Measure Name Support rail staff after traumatic events

Definition Provide employees with support before, during, and after a suicide or trespass incident.

Tags:

Incident Type	Both trespass and suicide
Location	Both station and right-of-way
Intervention Strategy	Education: outreach and messaging
Measure Group	Post-incident management

Description

This measure focuses on strategies to provide employees with support before, during, and after a suicide or trespass incident.

Extensive research exists on how suicide and trespass incidents negatively affect mental health and wellbeing of train crews, however other employees are also impacted, including track maintenance and management. Train crews may experience Post-Traumatic Stress Disorder (PTSD), anxiety, depression [1], and a variety of other disturbances [2]. Symptoms from these incidents can last for several months or more after an incident, and they can lead to an increase in time away from work compared to employees who never experienced an incident [1]. Less intense stress reactions may also occur that go undiagnosed, but are persistent and may include sleep disorders, chronic fatigue, hypervigilance, irritability, or intrusive memories [2]. Research indicates that it is important to consider and recognize these undiagnosed negative effects, which may directly impact safety [2]. Research also emphasizes that offering both immediate and long-term support for train crews after an incident helps to reduce negative impacts [3].

Certain types of rail carriers are required to develop plans to support train crews after an incident occurs, as outlined in Title 49 of the Code of Federal Regulations (CFR) Part 272, *Critical Incident Stress Plans* [4]. Requirements include relief from duty at the time of the incident and subsequently, transportation from the incident, and counseling and other appropriate support services (refer to the CFR for a complete list of requirements). Additional recommendations for critical incident stress plans are provided in *Proposed Key Elements of a Critical Incident Intervention Program for Reducing the Effects of Potentially Traumatic Exposure on Train Crews to Grade Crossing and Trespasser Incidents* [5].

A study of Critical Incident Management and Support Protocols (CIMSP) in Canada identified certain helpful and harmful practices [6]. Inconsistent application of support protocols across an organization was common and can be corrected with training. Pressures to return to work, to the scene and in the days following the event, resulted in employee dissatisfaction. Clearly conveying support protocols to all employees was helpful for establishing expectations for what support will be offered at the scene and in the days immediately following an incident. Managers who respond to the scene may also experience trauma as a result of a single event or the accumulation of responding to many events and support should be offered to these roles as well.

Rail employees can benefit from training such as psychological first aid or resilience training, to help prepare them for managing stressful situations, including trespass and suicide incidents. Psychological first aid teaches actions that can help employees immediately after experiencing a traumatic event and help staff to quickly assist coworkers. This approach is used by first responders, the U.S. Department of Veterans Affairs, and others. Resilience training focuses on skills to help better manage traumatic events experienced on the job [7] and has been useful for law enforcement and other first response occupations. Resilience training can also help employees to effectively manage daily stress, adapt to change, and maintain job performance [8]. These trainings can complement required critical incident stress plans and can be paired with other efforts to support employee mental health, including education about mental health issues and how to find support.

Peer support also shows promise in providing support for employees who experience trauma in the workplace and may be particularly beneficial for individuals who lack trust in professional services and those who are impacted by stigma around mental health and asking for help. For example, Trauma Risk Management training has been shown to assist in changing employees' attitudes toward talking to coworkers about a traumatic event and seeking help [8].

Encouraging employees to check in with one another benefits staff and helps to create a safe and supportive work environment. One rail industry example is "R U OK? Day" in Australia and New Zealand, which is an event that encourages employees to reach out to support one another and promotes information about recognizing the signs of a coworker who may need help, and how to start a conversation [9]. Chicago's Metra initiated the "Breaking the Silence" campaign in collaboration with Amtrak and others to promote a more open discussion of railway suicide within the rail industry and in the public [9]. These various programs can help to normalize the discussion of these incidents and the impact they have on employees. As a result, this can help change the railroad culture, so employees feel more comfortable sharing their experiences and supporting their peers.

Additional search terms: *acute stress disorder, conductor, driver, engineer, post-traumatic stress disorder, PTSD, stress, train crew*

Advantages

- Resiliency skills can benefit employees both in their personal lives and the work environment.
- Training that underscores the common emotions and reactions to traumatic events may encourage employees to talk more openly about their experiences and seek help when they need it.
- Supporting employee mental health is low cost. Rail carriers can use existing resources within Employee Assistance Programs (EAPs).
- Effective programs can reduce the length of recovery for train crew members, help to prevent the development of problems that could hinder job performance, and reduces burden for replacing skilled workers [2].
- Supporting employee mental health may benefit both physical health and job performance [9].

