

STANDARDS RESEARCH

Workplace Psychological Health and Safety for Public Safety Communicators

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Executive Summary

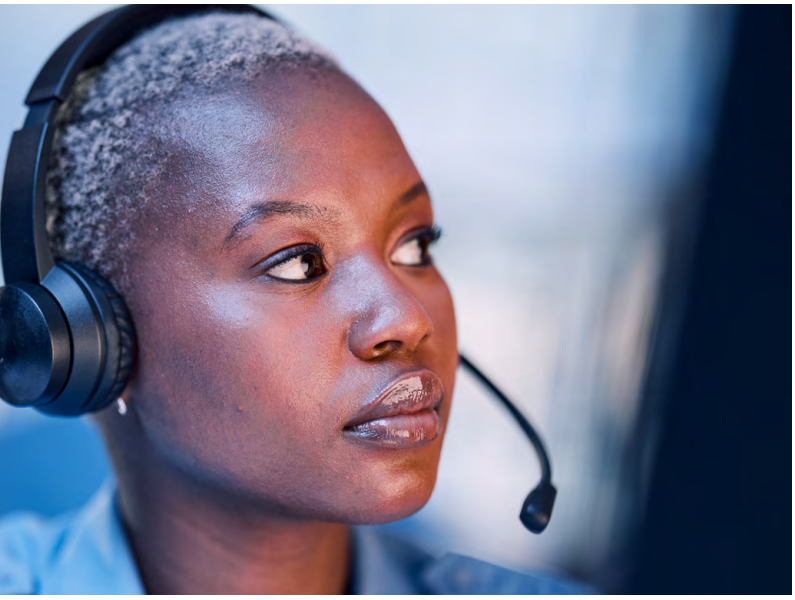
Public safety communicators (PSC) represent an important part of the emergency response system. As the first point of contact upon dialling 9-1-1, PSC represent the connection between a potentially distressed caller in an emergency and the public safety personnel (PSP) who will assist with that emergency on the scene. The psychological impacts of emergency response scenarios on PSP is well known. A number of research studies have investigated these impacts, the associated organizational factors contributing to mental health effects, and the effects of various programs on mental health. Yet research studies focusing specifically on PSC in Canada are limited. Therefore, the purpose of this report was to explore the impacts of the role on psychological health and well-being as well as the supports available for this critical group of emergency responders.

A literature search and environmental scan of Canadian and international sources was conducted using online and library-based searches to identify relevant peer-reviewed publications, grey literature (e.g., research reports, government reports, technical papers, conference proceedings, graduate theses, and doctoral dissertations), standards, and regulations. Fifteen key informant interviews with PSC from emergency telecommunications centres located in British Columbia, Alberta, Manitoba, Ontario, and Quebec were then conducted.

Our findings support previous research reporting work-related psychological health and well-being challenges PSC encountered, including increased rates of psychological trauma, a perceived lack of recognition amongst PSP peers, limited training opportunities, and suboptimal mental health support. Programs providing education and support around mental health for this population are available and some are effective. However, comprehensive research evaluating the programs' efficacy is lacking, including studies specifically focusing on PSC. Access to these programs can be inconsistent, often due to limited financial or human resources within communications centres, a lack of awareness among PSC about the programs' existence, a lack of trust regarding confidentiality, stigma surrounding mental health, or negative past experiences with existing supports. Standards and guidelines are in place to support the implementation of management systems and programs focused on psychological health and well-being as well as fatigue risk management. These standards could be revisited to consider the unique needs of PSC and Public Safety Answering Point centres to support the psychological health and safety of this critical first responder group.

List of Abbreviations

APCO	Association for Public-Safety Communications Officials
CIPSRT	Canadian Institute for Public Safety Research and Treatment
CBT	Cognitive Behavioural Therapy
CIHR	Canadian Institutes of Health Research
CISM	Critical Incident Stress Management
EAP	Employee Assistance Program
ESF	Emergency Service Foundation
ESTA	Emergency Services Telecommunications Authority
iCBT	Internet-based Cognitive Behavioural Therapy
MHCC	Mental Health Commission of Canada
NENA	National Emergency Number Association
PSAC	Public Safety Answering Centre
PSAP	Public-Safety Answering Point
PTSD	Post-Traumatic Stress Disorder
PSC	Public Safety Communicator
PSP	Public Safety Personnel
R2MR	Road to Mental Readiness
REB	Research Ethics Board
TWMFR	The Working Mind First Responders



"The nature of emergency calls is often unpredictable, and PSC may be exposed to traumatizing events during these interactions."

1 Introduction

Public safety communicators (PSC) are responsible for taking emergency calls, dispatching the required services, and assisting callers until emergency personnel arrive on scene. PSC are often the first point of contact between a distressed individual and an emergency responder. They play a significant role in assessing the situation and dispatching appropriate support. Regardless of a caller's circumstances, PSC must remain calm and manage their emotional responses. The nature of emergency calls is often unpredictable, and PSC may be exposed to traumatizing events during these interactions [1–3]. Furthermore, a PSC's role ends when emergency personnel arrive on the scene, thereby leaving them with no knowledge of the emergency's outcome. PSC are required to quickly answer the next incoming call, often without the opportunity to acknowledge or process their emotions emerging from the previous interaction. Their unique position within the emergency response system may contribute to both psychological distress and negative mental health repercussions [1–3].

The potential impacts of emotional trauma on PSC have generally received less attention compared to those of other first responders [1–3]. Several national online surveys have been conducted to identify work-related psychological and physical effects on emergency responders. These public safety personnel (PSP) include paramedics, firefighters, police officers, and, in some instances, corrections officers [4–8]. This work examines the psychological health and well-being of emergency responders, but few studies have included PSC in their samples.

The purpose of this research project was to assess factors that may contribute to poor psychological health outcomes in PSC, to review resources available for supporting these emergency responders in Canada, and to provide recommendations for future action. In particular, this report aims to:

1. Explore the psychological demands of Canadian PSC;
2. Identify workplace factors that may impact PSC psychological health;
3. Review resources and tools available for Canadian PSC to help maintain or improve their psychological health; and
4. Examine the need for standards or standards-based solutions (e.g., training, education, and guidelines) to help support the psychological health and safety of this unique PSP group.

These aims were addressed by conducting a literature review and environmental scan to understand the existing factors, hazards, and solutions that contribute to and support PSC psychological health and well-being as well as key informant interviews to explore the range of experiences and perspectives that PSC face.

2 Methods

2.1 Literature Review and Environmental Scan

Peer-reviewed publications and grey literature published in English from 1990 through 2024 were reviewed according to the search strategy outlined in Appendix A. Randomized controlled trials, quasi-experimental studies, review articles, systematic reviews, and case studies were included in this search. An environmental scan was performed by applying the parameters outlined in Appendix B and included a review of online mental health resources, organizations that work exclusively with first responders, and government websites that included programming, training, and legislation for PSC. This included a review of legislation and regulations pertaining to 9-1-1 services and PSC in Canada. Information identified through this literature review and environmental scan were used to design a questionnaire to guide interviews with 15 key informant PSC from emergency communications centres across Canada.

2.2 Key Informant Interviews

Key informant telephone interviews were conducted with Canadian PSC to develop an understanding of PSC workplace factors that contribute to psychological health and well-being. The semi-structured interviews addressed a range of topics, including psychological health in the workplace, occupational stressors, organizational support, and professional development opportunities. Interview questions are listed in Appendix C.

3 Literature Review

3.1 Overview

The preliminary literature search revealed 21 peer-reviewed research articles and one thesis that met the inclusion criteria and focused on or included PSC. The studies originated from five regions: Australia [2], [9], the UK [10], the US [1], [11]–[17], Canada [4]–[8], [18]–[20], and the European Union (EU) [3], [21], [22]. An in-depth review further narrowed this subset to include 13 studies [1]–[3], [9]–[13], [16], [19]–[22] and one thesis [17] representing five regions (Australia, UK, US, Canada, EU) that specifically address the psychological health and safety of PSC workers. Based on this literature review, three core themes were identified that impact PSC psychological health and safety: (1) exposure to complex calls, (2) organizational stress, and (3) mental health education and support.

> **"I worry that I'll miss something or that the caller won't get the help they need ... because I took 30 seconds longer than the 'system' tells me I should have"**
>
> — **Public Safety Communicator**

3.2 Exposure to Complex Calls and Psychological Health

Several studies have identified the exposure to complex calls as a risk factor for stress and trauma in PSC [1]–[3], [11]. These calls are deemed "complex" due to their unpredictable nature, ambiguous information caused by communication challenges, and rescue difficulty in remote locations [2]. Many PSC have reported that, despite not being physically present on-site, they experience trauma-related symptoms following a range of emergency calls, a phenomenon known as vicarious traumatization [1]–[3], [11].

