean Inferential: p value, standard deviation Level III	Compassion satisfaction increased after implementation 54.10 – 56.71 (p=.02) Burnout decreased from 51.10 to 50.59 (p=.69) which is not significant Secondary traumatic stress	Limitations: Only 29% of post surveys completed the pre surveys The data was not individualized because it was anonymous. Future: Additional research to identify the impact of R3 specifically.

		associated with increased compassion satisfaction in the pediatric intensive care unit. *Critical Care Nurse, 43* (3), 19-28.	pediatric critical care professionals while increasing their compassion satisfaction NA IV: Debriefing process DV: Burnout, secondary traumatic stress, and compassion satisfaction.		pharmacy, chaplains, other			decreased from 62.99 to 60.92 (p=.06) which is not significant	Impact: Was implemented in other units. May increase compassion satisfaction but not burnout or secondary traumatic stress.
Arbios, et al. (2022)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Arbios, D., Srivastava, J., Gray, E., Murray, P., & Ward, J. (2022). Cumulative stress debriefings to combat compassion fatigue in a pediatric intensive care unit. *American Journal of Critical Care, 31* (2), 111-118. doi:https://doi.org/10.4037/ajcc2022560	To evaluate the use of cumulative stress debriefings to alleviate symptoms of compassion fatigue and promote job satisfaction in nurses NA IV: Cumulative stress debriefings DV: Compassion fatigue and job satisfaction	NA	Quantitative Quality Improvement Project PICU setting. Bedside nurses who were eligible to participate included men and women aged 22 to 65 years who held anywhere from 0 to more than 30 years of nursing experience	Modified from Self-Reporting Questionare-20. To determine job satisfaction Yes/no and Likert questions 12 questions identified. Ordinal (Likert) and nominal (yes.no).	Descriptive: percentage Inferential: Mean Level III	Satisfied with Job satisfaction increased with those who participated (94 – 89.5 – 100) vs those who did not (96.4 – 78.6 – 70). Satisfied with Enjoyment of work increased with participants (94.4 – 94.7 – 100%) vs nonparticipants (92.7 – 82.1 – 70%) Satisfied with their level of Stress related to work (44.4 – 63.2 – 72.2%) vs nonparticipants	Limitation: Individual responses not tracked over time. Other factors may contribute to compassion fatigue and job satisfaction. Lack of unvalidated instrument. Future: Incorporate unmodified validated instrument. Larger, more diverse sample. Impacts: Can help improve compassion fatigue and increase job satisfaction in a variety of settings.

								(72.7 – 71.4-35%)	
Beres, et al. (2022)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Beres, K. E., Zajac, L. M., Mason, H., Krenke, K., & Costa, D. K. (2022). Addressing compassion fatigue in trauma emergency ad intensive care settings: A pilot study. *Journal of Trauma Nursing, 29* (4), 210-217. . https://doi.org/10.1097/JTN.0000000000000663	To investigate the feasibility of a 12-week pilot of structured debriefing sessions and its impact on compassion fatigue experienced by emergency and intensive care health care professionals after patient death. No research question used IV: Debriefing DV: compassion fatigue (compassion satisfaction, burnout, compassion fatigue)	Ottowa Model of Research Use Debriefing: Zajac et al. (2017) 3 questions Relationship-based care model	Mixed-method Pre/post intervention survey Quasi-experimental All eligible participants (n = 96) (nurses, nursing assistants, EMTs, EMT techs, and respiratory therapists) were permanently employed in the ED and ICU, 18 years of age, and English speaking	ProQOL, which measures dimensions of burnout, secondary traumatic stress, and compassion satisfaction. 30 questions Likert scale Ordinal	Descriptive: n, mean Inferential: SD, p vlaue Level III	Burnout scores were 24.3 before the intervention and 25.5 after (p=.47) not significant Secondary traumatic stress scores were 23.1 before and 23.9 after (p=.99) not significant Compassion satisfaction 37.7 before and 36.8 after (p=.61) not significant	Limitations: 1 month after new MAR implemented. Could not link pre and post surveys, small sample size. Post covid may impact attendance Management presence may impact attendance Only 38% of hospital deaths debriefed No physicians present Future: Pair the pre and post survey Impact: Feasible, even if no significant impact was found. Overall positive feedback (informal)
Draus, et al., (2022).	Second victim, debriefing CINHAL 852 (total) 189 (from 2018)	Draus, C., Mianecki, T., Musgrove, H., Bastien, D., Greggs, D., Halash, C., Bellamy, C., Lewis, A., & Mackenzie, W. (2022). Perceptions	To determine the prevalence of nurses who identified as SVs and their awareness and use of supportive resources. NA IV: second victims	Watson's Theory of Human Caring	Quantitative Descriptive study. No intervention Convenience sample of 1100 full and part time nurses in IP, IR, cath lab, ER, surgery	SVEST (Likert scale, 29 questions) second victim experience and support tool Yes/n questions regarding organizational assessment and resource assessment. Number not specified. Nominal (yes/no)	Descriptive: Mean, percent Inferential: p value Level III	44.3% of participants identified as second victims SV had shorter length of employment with hospital vs non SV (p=.009). Had fears of reoccurance	Limitations: Response rate limited. Most response from med surge units, Future: Perform in a variety of more specialized areas. Impact: presence of second victim phenomena verified

