

## Knowledge Synthesis: COVID-19 in Mental Health and Substance Use

### Synthesis Title:

Supporting firefighter mental health during COVID-19: A scoping review

### Nominated Principal Applicant:

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### Target/priority population(s) in synthesis:

- Firefighters
- Other first responder groups (i.e., paramedics)

### What is the issue?

Firefighting is a high-risk occupation that increases firefighters' chances of exposure to transferable diseases as well as witnessing traumatic events. Witnessing traumatic events can increase firefighters' chances of experiencing issues with their mental health such as post-traumatic stress injuries. As well, during times of heightened risk like the COVID-19 pandemic, there is even more risk to their mental health. There have been various ways that firefighters have attempted to manage their mental health, but it's not clear whether they are effective. The purpose of this synthesis is to review different sources of knowledge, bring them together and to determine whether those methods are effective and if they are, which has the best supporting scientific evidence.

### Key messages (max 100 words):

- ***Firefighters experience increased risk of mental health disorders which is heightened during COVID-19.***
- ***Weak to moderate evidence suggests that strategies typically adopted by fire services to manage firefighter mental health have little to no effect on mental health outcomes.***
- ***Moderate to good evidence suggests that mindfulness, resiliency and cognitive behavioural therapy can have a positive effect on managing firefighter post-traumatic stress injury symptoms, depression and alcohol use.***
- ***A critical gap in managing mental health during COVID-19 for all first responders was identified.***

- ***There is an urgent need for high-quality studies to identify strategies that firefighters can use to effectively manage their mental health.***

### **How was the synthesis conducted?**

- A scoping review of the literature was conducted focused on studies that investigated the effectiveness of strategies to manage firefighter mental health and studies that discussed management of firefighter mental health during COVID-19.
- Due to the limited number of studies that were specific to firefighting, the search strategy was expanded to include other first responders (i.e., paramedics, police) and front-line health care workers (i.e., nurses, physicians).
- Five bibliographic databases were searched using standard medical subject headings (MeSH) and text words.
- Studies were included that met the following criteria: i.) participant sample was firefighters or other first responders (i.e., paramedics), ii.) the intervention studied was related to management of mental health among firefighters and / or first responders, iii.) mental health included various disorders but focused towards post-traumatic stress injury, anxiety and substance abuse, iv.) studies were written in English.
- The same criteria were applied to studies related to mental health during COVID-19.
- A structured form was applied to identify key concepts that helped to identify and characterize the studies.
- An evaluation tool that determined the quality of the methods used in the study were applied to all articles related to strategies developed to manage firefighter mental health; the articles related to COVID-19 and mental health were anecdotal so the tool wasn't applicable.
- The study findings were then brought together and common ideas about firefighter mental health and COVID-19 were identified.
- Firefighters were included in this project including development of the search strategy as well as review and interpretation of study findings.

### **What did the synthesis find? Provide a lay summary of the outcomes (max 300 words):**

There are very few high-quality studies that have been conducted specifically with firefighters that indicate the best approach for managing their unique mental health trauma exposures. Most studies were conducted at one point in time or didn't include a "control" group to which results could be compared. However, there is indication that mindfulness, resiliency training and cognitive behavioural therapy might be an effective strategy that could be incorporated into a mental health management program for firefighters. Approaches commonly used by fire services such as Road to Mental Readiness (R2MR) and Critical Incident Stress Debriefing (CISD) in their mental health management programs demonstrated little effect on mental health outcomes. Furthermore, R2MR has not been empirically tested with firefighters therefore, uptake should be cautioned. Our synthesis identified a critical need for high quality studies to identify effective mental health management strategies for firefighters. No studies specifically related to managing firefighter mental health during COVID-19 were identified. However, anecdotal and opinion papers identify COVID-19 as a "trauma event". Consequently, there is a critical need for including mental health management programs during and following COVID-19 for first responders and front-line health care workers. These occupational groups are at heightened risk of experiencing increased exposure to both COVID-19 and already experience high levels of mental health disorders therefore COVID-19 is putting them at heightened risk. Our synthesis reflects the same urgent call reflected in the studies, for current and future emergency response plans to include specific guidelines for managing mental health of first responders and front-line health care workers. Developing effective, feasible evidence-based mental health

management strategies for firefighters and other first responders, will ensure that that they too can return to their families at the end of the day and the end of their careers which is something that their service to our communities allows us to do everyday.

**What are the implications of this synthesis?**

- Firefighters are in urgent need of evidence-based solutions to manage their mental health burden.
- First responders and front-line health care workers who are working during COVID-19 require formal mental health management programming both during and following the pandemic.
- There is an urgent need to develop policy to include mental health management during emergency preparedness planning.

**List up to 10 keywords specific to this synthesis to facilitate website search filters and sorting:**

- Firefighters
- Mental health disorders
- Post-traumatic stress injury
- Intervention
- COVID-19