Drawbacks

- Employees may have varying comfort levels and interest in receiving this type of support and/or training.

Notable Practices

- Employee support programs should fit the unique needs of each individual rail carrier and its staff [5].
- Identify who will be responsible for communicating with the employees involved following an incident [5].
- Clearly communicate support protocols to all employees as this will help develop realistic expectations of what an employee may expect from their manager following an incident. Failure to clearly communicate these protocols can lead to unrealistic expectations and dissatisfaction with the support provided [6].
- Return to work following a potentially traumatic event should be managed in a clear and systematically applied manner as returning too quickly can have significant consequences such as fatigue, discouragement, and errors [2].
- More successful programs that aid in employee recovery include: effective management at the scene by a supervisor (taking charge, assessing current emotional state and needs, providing emotional support and psychological first aid, sharing relevant information); an absence of pressure on workers to move the train, to continue working or to return to work; assessing the emotional state and needs of employees in the days following an incident; offering support and referrals to EAP services proactively and repeatedly; and assessing needs to provide support for return to work [2].
- Apply support protocols for both incidents that result in injury as well as those that result in a fatality as the impacts may be felt for both types of incidents [6]. Other potentially traumatic events, such as close-calls, also warrant support [2].
- Within an employee support plan, specify EAP responsibilities for employee outreach and other protocols after an incident occurs [5].
- Psychological debriefing, a practice that used to be common for railroads, should not be used for people exposed to a traumatic event. Evidence has shown that it can worsen symptoms and increase the potential for developing PTSD after a potentially traumatic event [10].
- People respond in varying ways to traumatic events. A variety of support options should be made available, so that help is tailored to the needs of individual employees.

- Support should also be offered to managers who respond to the scene of these events. A single event and/or the accumulation of many events may induce trauma responses for individuals in these roles as well [6].
- Training should convey that feeling distress after an incident occurs is normal and provide information about recognizing PTSD symptoms [11].
- It is important to highlight the benefits of receiving support after a traumatic event, given that some employees may be hesitant to seek or accept support due to the stigma associated with mental health concerns. Training, team-building activities, and peer support can help to reduce stigma [8].

References

[1] Clarner, A., Graessel, E., Scholz, J., Niedermeier, A., Uter, W., & Drexler, H. (2015). Work-related posttraumatic stress disorder (PTSD) and other emotional diseases as consequence of traumatic events in public transportation: a systematic review. *International Archives of Occupational and Environmental Health*, *88*(5), 549-564.

Abstract: Background. Drivers in public transportation are at risk of experiencing potential traumatic events such as accidents involving persons, collisions, or suicides. In this context, the question arises to what extent psychological traumatization and posttraumatic diseases occur. Purpose. The aim of this systematic review was to describe the frequency and nature of work-related posttraumatic disorders, to analyze risk and prognostic factors after potentially traumatic events (accidents resulting in damage to property and/or in injury or death), and address sick leave after such events in the realm of public transportation, based on the available literature. Methods. Systematic review based on four databases (PubMed, PSYNDEX/MEDLINE, ScienceDirect, PILOTS) between 1980 and June 2013. Results. We identified seven studies (four longitudinal, three cross-sectional) that examine employees after person under train (PUT) events. PTSD prevalences varied broadly between 0.7 and 17 %. The same applies to dysthymia/neurotic depression (1–26 %). However, similarly low prevalences of major depression (1.3–2.8 %) and panic disorder (0.5–1.3 %) have been observed. Risk factors of PTSD comprised individual, work-related, event-related, and prognostic aspects. Following the traumatic event, a total of 69–81 % of the drivers were absent, and if sick leave occurs, this was on average 3–19 days. Conclusions. It became evident that drivers in public transportation run a high risk of sick leave. It was also striking that despite the immense impact of PUT and high number of suicides, only an infinitesimal number of studies exists. Due to various differences (period of follow-up, instrument of measurement and study period), it turned out that the comparability of the results of the studies is limited. For various reasons, further research is urgently needed, as from an occupational health point of view the issue of posttraumatic diseases and implications for fitness for service should be addressed.

