Firefighter Mental Health: A Literature Review of Current Individual and Organizational Issues.

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January 28th, 2021

**Introduction**

Firefighters and other first responders are ninety percent more likely to be exposed to a potentially traumatic event (PTE) more than eleven times, in their lifetime, whereas the general population is likely to be exposed to much fewer10,3. PTSD is classified in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as a Trauma- and Stressor-Related Disorder1. It is estimated to affect firefighters at an estimated rate of ten to twenty-two percent3,11,6,13; however, PTSD is no more probable than major depression or other mood disorders following a traumatic exposure and there are substantial numbers who do not develop PTSD or other mental disorders15.

Current interventions and trainings include the Road to Mental Readiness (R2MR) program, Critical Incident Stress Management (CISM), Peer Support Training and Programs, Crisis Intervention Stress Debriefing (CISD), defusing, Psychological First Aid, psychoeducation, the NOVA program, the Raphael, and Dyregrov Models of Debriefing, Group Stress Debriefing (GSD), emotional decompression, Multiple Stressor Debriefing (MSD), and Demobilization2. There is split evidence on whether these interventions should be used as stand-alone interventions or as part of broader CISM programs2.

Based on current literature, mental health training for firefighters is severely under achieving and cultivating a piece of the current stigma in the workplace. There are minimal preventative programs, and most interventions are completed after critical incidents and retention and learning is minimal2,9,6. There is also a disconnect between supervisory or management staff and frontline workers regarding mental health training, stigma, a lack of acceptance of potential mental health issues among both groups7,9,10. An overhaul of mental health and resiliency training needs to be conducted with programs that involve check-ins, refreshers, and preventative

measures for all mental illnesses. There are three fundamental areas of focus these trainings should cover: individual mental health knowledge; stigma, resilience, and training; mental health at the organizational level.

**Individual Mental Health Knowledge and Exposure to Trauma**

 A key theme that emerged from a study on attitudes and practices for hiring first responders was that many current employees found new hires were that many new hires would be unaware of the mental health issues that could arise from repeated exposure to PTEs9.

 Results from an Australian based firefighter study collecting results of PTE exposures with 90% of participants having at least one exposure and less than 40% using adaptive coping strategies11. These results imply that there is more at play in preventing mental wellness issues due to repeated traumatic exposure than knowledge, training, and positive coping strategies11.

Moreover, a study on the potential pre-trauma risk factors for PTSD and depression in paramedics conducted in London U.K. indicated that the paramedics at risk of developing PTSD or MD could be identified within their first week of training and that these paramedics could benefit from increased mental health training to boost resilience14.

 A study on Canadian first responders exploring the relationship between PTEs and positive screens for mental disorders, in which they found positive screens can occur for many kinds of trauma exposures but never found that one mental disorder could be a result of one type of trauma exposure and the opposite was also indicated in that no singular traumatic event could be the cause of a singular mental disorder3.

 A study conducted on paramedics in Switzerland found that most participants did not report PTSD symptoms12. They attributed this to having available psychological help at work,

high resilience, and a sense of coherence with others12. This is indicative of the importance of having peers help support you, minimize mental wellness issues2.

 In 2018, a study on Canadian first responders’ likeliness of exhibiting suicidal behaviours found police and firefighters were least likely to exhibit suicidal behaviours whereas, paramedics had the highest rates in both past-year and lifetime prevalence categories4. The researchers attributed this to rates of trauma exposure, mental disorders, and organizational stressors4. This concept leads to implications of organizational barriers and questions the importance of workplace relationships in preventing firefighter mental wellness issues.

**Stigma, Resilience and Training**

 Firefighters need to be resilient and need to know that exposure to trauma is a regular occurrence and be able to manage that9. A 2016 study concluded that paramedics with low perceived resilience and the exposure to traumatic events during training uniquely predicted the risk of an episode of depression14.

 A longitudinal assessment of the R2MR program in Canadian police found results that imply that the program may not be as effective as hoped6. The study found no significant changes in mental health knowledge nor resiliency scores across time6. Furthermore, there was a decrease in stigma immediately following the training but, the decreases were not significant at the six- and twelve-month markers6; yet a different study on the R2MR program for all first responders found improvements in resiliency and stigma in a span of three months13.