Vicarious trauma refers to the development of a trauma stress reaction in an individual who is indirectly exposed to another individual's first-hand trauma experiences [2]. In PSC, vicarious trauma can be caused by exposure to events unfolding on the other end of emergency calls [2]. For instance, calls reporting the unexpected death or injury of a child, suicide, and traffic accidents with a severe injury or fatality can cause peritraumatic emotional responses, such as fear, helplessness, or horror [1]. Moreover, research indicates that vicarious trauma may contribute to the development of mental health disorders, such as post-traumatic stress disorder



(PTSD) [1], [2], [11]. Some studies have shown that PSCs experience higher rates of PTSD than the general public, and levels of PTSD within this population have increased with duration of employment [11], [19]. These findings highlight the adverse effects that exposure to complex calls and vicarious trauma may have on PSC psychological well-being.

3.3 Organizational Stress

Many studies report organizational challenges and subsequent workplace stress among PSC, including a perceived lack of acknowledgement, constructive feedback, or gratitude from senior management [2], [3], [10], [11]. For instance, PSC in Australia reported feeling excluded from training opportunities, promotions, debriefings, and ceremonies available to other PSP [2]. Additionally, PSC in the UK reported feeling unnoticed and overlooked by the general public as well as experiencing negative treatment from other PSP, such as paramedics [10]. PSC in the US reported high workload, poor communication among colleagues, and a general lack of appreciation as major contributors to stress [11]. These occupational stressors pose a risk to the mental health of PSC, with factors such as shift work associated with the development of acute stress disorder in this group [11]. A study of mental health and well-being of PSC in Canada demonstrated that managers and supervisors had a significant impact on organizational culture. A lack of recognition PSC occupational stress by leaders contributed to a greater sense of feeling devalued, perpetuation of stigma and a potential worsening of occupational stress injuries by PSC [12].

3.4 Mental Health Education and Support

Existing resources that are available to PSC and provide preventive and early intervention support typically focus on raising awareness of mental health challenges, mental health education, and therapeutic interventions. In Canada, fee-based mental health education, training, and intervention programs are available to PSC, including The Working Mind First Responders[1] (TWMFR) program [23], Mental Health First Aid[2] [24], critical incident stress management (CISM) [25], and critical incident stress debriefing (CISD)[3,4] [25]. Collectively these programs aim to increase knowledge, reduce stigma, and promote early interventions to address the prevalence of mental disorders [24], [25]. Though PSP who complete training in these formal mental health programs have reported positive effects, scientific evidence of program efficacy is limited [5]. Additionally, PSP are often reluctant to seek mental health care, which further hinders insight into the efficacy of current programs [5], [20]. Three main barriers have been identified as contributing to this reluctance in police officers: stigma associated with seeking care, confidentiality concerns, and occupational experiences with mental health [20]. Accordingly, recommendations to help improve PSP engagement with formal mental health services include ensuring confidentiality, utilizing user friendly electronic resources, and providing access to occupation-specific educational content [20].

1 TWMFR is an education-based program provided by the Mental Health Commission of Canada. It is designed to address and promote mental health and reduce the stigma of mental illness in among first responders [23]

2 Mental Health First Aid is a training course provided by the Mental Health Commission of Canada. It is designed to increase mental health literacy, decrease stigma, and help individuals identify, understand, and respond to signs of mental illness [24].

3 CISM and CISD provide cognitive behavioural therapy programs to mitigate the impact of critical incidents and to assist individuals recovering from trauma [25].

4 In peer support programs, participants with shared roles or experiences offer structured support and encouragement to peers. Peers providing support are trained to provide this support and the program includes content related to cognitive behavioural therapy methods [20].

Informal mental health services, such as peer support programs,[4] serve as an alternative option to PSP compared to more formal programs. Many PSP report that they often first seek support from their spouse, other family, or friends [5]. Peer support programs emphasize perceived shared experience and understanding and attempt to reduce perceived power imbalances between PSP and therapists [20]. These mental health programs aim to address and decrease the psychological burden PSP may experience due to their occupation. Consequently, to encourage PSP engagement, mental health programs should emphasize this group's aforementioned barriers and preferences, including a focus on maintaining and assuring confidentiality.

4 Environmental Scan

4.1 Overview

The environmental scan revealed several organizations across Canada, the US, Australia, and the UK that provide psychological health and safety guidance for first responders. The results from this environmental scan were categorized into three main themes: (1) education and on-the-job training, (2) mental health education, and (3) standards and guidelines. Of note, several guidelines that support the psychological health and safety of emergency responders either do not specifically refer to PSC as PSP or are not always applied in PSC workplaces. The following represents an overview of the environmental scan to inform recommendations for including PSC in the application of these practices where appropriate.

4.2 Education, On-the-Job Training, and Personnel Certification

Education and training requirements were examined for PSC in Canada, the US, Australia, and the UK prior to and during their emergency communication roles. Across these four regions, employers did not require specific post-secondary requirements for holding a PSC position and on-the-job training is commonly offered to incoming staff [26]–[29]. These jurisdictions also typically have education or certification requirements that must be completed within a specified period after a PSC is hired. For instance, Australian PSC must complete certificates in first aid and ambulance communications within 12 months of commencing a role [30]–[33]. In the US, many communication officials are required to complete training that meets minimum requirements set by the Association of Public-Safety Communications Officials (APCO) [34]. APCO International also offers training specific to Canadian PSC. Successful completion leads to personnel certification and recertification requires successfully completing 24 hours (i.e., credits) of continuing dispatch education and a recertification quiz [34]. Several colleges and universities in Canada also offer certificate programs that include practical training sessions [35]–[39].

On-the-job training available to PSC often includes public-safety answering point (PSAP)-specific content as well as local, provincial/territorial, or federal requirements, technical and operational training, and field coaching to help manage incoming emergency calls [40], [41]. In Canada, new hires are trained in competency or skill-based practices, such as call-taking responsibilities and duties, police dispatching, and fire dispatching. Many PSAP centres offer a continuing education program for their employees, whereas others offer bi-monthly training to PSC and their supervisors. Call quality tests are also performed to ensure that processes and procedures are being followed [40], [41]. APCO International provides a telecommunicator training course, Public Safety Telecommunicator, to cover Canadian emergency services, terminology, and to introduce provincial and federal legislative requirements [42].

Some jurisdictions, such as Australia, require that PSC pass psychological and medical assessments to be eligible for employment [26]. Australia's certificate program offers courses focused on psychological health and managing stress [43]. APCO International offers consulting services and courses, such as Bullying and Negativity in the Communications Center, Surviving Stress, and Diversity, Equity, and Inclusion [44]. The National Emergency Number Association's (NENA) Telecommunicator Core Competencies course for PSC includes health and wellness training, which helps PSC learn how to identify stressors, strategies for dealing with stress, and management of critical-incident stress

> **"on someone's worst day, I am the one who is going to get them the help that they need – and that's a wonderful feeling."**
>
> **— Public Safety Communicator**

[45]. Some private US training institutes also provide evaluation and stress resilience training, such as The Power of Resilience: How to Beat Dispatcher Burnout and Survive and Thrive [46], [47]. In Canada, PSC may complete courses that cover aspects of mental health, such as the APCO telecommunicator course that includes stress management topics, or a Mental Health First Aid course managed by Mental Health Commission of Canada. These training opportunities can be formal requirements for PSC training depending on PSAP organizational requirements or are available as optional resources for preventive care.

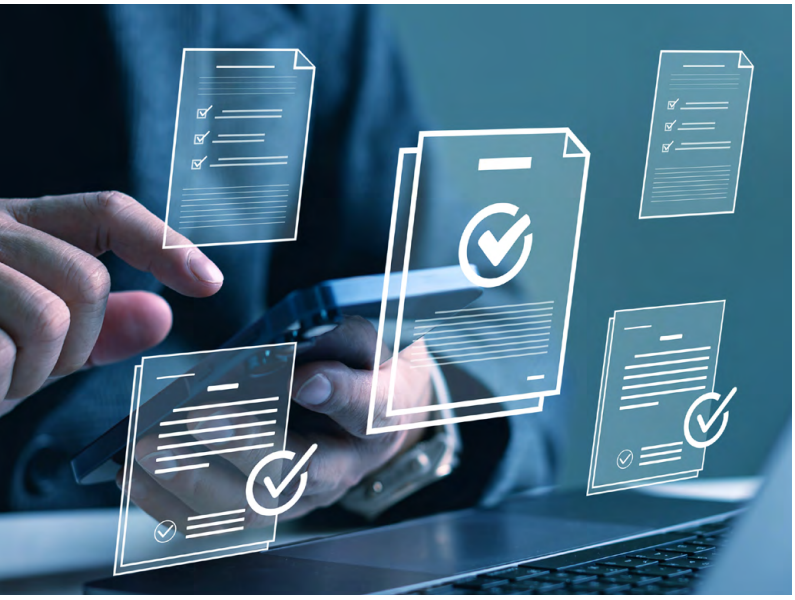
4.3 Mental Health Support Strategies for PSC

Several PSAP centres offer mental health support for PSC through employee assistance programs (EAP), CISM, and peer support programs [48]. Additionally, mental health support programs for PSC have emerged through government initiatives. In response to an inquiry into high rates of mental health conditions reported among first responders, emergency service workers, and volunteers, the Education and Employment References Committee of the Australian government put forward recommendations, which included: (1) evidence-based mental health training to first responders, emergency service workers, and volunteers developed in consultation with psychiatrists; (2) regular reviews and well-being checks; and (3) support for workers to transition into other roles or out of the emergency services workforce when needed [49].

