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ABSTRACT SUPPLEMENT

CIMVHR
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PRIMARILY MENTAL HEALTH AND WELL-BEING

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FAMILIES

HEALTH POLICY

Poster Presentation

P108: The Family Quality Participation Framework: A validation by adaptive sports experts

Roberts, Lauren, MSc[1]; Latimer-Cheung, Amy, PhD[1]; Shirazipour, Celina, PhD[2,3]; Norris, Deborah, PhD[4]; Cramm, Heidi, PhD[1]

[1]Queen's University; [2]Cedars-Sinai Medical Center; [3]University of California Los Angeles; [4]Mount Saint Vincent University

Introduction: Adaptive sports provide an opportunity for positive health outcomes through impactful and meaningful participation, known as 'quality participation' (Martin Ginis et al., 2017). The Quality Participation Framework provides guidelines for creating quality participation for people with disabilities across the lifespan. Noted in the research is the role family members play in initiating and enabling sport participation. Supporting loved ones through their sport participation can come at a cost to the family members. The Family Quality Participation Framework intends to identify ways to create family programs which create meaningful adaptive sport participation for the whole family. Based on the development process of the Quality Participation Framework, the Family Quality Participation Framework was developed following a scoping review of current literature examining family inclusion in adult adaptive sport and a case study of an exemplar military and Veteran adaptive sport family program. The Family Quality Participation Framework identified three key elements which lead to quality participation for families: recognition; belongingness; and engagement. Building these elements into the program range from getting family members to the competition to ways on centering a full family perspective throughout the competition.

Methods: Adaptive sport community experts will be asked to provide feedback on the Family Quality Participation Framework through confirmatory surveys. Through ranking and open text responses, participants will be able to help co-create the final Family Quality Participation Framework. Feedback will centre on relevance and importance of identified elements, as well as the language used to explain each element.

Expected Results: Results are expected to refine the Family Quality Participation Framework based on feedback from experts within the field of adaptive sport, including those from military and Veteran sporting competitions and programs.

Conclusion: The Family Quality Participation Framework is the culmination of a three-phased project aimed at furthering family inclusion in adaptive sport programs and research. The final Family Quality Participation Framework is expected to provide guidelines for how to build family quality participation into adaptive sports competition and provide implications for policies relating to families and sport, such as those seen at the Invictus and Warrior Games.

HEALTH SERVICES

Podium Presentations

1D03: Single Session Family Therapy Interventions for Military and Veteran Families

Cosgrove, Martine, PhD[2]; McIntosh, Jennifer, PhD[1]; Foster, Holly, PhD[1]; Barrington, Nicholas, MFT[1]

[1]La Trobe University; [2]Australian National University

Introduction: In Australia the needs of military and veteran families is an emerging national health priority with strategies for family and domestic violence, and suicide recognising them as a priority population. According to the 2021 Census, one in twenty (5.3 per cent) Australian households reported at least one person who had served or is serving in the ADF (ABS Census, 2021). Studies consistently show a range of service-related factors impact couple health and family wellbeing. Defence and DVA jointly issued two major strategies in 2024 to improve key mental health and wellbeing outcomes for current and ex-serving veterans and their families. Despite the significance of this population, the evidence for effective interventions to target service related vulnerabilities remains limited.

Methods: A series of rapid systematic literature reviews were conducted to assess the international evidence base for military and veteran children's social, emotional, and behavioural outcomes; family cohesion and relationship quality in families; and to compare social and economic stress in military and civilian families. The reviews drew from recently published journal articles, using strict inclusion and exclusion criteria, in line with leading approaches including the Joanna Briggs Institute and Cochrane Rapid Review methodologies. This presentation considers these findings and the key implications for policy and practice, which indicate the potential for brief family therapy and systemic practices to improve outcomes.

Expected Results: Many families experience benefits as a result of military service; however, studies consistently find differences to civilian families on key couple, parenting, child, and spousal socio-economic outcomes.

Conclusion: A new model of intervention - *Walk-In Together* (WIT) –shows encouraging evidence of significant improvements in family communication and capacity to manage challenge following a single family therapy session via telehealth in civilian populations. The intervention has strong potential application to this priority population across multiple well-being services in the Australian Defence Organisation (ADO) and Veteran's Affairs (DVA). These include prevention for interpersonal violence, and couples and parent focused counselling, to support family functioning throughout the service life-cycle. Noting the significant and often enduring impacts of family relational stress for children, enhancing support to parents via a brief whole of family intervention is needed to grow the capacity and resilience of families and community, and foster family connection and relational supports. Online delivery formats can overcome barriers to engagement in therapeutic programs for military families and offer significant return on investment especially in priority domains such as suicide prevention.