 Results from a study on mental health knowledge stigma and service use intention for Canadian first responders indicated that higher mental health knowledge was associated of lower

stigma and higher willingness to seek professional help with exceptions being found in firefighters and paramedics regarding stigma and service use intention respectively8.

A study on mental health training and screening positive for mental disorders found that when participants were given some form of mental health training their chances of screening positive for any mental disorders declined5. The study also found that any mental health training increased perceived access to mental health support5.

Current research is being done on resiliency building and evidence from that research is being used to build better programs that need to be implemented as preventative measures to help others understand the hiring practices of first responders9. A resiliency training should be included before exposure to trauma and refresher resiliency training that target modifiable predictors of PTEs should be compulsory14.

**Mental Health at the Organizational Level**

 In firefighter organizations organizational stressors may be causing poor mental wellness among frontline staff found that a higher sense of coherence within the workplace led to less severe, if any, PTSD symptoms among paramedics12. Another study suggested that the likelihood of suicidal behaviours among first responders could be attributed to organizational stressors4.

 A study that explored the balance between individual and organizational issues when it comes to hiring first responders identified a need for organizations to be clearer about what is expected on the job when hiring9. Many participants said their organizations need to be better at hiring people who can manage the job stress9 and that there are discriminatory practices in place for when first responders need to take time off for a mental illness9.

 A 2019 study identified perceived or real lack of support from leadership, poor recognition of mental health issues, and poor workplace culture among tri-service as primary issues7. Changing these perceptions would be useful in reducing the mental wellness issues within policing organizations7.

Some participants stated that organizational issues were more stressing than the traumatic incidents they regularly faced10, more participants said that there was unequal treatment of colleagues by supervisors, harassment, and general mistreatment of employees by supervisors and administration, and workplace bullying both by colleagues and supervisors trying to push personal agendas in a Canadian study10. The authors address the lack of human resources in these organizations as another issue10, and suggest that organizations need to examine, the accessibility of their policies and practices to create a more positive work environment, provide better training programs, and lobby for more budget allocations to provide the necessary resources to first responders10.

**Strengths and Limitations**

 Many of the studies used were compounded by limitations. However, they were still included due to a lack of research in the field. The largest and most common limitation was that of self-report bias by participants due to the sampling method which allowed for many more issues such as erroneous or missing data3,4,5,6,8,9,10, and use of the same survey, which was self-selected leading to less reliability3,4,5,8,9,10.

 There was a mix of qualitative7,9, quantitative3,4,5,6,8,11,12,13,14, and mixed method10 studies with more emphasis on quantitative studies which, provides clear statistical analysis

opportunities and allows for generalizability. Diagnostic screens were often basic standardized tests which do not prove diagnoses.

**Conclusion**

 This literature review has drawn many conclusions for firefighter mental health. Primarily, there needs to be more research done with stronger methodologies and better sampling methods to gain more conclusive and generalizable results. Furthermore, fixing some organizational issues such as changing and enforcing poor policies and practices to prevent harassment and improve workplace culture will reduce firefighter mental wellness issues. There also needs to be changes regarding stigma, resilience, and training such as implementing better evidence backed training programs with refresher courses to ensure retention and continuing to reduce stigma. There also needs to be more education at an individual level about mental health and trauma exposure effects on the individual so new hire firefighters are better prepared and able to get support for their mental health if needed so they can stay in the field. More research needs to be conducted for better education, training, and organizational supports to be evidence-backed and useful in the long term.

References

1. American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders.* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

2. Beshai, S. & Carleton R.N. (2016). *Peer support and crisis-focused psychological intervention programs in Canadian first responders: Blue paper.* University of Regina. <https://www.justiceandsafety.ca/rsu_docs/blue_paper_full_web_final_production_aug_16_2016.pdf>

3. Carleton, R.N., Afifi, T.O., Taillieu, T., Turner, S., Krakauer, R., Anderson, G.S., MacPhee, R.S., Ricciardelli, R., Cramm, H.A., & McCreary D.R. (2019). Exposures to potentially traumatic events among public safety personnel in Canada. *Canadian Journal of Behavioural Science, 51*(1), 37-52. <http://dx.doi.org/10.1037/cbs0000115>

