Reducing the impact of critical incidence and suicide on construction workers: A rapid review and qualitative study

A report for MATES in Construction

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Executive Summary

Critical incidents and suicide are impactful on any workplace. In an industry with a higher burden of these events, it is timely to consider more nuanced preparation and response. The construction industry is both transient and stable. Site specific needs are met through a workforce recruited to manage time-limited functions. It is natural for the workforce to then move on to other sites. This unique flow of the workforce creates an interconnected web of individuals who may have other life pressures outside of the workplace that can influence the safety of their work and their longer-term wellbeing. Through a rapid review of the literature this report assesses the quality of the evidence related to workplace critical incidents and suicide. To supplement this assessment of the evidence, eleven key informants were interviewed to contextualise current knowledge and practice. These two activities have resulted in four key recommendations and a training structure for consideration. There is a key driver that must underpin future work in this field. That is, the need for clear differentiation between an 'operational or safety' debrief and a wellbeing/emotional support debrief. Through legislation and safe work practices, operational debriefs are relatively commonplace. However, these are not sufficient to address the mental health and wellbeing needs of the workforce. Without addressing intra- and inter-personal needs, the risk of further incidents can increase. To fully provide such training, there is a need to 'close the loop' from addressing the immediate aftermath of an incident, and follow this through into training in preparation for a future event. With the experience of developing industry specific suicide prevention gatekeeper training (and the acceptability of such training) additional postvention support that is matched to industry needs, is clearly within the scope of Mates In Construction and a logical step in enhanced industry specific offerings when a site experiences a critical incident or suicide death.

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1. Introduction

1.1. Background

Critical incidents (CIs) including work-related death and injuries, remain a significant public health issue. Recent global estimates report approximately 350,000 deaths are due to fatal incidents with an additional 313 million workers involved in non-fatal occupational incidents resulting in either serious injuries or requiring at least four days absence from work (Wadsworth & Walters, 2019). In the US during 2018, 5,250 total deaths due to work related injuries were reported, representing a 2% increase from 5,147 work related deaths in 2017 (Bureau of Labor Statistics, 2019). In Australia, 144 workplace deaths were recorded in 2018 with agriculture and transport industries accounting for the majority (Safe Work Australia, 2018). The construction industry also experiences a high number of fatalities with 2018 data showing 24 work-related deaths occurred 2018; a rate of 2.0 per 100,000 employees (Safe Work Australia, 2018). Fatalities in the construction industry mostly occur among males with a mean age of 43 years (Cooke & Lingard, 2011). Despite a downward trend in the number of deaths in the construction industry (30 in 2017-2018), this sector continues to have the highest rate of work-related injury or illness (59 per 1,000 employed persons) (Australian Bureau of Statistics, 2018). In addition to workplace deaths and injuries, another type of CI resulting in occupational trauma is employee suicide. The US Bureau of Labor Statistics reported that in 2013, 282 suicides occurred in a work environment (representing 6 percent of the 4,585 total workplace fatalities) (Harris, 2016). In Australia, a meta-analysis of suicide by occupation found the risk of suicide was greatest in those industries employing men with low -level manual skills compared to males occupying high skilled non-manual positions (Milner, Spittal, Pirkis, & LaMontagne, 2013).

These high rates of injuries (fatal and non-fatal) and suicide occurring in the occupational environment leaves colleagues susceptible to adverse psychological outcomes such as post-traumatic stress disorder (PTSD) (Brooks, Rubin, & Greenberg, 2019). Factors that increase the likelihood of adverse psychological outcomes include the nature of the CI and post incident events, the amount of exposure and life history of the individual exposed to the

event (Skogstad et al., 2013). Symptoms of adverse psychological outcomes include depression, anxiety, insomnia, restlessness and poor concentration (DeFraia, 2016). While only a few individuals will develop chronic mental health issues following exposure to traumatic events (Skogstad et al., 2013), workplaces and organisations have become increasingly aware of the need to implement best practice interventions to help mitigate adverse effects following exposure to occupational trauma.

1.2. Evidence informed responses and postvention for workplace

The level of preparedness to CIs in the workplace vary. While most workplaces, particularly government organisations will have in place formal policies and procedures, some organisations will also choose to outsource their management of critical events to employee assistance programs (EAP). These programs offer an early intervention strategy providing employees with immediate emotional support following traumatic events. A recent systematic review reported benefits of EAP's included improvements in employee work presenteeism, absenteeism, workplace distress, work engagement and overall life satisfaction (Milot & Borkenhagen, 2018). An alternative model is the Critical Incident Stress Management (CISM) program (Mitchell, 2016). This approach is delivered by mental health professionals and trained workplace peers with the aim of mitigating the effects of exposure to traumatic events (Mitchell, 2016). However, a lack of quality studies have resulted in mixed reviews on the effectiveness of CISM. While anecdotal evidence-based on reports of participant satisfaction support the use of CISM (Tracy, 2017), scientific advisory councils oppose this type of intervention citing a lack of convincing evidence of its effectiveness and potential to cause harm through traumatisation or re-traumatisation among those resilient to the event (Aucott & Soni, 2016; Pia, Burkle, Stanley, & Markenson, 2011). The World Health Organization (WHO, 2013) also reject CISM recommending "psychological debriefing should not be used for people recently exposed to a traumatic event as an intervention to reduce the risk of post-traumatic stress, anxiety or depressive symptoms" (p. 6). Overall, regardless of the approach employed by workplaces when responding to such events, embedded in the policies and procedures of CI strategies are the following goals:

“facilitat[ing] worker resilience and recovery, reduce subsequent workplace disruption, restore operations and maintain organizational stability” (DeFraia, 2016, p. 77).

With regard to suicide postvention strategies in the workplace, there is little quality evidence on how organisations should respond to such a traumatic event. Postvention, is defined as: “those activities developed by, with, or for suicide survivors, in order to facilitate recovery after suicide, and to prevent adverse outcomes including suicidal behaviour” (Andriessen, 2009, p.43). Evidence-based responses to individuals exposed to suicide are rare; a systematic review of 50 years of postvention research (Maple et al., 2017) found only 5% of suicide bereavement research reported interventions. In an update to this review undertaken in May 2020, only a slight increase to 6.9% was identified. Beyond bereavement, exposure to suicide has rarely been considered in relation to suicide prevention, and there are no evidence-based interventions to support exposure to suicide in the community, and this extends into the workplace.

1.3. Training requirements for workplaces

There is very little evidence on the type of training workplaces should consider in the management of workplace CIs. Some organisations focus on preventative measures such as pre-incident resiliency training. This approach, which has been implemented in the emergency sector, is focused on developing psychological resiliency and education and awareness among employees of how resiliency can act as a protective factor when exposed to traumatic events (Gunderson & Grill, 2014). A study on the effectiveness of resiliency training found significant increases in the level of knowledge after post-test assessment compared to pre-test (Gunderson & Grill, 2014). Another approach is training employees in “psychological first aid” (PFA) which can be delivered either on an individual or group level (Sijbrandij et al., 2020). PFA is aimed at reducing initial distress and promotion of short- and long-term functioning in those exposed to traumatic events (Sijbrandij et al., 2020). However, evaluations of the effectiveness of PFA are yet to be completed.

To date, with a focus on prevention of suicide and CIs in the workplace, there has been little attention given to the issues of workplace responses to suicide and CIs on an individual level and at the broader organisational level, and specifically how blue-collar industries are managing responses to these traumatic events.

1.4. Aim

The aim of this study was to identify the key elements of responses to CIs and suicide in the occupational setting. This was achieved by performing two complementary tasks: (1) A rapid review of the published peer-reviewed literature on responses to CI and suicide; and, (2) Key informant interviews with construction workers and managers about their responses to CIs and deaths by suicide in the workplace. Together the findings informed the development of recommendations for the development of a postvention and CI response training module for Mates in Construction (MIC).

The two complementary tasks were undertaken sequentially.

A rapid review of the published peer-reviewed literature on responses to CI and suicide

First, the rapid review was undertaken utilising Haddon's Matrix as a conceptual framework to capture the key elements of the intervention across time and function. Haddon's Matrix is a framework widely applied in the field of injury prevention and offers a practical approach to recording risk and / or protective factors across time (Williams, 1999). The columns of the matrix comprise factors relating to the: host (i.e. human); agent (i.e. the harm) and environment (both physical and socio-political) and the rows of the matrix comprise the temporal phases of the incident: pre-event; event; and post-event which represent primary, secondary and tertiary responses. Applying the Haddon's Matrix provided a practical approach to capturing information on how to prepare and respond (in the immediate and longer term) to critical events such as workplace death, injury or suicide.

The methods and results of the rapid review have previously been provided to Mates In Construction (attached here as Appendix 1) and are the bases for the draft manuscript submitted with this report which will subsequently be submitted to an open access journal.

Key informant interviews with construction workers and managers

Presented below.

2. Methodology

Qualitative interviews with key informants – construction workers and site managers – were undertaken to explore the ways in which these events are experienced, and how this experience might form the foundation for future training within this workplace setting.

2.1. Ethics

Ethical approval for this study was granted from the University of New England Human Research Ethics Committee (HE20-115).

2.2. Recruitment and Participant Eligibility

Recruitment for the key informant interviews was facilitated by Mates in Construction via information being sent out to relevant workplaces to target those who fit with the approved criteria using purposive sampling. Participants were eligible to participant if they spoke English, were aged 18 years or older, and had completed the Mates in Construction training in suicide prevention and intervention. Participants who did not have lived experience of work-related trauma, had not completed Mates in Construction training and/or were unable to speak English were excluded from the study.

Participants who expressed an interest in participating consented to have their contact details provided to the research team. One member of the team then attempted to make contact for an interview. Up to two contacts per potential participant were attempted, and if no contact was made after that time, no further engagement was attempted. Eleven interviews were completed during September and October 2020.

2.3. Interview Guide

The interview guide for the interviews is attached as Appendix 2.

2.4. Data Collection

After initial contact to arrange a mutually agreed date and time, participants engaged in a semi-structured interview with a researcher via telephone or video conferencing using Zoom. Interviews were digitally recorded, after consent from participants was ascertained. The interviews were digitally recorded and subsequently transcribed verbatim, using an ethics approved transcription service (Outsource.com.au).

2.5. Data Analysis

Transcripts were coded using an excel coding framework. Thematic analysis of persistent themes reflective of Haddon's Matrix factors (human, physical, equipment and socio-political factors) were conducted. All interviews were shared between the research team, and then coded by a person who did not conduct the interview. Consensus was sought through agreement with an additional researcher. One team member wrote up the findings and then shared outcomes until agreement was reached.

Haddon's matrix was used to both collect the data and then analyse the data. The use of the Haddon's matrix framework provided researchers with an opportunity to understand the trajectory of responses to events – reflecting on pre-event, during the event and post-event. These were grouped as responses to critical events and then responses to suicide. In addition, outlier concepts such as expectations of responsibility and aspirational event preparation, response and future management were also captured and presented in the results section of this report.

3. Results

Eleven individuals participated in interviews that ranged from 30 to 90 minutes. The sample participants (10 male, 1 female) are presented in Table. Despite recruitment emphasising the need for participation to be reflective of both critical incidences and incidents of suicide or suicide attempting, only 7 of the 11 participants had both. Results are presented thematically, with participant quotes used to illustrate these findings. Participant numbers were sequentially developed as participants contacted the research team. At the time of interview four participants who had indicated willingness to be interviewed were not able to be contacted.

ID No.	Role	Critical Incident experience	Suicide experience
MIC1	Regional WHS&E Manager	x	
MIC3	Project HR Manager	x	x
MIC4	Construction Worker	x	
MIC5	WHS manager	x	
MIC6	Training Manager	x	x
MIC9	Industrial relations	x	x
MIC10	Senior Project Manager	x	
MIC11	General Foreman	x	x
MIC12	Health and safety advisor	x	x
MIC15	WHS manager	x	x
MIC16	Construction Worker	x	x

Table 1: Participant demographics and experience of incidents

To understand the temporality of events, existing factors, and to provide insight into the lead up to a critical event or suicide, the event itself and then time since event Haddon's Matrix was used as an analytic guide. This is to assist with the determination of the key topics for recommended inclusion in training to address the requirements of this task for the funding body. The findings from the interviews are therefore presented below in terms of timepoints. Broader issues such as the socio-cultural factors relating to workers on site,

workplace culture and external factors have been provided as a segue to the discussion section of this report.

All eleven participants had examples of critical incident/s that had occurred recently through to more than a decade previously. Participants were provided with a broad definition of critical events, and then were able to determine their own definition of events they had experienced. Participants were not asked to recall the most significant or the most traumatic incident, however during the course of the interview, the participants generally referred to those events that left a significant imprint on the individual or their worksite. Another factor influencing the events discussed was where the participant was called upon to provided direct care and support to others. Examples of critical incidents discussed in the interviews included ones where young men accidentally death on site (e.g. crane injuries, or machinery malfunctioning), death from falls, sudden death on site (not related to workplace equipment but pre-existing health issues). Seven participants spoke of suicide as the specific critical incident that they had experienced, and this lack of information specifically related to suicide is reflected in the results and further explored in the limitations.

3.1 Pre-incident factors

Participants described the factors they believed were either: a) present and may have been able to be addressed prior to an event; and b) factors that, on reflection, might have impacted the lead up to a critical incident and could shape future ideas in relation to response and support. Pre-event factors are divided into those that are human related factors, agent (workplace) factors and those relating to the physical environment.

