

## Critical Incidents in Health Care

D. "Dale" M. Mayer  
Megan Hamilton

While teaching a class for registered nurses (RNs), one of the authors of this article was involved in a discussion of emotionally challenging cases. All participants recalled one or more such cases and were impassioned to share their experiences. These healthcare professionals (HCPs) still were impacted by these cases. Such critical incidents (CIs) first were described by emergency medical services, fire, and law enforcement personnel. In a seminal paper, Mitchell (1983) coined the term *critical incident* and defined it as follows:

Any situation faced by emergency personnel that causes them to experience unusually strong emotional reactions which have the potential to interfere with their ability to function either at the scene or later...all that is necessary is that the incident, regardless of the type, generate unusually strong feelings... (p. 36)

HCPs in any healthcare setting may be involved in situations that meet the updated definition: "Critical incidents are powerful traumatic events that initiate the crisis response" (Mitchell, 2015, p. 17). Mitchell's examples of CIs include, but are not limited to, death or serious injury of a colleague; significant events involving children, relatives, or a known victim; disasters; and serious on-the-job injury. The subjective nature of CIs must be recognized; a situation that one person considers critical may not be deemed critical by another person.

CIs initiate an acute stress response. Reactions are wide-rang-

*Critical incidents occur in all settings, and healthcare professionals (HCPs) must be prepared to manage ensuing impacts. Effective navigational strategies are needed to enhance recovery so HCPs can remain in the workplace.*

ing and categorized as physical, emotional, cognitive, or behavioral (Mitchell, 2015). Examples are: physical reactions (e.g., tachycardia, chills, fatigue), emotional reactions (e.g., fear, sadness, anxiety), cognitive reactions (e.g., poor concentration, difficulty making decisions, nightmares), and behavioral responses (e.g., withdrawal, antisocial behavior). Unmanaged stress from CIs can lead to posttraumatic stress (PTS), posttraumatic stress disorder, secondary traumatic stress, and burnout. The authors recognized CIs were occurring regularly but often were not acknowledged or discussed formally. This suggested a gap in HCP support following CIs. The purpose of this study was to explore the impact of CIs on a variety of professionals. The research question was as follows: What are the personal and professional impacts of CIs on HCPs? The goal was to identify supportive interventions and decrease barriers to supporting HCPs as a valued asset.

### Review of Literature

#### Critical Incidents

A search of the literature was performed to identify articles published in English 2013-2017 using the CINAHL and MEDLINE databases. Search terms included *critical incidents* and *critical incident stress*. Hand searching of all reference lists identified additional articles using the related terms of *healthcare*, *secondary traumatic stress*, *compassion fatigue*, and *posttraumatic stress*.

Critical incidents have been studied in prehospital personnel, including firefighters and paramedics, and in emergency and intensive care staff. Sattler, Boyd, and Kirsch (2014) surveyed 286 firefighters from 13 fire districts from paid and volunteer fire departments. These researchers collected demographic information and used a variety of survey tools to measure occupational satisfaction and effort, burnout associated with the job, stress associated with their work,

D. "Dale" M. Mayer, PhD, RN, is Assistant Professor, Montana State University College of Nursing, Missoula, MT.

Megan Hamilton, MSN, RN, CFRN, NR-P, is Staff Nurse, Emergency Department, Providence St. Patrick Hospital, Missoula, MT; and Clinical Instructor, Montana State University College of Nursing, Missoula, MT.

Note: This research was supported in part by a grant from the Zeta Upsilon Chapter of Sigma Theta Tau International.

## Background

Research on critical incidents (CIs) has focused on prehospital, emergency, and critical care settings. CIs happen in all settings, including medical-surgical and outpatient units.

## Purpose

Explore impact of CIs (traumatic events that initiate crisis response) on a variety of healthcare professionals (HCPs).

## Methods

Qualitative methods were used to collect self-identified CIs from 11 HCPs. Researchers developed an interview guide of open-ended questions to inquire about impacts after a CI. Probing questions addressed support and barriers encountered after a CI. Applied thematic analysis was used.

## Findings

Discussed CIs included deaths, incidents of workplace bullying, and cases of assault. Themes were as follows: critical incidents happen and are not forgotten, the many impacts of critical incidents, navigating through critical incidents, and barriers to navigating after critical incidents.