5E02: Mapping pride in service: An environmental scan of organizations and programs that support sexual/gender diversity among military-connected families

Dauphinee, Aidan, BHSc[1]; Polito, Shannon, BAHSc[1]; Tam-Seto, Linna, PhD[1]

[1]University of Toronto

Introduction: Military-connected families experience unique lifestyle factors, such as mobility between military bases, absences of serving members, and increased risk for illness, injury, and/or death to the serving members. For military-connected families that include sexual/gender diverse members (i.e., lesbian, gay, bisexual, transgender, plus other identities), there are intersecting factors that influence their wellbeing and access to support. Yet historically and to this present day, organizations and programs to support military-connected families have largely been developed without consideration of sexual/gender diversity. It is therefore critical to identify and describe organizations and programs that are currently available to provide support directly related to sexual/gender diversity among military-connected families.

Methods: A conditioned viewing approach to environmental scanning is being employed to identify any organizations and programs that are publicly available to support sexual/gender diversity among military-connected families. Webpages pertaining to both military service and sexual/gender diversity have been collected from Google searches of all the member countries of North Atlantic Treaty Organization (NATO) and Five Eyes. The webpages have been screened for inclusion of: (a) an organization or program that serves military-connected families, and (b) provides support directly related to sexual/gender diversity. Descriptive analysis of the included organizations and programs is ongoing to provide insight into the strengths, weaknesses, opportunities and threats (SWOT) of the supports for sexual/gender diverse military-connected families.

Expected Results: Currently, analysis is underway and it is expected that there will be a limited quantity and range of organizations and programs providing support directly related to sexual/gender diversity. The distribution of the organizations and programs across the member countries of NATO and Five Eyes is likely to be unbalanced. It is also expected that the majority of included organizations and programs will only provide support to military personnel and Veterans themselves and not their family members.

Conclusion: The expected implication of this research is the demonstration that gaps in organizations and programs exist for supporting sexual/gender diversity among military-connected families. This research will highlight the importance of further strategic planning and program development to support sexual/gender diversity among military-connected families in Canada and internationally.

PRIMARILY MENTAL HEALTH AND WELL-BEING

Podium Presentations

1D01: "I didn´t have to hold it together for everyone else": A qualitative exploration of the Surviving Families Program

Cramm, Heidi, PhD[1]; Dekel, Rachel, PhD[2]; Nuttman-Shwartz, Orit, PhD[3]

[1]Queen's University; [2]Bar-Ilan University; [3]Sapir University

Introduction: Created to fill a perceived void in grief programming, Wounded Warriors Canada launched the Surviving Spouses Program, now the Surviving Families Program, in 2021. This retreat-based intensive has been open to defence and public safety spouses or family members who have lost a loved one in the line of duty or because of the line of duty. The therapeutic use of group is embedded in the program design. This research study is a component of a larger, arms-length developmental evaluation.

Methods: Grounded in an interpretive/constructivist paradigm, this qualitative research explored participants' experiences in the Surviving Spouses/Families

Program. In-depth interviews were conducted to explore participants' pathways to, experiences of, and reflections about their participation. Data collection procedures and analysis conformed to an interpretative phenomenological analysis approach.

Results: Eighteen interviews were conducted with participants from nine of the different sessions. Mostly wives and mothers, half of the participants had lost their loved one to suicide, with the other half describing line of duty medical events, cancers, or accidents. The average time since loss exceeded 5 years, with one third from military sectors and two thirds from public safety. Notably, pathways to finding the program were highly varied. Participants generally reported their experiences to be highly impactful, attributing this to highly-skilled facilitation, carefully delivered content, and the retreat-based model where their logistics, accommodation, and meals were all taken care of, enabling participants to immerse themselves in their own healing. Areas for continued consideration include factors that influence the composition of the cohort (e.g., type of familial connection, nature of relationship at time of loss, nature of the death, time since the death, etc.) and the nature of follow up services and supports.

Conclusion: Based on participants' reports, the Surviving Families Program created the conditions for them to feel they had permission to attend to their own grief, offering an immersive experience generally reported as highly impactful. This research highlights the lag in help seeking that women, often mothers, can experience in navigating their own grief, as well as the importance for increasing community awareness of available programming.