		of nurses who are second victims in a hospital setting. *Journal of Nursing Quality Care, 37* (2), 110-116. 10.1097/NCQ.0000000000000603	DV: awareness of supportive resources		N=359 total N=160 second victims	Ordinal (Likert)		(70.1%), feelings of embarrassment (62.2%), remorse (49.6%), feeling miserable (32.2%). Exhaustion (48%), loss of sleep (38.5%), feeling sick (33.9%), loss of appetite 28.3%)	and the impact it has had
Gunuse, et al. (2022)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Gunuse, N. P., Inan, F. S., Usten, B., Serttas, M., Sayin, S. & Toksoy, S.Y. (2022). The effect of a nurse-led intervention program on compassion fatigue, burnout, compassion satisfaction, and psychological distress in nursing: A randomized control trial. *Perspective Psychiatric Care, 2022*	* This study evaluated the effect of a nurse-led intervention program on compassion fatigue, burnout, compassion satisfaction, and psychological distress in nurses No research question used IV: Participation in nurse-led intervention program DV: Level of compassion fatigue, burnout, compassion satisfaction, and psychological stress	NA	*QL *Randomized control trial * the study was conducted at a public hospital in western Turkey * All the nurses who worked at clinics and had at least 6 months of experience were invited to complete the compassion fatigue subscale N=84	* The ProQOL-IV includes three 10-item subscales: compassion fatigue, burnout, and compassion satisfaction. The reliability coefficient was reported to be compassion fatigue 0.80, burnout 0.72, compassion satisfaction 0.87, respectively. The completion of the ProQOL-IV involves selecting response choices on a 0 (never) to 5 (very often) Likert scale. The total score of the scale is not calculated, and each subdimension is evaluated separately	Descriptive: demographic, mean, SD Inferential: p value, z value, Level I	* There was no statistically significant difference between the intervention and wait-list control groups in terms of pretest ($Z = -1.687$, $p = 0.092$), posttest 1 ($Z = -1.871$, $p = 0.061$), and posttest 2 ($Z = -0.157$, $p = 0.876$) compassion fatigue scores ($p > 0.05$). *Compassion fatigue scores The analysis of the difference in the intervention group showed that there was a significant	Limits: Small sample size, single site, risk of information sharing Future: there is still a need for standardized and evidence-based programs to empower nurses Impact: *The study showed no improvement of compassion fatigue after intervention *There was no improvement of burnout after intervention *There was no improvement in compassion satisfaction after intervention *There was a slight improvement in

		(58), 1576-1586. doi: 10.1111/ppc.12965				* This outcome was evaluated by the 12-item version of the GHQ-12 was developed by David Goldberg in 1972. The GHQ-12 is a scale surveying psychiatric symptoms observed within the last few weeks. The items were evaluated on a 4-point Likert-type scale. Scoring was as follows (a) and (b), 0 points; (c) and (d), 1 point; and the total possible score ranged between 0 and 12 points. A Turkish validity and reliability study of the questionnaire was conducted in 1996 by Kılıç. The tool's internal consistency was 0.78 in Kılıç's study		difference between pretest and posttest 1 ($Z = -3.925$, $p = 0.001$, effect size = 0.566) and pretest and posttest 2 ($Z = -4.922$, $p = 0.001$, effect size = 0.710) while there was no significant difference between posttest 1 and posttest 2 ($Z = -0.197$, $p = 0.844$, effect size = 0.028). * In the comparison of the wait-list control group within the group, there was no significant difference over time in the nurses of burnout mean scores ($\chi 2$ Friedman = 4.389, $p = 0.111$) * compassion satisfaction scores, it was found that there was no statistically significant difference between the scores of the intervention and	psychological distress after implementation of the intervention program.

								wait list group in the pretest (Z = −0.699, p = 0.485), posttest 1 (Z = −1.354, p = 0.176), and posttest 2 (Z = −0.650, p = 0.516 * The analysis of the difference in the intervention group revealed a statistically significant difference between pretest and posttest 1 (Z = −4.602, p = 0.001, effect size = 0.664), and pretest and posttest 2 (Z = −4.394, p = 0.001, effect size = 0.634) but revealed no significant difference between posttest 1 and posttest 2 (Z = −1.446, p = 0.148, effect size = 0.208)	
Kam et al. (2022)	Post Code Pause CINHAL 1386 (no timeframe)	Kam, A. J., Gonsalves, C. L., Nordlund, S., Hale, S. J., Twiss, J., Cupido, C.,	To assess the utility of two PRD tools, Debriefing In Situ Conversation after Emergent Resuscitation Now (DISCERN) and Post-Code Pause	NA	Mixed-method Prospective crossover design	Electronic survey RedCAP 10 questions Likert scale	Descriptive: n, percentage Iferential: p value NA	327 on PCP, 328 on DISCERN PCP tool lasted average of 18.1 minutes while	Limitations: None identified Future: Different tools or more variety of settings.

	371 (from 2018).	Brar, M., & Parker, M. (2022). Implementation and facilitation of post-resuscitation debriefing: a comparative crossover study of two post-resuscitation debriefing frameworks. *BMC Emergency Medicine, 22* (1), 1-13. 10.1186/s12873-022-00707-4	(PCP), through user preference. Secondary aims included evaluating differences in quality, subject matter, and types of feedback between tools and implications on quality improvement and patient safety N/A IV: Debriefing with PCP or DISCERN DV: Use and perception of each tool		Interdisciplinary teams within the ER, Code Blue Team, NICU, PICU	Ordinal scale (1-7 Likert scale) and yes/no	Level III	DISCERN lasted 11.1 (p=.0003) 65.2% of PCP said it provided emotional support vs. DISCERN 50% (p=<.0005) 89.5% of PCP supported team dynamics vs 84.8% of DISCERN (p=.05).	Impact: Each tool has different strengths and weaknesses, so company values should be determined when deciding on a tool to use.
Soper (2022)	Decrease burnout, healthcare CINHAL 4631 total 2847 from 2013	Soper, K. (2022). Reducing burnout and promoting professional development in the palliative care service. *Journal of Hospice & Palliative ursing, 24* (3), 181-185.	The purpose of this pilot study was to promote PD and reduce burnout, compassion fatigue, and secondary trauma impact. No research question IV: One day monthly for professional	NA	Mixed-method Quasi-experimental Pre/post survey 10 NPs in palliative care environment (8 full time, 2 part time)	ProQOL to measure compassion fatigue (burnout, secondary traumatic stress) and compassion satisfaction 30 question Likert scale Ordinal Likert scale	Descriptive: demographic, mean, percentage Inferential: p value Level III	Compassion satisfaction increased after intervention (p=.005) Burnout did decrease, but not significantly (p=.168) Secondary traumatic stress decreased (p=.015)	Limits: None listed. Small sample size, no randomization Future: Recommendations to further investigate ways to prevent further burnout for this population of healthcare providers and to promote wellness and PD should be further studied.