In Canada, the Mental Health Commission of Canada (MHCC) was established in response to a 2006 report from the Standing Senate Committee on Social Affairs, Science, and Technology, which detailed findings from consultations, hearings, and accounts from Canadians with lived experience, including first responders [50]. The MHCC offers many training programs that support mental health literacy addressing a range of topics and professions. A training course designed specifically for communication services and similar occupations was created based on an existing Road to Mental Readiness (R2MR) program developed by the Canadian Armed Forces [51]. Today, MHCC manages TWMFR training [23] along with the Mental Health First Aid course [24].

In 2015, the Canadian federal government identified the treatment of mental health as a priority among PSP [52]. In response, the Canadian Institutes of Health Research (CIHR) and the Canadian Institute for Public Safety Research and Treatment (CIPSRT) collaboratively established the National Research Consortium for Post-Traumatic Stress Injuries among Public Safety Personnel. This collaboration prioritizes research and mobilizes knowledge to support mental health care for all PSP. CIPSRT also partnered with PSPNET, a clinical research unit at the University of Regina, to offer an eight-week Internet-based cognitive behavioural therapy (iCBT) program. This program is intended to help those with mental illnesses, such as depression, anxiety, and PTSD [53]. In addition to iCBT, PSPNET offers a free PTSD course and a well-being course for PSP, along with self-assessment tools and crisis services [54]. A web-based resource for PSP families is also available. PSPNET Families provides information pages, strategy resources and an iCBT course for spouses or significant others [55]. Furthermore, in 2021 CIHR launched a new online resource, PSP Mental Health, which provides mental health support options that are available to all Canadian PSP [56]. A self-screening tool that identifies occupational stress injuries and a PTSD toolkit dedicated to first responders are also available through Public Services Health and Safety Association website, funded by the Ontario Ministry of Labour, Training, and Skills Development, alongside additional guidance and resources to support employee mental health [57], [58].

Both R2MR and iCBT programs have demonstrated efficacy in supporting mental health among first



"Most standards and guidelines that support emergency service personnel and practices address the technological requirements for equipment, operations for the provision of services, and minimum training requirements for personnel"

responders. A longitudinal study on the effectiveness of iCBT reported significantly decreased levels of depression and anxiety as well as moderate reductions in PTSD in Canadian PSP participants [59]. The R2MR program also reduced the stigma associated with mental health support among members of Canadian Armed Forces and Canadian municipal police officers [60]. These studies demonstrated that individuals are more willing to seek help after participating in R2MR training [60].

In addition to government initiatives, other public and not-for-profit organizations have also developed resources to address mental health in emergency responders. For example, the Emergency Service Foundation in Australia consists of 14 different emergency sectors. It hosts a learning network that connects mental health experts with sector managers, including the Emergency Services Telecommunications Authority, with knowledge and best practices to promote workplace mental health [61]. Queensland Fire and Emergency Services offers mental health counselling, critical event response, and peer support to all its employees, including paid, volunteer, and retired personnel [62]. And Mind is a UK mental health charity that provides advice and support to citizens experiencing mental health challenges and offers training courses for people working in emergency services [63]. Mind delivers a program Managing Mental Health in Emergency Services, which is specifically tailored to PSC that increases the "personal resilience" of 94% of program participants [64].

4.4 Standards and Guidelines

Most standards and guidelines that support emergency service personnel and practices address the technological requirements for equipment, operations for the provision of services, and minimum training requirements for personnel [65], [66]. Fewer standards exist that address first responders' psychological health and well-being. Two relevant Canadian standards focus on the management of workplace psychological health and safety: CAN/CSA Z1003-13/BNQ 9700-803/2013 (R2022), *Psychological Health and Safety in the Workplace – Prevention, Promotion, and Guidance to Staged Implementation,* offers a general framework for the creation and improvement of psychologically healthy and safe workplaces across many industries [67]; and CSA Z1003.1:18 (R2022), *Psychological Health and Safety in the Paramedic Service Organization*, supports staff in paramedic service organizations, including paramedics, fleet and logistics employees, administrative staff, and emergency dispatchers who experience significant exposure to psychological stress and trauma [68]. Together, these standards aim to identify and reduce exposure to dangers and stressors that may cause psychological injury and to promote psychological well-being in the workplace.

ISO 45001:2018, *Occupational Health and Safety Management Systems – Requirements with Guidance for Use*, along with the Canadian adoption with deviations, CSA Z45001:19 (R02023), provide general requirements for an occupational health and safety management

system [69], [70]. Moreover, ISO 45003:2021, *Occupational Health and Safety Management – Psychological Health and Safety at Work – Guidelines for Managing Psychosocial Risks* offers specific requirements to manage psychosocial risk in the workplace and is intended to be used alongside ISO 45001 [71].

In the US, NENA-STA-002.2-2022, *NENA Standard to Protect the Wellbeing of 9-1-1 Professionals* was developed to support PSAP leaders in building comprehensive stress resilience plans and seeks to define the potential impacts of 9-1-1 work on PSP well-being. The standard is intended to help prevent, manage, and support recovery from these impacts [72]. In Australia, the mental health organization Beyond Blue has developed the Good Practice Framework for Mental Health and Wellbeing in First Responder Organizations. This framework offers suggestions for the application of guidelines across workplaces, in addition to promoting mental health and suicide prevention among emergency service personnel [73], [74].

4.5 Legislative Support for First Responder Psychological Health

In 2018, the *Federal Framework on PTSD Act* was enacted. The Act recognizes the risks of occupational groups, including PSP, of developing PTSD as well as a need for coordinated support of these individuals [75], [76]. A review of workers' compensation acts across Canadian provinces and territories was conducted to determine the extent of recognition and support for work-related mental health impacts among PSC. Many provinces and territories include a provision for presumptive coverage in their workers' compensation acts that includes work-related PTSD and psychological injury, or both, among first responders such as firefighters. Several regions have passed legislation that allows workers diagnosed with PTSD or psychological injury to claim workers' compensation benefits with a presumption that the diagnosis of PTSD or psychological injury is work-related [77]. Some jurisdictional authorities include all emergency responders within their presumptive clauses, whereas others refer only to specific groups of first responders or exclude PSC. The inclusion of presumptive coverage for psychological injury or PTSD in workers' compensation acts across Canada can be summarized in four broad scenarios for PSC:

1. **All workers diagnosed with psychological injury or PTSD are covered.** Prince Edward Island [78], Newfoundland [79], and Manitoba [80] cover all workers diagnosed with "PTSD" under this legislation. Saskatchewan allows all workers diagnosed with "psychological injury" to claim workers' compensation benefits [81].
2. **PSC are identified as first responders and are thereby covered.** Ontario expressly includes "emergency dispatchers" in its definition of first responders under its PTSD-related legislation [82]. In Alberta, "emergency dispatchers" diagnosed with PTSD are eligible for workers' compensation benefits due to the presumption the diagnosis is work-related [83]. In both British Columbia and Nova Scotia, the workers compensation acts include "emergency dispatchers," rendering them eligible to claim workers' compensation with a PTSD diagnosis [84]–[86]
3. **PSC are not eligible for first responder presumptive coverage.** Emergency response workers in New Brunswick are covered by the *Workers Compensation Act,* however PSC are not included in presumptive coverage for PTSD [87]. Although Yukon has enacted the Workers' Compensation Health and Safety Board (YWCHSB) for first responders (i.e., firefighters), dispatchers/ PSC are not included in this designation [88].
4. **Workers diagnosed with psychological injury or PTSD are not covered.** *Workers' Compensation Acts* in Quebec[5], Nunavut, and the Northwest Territories do not include 'mental disorders' or "psychological injury" or "PTSD" as a part of presumptive coverage [89]–[91].

For a cross-jurisdictional comparison of the workers' compensation acts and associated coverage for PSC across Canadian provinces and territories, please see Appendix D.

5 The Province of Quebec includes Post-Traumatic Stress Disorder in the list of workplace illnesses within the Act with special conditions that the worker must demonstrate before presumption can be applied.

5 Key Informant Interviews

Phone interviews were conducted with 15 PSAP employees in British Columbia, Alberta, Manitoba, Ontario, and Quebec. A purposeful sampling approach was used to recruit participants for this study. These interviews were semi-structured, lasted 45–60 minutes in duration, and were conducted in either English or French. Interview questions are presented in Appendix C. Participant responses were transcribed, coded, and categorized into themes using thematic analysis. Wilfred Laurier University's Research Ethics Board (REB) approved this study (REB #6532). The interviews highlighted the PSC experiences and the unique challenges they encountered in their daily work. The participants' responses were categorized into four themes: psychological health, organizational stressors, organizational support, and professional development. Overall, these findings offer insight into the individual experiences of PSC.

