

# Mental Health and Life Satisfaction Among Canadian Paramedics during the COVID-19 Pandemic

Christopher MacDonald<sup>1,2</sup>, Paul A Demers<sup>1,2</sup>, Brian Grunau<sup>3,4</sup>, David Goldfarb<sup>5</sup>, David O'Neill<sup>1</sup>, Richard Armour<sup>7-9</sup>, Minh T. Do<sup>1,6</sup>, Tracy L Kirkham<sup>1,2</sup>

1. Dalla Lana School of Public Health, University of Toronto, Ontario, Canada; 2. Occupational Cancer Research Centre, Ontario Health, Toronto, Ontario, Canada; 3. Department of Emergency Medicine and the Centre for Health Evaluation & Outcomes Sciences, University of British Columbia, British Columbia, Canada; 4. British Columbia Emergency Health Services, British Columbia, Canada; 5. Department of Pathology and Laboratory Medicine and British Columbia Children's Hospital Research Institute, University of British Columbia, British Columbia, Canada; 6. Department of Health Sciences, Carleton University, Ontario, Canada; 7. Department of Paramedicine, Monash University, Australia; 8. Monash Addiction Research Centre, Monash University, Australia; 9. Ambulance Victoria, Melbourne, Australia.

## Introduction

Paramedics represent a high-risk occupation for both exposure to infectious disease agents and corresponding stress-related mental health effects. The COVID-19 pandemic may have compounded the risk of developing a variety of mental health sequelae among paramedic workers, possibly due to uncertainty and fear of transmission to vulnerable individuals.

## Objective

To highlight the impact of the COVID-19 pandemic on the wellbeing of Canadian paramedics.

## Methods

Self-reported questionnaire data was collected from paramedics across five Canadian provinces as part of the COVID-19 Occupational Risks, Seroprevalence and Immunity among Paramedics (CORSIP) project between the period of January 2021 – February 2023.

Validated psychological assessment tools were used to screen for major depressive disorder (MDD, PHQ-9 questionnaire) and probable post-traumatic stress disorder (PTSD, PC-PTSD-5 questionnaire). Satisfaction with life (SWL) scores were adapted from validated Canadian Census questions and confirmed by reliability analysis. All measures were compared before versus during the pandemic using Wilcoxon signed-ranked, Cliff's d, and differences in proportions tests where appropriate.

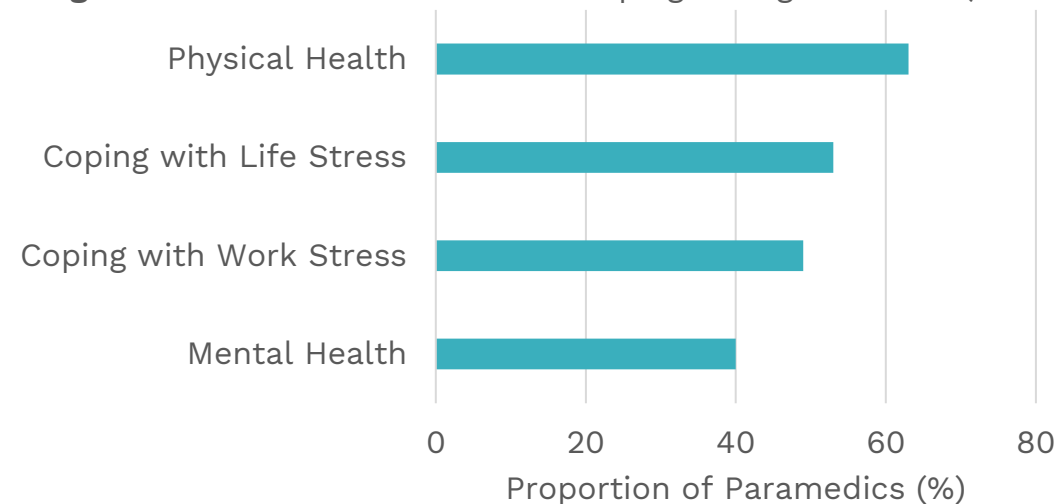
## Results/Discussion

A total of 3199 paramedics with a mean age of 38 years (SD=10) and average work experience of 12 years (SD=9) were included.

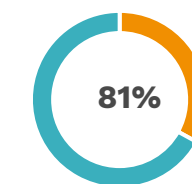
Figure 1. Occupational Demographics (n=3199)

	n (%)
<b>Gender</b>	
Male	1811 (57)
Female	1359 (42)
<b>Job Title</b>	
Basic Life Support	2230 (70)
Advanced Life Support/Special Operations	775 (24)
Critical Care	90 (2.8)
Management	100 (3.1)
<b>Work Schedule</b>	
Full-time	2422 (76)
Part-time	486 (15)

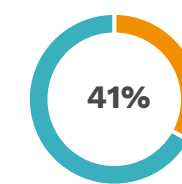
Figure 2. Reduction in Health and Coping during COVID-19 (n=2911)



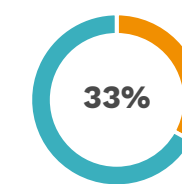
SWL Reduction (n=2492)



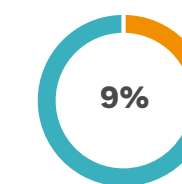
Probable PTSD (n=1660)



MDD (n=2479)



Suicidal Thoughts (n= 2479)



Self-reported measures of physical health, mental health, and ability to cope with life stress and work stress were significantly reduced ( $p < .05$ ) during the COVID-19 pandemic.

SWL was reduced and MDD screening risk increased during COVID-19 ( $p < .05$ ), but probable PTSD risk did not change.

The SWL reduction was more significant ( $p < .05$ ) among medics who met MDD and probable PTSD screening criteria.

### Gender Differences

A greater proportion of female vs. male paramedics ( $p < .05$ ) met the screening criteria for MDD and probable PTSD, as well as reported reduced SWL during COVID-19.

### Differences by Province

The proportion of paramedics reporting reduced SWL differed by province ( $p < .05$ ) but did not differ for MDD or probable PTSD risk.

## Conclusions

The COVID-19 pandemic may have exacerbated the pre-existing risk of developing MDD and reduced SWL among Canadian paramedics. A concerning proportion of paramedics reported suicidal ideation as part of our study. These findings would appear to be stable given the data collection period and consistency with previous analyses.