Human factors that may have precipitated an incident related to; impulsivity from young men on site (MIC6 reflected on a young man climbing up a crane and falling off, outside of work hours) seeking instantaneous feedback from social media and workmates, limited opportunity to reflect on a person's increasingly erratic behaviour (MIC12 noting on site people to need watch out for *'little behaviours over time'*) as well as acknowledging the

power differential that should absolve people of responsibility when someone isn't following the rules on site;

> *You can think back on it from any which angle you want, and the guy wasn't following the rules, did something stupid that was an accident, but we all handled it as best we could*
> *(MIC11)*

Much of the narrative regarding workplace factors highlighted were more related to worker behaviour than the role of equipment within the work setting. Reflections acknowledging the power, strength and risk of the site was noted by participants (MIC6 noted the need to respect the equipment on site in terms of understanding the capacity of risk each day). Participants noted that to address the lessons learnt from a critical incident, the lead up stage needed to consider both the environment in which people worked and the need to respect the level of risk workers are exposed to on a site. Signposting the level of physical risk workers are exposed to on site might not be enough to ensure that workers are fully cognisant at all times about the nature of the environment they are working in;

> *People might not be the connecting resource they intend to be*
> *MIC3.*

One of the predominant themes from the participants was the need to embed preventative and protective skills in the workplace. Specifically, skills that allowed people to develop capacity to be reactively proactive, whereby they are always aware of the level of risk on site, but also being aware that in some incidents there will be no warning of what is about to unfold. One way of doing this is through training;

> *We need training and rehearsing for adverse events to lay down the neural pathways to allow for calmer response, despite the (focusing on the impact of) potential trauma*
> *(MIC1)*

Training that focuses on noticing changes in behaviours, shifts in attitude on site, identifying workplace culture, or even lax attempts at worksite safety, was viewed as a way to engage in CI preparedness;

> *'We need training and rehearsing for adverse events to lay down the neural pathways to allow for calmer response, despite the (focusing on the impact of) potential trauma (MIC1)*

Part of pre-event planning is intimately linked to post event responses. That is, where the lessons of the past become firmly embedded within in the policies and practices of the site, in preparation for the next time an incident will occur. In addition to the internal site preparation, the role of the external context in which workers live is also important. Partners, family and the broader community are important contexts to worker health and wellbeing both before and after an event. Significant events in a worker's life can impact on their ability to perform their role on site in a safe manner. This can relate to common stressors in individuals lives, such as relationship breakdown, financial concerns, work/life balance, for example. Being cognisant of these events can assist in determining when something might be '*brewing'* as MIC3 reported.

3.2 Event Factors

Many of the participants identified that they had critical response roles in relation to the incidents they describe. For some they were on site when a fatality or significant injury occurred or were on site within a few hours of an event. The way in which they experienced the immediate aftermath of the event, and the roles they played in addressing the event, demonstrated the ways in which critical response can lay the foundation for future impacts of the event, both on the person and the site they work for.

Starting from when the participant became aware of the event, generally a phone call to alert them to an incident, along with their travel to the site, navigating the emergency

response, and then taking time to look around at all of the people impacted was required. Participants could recall these events clearly, due to the heightened physiological response initiated by needing to deal with the incident. Participants reflected that the 'cortisol' or stress response required when attending an incident and ensuring policy and procedures, made it difficult to pause and process what was occurring in terms of the trauma. In this way, participants talked about how they managed the intersection between practical and emotional tasks that are required immediately after an event on site, both within themselves as well as the needs of the workers;

it's almost like an emergency care worker were you go into auto pilot

MIC11

Some participants spoke about the disconnect they experienced between what they had been taught in response training and the reality of the event and dealing with it in that moment. Given the physical impact of events on site, these are likely graphic and leave lasting images. The need for training to have provided realistic responses is thus required;

The guy was a mate of mine and I was the first aider, so I was actually there trying to save his life which was quite impossible. But I didn't know that at the time...it goes back to your foundations of training that you learn and no matter how messed up or how ugly it is, you know if you can massage the heart and if you can put breath in the body you can sustain life. Whether that heart is inside the body or at this particular time outside the body. I never stopped spitting blood out of my mouth, (victims)'s blood out of my mouth and I was just like walking around, so you're really I think stunned by it all. I don't say numb, you're hypersensitive and all of those things and then you know when the ambos got there and with all their gear and stuff, and they had a look at the wounds and mate they put a sheet on him within, I wouldn't have thought more than 10 seconds, 15 seconds.

MIC12

Participants spoke of the need to be wary of dealing with the immediate needs at the time, not assessing what caused the event, nor what will be needed to prevent the event from occurring again. Thus, a delicate balance is determined;

> *You wouldn't go on the cusp of how it's happened at that point in time because it's only just happened. You're more looking at the welfare of the individuals that are on the job at the time, making sure they're okay…. You don't even look at why it happened at that point in time, you just look at how and you're just focused on that first point and everyone that (is) there.*
> *MIC9*

Importantly participants highlighted the need for individualised recommendations and referrals for workers at the time of the event and the need for this to be proactively provided;

> *as proactive helping, not just giving people phone numbers*
> *MIC1*

While everyone on site or part of a work crew are likely affected, and in differing ways, as MIC4 explained in relation to the death of a worker;

> *it shook up all the guys in our crew*
> *MI4*

When asked about how to manage the competing needs of securing a site, engaging with the investigative response, and supporting as many people as possible participants spoke about the tensions between the emotional nature of the event and the practicalities required;

> *in terms of how I reacted it was personally; get the workforce together, announce what has occurred in as plain language and directly as possible, here's the support available to you, but go home and be with your loved ones essentially, it's literally, you're breaking down, unfortunately (so) it*

probably starts off a bit unemotional...

MIC1

A clear tension in the interviews was the management of the casualisation of the workforce and thus managers not knowing the workers to the same depth as they may have done in the past. A further issue is that most workers are working across multiple sites, resulting in a network of connected people. When an event occurs on one site, it is likely that workers on other sites are also affected. Some spoke of how the impact was greater when workers were informed in an ad hoc manner about an incident - hearing about an incident through media or word of mouth, or having knowledge of the person who was harmed. This led to an additional burden offering workplace support on other sites, but also provided a reminder for many to share other '*near miss'* incidents that they had been part of and the way this shape concerns or reflections on mortality. MIC6 explained that you can become overwhelmed by all of the talk about an incident, but was also pragmatic about how much can be dealt with onsite;

Whilst there isn't a hierarchy of trauma, attention needs to be paid on the people who found the body

MI6

This quote provides a timely reminder that it is unlikely that any response will be able to deal with all workers needs all the time, and additional off-site support is likely needed.

Participants spoke about the nature of the psychical environment and the need to secure the environment as a top priority, even while the situation was chaotic. This chaos can also become emblazoned upon people's memory and influence how they responded at the time, and in future responses;

I can see as clearly as I'm looking at you now workers running, just running and screaming, "you better get up there [NAME], you'd better get up there you know." I see this avalanche of people running away...you know there was stuff that was happening around me at that particular time, which

was like, I should never have put myself in that situation. The load wasn't secured still, it was whipping around like a snake's tongue, and there's like 8 or 10 tonnes laying over your head while you're trying to drag this body out of a beam to actually perform CPR....you just did, went into your role and tucked in what you could tuck in and pressed what you could press and put breath in the body where you could.

MIC9.

Responding in the moment of crisis thus needs to be instinctive, but consider the safety of all workers – including managers and incident responders – to secure the site;

right course of action, to deal with an event, (that) needs to be imbedded in the minds of everyone on site

MIC11

3.3. Post-event Factors

Due to the self-selected sample, participants had significant suggestions and recommendations about how to manage the post-event support. The analysis, given the focus on asking questions relating to thoughts of what may have been optimal, also revealed ways in which training and support could be enhanced.

The significance of living through, or responding to, a critical incident, was the ways in which post-event support appeared to have a time limit that may or may not be viewed as sufficient;

'[The] philosophy of Mates in Construction was to 'look out for your mates' but the busy nature of life and work, and time since event, meant that getting back to 'business of usual' was inevitable.

MIC10

However, the significance of critical incidents meant that without focussing on the ongoing impacts the potential for ongoing issues, including trauma, was a real concern;

> *It brought back memories and things for other people of, not necessarily similar incidents, but other trauma that they've had in their life that maybe brought it home or whatever, I don't know what the right words were, but it refreshed previous trauma or tragedies that people had.*
>
> *MIC10*

Similar to the findings related to the event, all participants noted that there is not a one-sized fits all approach to post incident management, nor how this may be experienced on site, or by those affected over time;

> *Maybe the theoretical answer goes back to which box everybody sits in psychologically and how they're wired and how they deal with stress. I think that the people that were closely involved in the, well the guy that was the most closely involved in the incident, the first guy that did CPR, the first responder, our project safety officer, he seemed to deal with it the best and didn't want any EAP assistance and we had a quick chat about it but he was an older guy and he just moved on with what he needed to do. Whereas other guys that were probably in the second responder or helped out a little bit later on category they were the guys that had other issues that doubled up in their lives about their parents and whatever else that came out in the slightly longer term. I think that if you're personal life, home life, wife, kids, partners, dog, if everything else is going well in your life it's quite, it's easier to process an event like this and from personal experience if all that other stuff's, even in the absence of a critical incident like this, if the other stuff in your life, if you've got a couple of issues going on the background then it's much harder to focus and an incident like this probably does make you think it's all doom and gloom possibly*
>
> *MIC10*

Notwithstanding the individual vulnerabilities or strengths that play a role in how people manage exposure to critical incidents, the culture of the workplace also plays a significant role;

> *that to take time out, or expect someone to make a proactive appointment with their GP was not always part of the culture*
> *MI6*

No matter what the details there was a need to acknowledge the 'hangover' of a significant event that may impact on individual's ability to perform their work. The sense that the job was more important than the lives lost, or the injuries endured was reported in relation to informal discussions participants had had with workers on site. However, the participants noted that the solution was not to require individuals to access support;

> *from my experience it's really hard, I'm trying to have some engaging in deep conversations with men on the jobsite and there are a lot of walls. So, if someone isn't processing something like that very well, to give them the space to talk and open up.*
> *MI4*

Giving space as MI4 recommends was also suggested by others. Here the opportunity to open the conversation among peers was seen as appropriate and acceptable to the workplace culture. In doing so, the type of peer support was recommended as being somewhat directive while simultaneously being supportive. This allows for acknowledgement of the incident and the impact of the incident, while also allowing for the individuals own needs in a safe environment;

> *I remember NAME taking me home, taking me back to his place and we had a couple of beers. We didn't talk about the incident, didn't talk about it. He was just with me, he just stayed with me and he phoned my wife and let NAME know that NAME has been involved in a very nasty incident, he's okay but you know he's the guy that was trying to preserve life, so you*

know he's going to be a bit upset or agitated or whatever happens during that time. But I never was, I was more, you just keep flicking over in your head what else could you have done, what else, what else, what else?

MIC14

Further, whilst there was an understanding of the financial imperatives for the site, the need to not immediately switch to 'business as usual' was noted as a way to offer modelling of how to engage activities of support:

the focus was, okay, yes, this bad thing has happened but, I always hate when someone says, but, because it really just means that they're kind of saying, let's get back to work

MI4

The physical environment of the worksite and ensuring safety in relation to machinery and equipment to safely respond to the incident requires attention. Participants spoke of a focus on trying to understand what had occurred, or felt there was information gathering about who to blame, or what was to blame, became a focus of many conversations on site. This was reported as leading to feelings of exhaustion or self-doubt or questioning for others. A participant reflected that a potential insinuation of blame feeds a sense of failure and self-questioning when events are constantly being discussed;

"Heard you had a truck rollover today" or "You had a truck rollover yesterday" and some people don't like talking about it. Some people don't mind talking about it, some people they take those things, people pride themselves on not having an incident in their vehicle. All of a sudden if they have an incident, then that can begin to play on their mind that somehow, they've failed and haven't even been injured.

MIC5

Although not common, where it occurred, participants noted that being reminded that they were more valuable than the equipment required to do the job allowed for a more supportive way of discussing the incident;

> *"We can get another truck; we can't get another you. Don't dwell on it. We'll look after you". That's about all it took, but those sorts of situations are rare.*
>
> *MIC15*

While participants were aware of support services, such as Employee Assistance Program or Mates In Construction, these services were not viewed as being suitable for everyone. Nevertheless, they were reported as being 'person-centred support.' This person-centred support, where multiple engagement options were available, was favoured;

> *Training and resources that provide multiple opportunities for engagement – peer to peer support, team support, EAP and MIC all working together to acknowledge the needs of people.*
>
> *MIC3*

Importantly, access to appropriate supports at times they are available was reported as being important in an industry that works beyond the general 9-5 workday. Participants suggested that in order to allow people the capacity to recover, they need to be able to access services within usual work hours even when this means taking time out from their onsite work.