## Limitations and Implications

Limitations include a small sample from three different professions. HCPs should expect CIs to occur. They should develop navigational strategies and decrease barriers to navigation after a CI. Efforts to promote a healthy work environment and supportive culture should be undertaken.

## Conclusion

CIs occur in all settings and HCPs must be prepared to manage ensuing impacts. Effective navigational strategies are needed to enhance recovery so HCPs can remain in the workplace. Workplace culture was found to be both a support and a barrier to navigation. Efforts to decrease barriers and build a supportive culture that strengthens HCPs as a valued asset are needed.

intensive care unit (ICU), de Boer, Rikxoort, Bakker, and Smit (2014) sought to understand types of critical events, individual reactions, and perceived support following CIs. Four categories of CIs were identified as most stressful: cases with high emotional involvement, preventable or avoidable incidents, sub-standard care resulting from poor communication or unprofessional behavior, and intimidation by a patient's friends or relatives. Researchers noted some cases considered critical matched what was reported in the literature (e.g., death of a patient), while other incidents were deemed critical due to an emotional attachment between the nurse and the situation.

Cieslak and colleagues (2014) conducted a systematic review of 41 studies ( $N=8,256$  professionals) to determine if an association existed between job burnout and secondary traumatic stress among persons working with survivors of trauma. Authors identified a possible overlap among burnout, compassion fatigue, and secondary traumatic stress for their meta-analysis. Their meta-analysis indicated a strong effect size (weighted  $r=0.69$ ) between job burnout and secondary traumatic stress. They also identified moderating constructs which included different empirical study components: theoretical frameworks, culture and gender identity, and type of occupation that contributed to direct or indirect exposure to trauma.

Adriaenssens, De Gucht, and Maes (2015) published a systematic review of 17 quantitative studies to identify causes and prevalence of burnout among emergency department nurses. Researchers reported 26% of all emergency nurses in the studies ( $n=306$ ) experienced burnout. Identified contributing factors included individual and work-related influences. Individual factors included demographics, personality characteristics, and coping strategies; work-related factors included experience with traumatic events, job characteristics, and organizational variables. Three of the reviewed studies found a harmful,

and their attitudes about expressing emotions on the job. They adapted existing survey tools to meet experiences typical of firefighters, specifically survey tools which included measurement of experiences with CI debriefing sessions, exposure to CIs, attitudes about expressing emotions and social support, coping mechanisms, availability of resources, symptoms of posttraumatic stress, and posttraumatic growth. Ninety-four percent of participants ( $n=269$ ) reported having been involved with a CI and almost 50% ( $n=149$ ) had participated in a CI stress debriefing session. Factors that contributed to PTS symptoms included burnout, occupational job stress, and disengagement coping strategies.

Avraham, Goldblatt, and Yafe (2014) used a qualitative-phenomenological perspective in interviewing 15 Israeli paramedics to understand the lived experiences of CIs and coping strategies used after a CI. Results included two main themes along a continuum between connection and detachment, and control and lack of control. Moving between connection and detachment helped paramedics regulate their emotional responses on professional and personal levels. Factors that contributed to a more negative experience during or after a CI included an emotional connection to the patient or family combined with a sense of less control.

In a qualitative exploratory study of the impact of CIs on nurses in an

**TABLE 1.**  
**Sample Demographics**

<b>Gender identify</b>	Female (10)	Male (1)		
<b>Job title</b>	RN (7)	Provider (2)	Chaplain (2)	
<b>Unit</b>	M/S (3)	ICU/ED (3)	OP clinic (2)	H/W (3)
<b>Age</b>	<30 (0)	30-39 (5)	40-49 (3)	≥ 50 (3)
<b>Healthcare experience</b>	≤5 years (1)	6-10 years (0)	11-20 years (6)	≥20 years (4)

ED=emergency department, H/W=house-wide, ICU=intensive care unit, M/S=medical-surgical, OP=outpatient, RN=registered nurse

long-term effect of repeated exposure to traumatic events on the occurrence of burnout in emergency nurses.