5.1 Psychological Health

5.1.1 The Psychological and Emotional Impacts of Emergency Calls

Most interview participants expressed a strong commitment to their profession and personal satisfaction in being able to help distressed callers. In particular, the PSC described how they directly impact callers in need and help ensure that the appropriate support is dispatched to the site of an emergency.

Despite reporting a clear sense of purpose through their work, many participants stated that their experiences had impacted their psychological well-being. For instance, participants reported being routinely subjected to traumatic calls and rarely learning the outcome of the emergency following these calls. As such, PSC reported that they rarely experienced any sense of closure or resolution following a complex call. They were often left with unpleasant memories of the sounds communicated in these calls and imagining possible outcomes, which frequently resurfaced in the form of flashbacks or nightmares. Due to the negative impact of work experiences on their psychological well-being, some interviewees indicated that they were hesitant to recommend this career path to friends and relatives for fear that they would experience similar tragedies and persistent personal challenges.

> "I'll have nightmares, I still dream about them ... They're still there and I think that they'll always be there ... I hear their voice, I hear their tone, I hear their pain. I could repeat every sentence."
>
> — **Public Service Communicator**

> "you hear the voices, you know that your colleagues are on scene, but then it suddenly stops – you don't know if they lived, died or what."
>
> — **Public Service Communicator**

5.1.2 Fatigue

In addition to traumatic calls, many participants reported fatigue due to rotating shifts, inconsistent shift patterns, high call volumes, staff absenteeism, missed breaks, little down time between shifts, and working overtime. Although PSC are not required to work overtime, many participants took shifts on their days off because they either did not want their colleagues to be short staffed or they felt that they did not have a choice.

> "It's supposed to be "my" time but if I don't go in, then I spend my time off worrying how my co-workers are doing."
>
> — **Public Service Communicator**

5.1.3 Organizational Stressors

Interview participants reported that employee retention was a challenge for PSAPs due to job stressors, including rotating shifts, high call volumes, fatigue, and high levels of psychological stress. Some participants suggested that PSAP management should consider screening potential employees for suitability before hiring by vetting traits, such as personality, listening skills, patience, and, most significantly, personal resilience. These traits may contribute to incoming PSC success and tenacity.

Participants also noted job performance metrics that reflect individual workload and efficiency, such as call counting, keystroke counting, and the amount of time spent on each call. These metrics place additional constraints on PSC that present significant pressures alongside managing the calls themselves and may impact PSC responses.

Additionally, participants referred to challenges that emerge from being relatively "shielded" from the public eye. Many of the communications centres are housed in non-descript buildings or located in relatively obscure locations, with little or no building signage. This arrangement is designed to maintain safety surrounding these PSAPs and their staff. However, interviewees expressed that being removed from visibility may contribute to the public's general lack of awareness and appreciation for emergency communication officials. Some participants also expressed concerns that the lack of visibility associated with their work contributes to limited opportunities for engaging with other PSP colleagues. For instance, they find fewer opportunities to participate in emergency exercises, discuss the development of policies and procedures, and engage in cross-sector education and training.

5.2 Organizational and Professional Development

5.2.1 Organizational Support

All interview participants working in communications centres reported that they have access to EAP and peer support programs, or both. However, only two of the participants had previously accessed their EAP and did not want their employer to know they had accessed these services. Additionally, participants reported that their colleagues experienced dissatisfaction with the EAP services or were concerned with confidentiality. Specifically, interviewees were reluctant to rely on their EAP for fear that conversations may be recorded and disclosed to their manager or to human resources.

Peer support programs were even less favourable than accessing EAP services due to a lack of confidentiality and doubts surrounding the effectiveness of this type

> "You have to listen to everything the caller is saying AND you have to listen to everything going on where they are calling from – background stuff can be really important if the call drops and you are trying to figure out where they might be. You have to be able to read their voices... you need to be able to pick up cues that maybe there is something more going on than they are saying."
>
> — **Public Service Communicator**

> "We aren't like the fire department, police, or paramedics—everyone sees who they are and knows what they do. When people call us, they have no idea where we are, who we are, or what we go through each and every day"
>
> — **Public Service Communicator**

of support. Most participants indicated that they would seek psychological support as needed, but not through their employer or employer-provided programs.

Participants acknowledged that their employers tried to support their mental health by creating quiet rooms as a safe place to regroup following particularly difficult calls. Although this space is provided in some centres, these rooms are often used for other purposes such as communal breakrooms. Participants also noted that using these rooms is often stigmatized and associated with the inability to manage the burden of their work.

To improve mental health support within the workplace, several participants indicated a strong interest in accessing an independent psychologist or social worker either on-site or on-call. They also expressed interest in additional information detailing services outside of their EAP and peer support programs that are available to them and to their families.

5.2.2 Professional Development

All interview participants felt their on-the-job training did not sufficiently prepare them for their work and reported a significant need for professional development opportunities, particularly in basic emergency medical response and dispatch knowledge. Participants also noted a lack of opportunity for continuing education or compensation for courses that allow for broader career development. Interviewees indicated that continuing education, such as courses that enhance their knowledge of medical response, various health conditions, special populations (e.g., a caller experiencing a mental health crisis), technological developments, and advancements in the field, would greatly enhance their job performance. They also reported that personal development courses (e.g., mental health strategies, nutrition, and physical health planning) would help them fulfill their work duties. Finally, they reported a desire to engage in opportunities to attend conferences, such as the national conference hosted by APCO Canada or the NENA conference in the US, to broaden their knowledge and professional networks.

5.3 PSC Interview Discussion and Summary

Participants in this study expressed a strong commitment to their role, despite reporting cumulative exposure to high intensity and traumatic calls that they feel impact their psychological well-being. The experiences reported in this study align with prior research demonstrating an elevated risk of work-related mental health impacts among PSC [1], [2]. Participants expressed a need for additional support outside of employer EAPs or peer support programs, due to skepticism around their efficacy, poor prior experiences, a lack of trust regarding confidentiality,

> "When you go back [from the quiet room], people act weird – they don't know what to say, so they don't say anything. I'm not sure which is worse – everyone knowing you're upset or everyone ignoring that you're upset."
>
> — **Public Service Communicator**



"Training for supervisors covers topics, such as scheduling impacts on sleep, circadian biological cycles, fatigue risks, and mitigation of these risks through proper scheduling practices [97]."

or a fear of stigma related to seeking help. Participant reluctance to use organizational mental health support is consistent with previously reported EAP confidentiality concerns and program ineffectiveness [92].

Presumptive coverage for PSC in some jurisdictions within workers' compensation acts supports recognition of the potential effects that traumatic, complex calls can have on this group of workers. But tremendous variability across provinces and territories remains, with few provinces explicitly or implicitly, including PSC, in the PSP worker group. Many training and intervention programs, guidelines, and standards exist to support psychological health and well-being of PSP, including PSC. Many of this study's participants were not aware of these resources. Further, while resources are available to support Public Service Answering Centre (PSAC) leaders in implementing programs and supports, variability in the size, structure, and funding models for PSACs mean that many may not have the financial or human resources to implement and maintain standards and programs that could help support PSC psychological health and well-being.

PSC psychological health and well-being is also impacted by long shifts, frequent overtime work, fatigue related to high call volumes, limited breaks while on duty, and constant multi-tasking. Studies show that shift work is correlated with negative health impacts, such as metabolic risk factors and mental health problems [93]–[95]. Furthermore, sleep disruption is common among PSC and has been linked with several symptoms of mental illness, including PTSD, depression, and social anxiety disorder [96]. Many professions face similar prevalence of extreme fatigue and fatigue risk management systems have been implemented along with training to support employees, supervisors, and leadership. Training for employees focus on topics, such as fatigue identification, personal strategies to improve sleep and minimize fatigue risk, and information on sleep disorders. Training for supervisors covers topics, such as scheduling impacts on sleep, circadian biological cycles, fatigue risks, and mitigation of these risks through proper scheduling practices [97]. A standard focused specifically on fatigue management for first responders was published in 2022. CSA Z1615:22, *First Responder Fatigue Risk Management System*, provides requirements and guidance to help mitigate the risk of harm if fatigue is present by identifying hazards and assessing and controlling risks [98]. A variety of checklists and tools have also been developed to support the implementation of the standard in PSP organizations.

Participants also expressed concern regarding their perceived unpreparedness for calls that require basic medical training or communications skills when speaking to individuals with specific needs. Although training on these topics is available, there may be limited PSC knowledge of or access to these resources. Feelings of unpreparedness may be amplified when

PSC performance is monitored and evaluated using metrics that focus on efficiency instead of efficacy. This adds further pressure to PSC who already face extremely stressful conditions and unpredictable calls.

Some PSC interview participants reported feeling unappreciated and perceived animosity from both management and other emergency responders. This is consistent with previous research reporting feelings of animosity and communication breakdown between PSC, their superiors, and the PSP community [2], [3], [10], [11]. Interviewees suggested that a lack of clear information regarding the nature of the role, or appropriate screening for the position prior to hiring, may contribute to low worker retention, compounding pressure on current employees. Pre-employment selection tools may be used to assess worker suitability that may help better predict performance, when implemented alongside behavioural interviews.