1D02: REACH: Evaluation of the REACH Peer Support Program for Active-Duty Military Spouses

Neimeyer, Emily, MPH[1]; Gower, Katherine, PhD[1]; Borah, Elisa, PhD1

[1]University of Texas at Austin

Program/Intervention Description: Active military spouses experience significant challenges while maintaining resilience amid the ever-changing nature of military life. Such stressors include shifting education and career goals, relationship challenges, and a lack of social and mental health support. Few supports are preventative in nature and do not address the range of spouses' needs. The Military Spouse Resiliency Group (REACH) Program aims to improve mental health and social support outcomes through eight weekly 2-hour group sessions, facilitated by two trained peer leaders. REACH delivers educational content and engages spouses in peer-based discussions tailored to the military spouse experience. This initial evaluation examined the acceptability and effectiveness of the REACH Program as part of a larger randomized controlled trial study.

Evaluation Methods: Participants completed baseline and post-program surveys examining outcomes including quality of life, knowledge of mental health conditions, and the Insomnia Severity Index. To address program satisfaction, participants filled out a weekly session feedback questionnaire, and peer leaders submitted fidelity checklists to document any curriculum deviations. Content analysis was conducted on this data using Excel. Basic descriptive analyses were conducted on quantitative data from the baseline and post-program surveys using SPSS.

Results: Preliminary descriptive analyses have thus far demonstrated increased scores in quality of life, reduced insomnia, and increased confidence in knowledge regarding topics including trauma and suicide prevention after program completion among active intervention participants compared to waitlisted participants.

From the 202 feedback questionnaires submitted, participants reported that leaders were extremely prepared for their sessions (69%) and that the sessions were very valuable (69%). Many enjoyed sharing their experience with other spouses, and expressed strong feelings of support and community (45%). Participants indicated a desire for an increase in duration and number of sessions offered (12%).

A total of 131 fidelity checklists were completed after each session by 14 group leaders. The biggest barriers to session completion were density of curriculum and leader time management. At the end of their first groups, leaders cited their increased feelings of community and support.

Conclusion: These findings indicate that the REACH peer support program is providing measurable gains in important knowledge and health outcomes. In terms of acceptability, participants and leaders report it as well designed and valuable as a means for community and support for active-duty military spouses. By offering military spouses a program tailored to their needs in a welcoming environment military spouses can benefit from peer support in a group setting.

1D04: Family Quality Participation Framework: A Case Study

Roberts, Lauren, MSc[1]; Shirazipour, Celina, PhD[2,3]; Latimer-Cheung, Amy, PhD[1]; Norris, Deborah, PhD[4]; Cramm, Heidi, PhD[1]

[1]Queen's University; [2]Cedars-Sinai Medical Centre; [3]University of California Los Angeles; [4]Mount Saint Vincent University

Introduction: Participating in adaptive sports can lead to positive health outcomes for competitors including physical, mental, and social health. Family members and friends are key enablers and supporters of participation. Research suggests that family members and families can have positive or negative experiences of supporting sport, with their level of participation being an influencing factor. The aim of this study is to examine a Family Program at a military and Veteran adaptive sport competition to identify the key conditions creating a supportive climate for families of participants.

Methods: Using a case study approach, an observation of a military and Veteran adaptive sport competition and document analysis was conducted. The first author was embedded within the Family Program for the duration of the competition and was able to observe and speak with organizers, family points of contact, family members and friends, and competitors, and review internal documents relating to the competition. In addition, expert consultation was conducted with the organizing committee of the Family Program (n=6). Framework analysis was used for the analysis of all data collected.

Results: The analysis of the data from the case study led to the creation of the Family Quality Participation Framework (FQPF), an adaptation of the Quality Participation Framework (Evans et al., 2018). The FQPF has four key themes: families; belongingness; recognition; and engagement. All resources and activities of the Family Program intended to build a sense of belongingness, recognition, and engagement for the whole family, the competitor, and the family members or friends, at the competition. Building these elements of family quality participation is done intentionally and involves moving from necessary but insufficient levels of including families to a fully integrated families approach. Necessary but insufficient supports are those which allow family members to be present. Resources and activities then focus on building up family member-specific supports and activities. The family experience then begins to be integrated as competitor and family member experiences are thought of together. Family quality participation is achieved when whole family activities and supports are provided.