Colville and colleagues (2017) examined the impact of resilience and coping, which may be modifiable, on burnout and posttraumatic stress in a cross-sectional study with 377 nurses and physicians on three adult and four pediatric ICUs at two sites. They measured resilience, burnout, posttraumatic stress, hospital anxiety and depression, and coping strategies. Results confirmed symptoms of burnout, including emotional exhaustion, are common for ICU staff. However, a minority of ICU staff experienced work-related PTS. Participants reported on their use of beneficial organizational and personal coping strategies. Self-reported resilience was associated with decreased likelihood of burnout and work-related stress. Researchers identified a need for additional research to promote adaptive coping for persons working in ICU.

Reviewed research on CIs focused on prehospital HCPs or staff working in emergency settings and ICUs. Less is known about personal and professional impacts of CIs on other HCPs, including staff on medical-surgical and outpatient units.

## Methodology

### Sample

A purposive sample (Guest, MacQueen, & Namey, 2012) of interprofessional HCPs were recruited from one Magnet®-designated Level 2 trauma center in the western United States. Recruitment

efforts were directed at participants who worked in non-critical care or emergency settings, although others were not excluded. Eleven participants working in medical-surgical units, outpatient clinics, ICU, spiritual care, and emergency departments were interviewed. They included nurses, a physician, a nurse practitioner, and chaplains. Because the sample was from one hospital, demographic data were grouped to maintain participant anonymity. The sample was predominantly female with 5-35 years of experience working in healthcare settings (mean 17.8 years) (see Table 1 for additional demographic data).

### Design

A qualitative descriptive design (Guest et al., 2012) was used to allow participants to identify the CIs they wished to discuss. All CIs occurred in a healthcare setting; however, one participant spoke about a CI in a non-healthcare setting that had continued impact after a career change.

### Instrument

All participants were provided Mitchell's (1983) definition of a CI and confirmed their incidents met this definition. Individual interviews used open-ended questions from a researcher-developed interview guide (see Table 2). Probing questions inquired about CI impact and reactions after the incident. Researchers also asked about support experienced after the incident and any barriers for support that were encountered. Interviews were 20-60 minutes in length; they were recorded digitally and transcribed.

Data were evaluated using applied thematic analysis (Guest et al., 2012), a rigorously inductive qualitative method combining several theoretical and methodological perspectives. The two authors independently reviewed all transcripts, field notes, and reflexive journals, and then met to examine discrepancies until consensus was achieved. Codes were developed independently then discussed to reflect mutually agreed upon definitions before themes were identified.

### Trustworthiness

Trustworthiness was ensured by use of a rigorous analytic process (Connelly, 2016) appropriate for applied thematic analysis, including questioning of the data, peer debriefing, and prolonged engagement with the data. At the conclusion of each interview, initial impressions of the data were clarified with each participant; this served as member checking. In addition, an independent researcher experienced with qualitative methods reviewed all transcripts and verified the data analysis.

## Findings

Many CIs discussed by participants were related to death, including withdrawal of life support, family dynamics associated with a death, accidental shooting, homicide, motor vehicle crashes, death of a co-worker, and death of a long-term patient. Other incidents involved workplace bullying and clinical cases of physical and/or sexual assault. The analysis identified four themes.

**TABLE 2.**  
Interview Guide and Probing Questions

Interview Questions	Probing Questions
Please tell me about the critical incident that impacted you.	When did this happen? What was your role in this event? What was the outcome for the patient?
Please describe your experiences after this incident.	What types of reactions did you have to this event? How did others (co-workers, peers, managers) respond to this event or to you? How did this event impact you personally and/or professionally? Please describe support you received and who did/did not support you.
Based on your experience, what (if any) recommendations do you have for others?	If the same or similar event were to happen again to you or a co-worker, what suggestions might you give? Any suggestions to someone else who experienced a critical incident?
What suggestions would you give to others to help people who may experience a critical incident in the workplace?	Suggestions for peers or managers?
Is there anything else you would like to tell me that we haven't talked about?	Any other thoughts you would like to share with us about critical incidents in the workplace?