Part of the ongoing emphasis on post-event support is understanding the nature of the work people were doing and the inability to just 'walk away' if it was too stressful or traumatic to continually reengage with. MIC4 noted that there needed to be awareness as to what 'kept' people in their jobs;

> *I have really struggled with construction and high-rises like I call it the golden handcuff, the money is so good that I can't leave*
>
> *MI4*

As reported earlier, while all had experienced other critical incidents, few participants had specifically experienced a suicide death either onsite or of a worker when that individual was offsite. This has resulted in far less data being analysed for the specific purpose of informing a suicide specific response. As MIC9 notes, this may be due to the ongoing stigma associated with suicide, where individuals are much less likely to discuss suicide than other events,

> *We could stand in front of 10,000 people say 'this is what (suicide) is, this is how it is, this is how it happens, this is why we think it happens, why we think it shouldn't happen', but that might only reach let's just say a thousand out of that 10,000 because a lot of people I find do not like – they hate shit like death or negativity of a high level like that, it's like saying Voldemort out of Harry Potter. Don't talk about it*
>
> *MIC9*

Of those who took part in interviews for this study, six had experiences of either their own suicide attempting behaviours or reported being bereaved by suicide by a worker who they had known, when working on a site. It was significantly more difficult to elicit information regarding the pre-event factors, the event itself and the post-event experiences when it came to exposures to suicide. This relates both to those events onsite, individuals own experiences, or experiences that were a result of being witness to a critical event.

For those living with distress, or untreated mental health conditions, the persistent themes noted the increasing of at-risk behaviours, as well as manic behaviours that impacted capacity to complete work. For example, MIC11 noted repetitive challenges with not sleeping, as a result of witnessing a critical incident. Those who did seek help, noted that some prescription medication offered as treatment had side effects that impacted capacity to work (such as medication that causes drowsiness and thus not being able to operate machinery). MIC4 noted that suicidal ideation was impacted by long periods of job transiency, that was the nature of this workforce, yet a belief that it wasn't addressed in general workplace support:

You get a high-rise and then you work on it for however long and then at the end of that it's kind of hoping that your company's won the next one and like they fall through and they, like we've been on jobs where they have to sack 25 plumbers - a lot of guys are contract and so they're given a week's notice, maybe even a day. I've very, a few times I've lost my job on a day's notice. I think that's a real slippery area and it was for me and I've seen a lot of other guys because there's a lack of financial education in the construction industry So, there's no safety net, , I would fall on these really hard times because I used to live it up. I used to go out and drink and all that kind of stuff, spend all my money and then all of a sudden, I'd lose my job on a day's notice and I'm in a really bad position.

MIC4

Throughout the interviews with those participants who had been exposed to suicide, was a persistent message that recognition of suicide or suicidal behaviours being viewed as a factor relating to being part of the workforce rather than isolated incidents unrelated to the work undertaken;

So, in my mind I went, well this isn't an accident, this isn't a one off, this is a bi-product of how we're doing things in our industry and I was like, well something has to change because imagine if that many guys died from workplace accidents, we'd be shutting jobs down

MIC4

This sense that workers are strong and resilient was as pervasive as the dawning realisation that if suicide can happen to someone who appears strong on the outside that it could happen to anyone.

some of the guys I've known who have taken their lives are the class 10/10, some of the hardest men I've ever met in my life where no challenge to them, no fear that they have. And I often reflect, I'm thinking wow if this

guy can suicide, or have some mental health issues then so could I.

MIC12

The hierarchy of worksites was explained as potentially making those in managerial or supervisor roles more vulnerable.

No-one looks after you at the top end of scale, you know I remember getting depression with this knee because I just couldn't, and you know what, you do think some crazy bloody thoughts

MIC12

Participants spoke about the need for continual invitations to speak about all aspects of life, and that for some a dwelling on trauma or the negative aspects of the workplace was not always conducive to connection with others, while also being a time when communication about difficult events can occur;

we'd have a toolbox every Friday, yeah right boys, if you want a beer, you can have a beer and I'll have a chat and these are the issues for the week, all happy but throw a little bit in there. The negative stuff, people have got to stop at the negative stuff of okay, yes

MIC9

When considering suicide as needing a different response to other critical incidents, participants noted that training in response to suicidal needed more nuance in terms of reflecting on the trauma of what some called the 'left of field' deaths, being those colleagues who died by suicide but who did not present in a way that raised concern;

As a worker, in some cases it comes out of left field and blinds you, so we look at all the indicators that go on with you know, he smells of alcohol, he hasn't been home, he's dressed shabbily. We know all those signs, we know all those signs and they are indicators of hey listen we need to keep an eye on this. But I don't know what the catalyst is for someone who you know it comes out of left field. Or did it, did it come out of left field, is there

something that we missed? I don't know mate.

MIC12

For the most part, suicide was something that was occurring outside of the immediate worksite, whether this be the participant's own suicidal thinking and behaviours or those of others whom they were aware of. Nevertheless, all reported that these events impacted the workplace, and importantly the safety and morale of the workplace. Participants noted that a lot of focus of workplace training was on physical safety, while little was focused on psychological safety or mental health. Participants spoke about the dual responsibilities of training people and supporting the workplace, how they had to learn how to engage with others to be able to provide support – but that this approach would make for a better safety net;

a better kind of informal peer support network, that, that would be helpful because then, you know, the background for each individual and you can see when things are changing, and people are reacting.

MIC16

Reiterated by MIC4:

I have both accepted and not accepted help depending on where I've been and funnily enough when I needed help the most it was harder for me to accept it. So that's a really complex thing but I do think, I do feel there is a change coming into the industry and there I am finding, like I said, more young guys and even the older guys were a little more open to it as well. So, I think having a platform there, now like so I understand that what MATES is trying to bring in is like a better response to these events and maybe in the first few years it won't be as openly accepted just as MATES or in the first period but as people get more and more experienced with it, it becomes more normal

MIC4

Unexpectedly, participants demonstrated a depth of ability to reflect on external factors and how this can impact wellbeing, about the nature of choosing a career in construction may (perhaps unintentionally) be a way to minimise distress for those who choose this career. Participants noted the lifestyle (fly in, fly out for example) and the higher incomes workers receive, while simultaneously being more vulnerable due to these conditions.

One topic that was spoken about across the interviews was the limited financial planning advice for workers, meaning that when specific jobs finished, or tenders were unsuccessful, the flow on impact about the changing nature of finance could vulnerability.

> *there's no safety net, and I never had a safety net I think it's (not just) my experience. So, I would fall on these really hard times because I used to live it up. I used to go out and drink and all that kind of stuff, spend all my money and then all of a sudden, I'd lose my job on a day's notice and I'm in a really bad position*
>
> *MIC4*

The burden of being the primary earner for the family or employing others and then feeling the weight of others relying on you was also seen as integral to enhancing wellbeing amongst workers.

3.4. Appropriate, integrated support

All participants spoke about the need for appropriate support to be integrated into the industry. This applied to both training and preparedness, as well as to responses after an event. What was viewed as integral was the inherent value of any response being able to engage with workforce due to a combination of both knowledge of the sector and lived experience of both mental health and/or critical incidents. Participants reported this is what Mates In Construction have achieved. For example, noting the visibility of support onsite is key to normalisation of the experiences that the construction industry endure, and that

having a prior relationship, before an event occurs may be the key to more enhanced connections post incident;

> *the people that support us must speak the same language. You'd still need to have an element of professional help there in case that didn't work 100 percent. You've got to give people options*
>
> *MIC11*

Participants described the ways in which certain incidents became 'stuck' in their minds, and how ill prepared they were for this to eventuate from being exposed to an incident, and having to adjust their behaviours and attitudes to deal with this;

> *I went and saw my doctor and cos I was, you just can't sleep, you've got no idea, just awake all night and you're just thinking what else could you have done. It just really bashes you up...it was literally probably 3 or 4 days after the event where I hadn't had any sleep at all...he's a good guy and I told him what I do and I said mate I need to sleep. He said well I've got these drugs and I said well what are they? I don't want to be out of it. I don't want to be hungover, I don't want to have that haze you know. So he prescribed these drugs, which I've got to say I still take today.... I'd take one of those, I don't abuse them. I've got an awesome doctor and you know when there's people taking medication for the other reasons but I'm not that person*
>
> *M1C12*

The participants had stories about the ways in which they had observed others struggling after incidents. That the façade of coping was not conducive to reaching out for help;

> *He would push away, even a professional. He might humour them, but he probably wouldn't take what they say onboard too much because to him, it's horses for courses, I guess. Some people really need that external help and other people find it within*
>
> *MIC5*

There was recognition that individuals may benefit more from a horizontal support system, one that allows a chance to get to know a transient workforce rather than someone else stepping in from above, or from another organisation;

> *The buddy system in my opinion is a very powerful tool. It's not too good if people don't get along, but if people work together and you foster an environment where people can get along together, it becomes, I used to see it in the military, that it's a strong weapon. I think now with the way people come and go and people don't really know one another, and 90 percent of the people that we work with we don't even know where they live, we don't even know what their marital status is. So, how can we offer support to one another if we don't know those things and those basic 101 things. Sometimes people just become a number*
>
> *MIC15*

Participants noted that the culture of work sites, and the moving or unawareness of who you are working with, can work against delivering support services.

> *He hasn't got a partner and he lives on his own, so he views us as his family. But that's an issue out there with people. When you combine that on the fact that there's a lot of single people now, a lot of lonely people out there and you have an incident like this, your work colleagues are people that you can draw on for some sort of support.*
>
> *MIC15*

The timeliness, or capacity to keep offering site support after both a critical incident or a suicide was a key point from many of the participants. There was general recognition that these supports were inherently time limited. The concurrent support strategy, that also prioritised the investigative strategy, meant that there was little time to focus just on the interpersonal factors of exposure to trauma. The mixing or lack of differentiation of the

investigative component and the wellbeing component to follow up often means that there is little focus on interpersonal factors or support;

> *Secondly probably two to three weeks later, when a lot of the operational elements are done, the emotion floods through and it's almost you're starting to really process what has occurred, in an emotive way, the adrenaline is wearing off, and you're now actually thinking about everything you've had to deal with, what you've seen, what you've done*
> *MIC1*

Most of the participants had completed a variety of training in order to be in the position they hold – this included, workplace health and safety, ASIST training, Mates in Construction Connector training and some had also sourced mental health support in order for them to be available to others as well as to deal with their own challenges;

> *I just haven't learnt these things through my experience in the construction industry. I've been subjected to other personal things in my later years, such as relationship breakdowns and ill-health. Those things also make you think about it as well and there's a lot of cobwebs out there surrounding people and it's making sure that people understand these things or have a good understanding of.*
> *MI15*

However, the impact of being the supporter in the workplace was not being addressed adequately, and the cumulative toll was expressed by participants;

> *I find the impact of hearing other people's stories fatiguing. Not because it re-traumatises but because people entrust you and you give advice. Cos they all come to you, they all tell you their stories. And I know I'm that person, I'm not going to give you up…So sometimes that keeps you awake, sometimes that's tiring, and you've got to be on all the time in my role*
> *MIC12*

4. Discussion

The rapid review of the literature and key informant interviews reveal a workforce that honours collegiality, is task oriented, and has capacity to follow process in order to enhance the wellbeing of individuals. Worksite training and safety protocols are commonplace and viewed as tools in which to overcome the inherent dangers of the industry. These dangers of the workplace also revealed the need to ensure that preparedness for inevitable events were in place. The literature supports responsivity from an operational aspect on site, and ensuring the strategies are in place to develop a comprehensive response. However, the response to suicide is less apparent in the literature as well as within the experiences of the participants.

Similar to the impact of sudden deaths on families and friends (e.g. suicide, homicide and mass casualty events such as war and terrorism), workplace death evokes a unique set of emotional responses because they occur within environments regulated by safety legislations that are expected to be safe. When a family member leaves for work, there is an unsaid expectation that they will return home safely. Thus, when a death does occur families place value on investigation and prosecutorial activities because they provide context and enable understanding of what and who is responsible for the death (Matthews, Bohle, Quinlan, & Rawlings-Way, 2012), and there is an expectation that recommendations to prevent future deaths will be implemented. Unlike industrial accidents resulting in harm or death, where a coronial investigation can identify the key drivers leading to the incident, when a suicide death occurs there is often little evidence to examine, with the coroner focused on determining suicide intent. For those involved, findings of investigations and implementing recommendations can provide a sense of meaning to the event, and an activity to ensure that the incident does not occur again in the future. However, when a suicide occurs meaning making can be much more challenging, with well documented issues with understanding the reasons why someone chooses to end their life, stigma and shame

being prevalent among those exposed (Jordan, 2001). This can be particularly challenging where no prior behaviours indicated suicide risk.

Early management of sudden and unexpected death requires timely provision of information, along with social support that is geared toward facilitating adaptation to the new reality. Such interventions are aimed at minimising the potential for longer-term behavioural, emotional and psychological consequences (Dyregrov, 2006; Forbes et al., 2007; Provini, Everett, & Pfeffer, 2000). While some differences in relation to the meaning of the death are apparent between an industrial death and suicide, for the most part these findings support the need for timely support that is somewhat tailored to individual need being made available, while not overly focused on rehashing the details of the event

At present Mates in Construction provide a comprehensive suite of resources and training specifically focused on identifying suicide risk and supporting help-seeking through a tiered gate-keeper model. The findings of the rapid review and the qualitative interviews have identified areas where to further support and better address the needs of the workforce in relation to critical incidents and suicide death. These recommendations focus on when, where and how support can be integrated into both the workplace, and the existing services provided by Mates In Construction, taking particular note of the success of the peer-to-peer model within the existing MATES model of care.

5. Recommendations and a model for training

This section provides four broad recommendations followed by a model for training that proposes explicit components required at the preparedness, incident, and post-incident time-points.