		10.1097/NJH.0000000000000847	development activities DV: Burnout, secondary traumatic stress, satisfaction						Giving employees a professional development day each month can decrease post-traumatic stress and increase compassion satisfaction.
Holbert & Dellasega, 2021	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Holbert, E. & Dellasega, C. (2021). De-stressing from distress: Preliminary evaluation of a nurse-led brief debriefing process. *Critical Care Nursing Quarterly, 44*(2) 230-234. doi: 10.1097/CNQ.0000000000000356	*How effective the program was in helping to de-stress members of the healthcare team after a critical event. *No research question *IV: Nurse-led brief debriefing process *DV: effects on destressing and compassion fatigue	NA	Mixed-method pilot study then 3-phase organizational rollout *post-debriefing survey *Rollout: 10 critical care units and 6 med/surge units. 382 staff participated in 111 debriefing sessions.	*PAWS created to guide debriefing *Survey/questionnaire post intervention *5 questions *Qualitative—open-ended comments Nominal	*Percentage, open-ended comments *NA *Level III	Over 80% of participants affirmed the debriefing was beneficial, assisted in coping with the traumatic event, and recommended the debriefing to others *The nurse-led debriefing may be beneficial to help staff members de-stress after critical events and may lower compassion fatigue.	*Small sample size, pilot study, some data may have not been tracked r/t informal use of debriefing during the study. *Determine the long-term effects of debriefing. * Effective approach for assisting clinical hospital staff to cope with distressing events related to patient and family care.
Kostka et al., (2021)	Keywords: Critical incidents, burnout Database: CINHAL Articles:	Kostka, A.M., Borodzicz, A. & Krzeminska, S.A. (2021). Feelings and emotions of nurses related to dying and	*Identify and analyze feelings and emotions that nurses experience when facing patient deaths. *No research question	NA	*QN/QL *Mixed-method *(n=141) nurses on different units (surgery, medical, ER, and ICU setting).	*mini-COPE *28 questions *Select which apply *PSS-10 *10 questions *Scale 0-4	*descriptive: mean, % Inferential: ANOVA, Kruska-Wallis *NA *Level III	1.100% participants were affected by death. *The most common feelings r/t death were compassion, helplessness, sadness, and depression	1. Small pilot group, only 1 hospital 2. What interventions can nursing leaders do to help with these emotions 3. Valuable to know what nurses feel when dealing with death, how they handle it,

	4502 total, 1761 from 2018	death of patients—A pilot study. *Psychology Research and Behavioral Management, 2021* (14) 705-717. doi: 10.2147/PRBM.S311996	*IV: Experience of patient death DV: Emotions felt and coping mechanisms utilized to deal with emotions related to the death of a patient					*The amount of time in profession changed the emotions related to death	and consider what else we can do.
Lyman (2021)	Debriefing, teamwork CINHAL	Lyman, K. (2021). The relationship between post-rescusitation debriefing and perceptions of teamwork in emergency department nurses. *International Emergency Nursing, 2021 Jul* (57), e101005. doi:https://doi.org/10.1016/j.ienj.2021.101008	The purpose of this study was to examine the relationship between the use of post resuscitation debriefings an5d perceptions of teamwork N/A IV: Debriefing DV: perception of teamwork	NA	Quantitative Correlational survey ED RN in the United States. N=78	Nursing Teamwork Survey 33-question Likert Scale Ordinal Likert Scale	Descriptive: state, education, gender, age, experience Mean, SD Inferential: p value, eta coefficient Level III	*Teamwork higher in structured debriefing vs. unstructured (p= .01) *Hot debrief led to higher teamwork than cold debrief (p= .03)	Limits: ED nurses only, low response rate Recommendations: include NTS before and after debriefing, include qualitative information Value: Can change practice in Eds, can improve teamwork among healthcare teams

Sugarman et al., (2021)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Sugarman, M., Graham, B., Nelmes, P., Langston, S., & Mathew, J. (2021). Implementation of the 'TAKE STOCK' hot debrief tool in the ED: A quality improvement project. *Emergency Medicine Journal, 38* (8) 579-584. doi: 10.1136/emermed-2019-208830	*this project aimed to develop and introduce a HoD process unique to the needs of a single ED in the North-West of England. *No research question *IV: hot debriefing *DV: Perception of benefits, Perception of teamwork *Quality Improvement Project	*The project was operationalized using Plan-Do-Study-Act (PDSA) methodology	Mixed-method questionnaires *Post intervention survey *15 ER care team members	Take stock tool used during debriefing *Evaluation questionnaire: 10 point scale *10 questions *Ordinal	Descriptive: qualitative data, % *NA *Level III	*immediate identification of equipment issues (average 8 rating= 9.6/10), *promoting a culture of teamwork (9.4/10), *wellbeing (9.6/10), and *education 9 (9.9/10). *All participants reported that HoD should become part of standard practice. 9 increased learning from incidents.	Limits: Under reporting of clinical data (may not have captured), only 1 PDSA cycle used for study Future: further access of available tools, use, and impact Impact: Introduction of HoD in the ED may enhance staff wellbeing, improve teamwork and generate
Bourdeanu et al (2020)	Decrease burnout, healthcare CINHAL 4631 total 2847 from 2013	Bourdeanu, L., Zhou, Q., DeSamper, M., Pericak, K. , & Pericak, A. (2020). Burnout, workplace factors, and intent to leave among hematology/ oncology nurse practitioners	Purpose: To examine the association between burnout, workplace factors, and intent to leave among hematology/oncology NPs. No research question IV: burnout, workplace factors DV: Intent to leave	NA	Quantitative Cross-sectional survey 201 Oncology NPs Snowball sampling was utilized to recruit participants. Potential participants who identified	MBI-HSS (22 question Likert scale) AWS to measure workplace factors (28 question Likert) Intent to leave questionnaire (3 questions, Likert scale developed by authors) Ordinal data (Likert scale)	Descriptive: demographics, percentage, mean Inferential: p value, r value, x2 value No validity/reliability	Higher emotional exhaustion is correlated with higher intent to leave ($p<.001$) AWS reward subscale was correlated with lower intent to leave ($p=.033$) AWS value subscale correlated with	Limits: Self-reported, difficult to generalize, subscales or factors no assessed Future: Larger studies with mixed-methods needed Value: Increasing rewards, values, and decreasing emotional exhaustion is essential to decrease