### Theme 1: Critical Incidents Happen and Are Not Forgotten

When asked to talk about a CI that impacted them, participants frequently responded with statements such as, "Which one? There have been several over the years." Incidents were recalled with great detail. One participant stated, "In 1995, July 13, and it was a Thursday." One nurse said, "I've been trying to think of which one I should bring up...8 or 9 years ago... [Crying] I can still picture that room." Another nurse asked, "Should I have one specific event in mind that I'm referring to...since there are no lack of options... [and] ...After an event like that, things just solidify so I remember every single thing of that entire day."

### Theme 2: The Many Impacts of Critical Incidents

Participants experienced CIs that led to physical, cognitive, and emotional impacts with varied intensity and duration. Researchers developed a word cloud (Wordle™) to illustrate the range of impacts experienced after a CI (see Figure 1). While it was not uncommon for

participants to describe one or two reactions, some experienced multiple reactions.

I started to get depressed [after CI] and started feeling like I'm not good enough...I couldn't stop crying and...this behavior was not like me...I was completely...blinded by self-doubt, insecurity, feelings of inadequacy, just obliterated. And then anger...It became the focal point for everything that was stressing me out so much it just broke my back. I was done. I was such a crying mess and became incapacitated and taking it out on my husband...

### Theme 3: Navigating through Critical Incidents

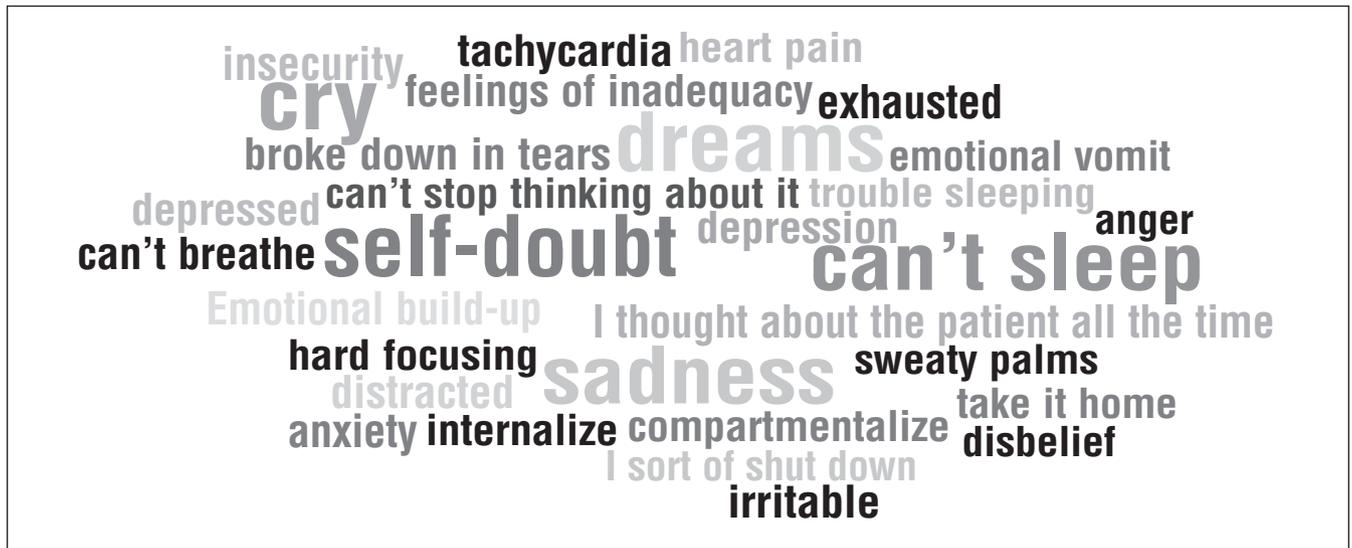
One participant shared an insightful statement: "This is a difficult profession to work in. It's constantly changing. How do you keep your ship steady in a constantly tumultuous sea?" During the analysis, researchers often returned to this comment, which illustrated the challenges HCPs must overcome to be successful in the workplace; it provided the impetus to use the term *navigation* for this theme.

Some participants had learned to navigate the stress of day-to-day work and CIs, while others still were trying to identify helpful navigation skills. An experienced nurse stated,

...as a new nurse working in the ER, I think I'd just go home and cry, and cry, and cry. And I don't do that anymore. I've kind of learned to... separate myself emotionally... I don't know how I've done that...some things still get to me like the kids or I get emotional...I have to leave the room, regroup, go back in but then I've learned to just leave work and say 'okay this is my life now'...