4. Carleton, R.N., Afifi, T.O., Turner, S., Taillieu, T., LeBouthillier, D.M., Duranceau, S., Sareen, J., Ricciardelli, R., MacPhee, R.S., Groll, D., Hozempa, K., Brunet, A., Weekes, J.R., Griffiths, C.T., Abrams, K.J., Jones, N.A., Beshai, S., Cramm, H.A., Dobson, K.S., … Stewart, S.H. (2018). Suicidal ideation, plans and attempts among public safety personnel in Canada. *Canadian Psychology, 59*(3), 220-231. <http://dx.doi.org/10.1037/cap0000136>

5. Carleton, R.N., Afifi, T.O., Turner, S., Taillieu, T., Vaughan, A.D., Anderson, G.S., Ricciardelli, R., MacPhee, R.S., Cramm, H.A., Czarnuch, S., Hozempa, K., & Camp R. D. (2020). Mental health training, attitudes toward support, and screening positive for mental disorders. *Cognitive Behaviour Therapy, 49*(1), 55-73. <https://doi.org/10.1080/16506073.2019.1575900>

6. Carleton, R.N., Korol, S., Mason, J.E., Hozempa, K., Szeto, A., & Bailey, S. (2018). A longitudinal assessment of the road to mental readiness training among municipal police. *Cognitive Behaviour Therapy 47*(6), 508-528. <https://doi.org/10.1080/16506073.2018.1475504>

7. Knaak, S., Luong, D., McLean, R., Szeto, A., & Dobson, K.S. (2019). Implementation, uptake and culture change: Results of a key informant study of a workplace mental health training program in police organizations in Canada. *The Canadian Journal of Psychiatry, 64*(Supplement 1), 30S-38S. <https://doi.org/10.1177/0706743719842565>

8. Krakauer, R.L., Stelnicki, A.M., & Carleton, R.N. (2020). Examining mental health knowledge, stigma and service use intentions among public safety personnel. *Frontiers in Psychology, 11*, 949. doi: 10.3389/fpsyg.2020.00949

9. Ricciardelli, R., Andres, E., Kaur, N., Czarnuch, S., Carleton, R.N. (2020). Fit for public safety: Informing attitudes and practices tied to the hiring of public safety personnel. *Journal of Workplace Behavioural Health, 35*(1), 14-36. <https://doi.org/10.1080/15555240.2019.1664306>

10. Ricciardelli, R., Czarnuch, S., Carleton, R.N., Gacek, J., & Shewmake J. (2020). Canadian public safety personnel and occupational stressors: How PSP interpret stressors on duty. *International Journal of Environmental Research and Public Health, 17*(13), 4736. <https://doi.org/10.3390/ijerph17134736>

11. Skeffington P.M., Rees, C.S., Mazzucchelli, T.G., Kane R.T. (2016). The primary prevention of PTSD in firefighters: Preliminary results of an RCT with 12-month follow-up. *PLoS ONE, 11*(7), 1-22. <https://doi.org/10.1371/journal.pone.0155873>

12. Streb, M., Häller, P., Michael, T. (2014). PTSD in paramedics: Resilience and Sense of Coherence. *Behavioural and Cognitive Psychotherapy, 42*(4)*,* 452-463. <https://doi.org/10.1017/S1352465813000337>

13. Szeto, A., Dobson, K.S., & Knaak, S. (2019). The road to mental readiness for first responders: A meta-analysis of program outcomes. *The Canadian Journal of Psychiatry, 64*(Supplement 1), 18S-29S. <https://doi.org/10.1177/0706743719842562>

14. Wild, J., Smith, K.V., Thompson, E., Béar, F., Lommen, M.J.J., Ehlers, A. (2016). A prospective study of pre-trauma risk factors for post-traumatic stress disorder and depression. *Psychological medicine, 46*(12)*,* 2571-2582. <https://doi.org/10.1017/S0033291716000532>

15. Yehuda, R., McFarlane, A.C., Shalev, A.Y. (1998). Predicting the development of posttraumatic stress disorder from the acute response to a traumatic event. *Biological Psychiatry, 44*(12), 1305-1313. [https://doi.org/10.1016/S0006-3223(98)00276-5](https://doi.org/10.1016/S0006-3223%2898%2900276-5)