		. *Journal of the Advanced Practitioner in Oncology, 11* (2), 141-148. 10.6004/jadpro.2020.11.2.2			themselves as NPs were recruited from the membership database of the Oncology Nursing Society.		Level III	lower intent to leave (p=.047)	burnout and decrease turnover intent
Cantu, L. & Thomas, L. (2020)	Keywords: Critical incidents, burnout Database: CINHAL Articles: 4502 total, 1761 from 2018	Cantu, L. & Thomas, L. (2020) Baseline well-being, perceptions of critical incidents, and openness to debriefing in a community hospital emergency department clinical staff before COVID-19, a cross-sectional study. *BMC Emergency Medicine, 20* (82). doi: https://doi.org/10.1186/s12873	*To describe the well-being of community hospital emergency department clinical staff immediately prior to the local onset of COVID-19 and identify their perceptions surrounding critical incidents and post-event, discussion-based interventions. No research question used *IV: post-event, discussion-based interventions *DV: Overall well-being and openness to debriefing	NA	*QL *Design: Cross-sectional survey *Sample population: all emergency department clinical staff in a community hospital in Connecticut. Included RN, PA, physicians, ED techs Sample Size: 120 ED employees	*Hospital Anxiety and Depression Scale (HADS) established tool. *14 items, 7 related to anxiety, 7 related to depression in the past 7 days *Scored between 0-3, added to get cumulative score 0-21. Higher scores = higher levels of anxiety/depression *Professional quality of Life (ProQOL) established *30 items with 5-point Likert scale *Cumulative score 10-50 *Higher scores = higher burnout, secondary traumatic stress.	Descriptive: demographics, mean, SD Inferential: F, p value Level III	*Considered critical incidents (proportion) Most common “death of a child” 0.9 (n=39) *97.4% of participants involved with critical incident in past 12 months *61.4% have participated in discussions after critical events. 100% of those found it helpful *79.5% of participants expressed desire to participate in debriefing *One-way ANOVA determined relationship between role and secondary traumatic stress	Limits: Age not collected, small sample size at single site, nonresponse bias may influence results *Future: Reassess after decline in COVID cases, implement post-event debriefing to assess strategy for effectiveness (pre-post)

								(F (2, 31) = 5.811, p = .007). *Tukey post-hoc test revealed that secondary traumatic stress was statistically significantly lower in the combined RN/PA group (21.46 ± 6.043) compared to ED Techs (30.83 ± 6.369, p = .011).	
Gougoulis et al., (2020)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Gougoulis, A., Trawber, R., Hird, K., & Sweetman, G. (2020). 'Take 10 to tak about it:' Use of a scripted, post-event debriefing tool in a neonatal intensive care unit. *Hournal of Pediatrics and Child Health, 56* (7), 1134-1139. https://doi-	The purpose of this study was to assess the impact of a scripted, post-event, 'hot debriefing' tool in the neonatal intensive care unit (NICU) at Fiona Stanley Hospital We predicted that staff members in the unit would use and value the debriefing tool, that strengths in practice would be reinforced and that issues encountered in day-to-day practice would be identified and corrected.	Take 10 to talk about it	Mixed-method Pre-post survey QI project Quasi experimental Medical, nursing and midwifery staff from the neonatal unit participated consistently, with some involvement from the emergency department, anaesthetics department and newborn	Pre and post survey given to all NICU staff. Paper surveys submitted to lockbox 7 questions pre survey, 12 questions post survey Nominal (select all) and ordinal (Likert scale).	Descriptive: demographic, percentage Inferential: mean, z value, p value. Level III	Providing opportunities to work through stress (z -3.213, p = .0001) Improving team communication (p = .0007) Identify logical issues (p = .037) Identify procedural issues (p = .009) No significant changes in team morale, team performance, or patient outcomes.	Limitations: short time period, no other identified. No validated collection tool used Future: Longer study in larger setting in variety of environments to see if team morale and performance increases Impact: Debriefing tool well accepted. Implemented into practice. It helped team communication, but not morale.

		org.radford.idm.ocic.org/10.1111/jpc.14856	IV: Participation in take 5 to talk about it DV: strengths in practices and practice issues		emergency transport service staff.				
Hawes et al. (2020)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	4. Hawes, K., Goldstein, J., Vessella, S., Tucker, R., & Lechner, B. (2020). Providing support for neonatal intensive care unit health care professionals: A bereavement debriefing program. *American Journal of Perinatology*. doi: https://doi.org/10.1055/s-0040-171648	Purpose: * The aim of this study is to evaluate formal bereavement debriefing sessions after infant death on neonatal intensive care unit (NICU) staff. No research question used IV: Bereavement debriefing *DV: Emotional impact of caring for a dying infant	NA	*Prospective, mixed-method study *Pre/post intervention NICU staff at major teaching hospital *Physicians, nurses, residents, nutritionists, OT, RT, NP, social workers, chaplain, case management, pharmacists, nurse managers	*Mixed-method surveys pre and post (2-year intervention) *Likert scale 1-4 to measure a) satisfaction of care and b.) level of stress *Individual debriefing sessions: Likert scale 1-7 measuring effectiveness, helpfulness, and how informative *Qualitative data recorded for each session. *Surveys created for this study *No reliability or validity mentioned	Descriptive: demographic, mean, SD Inferential: p value Level III	After the debriefing session intervention epoch, more participants had attended a staff bereavement debriefing session (31.4% preintervention vs. 68.6% postintervention; $p < 0.0001$) *115 preintervention participants, 39 post intervention participants *40 debriefing sessions held over 2-year period *Stress levels were decreased between the preintervention and postintervention epoch on the death of a patient whose family they have developed a close relationship with (preintervention: 3.4,	Limits: Study done in one facility, which limits generalization, Nurse participation was lower than expected *Future: how to specifically target nurses for intervention/analysis, family perception of EOL care, impact of debriefing on family-provider relationships Impact: Formal process can help HCWs express feelings, may help them care for the next patient and themselves.