In contrast, a nurse still learning how to navigate after CIs stated, I just need to find...the right person that would be good to talk to. I don't want somebody to just sit and listen to me, because that's what my co-workers and my husband do. I want somebody that can actually provide me tools or exercises to deal with this shit...

FIGURE 1.  
Impacts of Critical Incidents from Participant Interviews



One frequently mentioned navigation strategy involved transition rituals or routines to prepare themselves to start or end their work days. For example, "I've gotten good about leaving it at work... my 10-minute drive home I've told myself that's my personal debrief... when I turn the [car] off...I'm mom, I'm not a nurse." An RN described a reflective process:

You know that feeling when you leave work at the end of the day and you think of all of the things that you didn't do and the things that you could have done better? I first think of three things I should have done, just three, and I have to stop there which is not always easy. Then I think about three things that really went well... that made me feel great like I did a good job...after 15-20 minutes after leaving the hospital now it's – my time – and I've really had to change...and it's an ongoing practice.

Another strategy involved putting up a kind of mental barrier to help shield from another's pain. A chaplain stated,

...you have to be able to detach yourself; there has to be some kind of a barrier between yourself and the pain that's coming

toward you...I can throw up a wall in my mind and it's like a ground cloth where the water can go through but the weeds can't come up...and so my mind's clear...

After a CI, participants mentioned two types of support: informal and formal. Every participant discussed seeking informal support from peers and co-workers, with one nurse stating,

More often...you have [important conversations with peers] standing at the time clock for 20 minutes...we compare with each other... even in the lounge or two seconds here and here...this is more than I can do with my [significant other] at home...

Several participants attended formal debriefings following a CI and reported hearing comments from others also involved with the CI providing validation, support, and normalization. An advanced practice nurse stated, "...the [debriefings] I've attended...You're not the [only] one that's feeling this way. And you're not going through this alone." A nurse commented about a formal debriefing, "to hear the validation of someone else saying how it affected them...I feel better that I'm not just internalizing it."

Researchers heard from participants working in a high-stress outpatient clinic, which holds monthly meetings with a counselor. "It's helpful for me to have people that are understanding of what I'm talking about...we generally have 2 hours once a month...it's helpful and interesting." Importantly, this regular debriefing with a counselor was the exception rather than the norm. Several participants mentioned varying self-care activities used after a stressful day (e.g., exercise, yoga, music) and what they did to prepare themselves before their next workday.

#### Theme 4: Barriers to Navigating after Critical Incidents

The biggest barrier to navigating through CIs was time. A nurse stated, "It's always hard...to come in on a day off when you just want to have your day off. I don't want to go into that building but I have to. Especially if you live [out of town]." One participant articulately spoke about the importance of organizational support, including classes to help staff decompress and manage stress, while also mentioning the time challenges associated with such classes.

We had a [class] on our unit called Healing the Healer. Even though [the manager] tried to make it around the unit meeting times...it's just so hard to get away. If the meeting was at 3:30 and I got off at 3:30, I wouldn't really get off until 4:15.

Participants shared comments about workplace culture as a barrier to learning to navigate through CIs. For example, "In 12 hours you're lucky if you get a 20-minute lunch...but it's a culture that you don't ever take a 15-minute break." Another comment about culture was made.

I've been around a lot of critical incidents [in the ICU] and...when a baby died... nobody offered counseling... nobody's like (laughter) hey sorry you just coded that 2 year old that [died.] Your co-workers know what you need – but nobody ever comes back to you [saying] 'How are you doing? Are you doing okay?'... [Instead it's] you're tough – you're a critical care nurse right? ...You'll be fine... It's difficult for that not to stay with you.

Another nurse described being assigned to care for a new admission immediately after a CI. "After the [patient] died they gave me another admit. It was like okay – you're up [for next admission]...there was no break, there was no – how are you? There was no anything."