6 Discussion and Key Recommendations

The results of this research suggest that PSC can experience psychological trauma as a result of their work-related experiences. Programs providing education and support around mental health for this population are available and some are shown to be effective. However, comprehensive research evaluating these programs' efficacy is lacking, including studies specifically focusing on PSC. Indeed, a systematic review and meta-analysis of mental health and occupational stress among PSC found a lack of high-quality research examining the incidence, prevalence and severity of mental health and occupational stress issues among PSC as well as a lack of evidence on the effectiveness of programs to support these issues [99]. Access to these programs can be variable, either due to limited financial or human resources within the PSAC, PSC lack of knowledge about their existence, a lack of trust regarding confidentiality, stigma around mental health, and poor past experiences with the existing supports. Stigma and organizational culture represent significant hurdles for PSC psychological well-being. Among the preventive measures available to PSC, the most effective includes training associated



with identifying the causes and signs of mental health challenges as well as proactive strategies to support ongoing mental health (e.g., CIPSRT iCBT). To enhance effectiveness, this training should be made broadly available to staff early in employment and provided by reputable professionals, ideally regulated psychology disciplines. Education and development should be a priority in organizational policies and leveraging standards for psychological health and safety in the workplace as well as fatigue risk management can further support these needs. For employees that experience psychological distress, confidential and reputable professional support should be readily available within or outside PSAP organizations for employees and their families.

Management training should include the recognition of mental health challenges associated with the role as well as organizational strategies for minimizing mental health stressors, including fatigue management and mandatory breaks, as part of the overall organizational business plan. Beyond the recommendations that address mental health, PSAP centres could employ tools and processes that support professional development and enhanced screening practices. Frontline employee training beyond specific job-related requirements supports improved job performance and career development. The importance of the PSC role could be highlighted through inclusion of frontline workers while updating practices, facilitating interactions and collaboration opportunities among PSP, and increasing PSC visibility by sharing their

contributions with society. Enhanced communications activities could promote the impact of PSC roles on the public consciousness, and PSC could be given opportunities to work directly with other first responders to enhance opportunities for first responder collaboration and synergy.

Standards and guidelines [68], [72], [73] that address PSC mental health and well-being already include several of these recommendations and can serve as a foundation for the management of various aspects of the PSAP operations. CSA Z1003.1 explicitly states that the guidelines may be applied across paramedic service organizations and their 9-1-1 communication officials, including call takers and dispatchers [68]. However, these standards could be revisited to reflect the needs of all emergency responders in its scope. Governing authorities should further examine best practices among PSAP organizations and support these practices through enhanced funding and resource allocation. Finally, PSACs can explore existing resources to support improved operations and staff support, including the checklist developed by CIPSRT that outlines key considerations for the evaluation of programming structures [100].

7 Conclusion

This report integrates findings from a literature review, an environmental scan, and interviews from 15 key informants to identify the main factors that impact PSC psychological health. Our findings support previous research reporting work-related psychological health and well-being challenges PSC encountered, including increased rates of psychological trauma, a perceived lack of recognition amongst PSP peers, limited training opportunities, and suboptimal mental health support. Although no explicit regulations are in place that mandate training or mental health support for PSC, standards (e.g., CAN/CSA-Z1003/BNQ 9700-803 and NENA-STA 002.2) and guidelines do exist to support the implementation of management systems and programs for psychological health and well-being. These standards could be revised to consider the unique needs of PSC and PSAP centres to support the psychological health and safety of their PSC employees.

8 Limitations

The purpose of this study was to examine the existing research, standards, guidelines, and legislation around PSC psychological health and well-being and to obtain direct feedback on their experiences through one-on-one interviews. The research and interviews point to a need to better support this important group of emergency first responders. However, several limitations should be noted. The absence of random sampling may limit the generalizability of the findings, as the sample may not be representative of the larger PSC population. Rather, findings may be biased to characteristics unique to those who opted to participate. Similarly, the low sample size (n=15) may also reduce the ability to generalize findings to the broader population. Sample size was relatively low for a number of reasons, including an inability to participate due to family and work commitments, a decision not to participate due to concerns around confidentiality, and the impacts of the COVID-19 pandemic, as participant recruitment and interviewing took place during the first year of this transformative world event. In addition to the low number of interviewees, a comparably lower number of peer-reviewed studies focused on psychological health and well-being for PSC compared to other PSP. Despite these limitations, the strong correlations between the existing research findings, the interview results, and the number of programs, training, and legislation focused on psychological health and well-being for this important population help confirm the reality of this issue as well as the need for greater focus on providing high-quality resources to support PSC. The impacts of this support would lead to a healthier workforce, better performance in the workplace, improved recruitment and retention and, by extension, better emergency support for Canadians.

References

[1] H. Pierce and M. M. Lilly, "Duty-related trauma exposure in 911 telecommunicators: Considering the risk for posttraumatic stress," *J. Trauma. Stress*, vol. 25, no. 2, pp. 211–215, 2012, doi: 10.1002/jts.21687.

[2] K. Adams, J. Shakespeare-Finch, and D. Armstrong, "An interpretative phenomenological analysis of stress and well-being in emergency medical dispatchers," *J. Loss Trauma*, vol. 20, no. 5, pp. 430–448, 2015, doi: 10.1080/15325024.2014.949141.

[3] K. Forslund, A. Kihlgren, and M. Kihlgren, "'Operators' experiences of emergency calls," *J. Telemed. Telecare*, vol. 10, no. 5, pp. 290–297, 2004, doi: 10.1258/1357633042026323.

[4] R. N. Carleton *et al.*, "Mental health training, attitudes toward support, and screening positive for mental disorders," *Cogn. Behav. Ther.*, vol. 49, no. 1, pp. 55–73, 2020, doi: 10.1080/16506073.2019.1575900.

[5] R. N. Carleton *et al.*, "Exposures to potentially traumatic events among public safety personnel in Canada," *Can. J. Behav. Sci.*, vol. 51, no. 1, pp. 37–52, 2019, doi: 10.1037/cbs0000115.

[6] R. N. Carleton *et al.*, "Mental disorder symptoms among public safety personnel in Canada," *Can. J. Psychiatry*, vol. 63, no. 1, pp. 54–64, 2018, doi: 10.1177/0706743717723825.

[7] R. N. Carleton *et al.*, "Assessing the relative impact of diverse stressors among public safety personnel," *Int. J. Environ. Res. Public Health*, vol. 17, no. 4, 2020, doi: 10.3390/ijerph17041234.

[8] N. R. Carleton *et al.*, "Suicidal ideation, plans, and attempts among public safety personnel in Canada," *Can. Psychol.*, vol. 59, no. 3, pp. 220–231, 2018, doi: 10.1037/cap0000136.

[9] J. Shakespeare-Finch, A. Rees, and D. Armstrong, "Social support, self-efficacy, trauma and well-being in emergency medical dispatchers," *Soc. Indic. Res.*, vol. 123, no. 2, pp. 549–565, 2015, doi: 10.1007/s11205-014-0749-9.

[10] A. Coxon *et al.*, "'You are never making just one decision': Exploring the lived experiences of ambulance emergency operations center personnel," *Emerg. Med. J.*, vol. 33, no. 9, 645–651, 2016, doi: 10.1136/emermed-2015-204841.

[11] B. Trachik *et al.*, "Is dispatching to a traffic accident as stressful as being in one? Acute stress disorder, secondary traumatic stress, and occupational burnout in 911 emergency dispatchers," *Ann. Emerg. Dispatch Response*, vol. 3, no. 1, pp. 27–38, 2015.

[12] N.A. Leduc, S. Czarnuch, and R. Ricciardelli, "The impacts of leadership behaviours on the mental well-being of public safety communicators," *Int. J. Emerg. Serv.*, vol. 13, no. 1, pp. 50-66, 2024, https://doi.org/10.1108/IJES-04-2023-0012

[13] S. R. Jenkins, "Coping and social support among emergency dispatchers: Hurricane Andrew," *Journal of Social Behaviour & Personality,* vol. 21, no. 3, pp. 295–316, 1997.

[14] M. Lilly *et al.*, "Destress 9-1-1 - An online mindfulness-based intervention in reducing stress among emergency medical dispatchers: A randomised controlled trial," *Occup. Environ. Med.*, vol. 76, no. 10, pp. 705–711, 2019, doi: 10.1136/oemed-2018-105598.

[15] D. C. Kerr, I. J. Ornelas, M. M. Lilly, R. Calhoun, and H. Meischke, "Participant engagement in and perspectives on a web-based mindfulness intervention for 9-1-1 telecommunicators: Multimethod study," *J. Med. Internet Res.*, vol. 21, no. 6., 2019, doi: 10.2196/13449.

[16] M. M. Lilly and C. E. Allen, "Psychological Inflexibility and psychopathology in 9-1-1 telecommunicators," *J. Traumatic Stress*, vol. 28, no. 3, pp. 262–266, 2015, doi: 10.1002/jts.