								postintervention: 3.0 on a scale of 1 to 4, and never stressful to extremely stressful; p ¼ 0.0123). *Individual survey ratings 1 (extremely ineffective) -7 (extremely effective) *Mean responses ranged from 5.8-6.8 *How helpful was the session p=0.035 *How informative was the session p=0.001	
Laurendine, et al. (2020).	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Laurendine, A.M., McCarthy, C.V., Farmer, L., & Gettis, M.A. (2020). Interdisciplinary perspectives on neonatal intensive care	Purpose: assess staff comfort with code blue events and to identify areas of need and areas of strength in code performance NA IV: Participation in code DV: Comfort during code, Perception on code training, and perception of debriefing	NA	Mixed-method Quality improvement project, one-time survey NICU population registered nurses (RNs) (n = 60), respiratory therapists (RTs) (n = 15), neonatologists (n = 4), neonatal nurse	Electronic survey from RedCap. Two surveys distributed, neither were validated tools. 17 questions for RN and RT Likert, 1 open-ended. 13 questions for others Likert, 3 open-ended. Ordinal (Likert) and open-ended.	Descriptive: Demographics, n value, percentage. Inferential: None identified. Level III	Interdisciplinary debriefing after a code is important. 93.3% agree or strongly agree I believe debriefing is most effective if done in an interdisciplinary team 84.7% agree or strongly agree Neonatalists, PA, NP: I believe that team debriefing post code blue is	Limitations: Non random surveys. Use outside of NICU remain unclear Future: Further research on debriefing sessions. Use of formal leader to lead debriefing vs. informal leader. Impacts: Positive and negative perceptions were identified. A majority of staff agree that debriefing after a code is important.

		resuscitation with debriefing initiatives. Pediatric Nursing, 46(5), 245-253.			practitioners (NPs) (n = 3), and a physician assistant (PA) (n = 1). Questions were role-specific; thus, two different surveys were used, one for RNs and RTs, and one for neonatologists, NPs, and PA.			important for emotional and clinical benefit. 50% agree or strongly agree.	
Rodriguez et al. (2020)	Keywords: Critical incidents, burnout Database: CINHAL Articles: 4502 total, 1761 from 2018	Rodriguez, A., Spilker, A. & Goyle, D. (2020). Grief among neonatal intensive care nurses. *MCN, 45* (4), 228-232. doi: 10.1097/NMC.0000000000000634	* study aimed to assess the level of grief, identify current and past coping mechanisms, and identify perceptions of grief support available to nurses in a high-acuity NICU in Northern California. No research question identified. IV: Experience of patient death DV: Level of grief among NICU nurses, perceptions of grief support available at their institution, and past and future grief coping methods	NA	*QN * This study used a quantitative, descriptive, cross-sectional design. ** All registered nurses working full-time, part-time, or as members of the neonatal float team in a 40-bed Level IV NICU at a large academic facility in Northern	* The 22-item Revised Grief Experience Inventory (RGEI). -point Likert scale from strongly agree to strongly disagree. Total score ranges from 22 to 110, with higher scores indicating increased grief. Reliability alphas of the RGEI subscales are 0.87, 0.80, 0.72, and 0.83 respectively, with an overall internal consistency alpha coefficient of 0.93 *Survey that included coping mechanisms in the past and intended for the future (no validity mentioned).	Descriptive: percentage, mean, SD Inferential: None identified Level III	*55 out of 110 NICU nurses participated (39.3% response rate). * Total grief scores ranged between 22 and 82 (mean = 46.9, *SD* = 17.4) * Support from family (*n* = 42, 76%), friends (*n* = 37, 58%), church/prayer (*n* = 34, 61.8%), and support of co-workers (*n* = 31, 56%) were the top four grief coping resources that nurses identified as	Limits: Small sample size, Self reporting bias, RGEI was designed to assess caregiver grief and may not transfer to nurse grief Future research should specifically identify if participants have experienced a patient death as nurses without this experience may be unaware of available resources or their adequacy. Incorporating qualitative interviews would provide valuable insight regarding the nurse's personal experience surrounding a patient death, as well as

					California were invited to take part in this study.			having used in the past * Twenty (36.4%) participants indicated the main resources they would like the hospital to provide for them after a patient death included: a) debriefing after a patient death, b) one-to-one grief counseling, c) allowed time off after the death, and d) workshops or retreats focused on managing neonatal death.	available grief support resources and their adequacy. Impact: The mean grief score was 46.9, which is lower then expected when considering previous studies.
Wolfe et al., (2020)	Cold debriefing CINHAL 671 total 206 from 2013	Wolfe, H. A., Wegner, J., Sutton, R., Seshadri, R., Niles, D. E., Nadarni, V., Duval-rnould, J., Sen, A. I., & Cheng, A. (2020). Cold debriefings after in-hospital cardiac arrest in an international pediatric	Purpose: e sought to describe the frequency and content of CD across multiple pediatric centers. No research question IV: Debriefing DV: Perception of debriefing	TEAM framework for qualitative analysis	Mixed-method Retrospective study design Population; We analyzed prospectively collected observational data on CDs performed as part of an international, multicenter Pediatric Resuscitation Quality	The steering committee created a survey using a plus-delta format, and quantitative measurements related to the sessions. Nominal, descriptive	Descriptive: Demographics, percentage Inferential: p value Level III	Time (24%) and lack of financial support for CD (24%) were identified as barriers The median time for CD was 26 days with a median duration of 60 minutes Facilitation / cofacilitation was initiated by physicians (94%), nurses (18%), NP	Limits: May not be generalizable to public pediatric facilities, surveys rely on clinical recall, if facilitator completed survey, there may be a conflict Future: Further study is required to understand how the facilitation and structure of CDs impact functions of teams and patient outcomes after in-hospital cardiac arrest.