## Discussion

Study findings confirmed CIs happen, are not forgotten, and have many impacts. All participants willingly discussed CIs they experienced, often in great detail. The study revealed HCPs must learn how to work in a busy, stressful environment *and* be prepared to manage CIs when they occur. HCPs must be prepared to overcome barriers associated with navigation after a CI.

Study findings provide insight into the many, sometimes long-last-

ing, impacts of CIs. Participants had similar responses to ICU nurses interviewed by de Boer and colleagues (2014), including rapid heart rates, crying, anger, and constantly thinking about the incident; similar responses also were described by Mitchell (2015). While many CIs described by participants in this study involved death, the event became critical due to a personal connection to the patient/family or the circumstances surrounding the event. Results supported findings of de Boer and colleagues (2014), who reported these "special circumstances" (p. 6) sometimes elevated a situation to a CI, which may or may not be recognized by co-workers.

Many participants discussed strategies learned over time that helped with the aftermaths of a CI (navigation). Some strategies involved using commute time at the end of a shift to reflect on their day, transition to being at home, or conversely, prepare themselves for a challenging case. Avraham and colleagues (2014) reported paramedics who encountered CIs described a variety of coping strategies when responding to a call or dealing with an incident, and after an incident. Over time, paramedics learned to manage feelings along a continuum that ranged from "emotional connection to detachment" (p. 205), which helped them cope with CIs.

Participants in this study mentioned using informal and formal support after a CI. Informal support included talking with co-workers and other HCPs. Social support and being able to talk with peers at work and outside work lessened the incidence of secondary traumatic stress and enhanced resilience in other research of adult, pediatric, and neonatal critical care and emergency professionals (Colville et al., 2017). Formal support such as debriefings was reported as helpful when available. Debriefings allowed time for peers involved in the same CI to share feelings, which validated emotional responses and decreased isolation. As de Boer and co-authors (2014) noted, "Peer support is considered highly important to overcome stress reactions" (p. 6).

Other forms of organizational support, such as classes and regularly scheduled meetings with a counselor, also were identified as helpful.

The current study identified time as the biggest barrier to dealing with CIs. Inpatient units often scheduled meetings, debriefings, and Healing the Healer classes at shift change. Some participants reported it difficult to step away from patient care, while others mentioned the challenges of coming to work early, staying later, or coming in on a day off. In contrast, outpatient units were able to close the office for meetings or schedule them after the workday. Units with 24-hour staffing requirements encountered more challenges when offering formal debriefings. Creative staffing appears to be needed in some settings to support HCPs' attendance at debriefings after a CI.

Workplace culture can have positive or negative effects after a CI. Participants described a culture of not taking breaks and several did not want to burden co-workers; thus, they never left their units, and this became an unspoken norm. Only two participants mentioned switching assignments when they needed a break from a tough case; both worked on smaller units with staffing that allowed close connections with co-workers. A supportive workplace allows HCPs to ask for a different assignment or a break after a challenging case without negative consequences.

## Limitations

This study had a small sample with little diversity from one healthcare organization. Researchers only interviewed representatives from three different professions and encountered challenges trying to recruit additional participants during summer months. More research is needed to verify findings of this study.

## Implications

HCPs clearly need to expect CIs will occur and be prepared for the aftermath. Recognizing the many navigational strategies to use after a

## Instructions For Continuing Nursing Education Contact Hours

### Critical Incidents in Health Care

Deadline for Submission: August 31, 2020

MSN J1811

#### To Obtain CNE Contact Hours

1. For those wishing to obtain CNE contact hours, you must read the article and complete the evaluation through the **AMSN Online Library**. Complete your evaluation online and print your CNE certificate immediately, or later. Simply go to [www.amsn.org/library](http://www.amsn.org/library)
2. Evaluations must be completed **online** by August 31, 2020. Upon completion of the evaluation, a certificate for 1.1 contact hour(s) may be printed.

#### Learning Outcome

After completing this learning activity, the learner will be able to describe critical incidents in health care and strategies to enhance recovery.

#### Learning Engagement Activity

The authors state that critical incidents (CIs) occur in all settings, and healthcare providers must be prepared to manage ensuing impacts. What strategies do you use to deal with CIs? Is your approach formal or informal?

The author(s), editor, editorial board, content reviewers, and education director reported no actual or potential conflict of interest in relation to this continuing nursing education article.