[2] Bardon, C., Dargis, L., & Mishara, B. L. (2022). Impact of Railway Critical Incidents on Train Drivers and Effectiveness of Critical Incident Management and Support Protocols: A Recovery Trajectory Analysis. *Journal of Occupational and Environmental Medicine*, 64(2), e70-e77.

Abstract: Objective: Train drivers are regularly involved in railway critical incidents (CI) and critical incident management and support protocols (CIMSPs) have been developed to support them. This study describes the impact of CIs and evaluates the effectiveness of CIMSPs. Methods: We interviewed 74 train drivers 1 week, 1, 3, and 6 months after a CI. We performed Linear growth model analyses to describe recovery paths and the effect of CIMSPs, considering the effect of CI complexity, proximity to victims, social

support, self-assessment of health, use of resources, and attribution of responsibility. Results: CIs have a significant negative impact on train drivers. Recovery paths can be explained by the level of implementation of CIMSPs, and other contributing factors. Conclusions: CIMSPs are effective in reducing the negative impact of CIs and should be implemented rigorously by employers.

[3] Limosin, F., Loze, J., Cothereau, C., de Beaurepaire, C., Payan, C., Conso, F., Hautecouverture, S. & Rouillon, F. (2006). A prospective study of the psychological effects of "person under train" incidents on drivers. *Journal of Psychiatric Research 40*(8), 755–761

Abstract: Previous studies have shown that person under train (PUT) accidents cause psychological distress to drivers during the first year following the incident. Our aims were to assess the psychological consequences of PUT accidents on drivers prospectively, and to identify risk factors for psychological effects. In this prospective, one-year, follow-up study, a consecutive series of PUT drivers (n = 202) were compared with a group of matched control drivers (n = 186). Psychological state was assessed 15 days, 3 months and 1 year after the event, using the GHQ-28 questionnaire and a standardised diagnostic interview (the v4.4 MINI). Fifteen days after the event, PUT drivers had significantly higher GHQ-28 scores ($p < 0.0001$) and more acute stress disorder ($p = 0.008$) than control drivers. No significant differences were found 3 months and 1 year after the accident. Significant explicative variables were the presence of acute and chronic psychosocial stressors (OR = 3.30 and 3.68) and the availability of immediate help (OR = 0.46). We thus confirm previous findings that train drivers who have experienced a PUT accident experience acute psychological disturbances. Our results also highlight the utility of the systematic prevention programme provided.

[4] Critical Incident Stress Plans, Title 49 CFR Part 272 (2014).

[5] Gist, R. (2014). *Proposed Key Elements of a Critical Incident Intervention Program for Reducing the Effects of Potentially Traumatic Exposure on Train Crews to Grade Crossing and Trespasser Incidents* (No. DOT/FRA/ORD-14/06). United States. Federal Railroad Administration. Office of Research and Development.

Abstract: This independent report presents work conducted regarding project FR-RDD-0024-11-01 to advise and support the formulation of regulations and supporting materials concerning "critical incident" response plans for rail carriers covered by the Rail Safety Improvement Act of 2008, Sec. 410. This report addresses the following topics: (a) Review of literature on established and emerging research findings with respect to occupational exposure to potentially traumatic events (PTEs)(b) Review of literature on current best practices with respect to prevention, mitigation, early intervention, and evidence-based treatment of established sequelae from such exposures; (c) Review of current practices by key rail carriers as reported through the Association of American Railroads (AAR) to determine level of consensus reflected in existing programs respecting critical requirements of the authorizing act (e.g., definition of "critical incident," release from duty of impacted employees, intervention design, and evaluation of outcomes);(d) Preparation of a general guidance template outlining key features that might be expected in model programs, reflecting current best practices and existing consensus; and (e) Comparison of reported features within existing carrier programs with critical elements of current best practices.

[6] Bardon, C., Dargis, L., & Mishara, B. (2021). Evaluation of the implementation of a railway critical incident management and support protocol to help train drivers cope with accidents and suicides. Journal of Occupational and Environmental Medicine, 63(8), e495-e504.