		resuscitation quality improvement collaborative. *Pediatric Quality and Safety, 5* (4), e319.			Collaborative (pediRES-Q) 18 sites			(9%) or nonclinical (8%)	Value: Determine the characteristics of each debriefing session
Giles et al., (2019)	Keywords: Critical incidents, burnout Database: CINHAL Articles: 4502 total, 1761 from 2018	Giles, T.M., Hammad, K., Breaden, K., Drummond, C., Bradley, S., Gerace, A., & Mur-Cochran, E. (2019). Nurses' perceptions and experiences of caring for patients who die in the emergency department setting. *International Emergency Nursing, 47* (2019). doi: https://doi.org/10.1016.j.ienj.9019.100789	*This study explored nurses' perceptions and experiences of caring for patients who die suddenly and unexpectedly in the ED. *N/A *IV: Emergency room nurses have experienced sudden patient death DV: nurses' perception and experience of caring for patients who die suddenly	*Ground theory to infer data and identify themes	*QL *Cross-sectional *216 ER nurses in Australia ER	*Open-ended survey *5 open ended questions *Open-ended, themes identifie	*Qualitative descriptive survey. Inferential using ground theory coding. *N/A *Level III	*5 themes identified: 1) key elements of EOL care, 2) systemic and environmental barriers, 3) educational deficits, 4) role ambiguity, and 5) emotional impact. *Emotional impact: Dealing with death and dying on a regular basis impacted the emotional wellbeing of staff, and they requested better and more consistent debriefing	*Moderate size may limit transferability. Pre-defined survey may have influenced responses to some degree. *NA *Gains insight into how ER nurses perceive the experiences of sudden death. For this research project, valuable for the request by participants to have more frequent and quality debriefing sessions.
Wells-English, et al. (2019).	Secondary Traumatic	Wells-English, D., Giese, J., &	Wells-English, D., Giese, J., & Price, J. (2019). Compassion	NA	Quantitative	Questions from ProQOL-V (30 questions Likert scale)	Descriptive: mean,	Secondary traumatic stress and burnout were	Limitations: Use of convenience sampling.

	stress, debriefing CINHAL 645 (total) 213 (from 2018)	Price, J. (2019). Compassion fatigue and satisfaction: Influence on turnover among oncology nurses at an urban cancer center. *Clinical Journal of Oncology Nursing, 23* (5), 487-493. 10.1188/19.CJON.487-493 NA IV: compassion fatigue and satisfaction DV: turnover	fatigue and satisfaction: Influence on turnover among oncology nurses at an urban cancer center. *Clinical Journal of Oncology Nursing, 23* (5), 487-493. 10.1188/19.CJON.487-493		Cross-sectional self-reported survey During data collection, about 150 nurses worked in the inpatient oncology unit. Eligible nurses were working full-time, part-time, or per diem in acute care	to measure compassion fatigue, compassion satisfaction, secondary traumatic stress, and burnout. TIS-6 for turnover intention. 6 question Likert scale. Ordinal	range, percentage Inferential: p value, r value Level III	positively correlated (r=.577 = strong) Burnout was a predictor for turnover intention p = <.0001 Compassion satisfaction negatively correlated with burnout (r=-0.681)	Generalizability is limited. Future: More diverse populations and environments. Imapct: Compassion fatigue and secondary traumatic stress can lead to burnout and turnover, which has great impacts on the healthcare system.
Colville et al. (2017)	Keywords: Critical incidents, burnout Database: CINHAL Articles: 4502 total, 1761 from 2018	Colville, G.A., Smith, J.G., Brierley, J., Citron, K., Nguru, N., Shaunak, P., Tam, O. & Perkins-Porras, L. (2017). Coping with staff burnout and work-related post traumatic stress in intensive	*The main aim of this study was to add to the existing literature by establishing the relative impact of resilience and individual coping strategies on the two main outcomes of interest, burnout and posttraumatic stress (as well as examining the degree to which these forms of work-related distress were related to the nature	NA	QN point-prevalence cross-sectional study *Doctors and nurses from 2 facilities (7 units) *Included adult and pediatric ICU units *744 staff surveyed, 377 returned (51% return rate).	*Brief Resilience Scale: measures perception of resilience. Internal consistency (Chronbachs alpha 0.8 – 0.91). (r=0.62-0.69). 6 question Likert Scale *aMBI to measure burnout. 14 questions Likert Scale. No validity reported by author. *HADS to measure depression and anxiety. 14 questions Likert Scale 0-3. Internal consistency (anxiety	Descriptive: mean, percentage Inferential: p value, CI,OR	*37% of participant me criteria for burnout (n=131) *13% indicated high levels of anxiety. *4% were in clinical range of depression *Staff reporting burnout were more likely to endorse PTSS compared to those without burnout ((24% vs 6%; $\chi 2$ = 14.68; odds	Limits: Study's response rate (51%), only 2 sites surveyed, anonymous and cross-sectional, so the direction of associations could not be found Future: determine the impact of other factors, explore dimensions of moral distress in relation to burnout. Impact: *Burnout was correlated with posttraumatic stress and higher levels of

		care. Pediatric Critical Care Medicine. 10.1097/PCC.0000000000001179	of the unit and other relevant sociodemographic and occupational factors). No research question IV: Resilience and individual coping strategies DV: burnout and posttraumatic stress			0.93, depression 0.9). test-retest (anxiety 0.54, depression 0.79).		ratio [OR], 4.95; 95% CI, 2.06–11.90; $p < 0.001$) *evidenced a more than 10-fold risk of reporting significant levels of anxiety (29% vs 4%; $\chi 2 = 32.58$; OR, 10.56; 95% CI, 4.12–27.02; $p < 0.001$). *More than half, 57% ($n = 199$), indicated that they would like more debriefing * 39% ($n = 137$) stated that they would appreciate more opportunities for reflective practice.	anxiety. There is a clear desire for debriefing and talking to seniors
Nadir et al. (2017)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Nadir, N., Bentley, S., Papanagnou, D., Bajaj, K., Rinnert, S., & Sinert, R. (2017). Characteristics of real-time non-critical incident debriefing practices in	*The objective of this study was to characterize real-time, non-critical incident debriefing practices in emergency medicine (EM) *There was no research question stated	NA	*Quantitative *Multi-site Cross-sectional study *Cross-sectional convenience sample. Sent to 300 physicians from 4 sites. 147 responses (45-52% response rate)	*Developed questionnaire based on literature review and primary characteristics of debriefing *Delphi panel experts *Survey piloted 10 EM physicians and amended based on physician feed back *Questions to define the characteristics of debriefing in EM:	Descriptive: demographics, percentage Inferential: NA Level III	*52% residents *47% physicians *87.6% defined debriefing as discussion based on actual or stimulated events where participants self-reflect and self-analyze their actions and emotions to improve or sustain	*Self-reporting can cause bias, limited response rate, only 4 sites, may not be generalized. *Future: Clarify actual benefits of real-time debriefing, Explore disadvantages of real-time debriefing Impact: *There is not enough formal training,