Recommendation 1: Close the loop between preparedness for, and response to, critical incidents

Through the two key tasks in this project, there was a clear depth of evidence and knowledge regarding critical incidents, in preparation for these events, and during and after they occur. However, there was a missing component that linked the outcome of one event informing the preparedness for another, particularly in relation to when to refocus away from the event and back to 'business as usual.' Further, this did not include how deaths (whether suicide or not) on other worksites impacted on adjoining sites or related workforces. The transient nature of the work, as well as the workers transient lifestyles, resulted in workers who may have experienced multiple events at multiple locations not being recognised when an event occurs. Therefore, training developed for the construction industry should consider including a pre-site assessment of vulnerability to be able to quickly identify any worker who may be more vulnerable should an onsite event occur.

The rapid review and qualitative analysis reinforced the need extend the MIC model of training and support, to include postvention strategies and this subsequently feeding into prevention. A similar model of context specific postvention exists in the BeYou suite of programs from BeyondBlue, previously known as headspace School Support. This service works proactively with schools following the suicide death of a student – with peers, families, the school and the community. While providing specific postvention support for the current event is provided, further support for developing site specific postvention

planning is simultaneously undertaken. This includes mapping of appropriate and accessible local supports for warm referral. This model provides a foundation for MATES to consider when developing postvention support. For those workplaces where a suicide death or significant critical incident have not yet occurred, a model consistent with the Standby community response plan, allows for the development of a postvention strategy to take place, meaning that sites do not have to have a death in order to explore preparedness but allowing for the development of a suicide plan that embraces community responsibility.

Recommendation 2: Enhanced post-suicide support is required

The rapid review and the qualitative study identified that critical incidents on site, as well as death by suicide of employees, are acknowledged as requiring support, with some evidence for best practice in how to provide these supports. However, there is very limited evidence regarding how to support workers post suicide death (or attempt) and no outcome evaluations on the success or otherwise of the rare supports that are available. Maple et al's (2018) findings from the evaluation of StandBy Response Service delivery of post suicide support to the general community demonstrated that such support – for most – is practical in nature within a relatively short time from when the death occurred. Given the gendered workforce, where by far the majority of workers are male and both less likely to seek help and at more risk of suicide than women, a tailored support system, focused on practical supports is likely needed.

Recommendation 3: Brief interventions, focused on problem solving and referral

Building on the success of peer-to-peer suicide prevention and interventions MATES have mastered, expansion of this service to provide an industry relevant postvention support is indicated. Key informants were clear in their approval of any such service being able to be both tailored to need (for example, after work beers where a facilitated discussion takes place) while also being able to refer on to specialist care (where industry needs in relation to medication were recognised). Such support also needs to heed the warnings of past models of critical incident debriefing where some individuals were found to be further traumatised (or re-traumatised) by talking through events. Niemeyer (DATE) provides guidance on this,

through ensuring that only those who require specialist support are assisted in their meaning making narratives, rather than re-authoring narratives of those who are adjusting well to the incident. This suggests the need for assessment to determine individual needs is required. Models such as the Scottish Distress Brief Intervention (2018) are demonstrating the success of short term, problem solving oriented, interventions that can be adapted for the individual's circumstances and appropriate warm referrals can be made to specialist care where needed. This model could be adjusted to meet industry needs.

Recommendation 4: A global coverage of awareness of supportive connections

MATES Connector and ASIST trained workers already form a supportive ecosystem onsite. Extending this tiered support system to include brief assessment of vulnerability post-critical event, and warm referral into further care where indicated is likely an acceptable model to extend the existing service. At presentation those who provide support, on-site, or when called in, in response to an incident are the 'go-to' individuals when supportive connections are required. The need for this to be embedded throughout all staff at all levels was highlighted in the rapid review and interviews. This included those remote, those tasked with crisis response, all staff on-site, those MIC trained, extended family and the broader institutions involved in investigation and response need to be more aware. Understanding the links between peer-to-peer relationships and the ways in which people seek out support suggests that developing a stronger community awareness about how people engage with support may enhance wellbeing, after a critical incident or death by suicide. What was also significant was that prior relationship to the deceased was also a trigger for increasing distress in an individual. Considering Bronfenbrenner's ecological systems model is recommended to identify the interpersonal or relationship supports between individuals. The findings of both the rapid review and the qualitative findings demonstrated that referral pathways as to who a person 'should' or feels they *can* speak to is not always those who are trained to respond.

The study identified that developing a skillset to engage and support others in the workplace is not solely dependent on completing training or a specific course. Investing in developing a prior relationship is important as is being able to connect individuals at significant junctions, having the ability and skills to start a conversation, or make a phone call. All of these should be valued within the workplace, reinforcing the notion that human connections are not only helpful but integral to almost all effective support. This is Especially important, but also more challenging in work sites where multiple sub-contractors move through and across different jobs.

5.1. A proposed model for training

Factors	Pre-event	Event	Post-event
Human	Training needs to reflect on strategies to highlight behaviour on site, that might indicate an event is possible (lax security, at risk behaviours, speaking about concerns for welfare) Conversely, provide scope in training to emphasise that not all suicide deaths, or attempts, have 'typical' presentations. This may minimise blame amongst workforce about not being able to predict an outcome. Training needs to be tailored to both age and experience of workforce.	Teaching responders about the impact of raised cortisol levels during and after an event. Enhance awareness of how to address both practical and emotional requirements on site. Training needs to expose people to the visuals that occur when an incident takes place. Recognise that casualisation of the workforce = limited capacity to immediately know who might or might not need additional support.	Identify that when the need to return to 'business as usual' is communicated, some may perceive that the impact of an incident should be minimised. Step away from a 'one size fits all' training response, see each incident as different in both impact and reactivity (and length of time where support is required) Embed in training that the unique culture of each site will impact how people seek support. Emphasise that peer-to-peer support can enhance wellbeing. Provide space and time (and food) for people to connect in and outside work.

	Provide scope to rehearse response to events, so that it becomes embedded in behaviour and instinct.	Recognise and limit the sharing from other sites about a 'near-miss' or retelling of traumatic stories, as a way of showing collegial support.	Recognise that repetitive reminders to speak and share about life and the impact of trauma, even long after difficult events have occurred, is required.
Equipment	Train people about the power and strength of equipment, to ensure people understand risk on site	Include information on how to secure the site while maintaining safety of first responders.	Focussing on equipment, in order to assign blame for an incident, can undermine the emotional impact of the event Ensure on site that there are reminders that people are more valuable than equipment
Physical	Revisit and ensure that fencing and signposts identify risk and show site responsibility.	Recognise the role of physical surroundings, when considering the impact of an event on workers who found the body/injured person.	Create job design that allows for workers to access to services during work hours.
Social/Economic	Training needs to connect how previous trauma exposure (outside or inside of work) may impact capacity to respond to an event.	Workers expectation of going to work and coming home safely, can impact the reality of	Multiple options for support should be suggested to workers – EAP, peer to peer talking to mates, getting trained up, taking on a new job, seeking connection with friends and family, contacting GP.

	Understand the role of how partners, family and the broader community shape the way we approach potential risk (do they value responsibility, and if not, how can the worker realign values) Ensure workers understand how broader socio-economic issues like financial concerns and familial stress can shape the way people behave on site. Training cannot rely on lived experience reflections to illustrate impact. Seek input and advice from people, research, organisations and the broader community to complement sharing.	responding to the event when the worst thing has happened.	Ensure that post-event support embraces flexibility Acknowledge the impact of finances as to what keeps people in the job, and how challenging this can be after a traumatic event. Embed awareness of the short- and long-term impacts of trauma

6. Summary – Strengthen and extending the conversation

After an event occurs, be it a critical incident or a death by suicide, the manner in which it was dealt with on site, as well as the formal findings from any subsequent investigation shaped the ways in which people accepted what had occurred. Significantly, this allows for macro and micro learnings about the contributing factors (before, during and after an incident) to be used to shape the onsite awareness of the needs of its workers, and better plan for future events. While often the focus was on the site that the manager was responsible for, there was also recognition that as workplaces continue to change and ways of working evolve, particularly with workers being employed in multiple locations – sometimes simultaneously – that an event at one site can continue into others. Broader personal issues such as distress triggered by financial insecurity, shifting availability of work, and broader drug and alcohol or relationship breakdown were acknowledged but not always explicitly named as factors that might impact personal or professional security of people when working. Both the rapid review and the qualitative interviews identified that there is no adequate follow up for these events, in preparation, at the time, or post event.

Make the connection explicit between post-event learnings, and pre-event preparedness to close the loop on how the sector responds, especially to suicide. These strategies can be embedded in critical incident response, as well as across the existing suite of gatekeeper training programs provided by MIC. The figure below, and the section highlighted, allows for the short- and long-term debriefing post incident be characterised as spaces for continued conversations rather than incident response being linear. This offers two opportunities – capacity to continually learn about safety of workers and modelling of the need to speak in the longer term about the impact of trauma exposure.

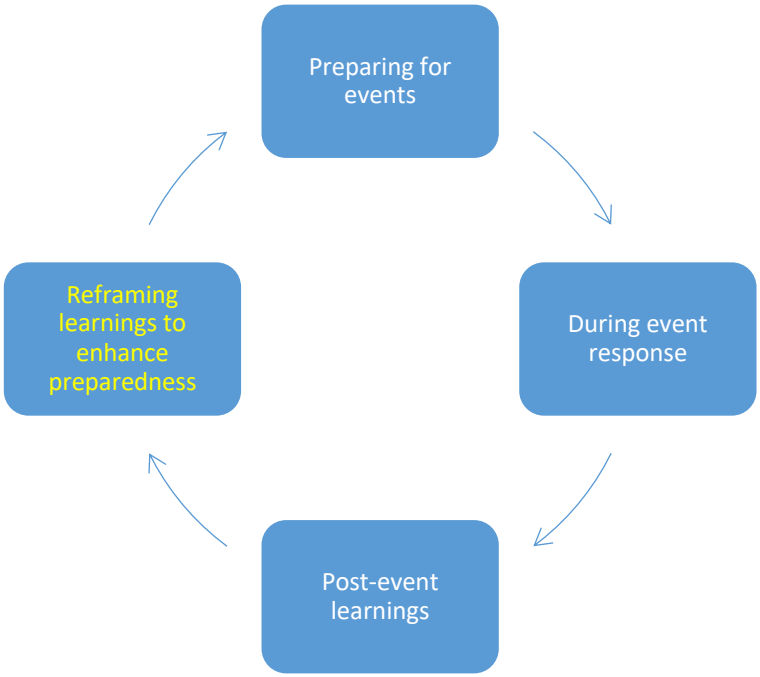

Figure 1: Closing the loop between post-incident and preparedness

Those interviewed for this report have undertaken various training previously and valued this training in their responses to critical incidents. While they were supportive of additional roles, their vulnerability to adverse outcomes cannot be overlooked within developing a supportive ecosystem.

This study identified that planning for the lead up to potential events, strategies that see each person on site as being part of a family or community of individuals (as well as peers) can enhancing workers wellbeing. Using this lens, as a way to enhance decision making when risk is involved in workplace events requires closing the loop between understanding the mitigating factors of what leads to and happens post an event as an iterative process that sees each workplace develop unique knowledge about who works for them, awareness of pre-existing trauma histories and connects learning to preparatory activities.

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Appendix 1: Rapid review of evidence

Effective elements for workplace responses to critical incidents and suicide – A systematic rapid review of the literature

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Background and Rationale

Critical incidents (CIs) including work related death and injuries remain a significant public health issue. Recent global estimates provided by the International Labor Organization (ILO) estimate 350,000 deaths are due to fatal accidents with additional 313 million workers involved in non-fatal occupational events resulting in either serious injuries or requiring at least four days absence from work (Wadsworth & Walters, 2019). During 2018, in the US, 5,250 total deaths due to work related injuries were reported, representing a 2% increase from 5,147 work related deaths in 2017 (Bureau of Labor Statistics, 2019). Nationwide, in Australia, 144 workplace deaths were recorded in 2018 with agriculture and transport industries accounting for the majority of work-related fatalities (Safe Work Australia, 2018). Another hazardous sector includes the Australian construction industry. Current fatalities data indicate 24 work related deaths occurred in 2018 (2.0 per 100,000 employees) (Safe Work Australia, 2018). Majority of fatalities in the construction industry involve mostly males with a mean age of 43 years (Cooke & Lingard, 2011). Although there has been a downward trend in the number of deaths in the construction industry where in 2017-2018, 30 fatalities were recorded, this sector continues to have the highest rate of work-related injury or illness (59 per 1000 employed persons) (Australian Bureau of Statistics, 2018). Apart from occupational injuries (fatal and non-fatal), another type of CI resulting in trauma in the workplace is employee suicide. In the USA, in 2013, Bureau of Labor Statistics reported 282 suicides occurring in a work environment (representing 6 percent of the 4,585 total workplace fatalities) (Harris, 2016). In Australia, a meta-analysis of suicide by occupation found the risk of suicide was greatest in those industries employing men with low -level manual skills compared to males occupying high skilled non-manual positions (Milner, Spittal, Pirkis, & LaMontagne, 2013).