Abstract: Objective: Railway accidents and suicides can have severe psychological consequences for train drivers. This study evaluates the implementation of railway critical incident management and support protocols (CIMSP) by employers. It also identifies environmental factors, characteristics of critical incidents, and types of work relations affecting implementation. Methods: A longitudinal study was

conducted with 74 train drivers. Participants were interviewed 1 week, 1, 3, and 6 months after a critical incident. Correlational analyses were performed to identify factors associated with implementation and satisfaction. Results: CIMSP are generally partially applied by employers when a railway incident occurs. Workers' satisfaction toward implementation of the protocol is moderate. Obstacles to implementation are: geographic isolation, severity of the incident, and poor quality of work relations. Conclusions: These obstacles should be addressed in CIMSP design and implementation strategies.

[7] Arnetz, B. B., Nevedal, D. C., Lumley, M. A., Backman, L., & Lublin, A. (2009). Trauma resilience training for police: Psychophysiological and performance effects. *Journal of Police and Criminal Psychology*, *24*(1), 1-9.

Abstract: The objective of this study is to test the effects of police trauma resilience training on stress and performance during a critical incident police work simulation. Rookie police officers (N = 18) participated in a randomized trial of a 10-week imagery and skills training program versus training as usual. Twelve months later, psychophysiological stress and police work performance were assessed during a live critical incident simulation. Training resulted in significantly less negative mood, less heart rate reactivity, a larger increase in antithrombin, and better police performance compared to controls. Trends for cortisol and self-reported stress also suggested benefits of training. This novel training program is a promising paradigm for improving police well-being, stress resiliency, and optimizing job performance.

[8] Sage, C. A. M., Brooks, S. K., Jones, N., & Greenberg, N. (2016). Attitudes towards mental health and help-seeking in railway workers. *Occupational Medicine*, *66*(2), 118-121.

Abstract: Background: TRiM (Trauma Risk Management) has been shown to improve mental health and attitudes towards mental health in high-risk occupational groups; however, there has been no research into how TRiM might work for railway workers. Aims: To assess whether attending a TRiM training course alters mental health and attitudes to mental health-related help-seeking in railway workers. Methods: Workers completed a survey assessing mental health and attitudes towards mental health and help-seeking, before and after a 2-day TRiM course; follow-up questionnaires were administered 4 months post-course. Results: Fifty railway employees completed the questionnaires. Post-course scores for cohesion and mental health peer literacy (i.e. feeling able to recognize and discuss mental health symptoms with colleagues) and some aspects of stigma significantly improved, while there were non-significant improvements in common mental disorder and post-traumatic stress symptoms. The response rate for completing follow-up surveys was small (*n* = 8) but results from these subjects suggested mental health peer literacy scores remained significantly improved. Conclusions: This study provides a useful insight into attitudes of railway workers regarding stigma and their confidence in discussing trauma-related mental health. Significant improvements in cohesion and mental health peer literacy along with the general improvement in scores post-TRiM course provide some evidence of the potential benefits of TRiM training in railway workers. Follow-up results have limited reliability due to the small number of responders but suggest possible long-term benefits of attending a TRiM course. Further research is required to confirm this finding.

[9] Gabree, S. H., Hiltunen, D., & Ranalli, E. (2019). *Railroad Implemented Countermeasures to Prevent Suicide: Review of Public Information* (No. DOT/FRA/ORD-19/04). United States. Federal Railroad Administration. Office of Research, Development, and Technology.

Abstract: The public discussion of railroad safety initiatives can help to improve safety, either directly with the public through an increased awareness, or by encouraging other carriers to consider similar safety efforts. Rail carriers are often quick to promote trespass and crossing safety efforts, however, efforts to mitigate rail suicide are often not discussed. Suicide is unique from other rail safety topics in that it requires more precise language when discussing publicly. Responsible discussion of suicide prevention can increase the availability of information on how to get help, while limiting the dramatization of these events, thereby reducing the likelihood of copycat events. In this report, the authors conducted web-

based searches to identify rail-specific efforts to mitigate suicide that have been publicly discussed, either by the carrier themselves or through the media. Generally, there is limited discussion of suicide-specific prevention efforts being undertaken by rail carriers, and the level of detail provided about these efforts varies. In total, 14 carriers and a range of strategies were identified including fencing, signage, detection and monitoring, training of employees and authorities, public and industry events, websites, and media guidelines. Partnerships with suicide prevention groups, both local and national, were most often discussed.

[10] Devilly, G. J., Gist, R., & Cotton, P. (2006). Ready! Fire! Aim! The status of psychological debriefing and therapeutic interventions: In the work place and after disasters. *Review of General Psychology*, 10(4), 318-345.