[17] R. M. Troxell, "Indirect exposure to the trauma of others: The experiences of 9-1-1 telecommunicators," Ph.D. dissertation, Dept. of Public Health Sciences, University of Illinois at Chicago, Chicago, IL, 2008.

[18] R. L. Krakauer, A. M. Stelnicki, and R. N. Carleton, "Examining mental health knowledge, stigma, and service use intentions among public safety personnel," *Front. Psychol.*, vol. 11, pp. 1–7, May 2020, doi: 10.3389/fpsyg.2020.00949.

[19] C. Regehr, V. R. LeBlanc, I. Barath, J. Balch, and A. Birze, "Predictors of physiological stress and psychological distress in police communicators," *Police Pract. Res.*, vol. 14, no. 6, pp. 451–463, 2013, doi: 10.1080/15614263.2012.736718.

[20] C. J. Newell, R. Ricciardelli, S. M. Czarnuch, and K. Martin, "Police staff and mental health: Barriers and recommendations for improving help-seeking," *Pol. Pract. and Res.*, vol. 23, no. 1, pp. 1–15, Sep. 2021, doi: https://doi.org/10.1080/15614263.2021.1979398.

[21] L. Weibel, I. Gabrion, M. Aussedat, and G. Kreutz, "Work-related stress in an emergency medical dispatch center," *Ann. Emerg. Med.*, vol. 41, no. 4, pp. 500–506, 2003, doi: 10.1067/mem.2003.109.

[22] M. Oldenburg, D. Wilken, R. Wegner, B. Poschadel, and X. Baur, "Job-related stress and work ability of dispatchers in a metropolitan fire department," *J. Occup. Med. Toxicol.*, vol. 9, no. 31, pp. 1–9, 2014, doi: 10.1186/s12995-014-0031-8.

[23] "The working mind first responders," Opening Minds, Jan. 29, 2024. [Online]. Available:https://openingminds.org/training/twm/twmfr/ (accessed: Mar 10, 2025).

[24] Mental Health Commission of Canada. "Mental health first aid." Accessed: Feb. 7, 2025. [Online]. Available: https://mentalhealthcommission.ca/what-we-do/mental-health-first-aid/

[25] Occupational Safety and Health Administration. "Critical incident stress guide." U.S. Department of Labor. Accessed: Feb. 7, 2025. [Online]. Available: https://www.osha.gov/emergency-preparedness/guides/critical-incident-stress

[26] Good Universities Guide. "How to become a radio dispatcher." 2021. [Online] Available: https://www.gooduniversitiesguide.com.au/careers-guide/radio-dispatcher (accessed: Mar 10, 2025).

[27] National Careers Service. "Emergency medical dispatcher." 2021. [Online] Available: https://nationalcareers.service.gov.uk/job-profiles/emergency-medical-dispatcher (accessed: Mar 10, 2025).

[28] "911 operator: Career information and requirements," Study.com. Accessed: Aug. 24, 2021. [Online]. Available: https://bestaccreditedcolleges.org/articles/911-operator-career-information-and-requirements.html

[29] E. and S. D. Canada. "911 Dispatcher in Canada | Job requirements." Job Bank. Accessed: Mar 10, 2025. [Online]. Available: https://www.jobbank.gc.ca/marketreport/requirements/19353/ca

[30] SA Ambulance Service. "Emergency medical dispatch support officer (EMDSO)." Accessed: Mar 10, 2025. [Online]. Available: https://saambulance.sa.gov.au/app/uploads/2021/11/SAAS-Emergency-Medical-Dispatch-Support-Officer-EMDSO-Frequently-Asked-Questions.pdf

[31] Queensland Ambulance Service. "Emergency medical dispatchers." Oct. 25, 2024. [Online]. Available: https://www.ambulance.qld.gov.au/careers/emd (accessed Dec. 22, 2024).

[32] Australian Government. "HLT31020 – Certificate III in Non-Emergency Patient Transport." 2024. [Online]. Available: https://training.gov.au/training/details/HLT31020/qualdetails (accessed Dec. 22, 2024).

[33] Australian Government. "HLTAID014 – Provide advanced first aid." 2024. [Online]. Available: https://training.gov.au/training/details/HLTAID014/unitdetails (accessed Dec. 22, 2024).

[34] APCO International. "3.103.2.2015 Minimum training standards for public safety telecommunicators." Accessed: Mar 10, 2025. [Online]. Available: https://www.apcointl.org/~documents/standard/31032-2015-public-safety-telecommunicator/?layout=default

[35] Lambton College. "Emergency communications and response." 2019. [Online]. Available: https://www.lambtoncollege.ca/programs/online/emer#admissionrequirements (accessed Dec. 22, 2024).

[36] Faculty of Health Sciences & Wellness. "Emergency telecommunications." Humber College. Accessed: Mar 10, 2025. [Online]. Available: https://healthsciences.humber.ca/programs/emergency-telecommunications.html

[37] MacEwan University. "Emergency communications and response." Accessed: Aug. 24, 2021. [Online]. Available: https://www.macewan.ca/academics/programs/emergency-communications-response/

[38] "911 and public safety communications," Fanshawe College, Jun. 16, 2021. [Online]. Available: https://www.fanshawec.ca/programs/psc1-911-and-public-safety-communications/next (accessed Aug. 24, 2021).

[39] "911 & emergency services communications," Seneca College, Toronto, Canada. [Online]. Available: https://www.senecacollege.ca/programs/fulltime/ESC.html#menu (accessed Aug. 24, 2021).

[40] Royal Canadian Mounted Police, "Telecommunications operator careers (9-1-1 dispatchers) application and selection process." [Online]. Available: https://www.rcmp-grc.gc.ca/en/application-and-selection-process (accessed Feb. 7, 2025).

[41] E-Comm 9-1-1, "Training process." [Online]. Available at: https://www.ecomm911.ca/join-our-team/9-1-1-call-takers/training-process/ (accessed Feb. 7, 2025).

[42] APCO International, "Public safety telecommunicator 1, 7th Ed., Canada, online #72842," May 24, 2024. https://www.apcointl.org/courses/public-safety-telecommunicator-1-7th-ed-canada-online-72842/ (accessed Dec. 22, 2024).

[43] Government of Australia. "PUA30819 Certificate III in public safety (emergency communications centre operations)." 2024. [Online]. Available: https://training.gov.au/training/details/PUA30819/qualdetails (accessed Feb. 1, 2025).

[44] APCO International. "Schedule and search for courses." Accessed: Mar 10, 2025. [Online]. Available: https://www.apcointl.org/training/courses/

[45] NENA The 9-1-1 Association. [Online]. Available: https://www.nena.org/? (accessed Aug. 24, 2021).

[46] 911 Training Institute. [Online]. Available: https://www.911training.net/ (accessed Aug. 24, 2021).

[47] "Home," The Healthy Dispatcher. [Online]. Available: https://thehealthydispatcher.com/ (accessed Dec. 02, 2024).

[48] APCO International, "Wellness and peer support program implementation in a 911 communication center," 2023. [Online]. Available: https://www.apcointl.org/~documents/report/apco-peer-support-program-implementation-manual (accessed Dec. 22, 2024).

[49] Parliament of Australia, "Recommendations," Parliamentary Business [Online]. Available: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Education_and_Employment/Mentalhealth/Report/section?id=committees%2freportsen%2f024252%2f26970 (accessed: Mar 10, 2025).

[50] "Out of the shadows at last: Transforming mental health, mental illness and addiction services in Canada — A review of the Final Report of the Standing Senate Committee on Social Affairs, Science and Technology," Canadian Psychological Association, May 11, 2006. [Online]. Available: https://cpa.ca/cpasite/UserFiles/Documents/Practice_Page/OutoftheShadowsatLast_CPAReview%20.pdf

[51] Mental Health Commission of Canada, "Road to mental readiness," 2014. [Online]. Available: http://www.mentalhealthcommission.ca/resource/the-road-to-mental-readiness-r2mr (accessed: Mar 10, 2025).

[52] Public Safety Canada, "Supporting Canada's public safety personnel: An action plan on post-traumatic stress injuries," Government of Canada, 2019. [Online]. Available: https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/2019-ctn-pln-ptsi/index-en.aspx?wbdisable=true (accessed: Mar. 10, 2025).

[53] CIPSRT. [Online]. Available: https://www.cipsrt-icrtsp.ca/ (accessed Aug. 24, 2021).

[54] "PSP wellbeing course," PSPNET. [Online]. Available: https://www.pspnet.ca/ (accessed Aug. 24, 2021).

[55] "PSP Families," PSPNET. [Online]. Available: https://www.pspnet.ca/en/for-families-of-psp/about-pspnet-families (accessed: Mar 10, 2025).

[56] PSP Mental Health. [Online]. Available: https://www.pspmentalhealth.ca/about-us/ (accessed Aug. 24, 2021).

[57] "#FirstRespondersFirst," First Responders First. [Online]. Available: http://www.firstrespondersfirst.ca/ (accessed Aug. 24, 2021).