Conclusion: The FQPF is an important step in furthering the family experience of adaptive sport. This framework identifies and conceptualizes the key elements that are needed to support not just competitors or just family members, but the family as a whole. The FQPF provides important policy and programming implications as uptake of the FQPF could help lead to better social health outcomes for families.

2D01: Supporting children with family mobility: International co-created knowledge translation storybook project

Johnson, Amy, PhD[1, 2]; Rogers, Marg, PhD[2,3]

[1]Central Queensland University; [2]Manna Institute; [3]University of New England

Introduction: As a feature of service family life, children from military and first responder (public safety personnel) families can experience high family mobility. This impacts their education, relationships with educators and friends, extra-curricular activities, and links to the community and the land. After identifying a resource gap, service providers and affected community members from the international community requested free, evidence-based resources to build children's understanding of family mobility and scaffold their coping strategies. Additionally, they wanted a resource to build community understanding of the impact of frequent relocations on service families and ways they could support these children.

Methods: To co-create psychosocial resources, we involved partner organisations and lived-experience voices, weaving in themes from the literature. After refinement, drafts of resources were provided to the affected community and partners to test their suitability using an online survey from the broader community. This contained closed and open-ended surveys using Qualtrics software and used a trauma-informed framework.

Results: Many service organisations and those with lived experience provided detailed constructive qualitative feedback through the many rounds of drafting and illustration. In addition, fifteen participants were able to provide further feedback from the affected community over three weeks. Due to lower than expected responses in the rapid review and the trauma-informed design, the quantitative feedback was not statistically significant. However, the qualitative feedback was helpful, including comments about age and developmental appropriateness, child-focused storytelling, building caregiver knowledge and capacity, the resource's usefulness in various settings and suggested ways to improve the resources.

Conclusion: The combined feedback improved the final resources. Our results reveal the possible benefits of evidence-based resources for families to support children's understanding of family mobility and to strengthen their coping strategies. Additionally, the resources provide a springboard for adults to discuss these issues with children and improve community capacity to support these children during relocation transitions. This will be of interest to those who support children and families with relocations and service family researchers.

2D02: Exploring identity, connection and strength – A co-created study exploring how being part of a military-specific charity shapes a bereaved child or young person's sense of identity

Acton, Faye, PhD[1]; Fossey, Matt, MSocSc[1]

[1]Anglia Ruskin University

Introduction: Over 2,000 children and young people (C&YP) in the UK are bereaved each year following the death of a military or veteran parent, of these, 3% are deaths during military service. There is limited support for these young people and research highlights a need for services and provision to be available over the life course. Scotty's Little Soldiers is a charity dedicated to supporting bereaved military C&YP aged between 0-25. Anecdotal data from Scotty's council members, a lived experience advisory panel of the charity's beneficiaries aged 12-25, indicates that Scotty's has a positive impact on their lives, and it is important in informing their identity after the loss of a parent. This study has been designed to formally explore the interplay between being part of a military-specific charity and a bereaved C&YP's sense of identity.

Methods: Hearing and being led by C&YP's voices is at the core of the work Scotty's do and the principles of co-production have been used to develop this study as a collaborative process with children and young people. Scotty's council members provided the initial idea for the research and are working with the researchers to shape and guide the development of findings and recommendations to generate outputs which are valid and relevant. Up to 25 Scotty's council members were invited to take part in a face-to-face day with the study researchers where they took part in activities exploring their sense of identity, including artist led creative group discussion activities and a semi-structured focus group. These activities then went through a process of thematic and content analysis.

Expected Results: Qualitative data gathered from the C&YP is developing rich real-life details into the experience of support networks, such as Scotty's Little Soldiers, in the lives of C&YP navigating bereavement. The insights obtained from this collaborative work will contribute to the limited body of empirical research in this area. The findings will support Scotty's to understand the impact they have on their beneficiaries and inform their future work.

Conclusion: This unique study explores the interplay between a C&YP's connection to and involvement with a third sector charity, and the impact on their life. Expected outcomes are firstly to identify recommendations for military and civilian support organisations working with bereaved C&YP, and secondly, to inform further exploratory work regarding the support needed for bereaved C&YP across the wider uniformed public services sector.