Abstract: Psychological debriefing (PD) is a brief, short-term intervention aimed at mitigating long-term distress and preventing the emergence of posttraumatic stress. In recent years, it has become a ubiquitous intervention, one which has evolved as almost prescriptive following harrowing events and grew through a practical need to offer assistance to those who are exposed to severe trauma. Despite disturbing data from the recent refereed literature of psychology, it is still referred to as the "standard of care" for disaster and crisis response and its use in many quarters continues. This article critically reviews the evidence for and against its use and outlines the weaknesses in the research. The emphasis of this review is on the appropriateness of debriefing in organizations. This article also proposes a set of hypothesized constructs that may, in part, be responsible for the paradoxical effects found in some outcome studies on debriefing. Guidelines are also proposed to help organizations and professionals react appropriately using evidence-based interventions.

[11] Leon, M. R., & Halbesleben, J. R. (2013). Building resilience to improve employee well-being. A.M. Rossi, J.A. Meurs, P.L. Perrewé (Eds). *Improving Employee Health and Well Being*, (pp. 65-82).

Description: Book chapter that addresses employee resilience, well-being and performance.

Additional Resources

The following websites provide various resources that may be useful for supporting rail staff, and can be adapted to the rail environment:

- International Critical Incident Stress Foundation, Inc.
- TrackSAFE 2023 Rail Industry Trauma Management Framework
- National Center for PTSD Psychological First Aid: Field Operations Guide
- National Center for PTSD Psychological First Aid Manual (includes links to manuals for other occupations)
- National Center for PTSD Stress First Aid: Manuals and Resources for Health Care Workers
- Rail R U OK? Day webpage

Bardon, C., & Mishara, B. L. (2015). Development of a comprehensive programme to prevent and reduce the negative impact of railway fatalities, injuries and close calls on railway employees. *Journal of Occupational Rehabilitation*, *25*(3), 557-568.

Abstract: Aim This article presents a strategy to prevent trauma, support and care for railway personnel who experience critical incidents (CI) on the job, usually fatalities by accident or suicide. Method We reviewed all publications on CI management, support and care practices in the railway industry, as well as practices in place in Canada (unpublished protocols). Semi structured interviews were conducted with 40 train engineers and conductors involved in CIs and the content was coded and analysed quantitatively. Results Employees' satisfaction with the help received after the incident varies according to the behavior of the local manager, company officers and police, the level of compliance with existing company protocols to help them, the presence of unmet expectations for support and care, their perceived competency of clinicians they consulted and the level of trust toward their employers. Conclusion On the basis of the interview results, the review of existing railway practices and discussions with railway stakeholders, a model protocol was developed for a comprehensive workplace prevention, support and care protocol to reduce the negative impact of railway critical incidents on employees. This protocol includes preventive actions before traumatic events occur, immediate responses at the site of incident, interventions within the first few days after the incident and longer term support and interventions provided by the company and by outsourced experts.

Creamer, M. C., Varker, T., Bisson, J., Darte, K., Greenberg, N., Lau, W., ... & Watson, P. (2012). Guidelines for peer support in high-risk organizations: An international consensus study using the delphi method. *Journal of Traumatic Stress*, *25*(2), 134-141.

Abstract: Despite widespread adoption of peer-support programs in organizations around the world whose employees are at high risk of exposure to potentially traumatic incidents, little consensus exists regarding even the most basic concepts and procedures for these programs. In this article, consensus refers to a group decision-making process that seeks not only agreement from most participants, but also resolution of minority objections. The aim of the current study was to develop evidence-informed peer-support guidelines for use in high-risk organizations, designed to enhance consistency around goals and procedures and provide the foundation for a systematic approach to evaluation. From 17 countries, 92 clinicians, researchers, and peer-support practitioners took part in a 3-round web-based Delphi process rating the importance of statements generated from the existing literature. Consensus was achieved for 62 of 77 (81%) statements. Based upon these, 8 key recommendations were developed covering the following areas: (a) goals of peer support, (b) selection of peer supporters, (c) training and accreditation, (d) role of mental health professionals, (e) role of peer supporters, (f) access to peer supporters, (g) looking after peer supporters, and (h) program evaluation. This international consensus may be used as a starting point for the design and implementation of future peer-support programs in high-risk organizations.

Related Measures

- Identify funding opportunities
- Incident cost estimation
- Plan for expedited incident response