[58] "Ontario Expanding Mental Health Supports for Public Safety Personnel," Government of Ontario. [Online]. Available: https://news.ontario.ca/en/release/1005360/ontario-expanding-mental-health-supports-for-public-safety-personnel (accessed Mar. 10, 2025),

[59] H. D. Hadjistavropoulos *et al.*, "Initial outcomes of transdiagnostic internet-delivered cognitive behavioral therapy tailored to public safety personnel: Longitudinal observational study," *J. Med. Internet Res.*, vol. 23, no. 5, 2021, doi: 10.2196/27610.

[60] R. N. Carleton *et al.*, "A longitudinal assessment of the road to mental readiness training among municipal police," *Cogn. Behav. Ther.*, vol. 47, no. 6, pp. 508–528, 2018, doi: 10.1080/16506073.2018.1475504.

[61] Emergency Services Foundation. "Home page." Accessed: Aug. 24, 2021. [Online]. Available: https://esf.com.au/

[62] Queensland Fire Department. "Supporting our people." 2024. [Online]. Available: https://www.fire.qld.gov.au/about-us/supporting-our-people (accessed: Mar 10, 2025).

[63] Mind. "Home page." Accessed: Aug. 24, 2021. [Online]. Available: https://www.mind.org.uk/

[64] Mind. "Blue light programme - phase three evaluation of 999 call handler pilot contents." Accessed: Mar 10, 2025. [Online]. Available: https://www.mind.org.uk/media-a/4872/blue-light-programme_call-handler-evaluation.pdf

[65] NENA The 9-1-1 Association. "Emergency number associations announce intensified standards cooperation." Accessed: Aug. 24, 2021. [Online]. Available: https://www.nena.org/news/news.asp?id=339413&hhSearchTerms=%22canada%22

[66] *Alberta 9-1-1 Standards Version 2.0*, Appendix A to Ministerial Order No. A:002/21. Government of Alberta, January 27, 2021. [Online]. Available: https://open.alberta.ca/dataset/6d7e0ae9-a541-487c-880e-456e7b59879f/resource/c50006ae-2c44-4d4b-8b27-b502a88c5e2f/download/ma-alberta-9-1-1-standards-version-2-2021-01-27.pdf

[67] *Psychological Health and Safety in the Workplace*, CAN/CSA Z1003:13/BNQ 9700-803/2013 (R2022), Canadian Standards Association, Toronto, ON, Canada, 2013. Available: https://www.csagroup.org/store/product/CAN-CSA-Z1003-13-BNQ%209700-803-2013/

[68] *Psychological Health and Safety in the Paramedic Service Organization*, CSA *Z1003.1-18*, Canadian Standards Association, Toronto, ON, Canada, 2018. Available: https://www.csagroup.org/store/product/Z1003.1-18/

[69] *Occupational Health and Safety Management Systems – Requirements with Guidance for Use*, ISO 45001:2018, International Organization for Standardization, Geneva, Switzerland, 2021. [Online]. Available: https://www.iso.org/standard/63787.html

[70] *Occupational Health and Safety Management Systems – Requirements with Guidance for Use (Adopted ISO 45001:2018, first edition, 2018-03, with Canadian Deviations),* CSA Z45001:19 (R2023). Canadian Standards Association, Toronto, ON, Canada, 2019. Available: https://www.csagroup.org/store/product/CSA%20Z45001%3A19/

[71] *Occupational Health and Safety Management - Psychological Health and Safety at Work - Guidelines for Managing Psychosocial Risks*," ISO 45003:2021, International Organization for Standardization, Geneva, Switzerland, 2021. [Online]. Available: https://www.iso.org/standard/64283.html

[72] *NENA Standard to Protect the Wellbeing of 9-1-1 Professionals*, NENA-STA-002.2-2022, NENA, Alexandria, VA, United States, 2022. [Online]. Available: https://www.nena.org/page/well911pros

[73] Beyond Blue Ltd. "Good practice framework for mental health and wellbeing in first responder organisations." 2016 [Online]. Available https://policecareaustralia.org.au/providers/beyond-blue/ (accessed: Mar. 10, 2025).

[74] Mentally Healthy Workplaces. "Good practice framework for mental health and wellbeing in police and emergency services organisations." Accessed: Mar 10, 2025. [Online]. Available: https://beta.mentallyhealthyworkplaces.gov.au/explore-resources/good-practice-framework-mental-health-and-wellbeing-police-and-emergency-services

[75] Government of Canada. June 21, 2018. S.C. 2018, c. 13, *Federal Framework on Post-Traumatic Stress Disorder Act.* Available: https://laws-lois.justice.gc.ca/eng/acts/f-7.38/page-1.html

[76] Public Health Agency of Canada. "Federal framework on posttraumatic stress disorder. Recognition, collaboration and support." Jan. 2020. [Online]. Available: https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/healthy-living/federal-framework-post-traumatic-stress-disorder/pub1-eng.pdf

[77] Canadian Labour Congress. "Work-related PTSD." Oct. 03, 2017. [Online]. Available: https://canadianlabour.ca/uncategorized/work-related-ptsd/ (accessed Aug. 24, 2021).

[78] Government of Prince Edward Island. (2018). *Workers Compensation Act*, SPEI 2018 c 18 (CanLII). [Online]. Available: https://www.canlii.org/en/pe/laws/stat/rspei-1988-c-w-7.1/latest/rspei-1988-c-w-7.1.html

[79] Government of Newfoundland and Labrador. (1990). *Workplace Health, Safety and Compensation Act*, RSNL 1990 Chapter W-11. [Online]. Available: https://assembly.nl.ca/legislation/sr/statutes/w11.htm#92_6

[80] Government of Manitoba. (2024). *The Workers Compensation Act,* C.C.S.M. c. W200. [Online]. Available: https://web2.gov.mb.ca/laws/statutes/ccsm/w200.php?lang=en

[81] Government of Saskatchewan. (2013). *The Workers' Compensation Act, 2013,* SS 2013, c W-17.11 (CanLII). [Online]. Available: https://www.canlii.org/en/sk/laws/stat/ss-2013-c-w-17.11/latest/ss-2013-c-w-17.11.html

[82] *Workplace Safety and Insurance Act,* 197, S.O. 1997, c. 16, Sched. A. [Online]. Available: https://www.ontario.ca/laws/statute/97w16#BK14

[83] Government of Alberta. (2000). *Workers' Compensation Act,* Revised Statutes of Alberta 2000, c W-15. [Online]. Available: https://www.qp.alberta.ca/documents/Acts/W15.pdf

[84] Government of British Columbia. (2024). *Mental Disorder Presumption Regulation*, B.C. Reg. 136/2018, last amended June 10, 2024. [Online]. Available: https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/136_2018_pit/search/CIVIX_DOCUMENT_ROOT_STEM:(compensation)%20AND%20(mental)%20AND%20CIVIX_DOCUMENT_ANCESTORS:statreg?1#hit1

[85] Government of British Columbia. (2019). *Workers Compensation Act*, RSBC 2019, c 1. [Online]. Available: https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19001_04

[86] The Province of Nova Scotia. (1994–1995). *Workers' Compensation Act*, c 10 of the Acts of 1994–95. [Online]. Available: https://nslegislature.ca/sites/default/files/legc/statutes/workers'%20compensation.pdf

[87] Government of New Brunswick. (1973). *Workers' Compensation Act*, RSNB 1973, c W-13 [Online]. Available: http://laws.gnb.ca/en/showfulldoc/cs/W-13/#anchorga:s_7

[88] Yukon Workers' Compensation Health and Safety Board. (2019). *Adjudicating Psychological Injuries*. [Online]. Available: https://www.wcb.yk.ca/policies/prior/entitlement/adjudicating-psychological-injuries

[89] Northwest Territories Government. (2007). *Workers' Compensation Act*, SNWT 2007, c 21 (CanLII). [Online]. Available: https://www.canlii.org/en/nt/laws/stat/snwt-2007-c-21/latest/snwt-2007-c-21.html

[90] Government of Nunavut. (2007). *Workers' Compensation Act*, SNu 2007,c 15 (CanLII.) [Online]. Available: https://www.canlii.org/en/nu/laws/stat/snu-2007c15/latest/snu-2007c15.html

[91] Government of Quebec. (1985). *Workers' Compensation Act*, c A-3 (Légis Québec). [Online]. Available: http://legisquebec.gouv.qc.ca/en/ShowTdm/cs/A-3

[92] B. Joseph, A. Walker, and M. Fuller-Tyszkiewicz, "Evaluating the effectiveness of employee assistance programmes: a systematic review," *Eur. J. Work Organ. Psychol.*, vol. 27, no. 1, pp. 1–15, 2018, doi: 10.1080/1359432X.2017.1374245.

[93] K. I. Proper *et al.*, "The relationship between shift work and metabolic risk factors: A systematic review of longitudinal studies," *Am. J. Prev. Med.*, vol. 50, no. 5, pp. e147–e157, May 2016, 10.1016/j.amepre.2015.11.013.