With the high rates of injuries (fatal and non-fatal) and suicide occurring in the workplace environment, colleagues who witness these types of traumatic events are left susceptible to the effects of psychological trauma and post-traumatic stress disorder (PTSD) (Brooks,

Rubin, & Greenberg, 2019). Risk factors for psychological trauma include the nature of the CI and post incident events, the amount of exposure and life history of the individual exposed to the event (Skogstad et al., 2013). Symptoms of psychological trauma include depression, anxiety, insomnia, restlessness and poor concentration (DeFraia, 2016). While only a few individuals will develop chronic mental health issues following exposure to traumatic events (Skogstad et al., 2013), workplaces and organisations have become increasingly interested in implementing best practice interventions to help disrupt any adverse effects of psychological trauma.

Evidence informed responses and postvention for workplace

The level of preparedness to CIs in the workplace vary. While most workplaces particularly government organisations will have in place formal policies and procedures, some organisations will also choose to outsource their management of critical events to employee assistance programs (EAP). These programs offer an early intervention strategy providing employees with immediate emotional support following traumatic events. A recent systematic review reported benefits of EAP's included improvements in employee work presenteeism, absenteeism, workplace distress, work engagement and overall life satisfaction (Milot & Borkenhagen, 2018). An alternative model is the Critical Incident Stress Management (CISM) program (Mitchell, 2016). This approach is delivered by mental health professionals and trained workplace peers with the aim of mitigating the effects of exposure to traumatic events (Mitchell, 2016). However, a lack of quality studies have resulted in mixed reviews on the effectiveness of CISM. While anecdotal evidence based on reports of participant satisfaction support the use of CISM (Tracy, 2017), scientific advisory councils oppose this type of intervention citing a lack of convincing evidence of its effectiveness and potential to cause harm (Aucott & Soni, 2016; Pia, Burkle, Stanley, & Markenson, 2011). Other agencies such as the World Health Organization (WHO, 2013) also reject CISM recommending "psychological debriefing should not be used for people exposed recently to a traumatic event as an intervention to reduce the risk of post-traumatic stress, anxiety or depressive symptoms" (p. 6). Overall, regardless of the approach employed by workplaces when responding to such events, embedded in the policies and procedures of CI strategies are the following goals: "facilitat[ing] worker resilience and recovery, reduce subsequent workplace disruption, restore operations and maintain organizational stability" (DeFraia, 2016, p. 77).

With regard to suicide postvention in the workplace, there is little quality evidence of how organisations should respond to such a traumatic event. To examine postvention, the following definition is used, whereby postvention is: "those activities developed by, with, or for suicide survivors, in order to facilitate recovery after suicide, and to prevent adverse outcomes including suicidal behaviour" (Andriessen, 2009, p.43). Evidence based responses to those exposed to suicide death are rare; our systematic review of 50 years of postvention research (Maple et al., 2017) published to 2016 located only 5% of suicide bereavement research reporting interventions. In an update to this review undertaken in May 2020, only a slight increase to 6.9% was identified. Beyond bereavement, exposure to suicide has rarely been considered in relation to suicide prevention, and there are no evidence-based

interventions to support exposure to suicide in the community, and this extends into the workplace.

Training requirements for workplaces

In terms of training requirements, there is very little evidence of recommendations on the type of training workplaces should consider in management of workplace CIs. Some organisations focus on preventative measures such as pre-incident resiliency training. This approach which has been implemented in the emergency sector is focused on psychological resiliency and developing education and awareness in employees of how resiliency can act as a protective factor when exposed to traumatic events (Gunderson & Grill, 2014). A study on the effectiveness of resiliency training found significant increases in the level of education after post-test assessment compared to pre-test (Gunderson & Grill, 2014). Another popular approach is training employees in "psychological first aid" (PFA) which can be delivered either on an individual or group basis (Sijbrandij et al., 2020). The approach is aimed at reducing initial distress and promotion of short- and long-term functioning in those exposed to traumatic events (Sijbrandij et al., 2020). Evaluations of the effectiveness of PFA are yet to be completed.

Purpose and Aim of the Review

The primary purpose of this rapid review is to answer the following research question: *What are the key elements for response to CIs and suicide in the workplace*?

This will be achieved by retrieving literature that will be used to inform the development of postvention and CI response training module for Mates in Construction (MiC). The results of this review will also assist in providing an evidence base to guide the qualitative interviews which intend to capture the lived experiences of construction workers and managers and their responses to CIs and deaths by suicide in the workplace.

To achieve these goals, this rapid review aims to:

1. Identify all of the relevant evidence regarding workplace responses to CIs and suicide in the workplace published between 2015 and 2020
2. Synthesise the existing evidence to identify the key elements necessary for the development of an effective workplace program.
3. Assess the quality of this evidence using the Joanna Briggs Institute (JBI) appraisal tools and;
4. Design a framework represented as a Haddon's matrix to categorize the intervention strategies identified in the review.

Haddon's Matrix

In reviewing the literature on responses to CIs and suicide, the authors chose Haddon's matrix to capture the critical elements necessary for the implementation and delivery of effective programs and interventions across critical times and functions. Originally, Haddon's Matrix was conceived as a conceptual framework for use in the field of injury prevention (Williams, 1999). The framework offers a practical approach to analysing and comparing the

interactions and interrelationships between causal factors (human, agent, environment e.g. physical and socio-political) that occur during the three "time windows" of a single event or incident (e.g. 1. pre-event, 2, during the event and, 3. post-event) (Engström, Angrén, Björnstig, & Britt-Inger, 2018). Intermeshed with these three "time windows" are opportunities for prevention activities at the primary, secondary and tertiary level (Barnett et al., 2005). In the context of this review, applying Haddon's Matrix will provide us with a clear and concise recording of the key elements of current programs and interventions across the three-time windows. By capturing information in this way, it will enhance our understanding of how to plan, prepare for and respond to each stage of critical events such as workplace death, injury or suicide.

To date, with a focus on prevention of suicide and CIs in the workplace, there has been little attention given to the issues of workplace responses to suicide and CIs on an individual level and at the broader organisational level, how blue-collar industries are managing responses to these traumatic events.

Definition of Critical Incident

Despite widespread use of the term "critical incident" no standard definition exists. In the published literature definitions of the term "critical incident" vary widely depending on the context in which it is being used. A further complication is the frequent use of the term "traumatic event" which is often used interchangeably with "critical incident". In a paper on CIs in the police force, Maguen (as cited in Brucia, Cordova, & Ruzek, 2017) defined critical incident as: "A potentially traumatic event which may cause a given individual's emotional resources to become over-taxed, resulting in a spectrum of reactions from exhaustion to increased and unrelenting mental health symptomology" (p. 130). While Maguen's definition focuses on the individual, others consider those indirectly affected through sensory or informational exposure as evidenced in a review paper by Adamson (2017) on CIs and best practice in social work. In that paper CI is defined as "an event or situation within workplace settings or roles which have the potential to create a sense of emergency, crisis, and extreme stress, or have a traumatic impact on those directly or indirectly affected" (p. 733). A broader interpretation of "critical incident" was generated through the content analysis of fourteen definitions (Schwester, 2012). Fifteen attributes shared amongst the definitions were identified in the results of the study where CI was characterised as: 1) a cause social trauma; 2) a cause of fear; 3) they create an emotional effect on trained people; 4) they affect a change in societal norms; 5) it is possible that they undermine public trust; 6) they impact on the practice of democracy; 7) they are relatively brief in occurrence; 8) they cause significant injury or loss of life as well as 9) significant property/infrastructure damages; 10) they require a state of declared emergency; 11) the event is unexpected with 12) a limited in scope; 13) they can require an intergovernmental/international coordination; 14) they can create positive outcomes and 15) they attract significant media coverage (Schwester, 2012, p. 34, 39-42).

Methods

This rapid review of evidence, commissioned by Mates in Construction (MiC) Queensland, Australia, involves searching for evidence of responses to CIs and suicide in the workplace.

Both searches of peer reviewed literature and desktop search for grey literature were conducted. For the purposes of this study, a rapid review was chosen as the preferred review method. Rapid reviews are favoured by policy and other decision makers as they allow for a simplified version of a systematic review to be conducted while still producing actionable and relevant evidence in a timely manner (Khangura, Konnyu, Cushman, Grimshaw, & Moher, 2012). In the case of this review, the study was undertaken over a six-week period from June to mid-July, 2020.

Due to the brief time period some of the steps normally included in a Cochrane standard systematic review were omitted. For instance, electronic searches were limited to a specific date range and language. Also, records at Level 1 (screening by title/abstract) stage were divided between two reviewers whereas Cochrane standards require two reviewers to be involved throughout every stage of the screening process. However, as both reviewers have authored several literature reviews, are experienced in the screening of records and were guided by a screening protocol (see Appendix 2) the authors are assured the risk of selection bias has been minimised. This rapid review used systematic review methodology and adheres to the reporting standards as set out in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

Eligibility Criteria

The eligibility criteria used to screen records was established during the pre-testing stage of the search strategy. Papers were included if they met all of the following four criteria: 1) reported on death or CIs within the workplace environment; 2) included responses to the incident (e.g. interventions or postvention programs or strategies); 3) full text available in English language and published between 2015 and 2020 and, 4) contains original data (qualitative, quantitative, mixed) or review of original data. Records were excluded if: 1) the focus was on patient or client death (e.g. in a health care or social care setting or first responders (e.g. police, fire, ambulance attending to accidents or suicides that do not involve a work colleague); 2) studies which do not contain empirical evidence (e.g. papers that only describe an event) or, 3) were protocols or descriptions of interventions.

Identification of Included Papers

Prior to searching the literature test searches of search strings and databases were conducted. In any quality review, the pre-testing of the search strategy serves a dual purpose. Firstly, testing of keywords and corresponding MeSH (Medical Subject Headings) or thesauri terms (if available) ensures the maximum retrieval of relevant material whilst minimising the number of irrelevant records. Secondly, the testing of search strings across a variety of databases guides the process of identifying which database contains information that will help to answer the research question. As a result, eligible studies were identified by searching the title and abstracts of records using the following search string: (suicide OR death OR critical incident) AND (bereavement OR grief OR mourning OR trauma OR postvention) AND (workplace OR workforce OR employment OR employee OR co-worker OR colleague). Truncation and/or proximity operators were applied to each of the search terms. The following six databases were searched for articles published from January 2015 to June 2020:

Medline/Web of Science; CINAHL (Cumulated Index to Nursing & Allied Health)/EBSCO; PsycINFO/ProQuest; Sociology Collection/ProQuest; Academic Search Complete/EBSCO and, Business Search Complete/EBSCO. An example of a search string used to retrieve articles in Medline (Web of Science) is included in Appendix 3. The searches were completed on the 15 June 2020 and the results were limited to articles published in English language peer reviewed journals. Additional studies were identified by searching Google Scholar and the websites of both Australian and International peak organisations (for a list of organisations see Appendix 1). Coronial findings as listed by coronial courts in NSW, QLD and VIC were also examined to check for any recommendations that may have been made by the coroner with regard to implementing relevant programs or interventions in the workplace.

Study Selection

Once the searches of the electronic databases and desktop grey literature were completed, the titles and abstracts of the identified records were imported into Endnote x9 (bibliographic software). Duplicate citations were removed using Endnote's duplicate identification tool. A rigorous manual review was also undertaken for any remaining duplicate records. Following this, unique records were imported into Covidence systematic review software (Veritas Health Innovation, 2016) for screening and full-text review. Two reviewers (L.B. and T.P) conducted independent screening of the title and abstract of half of the records to determine which of those did not meet the eligibility criteria. Next, the same two reviewers completed screening of the full text of the remaining records. This involved reading each paper in full and determining whether the study met the eligibility criteria. Reconciliation of any conflicts was resolved by a third reviewer (M.M).

Assessment of Methodological Quality

The methodological quality of included studies was independently assessed by two reviewers (L.B and T.P) using the National Health & Medical Research Council (NHMRC) Hierarchy of Evidence (National Health Medical Research Council, 2009) and the Joanna Briggs Institute (JBI) appraisal checklists (Joanna Briggs Institute, 2017).

National Health & Medical Research Council (NHMRC) Hierarchy of Evidence

The National Health & Medical Research Council (NHMRC) Hierarchy of Evidence which assigns levels of evidence based on study design, ranging from I (highest) to IV (lowest). This tool specifies broad principles of evidence-based science that can be used for quality assessments of studies. The NHMRC Evidence Statement Form describes the basis for rating the five key components of the 'body of evidence' for each recommendation which includes:

- The evidence base, in terms of number of studies, level of evidence and quality of studies (risk of bias)
- The consistency of its findings to other similar studies
- Clinical impact and generalisability of results to the target population
- The applicability of results to the Australian and/or local health care setting

Level I studies typically consist of systematic reviews of randomised controlled trials while Level IV studies largely refer to case series with post-test or pre/post-test outcomes (see table below).

Level of Evidence	Study Design
I	A systematic review of Level II studies.
II	A randomised controlled trial.
III-1	A pseudo-randomised controlled trial (i.e. alternate allocation or some other method).
III-2	A comparative study with concurrent controls (i.e. non-randomised experimental trials, cohort studies, case-control studies and interrupted time series studies with a control group).
III-3	A comparative study without concurrent controls (i.e. historical control study, two or more single arm studies and interrupted time series studies without a parallel control group).
IV	Case series with either post-test or pre-test/post-test outcomes.