		the emergency department. *West J Emergency Medicine, 18* (1) 146-151. doi: 10.5811/westjem.2016.10.31467	*IV: Real-time, non-critical incident debriefing *DV: Characteristics of real-time non-critical incident debriefing practices			*physician understanding of definition, format of debriefing, perception of barriers, situations likely to be debriefed, perceived benefits. *Asked about formal training, lack of, and desire of formal training.		performance in the future. *14% reported being formally trained in debriefing *57.4% were interested in formal training. *47% felt beneficial to clear to air, 66% provides valuable feedback, 55% identifying gaps, 37% promotes team unity, *Barriers included lack of time (84.5%), lack of training (48.4%), and other reasons,	though there is a common desire for formal debriefing education. There is a generally positive perception of real-time debriefing. There are many barriers that prevent real-time debriefing
Copeland & Liska (2016)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Copeland, D. & Liska, H. (2016). Implementation of a post-code pause. *Journal of Trauma Nursing, 23* (2), 58-64. doi: 10.1097/JTN.0000000000000187	* We developed a debriefing process for code/ trauma events that intentionally included mechanisms to facilitate recognition, acknowledgment, and, when needed, responses to the psychological and spiritual needs of responders Noresearch question	PAUSE	QN Pilot study pre/post intervention *ER employees at St. Anthony hospital in Colorado *RNs, physicians, techs, PA	*Survey created by author. No validity or reliability tested. No validated tool available per author. *Likert scale questions plus open-ended *Measured peer support, leadership support, the ability to return to work, asking about the length of time before returning to work	Descriptive: Percentage, mean Inferential: None Level III	*46 employees responded to the presurvey (30% response rate) *37 employees responded to mid survey (19% response rate) *33 employees responded to post survey (19% response rate) *The percentage of respondents reporting that within 24 hr of a code event they	Limits: Small sample size and completion rate, implementation of PCP was only 56% of patient codes, limited to ER department *No future recommendations mentioned in article *Impact: PCP may be helpful and valued by ER employees

			IV: Participation in post code pause (PCP) DV: Perception of peer and leadership support, and perception of ability to return to work after patient death			*Post intervention survey questioned about ability to pay homage to the patient, return to work with a focus, and improve processes.		have thoughts or feelings about it decreased 21% postimplementation *71% stated that PCP was helpful to pay homage *76% stated PCP was helpful to return to work with sense of purpose.	
Edrees et al., (2016)	Keywords: Critical incidents, burnout Database: CINHAL Articles: 4502 total, 1761 from 2018	Edrees. H., Connors, C., Paine, L., Norvell, M., Taylor, H., & Wu, A. W. (2016). Implementing the RISE second-victim support program at the Johns Hopkins Hospital: A case study. *BMJ Open, 2016* (6), e011708. 10.1136/bmjopen-2016-011708	Purpose: To describe the development of RISE and evaluate the feasibility and subsequent implementation. Research Question: NA IV: RISE call DV: Support for second victims	NA	QN/QL: Mixed method Design: Pre intervention baseline to staff n = 144 Post intervention surveys Quasi experimental Sample: N=80 peer responders who have been trained for second victim debriefing. 56 surveys completed	Tools: Organizational staff assessment survey Peer responder encounter form Validity/reliability: Not validated Level of measurement: Likert scale (ordinal), descriptive data	Descriptive: percentage No inferential identified No validity/reliability Level of evidence: Level III	Results: 67.8% prefer ultidisciplinary peer groups 15.5% would like nurse manager to offer support 13.3% would want pastoral support 70.7% preferred individual sessions over group Peer responders reported excellent (66.7%) and neutral (22.8%) when considering if it met the second victims' needs	Limits: Could not survey second victims because of the anonymous nature No validated tools to collect data Impact: Has been maintained in the hospital and expanded to similar programs
Eng et al., (2015)	Critical event, debriefing	Eng, J., Schulmon, E., Jhanwar,	*introduced "Patient Death	NA	*QN/QL *Mixed method survey	*Pre and post survey *8 questions *Likert scale (1-5)	*Descriptive: mean, %	*post-pre means significantly	*Small sample size, self-reporting, and a questionnaire