[94] W. A. A. Khan, R. Conduit, G. A. Kennedy, and M. L. Jackson, "The relationship between shift-work, sleep, and mental health among paramedics in Australia," *Sleep Heal.*, vol. 6, no. 3, pp. 330–337, 2020, doi: 10.1016/j.sleh.2019.12.002.

[95] J. P. Brown *et al.*, "Mental health consequences of shift work: An updated review," *Curr. Psychiatry Rep.*, vol. 22, no. 2, pp. 1–7, 2020, doi: 10.1007/s11920-020-1131-z.

[96] A. Angehrn *et al.*, "Sleep quality and mental disorder symptoms among Canadian public safety personnel," *Int. J. Environ. Res. Public Health*, vol. 17, no. 8, 2020, doi: 10.3390/ijerph17082708.

[97] M. Harnett and J. Kenji Kumagai, "Workplace fatigue: Current landscape and future considerations," Canadian Standards Association, Toronto, ON, Canada, 2019. [Online]. Available: https://www.csagroup.org/article/research/workplace-fatigue-current-landscape-and-future-considerations/

[98] *First Responder Fatigue Risk Management System*, CSA Z1615:22, Canadian Standards Association, Toronto, ON, Canada, 2022.

[99] I.J. Saldanha, E.C. Roemer, E.B. Hsu, G.S. Everly, G. Han, A. Zhang, J.L. Jenkins, "Mental Health and Occupational Stress Among Emergency Telecommunicators: A Systematic Review and Meta-Analysis," *Prehospital Emergency Care*, 1–15, 2025. Available: https://doi.org/10.1080/10903127.2025.2465715

[100] CIPSRT. "CIPSRT releases a step-by-step guide that explains the research process." 2024. [Online]. Available: https://www.cipsrt-icrtsp.ca/en/cipsrt-releases-a-step-by-step-guide-that-explains-the-research-process (accessed: Dec. 22, 2024).

[101] Government of Ontario. (1997). "e-Laws | Ontario.ca," Ontario.ca, 2024.*Workplace Safety and Insurance Act, 1997,* S. O. 1997, c 16, Sched. A. [Online]. Available: https://www.ontario.ca/laws/statute/97w16#BK14 (accessed: Dec. 22, 2024).

[102] Government of Yukon. (2008). *"Workers' Compensation Act*, SY 2008, c 12.t." [Online]. Available: https://laws.yukon.ca/cms/images/LEGISLATION/PRINCIPAL/2008/2008-0012/2008-0012_2.pdf. (accessed : 24-Aug-2021).

[103] Government of Newfoundland and Labrador. (1990). *RSNL1990 chapter w-11 - Workplace Health, Safety and Compensation Act*, RSNL 1990, c w-11. [Online]. Available: https://assembly.nl.ca/legislation/sr/statutes/w11.htm#92_6. (accessed : 24-Aug-2021).

Appendix A:

Databases / Search Engines and Search Terms Used for Literature Review

Databases / Search Engines	Search Term Relevance: PSC	Search Term Relevance: Psychological Health
PubMed; Google Scholar; Scholars Portal (Journals); EBSCOhost; ProQuest; ScienceDirect	911; call taker*; communicator*; communication* official*; dispatch*; dispatcher*; emergency* medical dispatch*; public safety operator*; public safety communication* official*	resiliency*; stress*; occupational stress injury*; occupational stress; organizational stress; operational stress; emotion*; mental health; mental injury; crisis*; psychological distress / harm / ill-health; fatigue; post-traumatic stress disorder; post-traumatic stress injury*; well-being; absenteeism*; shift work

NOTES:
Boolean search operators and strategies were applied to the following terms:
- "*" is a wildcard search delimiter used to allow for pluralization, hyphenation, and compounding of particular words and phrases
- variations for keywords were combined with Boolean operator "OR" and key concepts were combined using "AND"
- additional terms added / removed as needed during literature searches

Appendix B:

Environmental Scan Search Strategy

Databases / Search Engines	Search Term Relevance: PSC
Google search engine, followed by targeted hand searches	call handler, 911 telecommunicators mental health, and 911 telecommunicator training, 911 telecommunicator education, 911 act, 911 presumptive coverage

NOTES:
Boolean search operators and strategies were applied to the following terms:
- "*" is a wildcard search delimiter used to allow for pluralization, hyphenation, and compounding of particular words and phrases
- variations for keywords were combined with Boolean operator "OR" and key concepts were combined using "AND"
- additional terms added / removed as needed during literature searches

Appendix C:

Interview Questions

1. How long have you been working as a [PSC]?
2. Why did you decide to become a [PSC]?
3. What do you think makes a "good" [PSC]?
4. Describe what, if any, aspects of your job as a [PSC] that you find rewarding.
5. Describe what, if any, aspects of your job as a [PSC] that you find challenging / difficult / demanding.
6. Describe your physical workspace (e.g., lighting, seating, desk, space, layout, organization, quiet room, break room, etc.). Does your workspace enhance or limit your psychological / physical health?
7. Describe your shift patterns / hours of work. Does your shift pattern enhance or limit your psychological / physical health?
8. From a physical health and well-being perspective, what can / should be done / available in order to help keep Public Communications Officials physically well?
9. Public Communications Officials hear distressing calls / people in distress on a regular basis that the general public may only hear see once in a while, if ever. How do you think the cases that you have seen / do see, have affected you over the course of your career as a (insert job title / position)?
10. From a mental health and well-being perspective, what can / should be done / available in order to help keep Public Communications Officials mentally healthy?
11. With respect to independent / external resources (i.e., EAP, counselling, etc.) have you used any of these resources?
12. With respect to in-house / internal resources (i.e., peer support, debriefing, etc.) have you or your peers used any of these resources?
13. Do you think that there are barriers that keep Public Communications Officials from getting the help that they need?
14. What advice / suggestions / recommendations would you give people (i.e., Directors, Managers, researchers, policy makers, etc.) who are trying to implement mental-health wellness strategies and programs for Public Communications Officials?
15. What advice would you give an individual either considering a career as a Public Communications Officials, or who has just been hired?
16. Looking back on your career so far, what, if anything would you change?

Appendix D:

Current Canadian Acts Providing Presumptive Coverage of Psychological Injury or PTSD

Jurisdiction	Legislation	Psychological injury coverage	Applicable to
Ontario	*Workplace Safety and Insurance Act* [101]	Post-Traumatic Stress Disorder	Dispatchers
Alberta	*Workers' Compensation Act* [83]	Post-Traumatic Stress Disorder	Emergency dispatcher
British Columbia	*Workers Compensation Act* [85]	Mental Disorder	Emergency response dispatcher
Manitoba	*The Workers Compensation Act* [80]	Psychological injury Post-Traumatic Stress Disorder	All workers
New Brunswick	*Workers' Compensation Act* [87]	Post-Traumatic Stress Disorder	Emergency response worker, includes firefighter, paramedic, or police officer only
Saskatchewan	*The Workers' Compensation Act* [81]	Psychological injury	All workers, including PSC
Nova Scotia	*Workers' Compensation Act* [86]	Post-Traumatic Stress Disorder	Emergency response dispatcher
Yukon	*Workers' Compensation Act* [102]	Post-Traumatic Stress Disorder	Emergency response worker includes firefighter, paramedic, or police officer only
Nunavut	*Workers' Compensation Act* [90]	N/A	Firefighters only
Northwest Territories	*Workers' Compensation Act* [89]	N/A	Firefighters only
Newfoundland	*Workplace Health, Safety and Compensation Act* [103]	Post-Traumatic Stress Disorder	All workers
Prince Edward Island	*Workers Compensation Act* [78]	Post-Traumatic Stress Disorder	All workers
Quebec	*Workers' Compensation Act* [91]	N/A	All workers

Appendix E:

Canadian Resources for PSCs

Education and Training

Organization	Title
APCO International	Minimum training standards for public safety telecommunicators
APCO International	Public safety telecommunicator 1

Mental Health and Well-Being Supports

Organization	Title
Opening Minds	The working mind first responders
Mental Health Commission of Canada	Mental health first aid
CIPSRT	Multiple resources
PSPNET	PSP well-being course
PSPNET	PSPNET Families
First Responders First	First Responders First

Standards and Guidelines

Organization	Title
Canadian Standards Association	CAN/CSA Z1003:13/BNQ 9700-803/2013 (R2022), Psychological Health and Safety in the Workplace
Canadian Standards Association	CSA Z1003.1-18, Psychological Health and Safety in the Paramedic Service Organization
Canadian Standards Association	CSA 45001:19 (R2023), Occupational Health and Safety Management Systems – Requirements with Guidance for Use

CSA Group Research

In order to encourage the use of consensus-based standards solutions to promote safety and encourage innovation, CSA Group supports and conducts research in areas that address new or emerging industries, as well as topics and issues that impact a broad base of current and potential stakeholders. The output of our research programs will support the development of future standards solutions, provide interim guidance to industries on the development and adoption of new technologies, and help to demonstrate our on-going commitment to building a better, safer, more sustainable world.

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