Table 1: NHMRC level of evidence

Joanna Briggs Institute (JBI) Critical Appraisal Tools

Additional tools used for assessing the quality and trustworthiness of evidence included appraisal checklists from the Joanna Briggs Institute (JBI) (2017). These tools cover 13 study types from cross-sectional and case series through to qualitative studies. A score of '1' was applied for each criterion met and '0' was applied where the criteria was not met or it was unclear. The number of criteria met were tallied to form the quality score for each study. The scores calculated for each study were then converted to a final quality rating of 'low', 'moderate' or 'high' quality. The following JBI Critical Appraisal Tools and scoring parameters were implemented in this review: Checklist for Analytical Cross-Sectional Studies (score out of 8; Low 0-2, Moderate 3-5, High 6-8); Checklist for Case Series (score out of 10; Low 0-3, Moderate 4-6, High 7-10); and Checklist for Qualitative Research (score out of 10; Low 0-3, Moderate 4-6, High 7-10).

In a systematic review the main purpose of assessing the quality of the literature is to exclude those papers which do not meet the standard of best evidence. However, as this is a rapid review of all of the available evidence, all studies meeting the eligibility criteria were rated and included regardless of their quality.

Data Extraction

Data extraction, from the included studies, was completed by two reviewers (L.B and T.P) using a Microsoft Office Excel 2007 coding template, custom made for this project. Categories of data retrieved included country, study design, type, workplace setting, target group, number of subjects, intervention name and description, primary outcome measures and summary of key results. In addition, each included study received a rating based on the

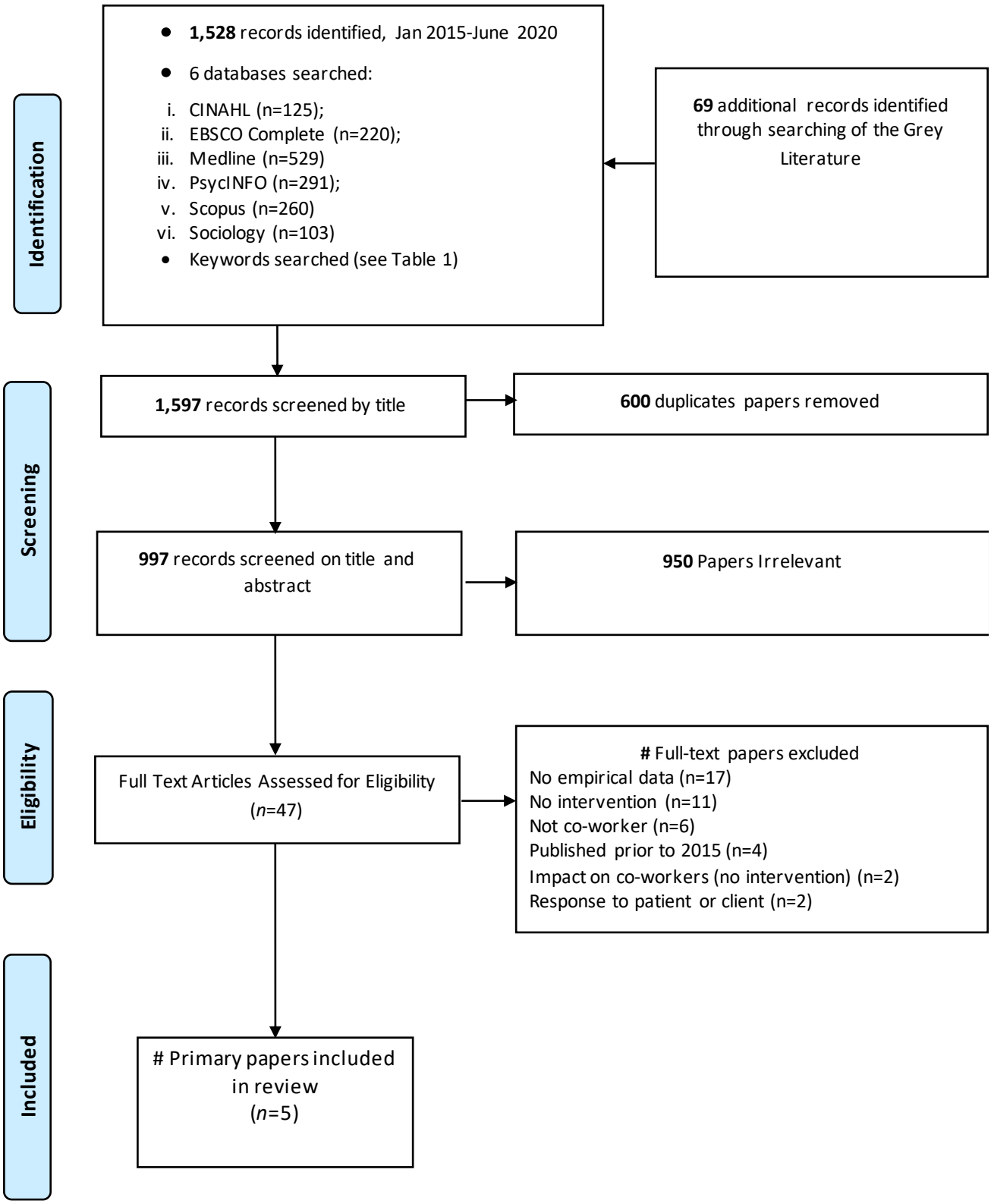
NHMRC 2009 Hierarchy of Evidence (see Table 1) and were assessed using the JBI Critical Appraisal Tool checklist (Joanna Briggs Institute, 2017).

Results

A total of 1,528 studies were located during the peer-review database search, with an additional 69 grey literature records retrieved. After removal of 600 duplicates, 997 records were screened by title and abstract, resulting in a further 950 records being excluded. Reasons for exclusion at this stage of the screening process included: no empirical data (n=17); no intervention (n=11); not co-worker (n=6); published prior to 2015 (n=4); study examined the impact of CIs on co-workers not an intervention (n=2); and response to patient or client (n=2). Following full text review, 5 records met the eligibility criteria and were included.

Figure 1 below summarises the search process and reasons for exclusion.

Figure 1: PRISMA flow diagram summarising rapid review search to identify published literature on workplace responses to critical incidents and suicide



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for Systematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Study characteristics

The characteristics of included studies are presented in Tables 2 and 3. The five included studies were published between 2015 and 2020 across three countries: The United States of America (n=3), Canada (n=1) and Korea (n=1). Four of the five studies utilised a quantitative methodology and one utilised mixed methods. Three of the four quantitative studies used a cross-sectional design and one was a case series. The one mixed methods study used a quantitative cross-sectional design and a qualitative survey (Table 2). With regard to the types of workplace settings (Table 3), these ranged from railways to factories, police and the military with one represented by an external critical response unit. In four out of the five examples interventions were delivered by external professionals who also provided support and advice to both organisations and their employees on managing the psychological effects of traumatic events (Toukoleht et al., 2020; Kang et al., 2017; DeFraia, 2016; Sparn, 2015). Only in one instance was the intervention delivered internally (Bardon, 2015).

Risk of bias within studies and level of study evidence

As shown in Table 2, among the four studies, where a cross-sectional design was used, three were assessed as "high quality" (Bardon, 2015; DeFraia, 2016, Sparn, 2015) and one was assessed as "moderate quality" (Kang et al., 2017). The case series study was assessed as "moderate quality" (Toukoleht et al., 2020) as was the qualitative survey (Sparn, 2015). All studies were classified as NHMRC level IV (i.e. the lowest level of evidence).

Synthesis of results

Pre-incident interventions

Three themes emerged from two studies on pre-incident interventions. *Development of worker resilience* (Bardon, 2015) and *development of leadership skills in CI management and recovery* was identified for factors relating to the host and *organisational preparedness* was identified for factors relating to the socio-political environment (Figure 2) (Bardon, 2015; DeFraia, 2016).

Development of worker resilience centred on the enhancing knowledge of staff and managers on what a CI is and what happens during and after a CI. This included enhancing knowledge on the psychological impact that single and cumulative exposure to CIs can have on workers, in particular emotional reactions such as stress. In addition to impact, studies suggested that staff and managers gain knowledge on strategies they could use to cope with the impact of exposure to CIs, the support networks they could draw on and external specialist resources they could access. Studies also identified education and training interventions for workers in leadership roles on how to manage a CIs and adequately support their staff throughout the duration of its impact (Bardon, 2015).

Organisational preparedness included the design, development and implementation of three key protocols/programs: CI response and management protocols (Bardon 2015); business and human continuity protocols (DeFraia, 2016); and peer support programs (Bardon 2015). It was also identified that staff and managers gain knowledge of policies on worker entitlements for leave, return to work and legal issues following a CI.

Incident interventions

Three themes emerged from one study on incident interventions. *Worker support* was identified for factors relating to the host, *incident evaluation* was identified for factors relating to the agent and *organisational response* was identified for factors relating to the socio-political environment (Figure 2) (Bardon, 2015). *Worker support* related to compassionate and empathetic communication from managers during and immediately following a CI. *Incident evaluation* referred to the development of procedures on whether and how workers should perform emergency responses at the site of a CI, for example first aid. *Organisational response* related to the strict adherence to CI response and management protocols referred to in the pre-incident phase.

Post-incident interventions

Six themes emerged from all included studies on post-incident interventions. *Intra- and extra-organisational facilitation of worker recovery* (Bardon, 2015; DeFraia, 2016; Kang et al., 2017; Sparn, 2015; Toukoleht et al., 2020) *support for staff in management and leadership roles* (DeFraia, 2016) and *facilitation of return to work* (Bardon, 2015; Sparn, 2015) was identified for factors relating to the host. *Intra- and extra-organisational and worker recovery* was identified for factors relating to the socio-political environment (Sparn, 2015; DeFraia, 2016) (Figure 2).

Intra-organisational facilitation of worker recovery related to interventions in place within the organisation for the immediate aftermath of a CI through to psychological support interventions that could be accessed as required. Studies suggested that immediately following a CI, there should be a requirement that workers are accompanied away from the CI site to a safe location where they are met by trained peers to offer support as soon as possible (Bardon 2015). Time off work following the CI was suggested by one study for a period of up to five days during which regular and compassionate contact is made by the worker's employer and members of the peers' program (Bardon 2015). In addition, it was suggested by another study that during this time, employers and peers endeavour to provide validation and understanding of feelings and reactions (Sparn, 2015). For groups of workers that experienced the same CI psychoeducation (DeFraia, 2016; Kang, et al. 2017, Sparn, 2015) could be offered in addition to an Employee Assistance Program (Bardon, 2015).

Extra-organisational facilitation of worker recovery related to interventions external to but facilitated by the worker's organisation. All studies identified de-briefing or counselling with a qualified clinician be attended by the worker within three days of the CI. Studies also applied a range of psychological reprocessing techniques including cognitive behavioural therapy (Bardon, 2015; Toukoleht et al., 2020), eye movement desensitization and reprocessing (Bardon, 2015; Sparn, 2015; Toukoleht et al., 2020), imaginerial rescripting (Toukoleht et al., 2020), and erasure and replacement of images (Toukoleht et al., 2020).

Other extra-organisational interventions included *support for staff in management and leadership roles* through consultation with an external provider to assist with the restoration of worker and organisational performance (DeFraia, 2016). To *facilitate return to work* two

studies suggested formal evaluation of the worker's fitness for work be performed by a mental health practitioner in collaboration with the worker's manager (Bardon, 2015; Sparn, 2015).

For factors relating to the socio-political environment *intra-organisational and worker recovery* interventions related to a post critical incident seminar presented at six months to two years after the CI (Sparn, 2015). *Extra-organisational and worker recovery* interventions from one study comprised a monitoring program for worker and organisational recovery with the aim of identifying whether additional interventions are required (DeFraia, 2016).

Table 2: Study characteristics

First author (Year)	Country	Methodology	Study design	NHMRC Level of Evidence	Number of subjects participated	Quality assessment - Score	Quality assessment - Assessment
Bardon (2015)	Canada	Quantitative	Cross-sectional	IV	40	7 /8	High
DeFraia (2016)	United States of America	Quantitative	Cross-sectional	IV	5,181	8 / 8	High
Sparn (2015)	United States of America	Mixed Methods	Cross-sectional Qualitative Survey	IV	52	7 / 8 6 / 10	High Moderate
Kang (2017)	Korea	Quantitative	Cross-sectional	IV	21	5 / 8	Moderate
Toukoleht (2020)	United States of America	Quantitative	Case series	IV	Not Applicable	5 / 10	Moderate

Table 3: Study workplace intervention characteristics

Author (Year)	Workplace setting	Intervention name	Intervention description	Intervention delivered by	Outcome measures
Bardon (2015)	Railway personnel	Critical Incident Response Program	- On site intervention and incident management. - Leaving the site and post-incident employer help. - Outsourced clinical support. - Private help seeking.	Rail operators	Worker level of satisfaction with Critical Incident Response Program
DeFraia (2016)	Varied (e.g. site managers, medical directors, human resource professionals, union representatives or other organizational officials.)	Critical Incident Response Unit	- Distribution of supportive educational materials. - Interventions to support employees. - Assistance for managers and leadership. - Followup consultation to ensure ongoing organizational recovery.	Staff from an external organisation referred to as occupational health practitioners.	Whether incident severity level influence organisations' decisions regarding response planning and types of interventions delivered to employees.
Sparn (2015)	Police force	Post Critical Incident Seminar	Multiday seminar that provides mental health treatment, peer support and social support.	Peers, psychologist, and other clinical staff	Post-traumatic stress, depression, and anxiety.
Kang (2017)	Factory producing textiles	Guidelines for early response to acute stress in the event of a major disaster at a workplace	Disaster response group counselling.	Psychologist, industrial hygienist, and occupational physician.	Impact of event and health.
Toukoleht (2020)	Military	Accelerated Resolution Therapy-Based Intervention	- Mindful awareness and processing of emotions with bilateral eye movements. - Imaginal exposure and desensitization. - Imaginary rescripting of a new positive version for the traumatic event. - Erasure and replacement of disturbing images. - Virtual conversations with individuals who were involved in the traumatic event. - Processing of residual emotions and images.	Psychiatrist	Acute stress and grief symptoms.