	CINHAL 3578 (no timeframe) 982 (from 2018)	s., & Shah, M. (2015). Patient death befriefing sessions to support residents' emotional reactions to patient deaths. *Journal of Graduate Medical Education, 7* (3) 430-436. doi: 10.4300/JGME-D-14-00544.1	Debriefing Sessions'' (PDDS), which are real-time, pragmatic, attending physician–led sessions designed to address the emotional impact of patients' deaths on residents during an oncology rotation. *NA *IV: attending PDDS DV: Emotional responses to patient deaths		*92 participants completed surveys but 79 residents that experienced patient death and participated in PDDS	*Nominal *Open ended survey *3 *open-ended	Inferential: p value, F value *NA *Level II	differed between the groups for 1 of the ''emotional reactions'' questions (F value ¼ 3.41, P , .05 *Debriefing sessions was correlated with an increase in ability to deal with emotions related to patient death *The perception of how much help residents received r/t their emotions increased after PDDS *The more sessions attended, the better the outcomes	without established validity evidence *Future larger-scale studies can evaluate the importance of session frequency, gender, or contextual factors, as well as the impact of this type of curriculum, on residents' long-term coping mechanisms, attending physicians' emotional reactions, and other venues. *Patient Death Debriefing Sessions as novel and practical approaches to address the curricular gap in discussing residents' emotional reactions to patient deaths.
Gunsingam (2015)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Gunasingam, N., Burns, K., Edwards, J., Dinh, M. & Walton, M. (2015). Reducing stress and burnout in junior doctors: the	* This study aimed to examine the prevalence of burnout in a cohort of junior doctors and whether debriefing sessions reduced levels of burnout No research question identified	NA	QL *Prospective randomized-control trial * convenience sample of postgraduate year 1 doctors in a single	* The MBI, a validated tool, is a questionnaire comprising the following three domains: emotional exhaustion, cynicism and professional efficacy. * The higher the score the higher the level of	Descriptive: mean, SD Inferential: p value, CI, Level III	At baseline 21/31, 68% (95% CI 52% to 84%) of participants displayed evidence of burnout in at least one domain as measured by the MBI scale. High levels of	Limits: Potential selection bias, attendance of debriefing sessions was not 100%, small sample size, single site, results of female vs. males could represent type 1 errors

		impact of debriefing sessions. *Postgrad Medical Journal, 2015* (91), 182-187. doi: 10.1136/postgradmedj-2014-132847	* IV: Participation in debriefing sessions DV: Level of burnout		hospital was undertaken during a rotation term in 2011.	burnout with a negative burnout score indicating no burnout * The MBI has become the gold standard for identifying burnout in the medical research literature, with individual and composite scores considered acceptable		emotional exhaustion and cynicism were seen in 14/31 (45%) and 17/31 (55%) of participants, respectively. Low professional efficacy was reported in 5/31 (16%) of the cohort at baseline * In the poststudy group of the entire cohort, the level of burnout was 17/31 (55%, 95% CI 37% to 73%). 11/31 (36%) reported feeling emotionally drained once a week to everyday, and 17/31 (45%) reported they felt 'used up' at the end of the working day * The mean (SD) preintervention burnout scores were significantly higher in women compared with men (+3.6 (9.5) vs −5.8 (10.9), p=0.016), respectively, with an estimate of the	* Future: further data collection surrounding current rates of burnout within this setting is encouraged Impact: There was not significant changes in MBI scores after debriefing

								difference of −9.4 (95% CI −17.0 to −1.9). Additionally, a higher proportion of women met criteria for burnout in comparison with men (13/15 (87%) vs 8/16 (50%), p=0.029)	
Tuckey & Scott (2014)	Critical incident stress debriefing CINHAL	Tuckey, M. R., & Scott, J. E. (2014). Group critical incident stress debriefing with emergency services personnel: A randomized control trial. *Anxiety, Stress, and Coping, 27* (1), 38-45. http://dx.doi.org/10.1080/10615806.2013.809421	Purpose: We conducted the first randomized controlled trial of critical incident stress debriefing (CISD) with emergency workers (67 volunteer fire-fighters) following shared exposure to an occupational potentially traumatic event (PTE). No research question IV: CISD DV: PTSD, psychological stress, QOL, alcohol use	NA	Quantitative Randomized control trial N= 19 groups of firefighters that responded to potentially traumatic events.	Tools: Impact of events scale-revised (22 point Likert) Kessler 10 to measure psychological distress. (10 question Likert) Quality of life enjoyment and satisfaction form: (15 question Likert scale) Alcohol consumption survey: 1 question to see how many drinks in the past 7 days. Ratio (0 value in IES) Ordinal other Likert scales	Descriptive: mean, standard deviation Inferential: F, p value Level of evidence: III	CISD was associated with significantly less alcohol consumption one-month postintervention elative to the Screening condition, taking into account pre-intervention consumption levels. CISD was associated with higher scores on post-intervention quality of life relative to the Education condition (but not the Screening condition), after taking into account pre-	Limits: May not be generalizable. No long-lasting effects measured Future: replication randomized studies with larger sample size Impact:

								intervention scores. did not observe any significant effects of CISD or the other interventions on symptoms of post-traumatic stress, or on levels of nonspecific psychological distress.	
Bateman et al. (2012)	Critical event, debriefing CINHAL 3578 (no timeframe) 982 (from 2018)	Bateman, S., Dixon, R., & Trozzi, M. (2012). The wrap up: A unique forum to support pediatric residents when faced with the death of a child. *Journal of Palliative Medicine, 15*	*The project intended to describe the format of the Wrap-up, a unique multidisciplinary guided debriefing following a child's death. *No research question presented *IV: Implementation of the Wrap up **DV: Perception of benefits	NA	*Mixed-method *Quasi-experimental survey study *Med/Surge/PICU combined unit *All staff who had contact with the patient were invited to debriefing sessions	*Questionnaire: 5 point Likert scale and open-ended questions *12 questions *Descriptive (QL), Ordinal (Likert Scale) *Verbatim coded by 2 investigators independently with a 95% intercoder agreement *Questions to measure timeliness, multidisciplinary aspect, role of the conductor, potential	Descriptive: mean, SD Inferential: NA Level III	*Average score of (Likert 1-5) of the benefits of debriefing3 = neutral4=agree5=strongly agree Helps me care for others >4 Allows connection with team >4 Provides respect for deceased >4 Expression of spirituality >3 Expression of emotions >4	Limits: Retrospective survey, not right away could be limiting. Feedback from residents only, even though wrap ups were interdisciplinary. No validated study instrument used means no statistical analysis Future: feedback from other professions. Replicate at other facilities

		(12) 1329-1334. doi: 10.1089/jpm.2012.0253				benefits and challenges.		Improves EOL care >4 Improves stress >4 Allows for grieving >4 Improves teamwork >4 *No specific numerical value given within the article, only represented on graph (values above).	Impact: This unique forum provided a timely and facilitated discussion that positively impacted teamwork, physician stress, end-of-life care, and ultimately the ability to help others.