This educational activity is jointly provided by Anthony J. Jannetti, Inc. and the Academy of Medical-Surgical Nurses (AMSN).

Anthony J. Jannetti, Inc. is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Anthony J. Jannetti, Inc. is a provider approved by the California Board of Registered Nursing, provider number CEP 5387. Licensees in the state of California must retain this certificate for four years after the CNE activity is completed.

This article was reviewed and formatted for contact hour credit by Rosemarie Marmion, MSN, RN-BC, NE-BC, AMSN Education Director.

Fees — *AMSN Member*: FREE *Regular*: \$20

CI, each HCP should determine which of those is personally effective. All HCPs should engage in self-care activities, including adequate exercise, sleep, nutrition, and social support, along with stress management techniques.

Managers and administrators should promote a healthy work environment (Blake, 2015) and supportive unit culture. Managers might consider providing quiet spaces so staff can take short breaks away from busy units. Creative staffing would allow staff to eat lunch or leave the unit during a long shift. Investing in a formalized peer support program may be beneficial within an integrated system that also includes counselors, spiritual care, and employee assistance programs.

#### Conclusion

Most research on CIs has been done in prehospital, emergency, and critical care settings. However, CIs can occur in all settings. HCPs should expect CIs to occur and be aware of possible ensuing impacts. Effective navigational strategies should be cultivated to enhance

recovery after CIs (Colville et al., 2017) so HCPs can remain in the workplace. Workplace culture can help or hinder HCPs' ability to navigate successfully after a CI. HCPs and managers can decrease barriers to navigation after CIs and collaboratively build a supportive culture that strengthens HCPs as a valued asset.

MSN

#### REFERENCES

- Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Determinants and prevalence of burnout in emergency nurses: A systematic review of 25 years of research. *International Journal of Nursing Studies*, 52(2), 649-661. doi:10.1016/j.ijnurstu.2014.11.004
- Avraham, N., Goldblatt, H., & Yafe, E. (2014). Paramedics' experiences and coping strategies when encountering critical incidents. *Qualitative Health Research*, 24(2), 194-208. doi:10.1177/1049732313519867
- Blake, N. (2015). The healthy work environment standards: Ten years later. *AACN Advanced Critical Care*, 26(2), 97-98. doi:10.1097/NCI.0000000000000078
- Cieslak, R., Shoji, K., Douglas, A., Melville, E., Luszczynska, A., & Benight, C.C. (2014). A meta-analysis of the relationship between job burnout and secondary traumatic stress among workers with indirect exposure to trauma. *Psychological Services*, 11(1), 75-86. doi:10.1037/a0033798
- Colville, G.A., Smith, J.G., Brierley, J., Citron, K., Nguru, N. M., Shaunak, P.D., ... Perkins-Porras, L. (2017). Coping with staff burnout and work-related posttraumatic stress in intensive care. *Pediatric Critical Care Medicine*, 18(7), e267-e273. doi: 10.1097/PCC.0000000000001179
- Connelly, L.M. (2016). Trustworthiness in qualitative research. *MEDSURG Nursing*, 25(6) 435-436.
- de Boer, J., van Rikxoort, S., Bakker, A.B., & Smit, B.J. (2014). Critical incidents among intensive care unit nurses and their need for support: Explorative interviews. *Nursing in Critical Care*, 19(4), 166-174. doi:10.1111/nicc.12020
- Guest, G., MacQueen, K.M., & Namey, E.E. (2012). *Applied thematic analysis*. Los Angeles, CA: Sage.
- Mitchell, J.T. (1983). When disaster strikes... the critical incident stress debriefing process. *Journal of Emergency Medical Services*, 8(1), 36-39.
- Mitchell, J.T. (2015). *Critical incident stress management (CISM): Group crisis intervention* (5th ed.). Ellicott City, MD: International Critical Incident Stress Foundation, Inc.
- Sattler, D.N., Boyd, B., & Kirsch, J. (2014). Trauma-exposed firefighters: Relationships among posttraumatic growth, post-traumatic stress, resource availability, coping and critical incident stress debriefing experience. *Stress and Health*, 30(5), 356-365. doi:10.1002/smi.2608