	Host (Worker)	Agent (Exposure to Critical Incident)	Environment – Physical (Workplace / Incident Location)	Environment – Socio-Political Workplace Policies and Procedures

Pre-Incident	**Develop worker resilience**
	- Information and training for staff and managers on:
	  - what happens during and after a CI.(Bardon)
	  - stress and its effects.(Bardon)
	  - typical emotional reactions and ways to cope with them.(Bardon)
	  - the cumulative impact of experiencing multiple CIs.(Bardon)
	  - support networks.(Bardon)
	  - outsourced specialised resources.(Bardon)
	Develop leadership skills in CI management and recovery
	- Training managers on how to support staff and manage CIs.(Bardon)
		-	-	**Organisational preparedness**
				- Design and implementation of CI management protocols that account for reduction of risk factors and promotion of protective factors.(Bardon)
				- Planning both business and human continuity.(DeFraia)
				- Provision of information to staff members on:(Bardon)
				  - protocols for time off (including the policy on salary).
				  - return to work policies.
				  - legal issues.
				- Development and implementation of a comprehensive peer support programme which includes: careful recruitment of peers; regular training updates and follow-up).(Bardon)

Incident	**Worker support** - Supportive, compassion and empathetic communication from managers at the CI site.(Bardon)	**Incident evaluation** - Procedures for evaluation of the capacity of workers to proceed with emergency check at the CI site (e.g. first aid).(Bardon)	-	**Organisational response** - Strictly implemented CI response and management protocol.(Bardon)
Post-Incident	**Facilitate worker recovery (internal)** - Compulsory demobilisation (removal of staff member from the CI site and return to a safe place).(Bardon) - Peer support by trained peers offered rapidly after the CI.(Bardon) - Staff member taking time off work (24hrs-5days).(Bardon) - Regular and compassionate contact from employer and peers programme.(Bardon) - Validation and normalization of feelings and experiences, recognition of social support, and increased knowledge and understanding of feelings and reactions.(Sparn) - Psychoeducation in groups who have experienced same type of CIs.(DeFraia, Sparn, Kang) - Employee Assistance Program.(Bardon)	-	Short term interventions effective resource-limited deployed setting.(Toukoleht)	**Organisational and worker recovery (internal)** - Post Critical Incident Seminar (PCIS) (6 months to 2 years post incident).(Sparn) **Organisational and worker recovery (external)** - Monitoring worker and organisational recovery to determine need for additional interventions.(DeFraia)

	Host (Worker)	Agent (Exposure to Critical Incident)	Environment – Physical (Workplace / Incident Location)	Environment – Socio-Political Workplace Policies and Procedures
	Facilitate worker recovery (external) - Clinical de-briefing / meeting with psychiatrist within a few days / 96 hours after the CI.(Bardon, Toukoleht) - Supportive educational material.(DeFraia) - One on one counselling.(DeFraia, Sparn, Kang) - Cognitive Behavioral Therapy (CBT) / processing of residual emotions.(Bardon, Toukoleht) - Eye Movement Desensitization and Reprocessing (EMDR) to improve PTSD symptoms, social functioning, anxiety and impact of the event.(Bardon, Sparn, Toukoleht) - Mindful awareness and bilateral eye movements.(Toukoleht) - Imaginerial rescripting.(Toukoleht) - Erasure and replacement of images.(Toukoleht) - Virtual conversations.(Toukoleht) **Support for organisation's management / leadership team** - Assistance / consultation to managers and leaders to restore performance.(DeFraia) **Facilitate return to work** - Formal fitness to work evaluation of staff member in collaboration with manager and mental health support team.(Bardon, Sparn)			

Figure 2: Haddon's Matrix of interventions identified in studies

Additional Papers:

Due to our inclusion criteria for this review, some studies may not have been included, but may be relevant to the development of CI training for MIC. Therefore, we have included a brief summary of these below.

Brooks, S. K., Rubin, G. J., & Greenberg, N. (2019). Traumatic stress within disaster-exposed occupations: overview of the literature and suggestions for the management of traumatic stress in the workplace. British Medical Bulletin. Retrieved from https://www.kcl.ac.uk/kcmhr/publications/assetfiles/2018/brooks2018d.pdf

This paper offers a literature review on the issue of supporting trauma-exposed employees. The authors report there remains much controversy in the literature as to what constitutes "best practice" when supporting employees in the workplace. While critical incident stress debriefing (CISD) is a common intervention used to prevention of PTSD in employees there is little evidence it is effective in preventing symptoms. In fact, as claimed by the authors, most high-quality research on CISD has shown this approach to be harmful. The National Institute for Health and Care Excellence (NICE) recommends that CISD should not be included as part of routine interventions. Rather active monitoring in the first month following exposure is recommended. This requires management to be well trained in recognising mental health problems in their employees.

Ham, C. A. (2018). Identifying possible guidelines for addressing the unexpected death of a coworker in an academic workplace (Doctoral dissertation, Valdosta State University). Retrieved from https://vtext.valdosta.edu/xmlui/bitstream/handle/10428/3070/ham-carol_dissertation_2018.pdf?sequence=1&isAllowed=y

This qualitative study of 20 participants from two universities captured the experiences of respondents to the unexpected death of a colleague in an academic setting. Common themes identified by both staff and administrators highlighted trauma, notification, work and administration. The issue of trauma was raised in response to the suicide of a work colleague and the psychological reactions experienced by staff. Lack of acknowledgement by the workplace regarding the staff members' death and the absence of appropriate counselling support for staff members was noted by respondents. With regard to notification, participants commented on the poor practices used by universities to communicate information about a colleague's death. Respondents emphasised the importance of minimising any delay in informing organisational staff and ensuring this process was approached with sensitivity. For instance, prioritising communication with those who worked closest with the staff member before notifying the university as a whole. The theme of "work" covered issues of managing grief responses in the workplace whilst also maintaining productivity and the challenges of reassigning work to meet the academic needs of students. The final category "administration" focused on a range of issues including the need for campus wide training relating to grief and traumatic loss, specialised counselling services, possible formulation of cooperative agreements with other institutions who could provide academic support as well as the role administration should play in notification and in the division experiencing the loss.

Gulliver, S. B., Pennington, M. L., Leto, F., Cammarata, C., Ostiguy, W., Zavodny, C., ... & Kimbrel, N. A. (2016). In the wake of suicide: Developing guidelines for suicide postvention in fire service. Death studies, 40(2), 121-128. Retrieved from https://www.tandfonline.com/doi/pdf/10.1080/07481187.2015.1077357

The aim of this qualitative study was to develop standard operating procedures for suicide prevention in the fire service using feedback provided by 61 participants all of whom had experience working as a firefighter. Operational responsibilities include implementing a notification procedure which is congruent with existing policies, briefing of staff within 24 hours, setting protocols for social media, designating a team leader to co-ordinate response, assign staff members to act as liaison for family members, provide immediate family members with information on the availability of financial support along with funeral requirements and postvention follow-up support. Organisational responses to co-workers include assigning roles and activities for physicians, counselling units, employee assistance programs, designating a team of support or peer counsellors, short term responses include conducting an umbrella overview with peer counsellors or chaplains and checking in with members, long term activities include assigning a peer counsellor to the workplace, establishing a "family tree" of those work colleagues who are most vulnerable, prepare for and address emotions and behaviours as they arise, setting up meetings when ready to phase out the postvention process.

Adamson, C. (2015). Best Practice in Responding to Critical Incidents and Potentially Traumatic Experience within an Organisational Setting. In Evidence Discovery and Assessment in Social Work Practice (pp. 302-323). IGI Global.

This paper provides a community health case study and a literature review to discuss CI in the workplace and identify the key principles for best practice. Through an analysis of the literature, the author draws on three knowledge bases: 1. Critical incident (e.g. EAP), 2. Contributory knowledge base (e.g. crisis intervention theories etc.) and, 3. Social work knowledge (e.g. ecological approaches). Best practices are identified including emphasis on staff training in resilience and ensuring CI responses are congruent with other forms of organisational support. Furthermore, culturally appropriate intervention strategies should include components of prevention, planning and preparation, response and follow up and delivered within a Critical Incident Stress Management framework.

Discussion

To our knowledge this paper represents the first review of interventions to respond to CI and suicide in the workplace. We conducted a systematic search on CIs and suicide in the workplace and evaluated the quality of the evidence. The results of this review demonstrate how scant the evidence-base is for individual and organisational interventions to prepare and respond to CIs. Nevertheless, there are some important lessons that can be drawn from the literature. On-site interventions offered to a large number of potentially exposed workers is likely indicated for severe incidents, while one on one counselling may be sufficient for less severe incidents (De Fraia, 2016). A variety of personnel from different agencies can be viewed positively, including police and local managers. However, the findings from Bardon

(2015) indicates that responses from managers can be either positive or negative – with ratings at the scene being more positive, and this falling in the days following the incident. When an incident occurs, the rapid removal of the crew leaving the site was important, with by far the majority reporting the average delay of 2 hours 41 mins being too long. Sites should expect staff exposed to CIs to take time off work (over 50% took three days off). Intensive and then follow up work where implemented in workplace disaster settings reported by Kang, et al. (2017), where intensive multi-day sessions were held with a one month follow up. However, the follow up was related primarily to outcome evaluation and did not have high participation. Even longer-term interventions may be required to attend to workers where the outcomes of exposure to traumatic events continue. Sparn (2015) reported on multi-day seminars provided to first responders who had exposure to trauma over longer periods (6 months – 2 years) and to assist them in working through their trauma story. This allowed for normalisation of the experience, as well as consideration of positive adaptive strategies. This may suggest that immediate, medium and longer term follow up could be considered. Meanwhile, Toukoleht et al. (2020) reported on an innovative intervention based on 'Accelerated Resolution Therapy' or ART which aimed to desensitise and reprocess rapid eye movement through mindfulness, re-scripting to erase and replace traumatic images. This intervention, albeit on a small scale, demonstrated success in achieving the stated aims.

At which point these interventions may be useful to apply to exposed workers was mapped to Haddon's Matrix along a temporal line of pre-incident, incident, post-incident. At the same time the location to intervene is considered in concentric circles out from the worker, to the exposure agent, the physical environment and then to policies, procedures and the socio-political environment. Not surprisingly, by far the most evidence was aimed directly at the exposed worker. Almost no focus was on the environmental exposures and physical workplaces, however this may be an artefact of the search criteria we utilised, as there are clearly occupational health and safety requirements in most workplaces. Interestingly, the preparation for CIs was a focus of Bardon (2015), however, this was primarily information provision rather than specific training on what can be done to reduce the impact of the incident should one occur in the future.

Of the information that is available on impact on co-workers and organisational responses, these primarily consist of popular non-peer reviewed magazine articles featuring descriptions of unevaluated interventions. For instance, G.R.I.E.F., a Guided Response, Intervention and Evaluation for Fatalities, was developed by a social worker to help employees recover from exposure to workplace deaths (Walter, 2008). A further example is the 2013 publication 'A Manager's Guide to Suicide Postvention in the Workplace: 10 Action Steps for Dealing with the Aftermath of Suicide' (Carson J Spencer Foundation & Suicidology, 2013). Although non-peer reviewed it offers a detailed and practical approach to managing acute, short- and long-term phases in response to a suicide death. Publically available resources also include mental health webinars on workplace postvention such as those recently presented by Frey and Spencer-Thomas (2020). In this presentation, it is suggested that workplaces integrate suicide prevention into health and safety plans using nine practices such as increasing awareness of suicide prevention and cultivating a culture of caring for others in the

workplace. Interestingly, the presenters advocate for a "Stratified Suicide Prevention Program" to include gatekeeper training and a peer network that are trained in recognising and responding to employee suicidal behaviour. However, like the previous examples there is no evidence base as to how effective this model is in addressing suicide prevention or postvention in the workplace.

Across the grey and academic literature, one finding is commonly reported and that is that the presence of clear messaging and information about the incident is received positively, while poor communication increases distress. Gulliver et al., (2016) recommend drawing a 'family tree' to determine who needs which information and monitoring when. Such an activity is practical, easy to implement and a collaborative way to assess risk, or triage support in the early period following an event. This could be adapted to preventative work, and preparatory planning for future incidents.

While workplace deaths are investigated by the appropriate authorities, recommendations about specific interventions to support the workplace are not apparent among publicly available outcome from these authorities. For example, in our national search of Coroners' findings we located the Inquest into the death of Colin Arthur GREAVES (2008, Coroners Court, Rockhampton). In this finding, when describing the impact of the employees' death on his co-workers, the Coroner reported "Further, those two men and others were very affected by the incident with Mr Hepburn not returning to work and Mr Jones resigning from the ERT". However, the coroner made no recommendations relating to providing support for the co-workers as witnesses to the event. This is not surprising as the purpose of Coroners' recommendations is on the prevention of future similar deaths rather than postvention response. In addition, a small proportion of Coroners' findings are publicly available.

Current models used to address exposure to trauma in the workplace include Critical Incident Stress Management (CISM), otherwise known as CISD or psychological debriefing. There is little evidence of the effectiveness of this approach. Rather many suggest this approach is not beneficial and can be harmful, including the US National Institute for Health and Care Excellence (NICE) recommends this method be avoided. By contrast, methods that include active monitoring post event are recommended. The details of what to monitor for are not explicit and should be a priority, with a triage type system to determine who may need more intensive support post-event and who will accommodate or be resilient to the event. Such a triage system, or risk matrix, could be populated to be site or industry specific utilising a matrix to identify when, where, and how to identify vulnerability.

Strengths and Limitations

The major strength of this study was that a broad literature search was performed and a systematic approach was taken to minimise the likelihood that studies that met the eligibility criteria were missed. Two experienced reviewers screened the studies, extracted data and assessed study quality. However, this review is limited by several factors. First, as a rapid review it is time limited and to ensure it is contemporary a date limitation of the past five

years was applied. Thus, papers published prior to 2015 were not retrieved. However, including our prior review of evidence on postvention, which systematically reviewed all suicide bereavement and postvention evidence over a 50-year period to 2015 provides a solid foundation. Very few papers met our inclusion criteria. This limits the findings of this paper; however, it also demonstrates the very small evidence base for organisational responses to critical incidents and suicide. Of those papers included, the the evidence is generally poor, limited by study design (as per NHMRC evidence ranking) all at the lowest level. Quality of evidence reported utilising the JBI tools was of medium to high quality. Studies did not routinely include a comparison group which meant that the results were limited to the presence and levels of satisfaction with interventions and no associations between interventions and outcomes could be assessed. Furthermore, no intervention in the included studies were evaluated for impact on reductions in adverse outcomes on workers or organisations. Our review did not locate studies that consider transient workers or workers who work across multiple locations and how they experience CIs or suicide. No papers were longitudinal, thus how people experience workplace exposure to suicide and traumatic incidents over time remains unknown. The cumulative impact of multiple exposures also requires consideration. These will be important considerations for training for postvention in the construction industry.

Implications

Despite the small number of studies in this review there was evidence that some interventions warrant consideration for an organisational approach to CIs. However, it should be noted that few of the studies evaluated these interventions and as a result additional examination of the effectiveness of interventions is required. This is specifically needed to establish evidence-based education and training: for workers on CI preparedness; and managers and senior leadership on support for workers exposed to CIs. The following five recommendations are for consideration and are intended to provide practical guidance to develop an organisational approach to preparation for, response to and recovery from CIs.

Recommendations

Recommendation 1: Develop a Critical Incident Preparedness, Response and Recovery Plan

Consistent with a multifactorial approach, interventions could be activated at the relevant temporal phase of CIs: preparedness, response and recovery at both the worker, management and whole of organisational level. These combined interventions could be documented, delivered and monitored through a detailed Critical Incident Preparedness, Response and Recovery Plan (CIPRRP). A CIPRRP could be developed in collaboration with appropriately qualified occupational health and safety practitioners, have representation at all levels of the organisations and include business and human continuity protocols. This will ensure that the CIPRRP is based on best practice principles of occupational health and safety and there is input from workers, managers and senior leadership to maximise investment in the plan. The

plan should be managed through a governance structure, be accessible to all staff to ensure transparency and be regularly reviewed (e.g. annual and/or following a CI) and updated.

Measures to evaluate whether a CI was managed in accordance with a CIPRRP should be included in the plan. This could be conducted for both simulated and actual CIs as a mechanism of examining adherence and to identify areas of improvements. Outcomes of the evaluation of simulated and actual CIs should be disseminated to all members of the organisation to maintain transparency and as a mechanism of organisational engagement. How, by whom and when such a plan is developed should be included in any training.

Recommendation 2: Establish the evidence-base for peer-support programs

Peer support programs have been implemented in a number of workplaces and were an intervention present in one of the included studies. Further examination of the elements of peer support programs and their effectiveness on contributing to worker recovery following exposure to a CI is required to determine whether it should be included in a CIPRRP. Where peer support is used, there is emerging evidence that normalisation of experiences are useful activities. However evidence for how benefits are monitored and potential challenges addressed need to be carefully considered.

Recommendation 3: Develop and deliver evidence-based training on CI preparedness

CI preparedness could also include that all members of the organisations receive practical and evidence-based training on the nature, impact and recovery from CIs. Additional training could be provided to managers and senior leadership on how to support workers exposed to a CI and that support is provided at every layer of the organisations. Evidence of participation and passing an assessment testing workers and managers knowledge could be linked to performance plans to maximise compliance by employees with poor engagement in occupational health and safety.

Consideration could also be given to senior leadership receiving regular external psychological support or at specified intervals following a CI. This will ensure that support is provided by senior leadership to managers that are supporting workers as well as for senior leadership as the impact of CIs can be felt beyond directly exposed workers. This training should ideally be undertaken at the time of induction to an organisation and also include regular CI simulations (with post-simulation debriefings) and refreshers.

Recommendation 4: Develop and deliver evidence-based training on CI response

The organisational expectations on workers and managers responses to CIs should be outlined in detail in the CIPRRP and be communicated via an education and training program preferably with practical activities and an assessment. Elements that could be considered for inclusion comprise:

- how workers should respond immediately prior to and during a CI, for example extra-and intra-organisational communication of the occurrence of a CI, provision of first aid to injured co-workers etc.

- extra-and intra-organisational communication by managers and senior leadership;
- how and what support will be provided to workers in the immediate period following the CI, including, transportation away from CI site (where relevant and possible), peer and professional psychological support and period of compassionate leave.
- how and what support will be provided to workers during the period of compassionate leave, specifically, peer and professional psychological support, human resource and legal considerations.

Recommendation 5: Develop worker and organisational recovery protocols

Studies identified a number of intra- and extra-organisational interventions to support recovery for workers exposed to and organisations impacted by CIs. The CIPRRP could include a suite of clinical and non-clinical psychological support programs that can be offered to individual and groups of workers. Organisations should offer access to psychological interventions immediately following exposure to the CI, throughout compassionate leave and for a period following return to work as willingness to engage may change over time. There is good evidence for the effectiveness of psychological reprocessing techniques, particularly for symptoms of post-traumatic stress.

At the organisational level, the CIPRRP could include a protocol that for actual CIs, a whole of organisation post CI seminar or debriefing be delivered to facilitate worker and organisational recovery and promote transparency in the response and recovery process. Protocols could also be included in the CIPRRP that input from external occupational health safety professionals be invited (as required) to assess organisational and worker recovery and provide any recommendations on future interventions required.

Conclusions

There is a profound lack of available evidence of other interventions aimed at preventing workplace trauma. This can lead to poor practices that could increase distress in an already vulnerable individual. Monitoring individuals in the period post incident has the most attention, however how and for whom this is done is not specified. Considering the pre-incident, incident and post-incident temporal pathway will assist in mapping when and where training to alleviate adverse outcomes may be considered. Similarly considering the individual through to the policy and procedural levels will assist in integration of training to support workers post CI or suicide event on-site or among a work crew.

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APPENDICES

Appendix 1 – List of peak organisations included in the identification of eligible studies (searched completed on the 14 June 2020)

Australia

Blackdog Institute https://www.blackdoginstitute.org.au/research-areas/workplace/

Beyond Blue http://www.headsup.org.au/healthy-workplaces/for-employers

Lifeline https://www.lifeline.org.au/about-lifeline/resources/research-and-reports

Trove https://trove.nla.gov.au/

Living Is For Everyone (LIFE) (http://www.livingisforeveryone.com.au/Home.html)

Life in Mind https://lifeinmindaustralia.com.au/programs-resources/resources/p2

International

Google Scholar http://www.googlescholar.com

Grey Literature Report http://www.greylit.org/home

International Association for Suicide Prevention
https://iasp.info/suicide_and_the_workplace_resources.php

Mental Health Compass (https://webgate.ec.europa.eu)

RAND Corporation https://www.rand.org/research.html

Suicide Prevention Canada (http://www.suicideprevention.ca/)

The Suicide Prevention Resource Center Best Practice register (http://www.sprc.org/bpr)

Working Minds Suicide Prevention in the Workplace
https://www.constructionworkingminds.org/

Appendix 2: Screening Checklist

Responses to Workplace Critical Incidents and Suicide – Inclusion/Exclusion Screening Checklist

1	Is the paper published in English between 2015 and 2020?	Yes Continue to Q2.	No EXCLUDE	Unsure Check with 2nd reviewer
2	Does the study appear to contain original data (qualitative/quantitative) or review papers that were reporting original data?	Yes Continue to Q3.	No EXCLUDE	Unsure Check with 2nd reviewer
3	Does the paper contain data relating to suicide or CIs (injury etc.) occurring within the workplace environment?	Yes Continue to Q4	No EXCLUDE	Unsure Check with 2nd reviewer
4	Does the paper contain data relating to suicide or CIs in the workplace and the impact on co-workers other than health professionals or first responders' response to patient or client suicide or the impact of CIs or suicide on bereaved families?	Yes Continue to Q5	No EXCLUDE	Unsure Check with 2nd reviewer
6	Does the paper include an evaluation of support services/interventions/programs when dealing with a workplace death or CIs?	Yes Proceed to data extraction	No EXCLUDE	Unsure Check with 2nd reviewer

Appendix 3: Example of a Search String used to identify records:

Search String
Medline (Web of Science) (suicid*) OR (death) OR (critical*) NEAR/5 (inciden*) OR MH: (suicide) OR (death) OR (crisis intervention)
AND (bereave*) OR (grie*) OR (mourn*) OR (trauma*) OR MH: Bereavement exp OR (psychological trauma) OR postvention
AND (workplace*) OR (workforce) OR (employ*) OR (co-worker*) OR (colleague*) OR MH: (workplace) OR (employment)

Limited to English language, published between 2015-2020

Appendix 2: Key Informant Interview Guide

Site Managers and workers

Thankyou…… for agreeing to participate in this interview.

My name is Sarah Wayland / Tara Lal / Nikki Jamieson and I am a researcher from the University of New England. Much of my research looks at the impact of exposure to trauma and distress in the context of suicide prevention. Thank you so much for taking the time to share your experiences with me today.

To give you some background on this study, we have been commissioned by Mates in Construction to provide them with evidence upon which they can develop a training package for construction workplaces to assist sites after a critical incident and/or a suicide. MIC sent out the information about the study to people who may have an interest or experience in critical incidents or suicide. We will not be telling MIC who we have interviewed. In the interview I am going to ask you about your own experiences of critical incidents or suicide affecting your workplace and your workmates. Do you have any questions about the research or what is being asked of you?

With your permission I would like to audio-record this interview to ensure that I don't miss any of your comments. I will also be taking hand-written notes. [Permission sought, turn on recorder]. I would like to remind you that you are not obligated in any way to participate in this interview and if you wish to stop the interview you are free to do so at any time. Your confidentiality will be maintained throughout the research process and the transcribed recordings will not be identifiable. I would also like to remind you that if this interview raises any issues for which you, we encourage you to contact your Employee Assistance Program or preferred health care provider – the contact details for the EAP are in the participant information and consent form provided to you. You can also call the 24/7 Mates National Helpline on 1300 642 111.

I'd now like to talk to you about experiences of critical incidents and support after suicide that you have been part of in your work.

1. Thinking firstly about critical incidents, can you think about a time where you were involved in a response? (NB: CI is an event or situation within workplace settings or roles which have the potential to create a sense of emergency, crisis, and extreme stress, or have a traumatic impact on those directly or indirectly affected)

a) Can you tell me a briefly about the incident that required response?
b) If you or your workmates received support, please describe what support was offered to you
c) Who provided the support?
d) What parts of the support were helpful to you?
e) What elements of the support could have been improved?
f) What impact did this incident have on you and your work?
g) What impact did this exposure have on you personally?

2. Have you been involved in support after a suicide? (If so…) How where you involved?
    1) Can you briefly describe the situation when/where the suicide occurred?
    2) If you received support, please describe the support offered to you/your site
    3) Who provided the support?
    4) What did you find helpful for you/your site?
    5) What parts of the support could have been improved?
    6) How did the suicide affect you and your workmates at work?
    7) How did the suicide affect you /your workmates personally?

This part of the interview asks you to think about what you notice about those in your workplace. What we know from the literature is that people may be adversely impacted by an incident or a death in different ways.

3. In thinking about what we discussed earlier; did you have workmates who appeared to cope well even after such a difficult event? Why do you think they coped so well?
4. In thinking about the issues, were there workmates who appeared to struggle or do it tough? Why do you think they struggled?
5. How do you think the follow up support after the critical incident or suicide dealt with those who struggled through to those who appeared to cope well?
    a) Did it work better for some than others?
    b) How would you describe these differences?

6. Thinking about your workplace, whose responsibility is it to organise the support after a critical incident or suicide?
    a) Do you think people in these roles are aware this is their responsibility?
    b) What do you think people in these roles need to perform these tasks?
7. Do you know what other forms of professional support are available to you on site or off site after a critical incident or suicide?
8. What would be your ideal ongoing support arrangement in relation to critical incidents?
9. What would be your ideal ongoing support arrangement in relation to suicide?
10. What training do you think would be required for someone new to taking on these roles in the workplace?
11. Is there anything further you would like to add about your workplace experiences that we have not discussed?

Finish: Thank for time and reiterate the wellbeing phone number: 24/7 Mates National Helpline on 1300 642 111.