2D03: Best practice peer support guidelines for Veterans, Military, public safety personnel, and their Families

Goudal, Leo, MPH[1]; Dupuis, Gabrielle, MSc[1]; Lamrock, Laryssa[1]; McFadden, Tara[1]; Kollo, Alex[1]; Sherren, Nicole, PhD[2]; Price, Jill, PhD[3,4]; Carleton, R. Nicholas, PhD[3]; Milliard, Beth, PhD[5]

[1]Atlas Institute for Veterans and Families; [2]R2P Solutions; [3]University of Regina; [4]Canadian Institute for Public Safety Research and Treatment; [5]Georgian College

Brief Description: In partnership with the Canadian Institute for Public Safety Research and Treatment (CIPSRT), the Atlas Institute for Veterans and Families established the National Peer Support Community Network (PSCN) to enhance peer support capacity for Veterans, military, public safety personnel (PSP) and their Families. The PSCN was convened with three main objectives: 1) to advance best practice guidelines; 2) to create a space for peer and support network connection; and 3) to facilitate knowledge co-creation and exchange on peer support. The PSCN included 48 members, from peer support providers, researchers, registered mental health professionals, Veterans, PSP and their Families. The guidelines are designed to support organizations in assessing and adapting existing peer support programs and to provide a national, evidence-based approach for new peer support programs. Based on a review of the literature and PSCN member feedback, 12 evidence summaries were developed, forming the sections of the guidelines tailored to these populations. To achieve consensus on these summaries, two rounds of a modified Delphi survey were conducted on 49 statements; 42 reached consensus in the survey, while remaining statements were finalized in PSCN meetings. Draft guidelines were reviewed by PSCN members and other key stakeholders for content relevance, usability, trau-

ma-informed principles, and inclusivity, with feedback incorporated into the final version. The guidelines were published in March, 2025. A knowledge mobilization and implementation evaluation phase will follow, led by the Atlas Institute with a smaller PSCN committee.

Patient Population: The population of interest is Veterans, Military, public safety personnel, and their Families. Additionally, existing and emerging peer support programs tailored to these populations.

Results: The content of the guidelines is a synthesis between current literature and experts in the peer support field. It covers a range of topics including the spectrum of peer support, ethical practices, selection and training of peer supporters, and program evaluation. The guidelines could be used by existing peer support programs and people who are interested in peer support for these groups, including as a reference when developing peer support programs, to assess or adapt aspects of existing peer support programs, and as a resource to assess appropriateness of fit when looking for peer support programs. The guidelines ensure that peer support programs follow a national, evidence-based approach.

Conclusion: This presentation will explain how the guidelines were developed and highlight the current literature and expert consensus of best practices for peer support focusing on Veterans, Military, public safety personnel, and their Families.

2D04: Co-Created Knowledge Translation: Adding Trauma-Informed Approaches to Address Parental Moral Injury

VanStone, John, MDiv[3]

[1]Canadian Armed Forces

Introduction: Many military members, veterans, and first responders (public safety personnel) live in regional, rural and remote communities with limited health and mental health services. Extra care needs to be taken when engaging these service families in research so they are not re-traumatised. As a population, they are often over-researched, stoic and distrustful of authorities and services.

Methods: Our project utilised a trauma-informed approach along with its co-creation framework when working with potentially vulnerable communities. This included trauma-informed approaches to provide safety, trust, transparency, peer support, collaboration, empowerment, and voices of those with lived and living experiences. Additionally, we co-created the research to prioritise participant choice, ensuring the safe engagement of those with lived experience while maintaining the commitment of research partners

Results: Our project focused on a co-creation research translation project to support the children of service families (e.g., military, veteran and first responder families) with a parent with a moral injury. As we worked with service providers and those with lived and living experience, we devised an improved co-creation research framework combined with a trauma-informed approach that better met the needs of these potentially vulnerable participants.

Conclusion: Though complex, time-consuming, and potentially reducing the available data, combining co-creation and trauma-informed approaches is an effective way to develop targeted psychosocial supports. This approach should be further tested, researched and refined with potentially vulnerable participants. If it proved successful, institutional research systems would need to change to support this approach to research with future participants. This will be of interest to service providers and researchers of potentially vulnerable cohorts.

3C04: The impact of United Kingdom military Veterans´ harmful gambling on concerned significant others - The Veterans´ HABIT Study

Kay, Christopher, PhD[1]; Dekel, Dana[2]; Ekenna, Adanma[2]; Engward, Hilary, PhD[1]; Godier-McBard, Lauren, PhD [1]; Kersey, Thomas, PhD[1]; Dymond, Simon, PhD[2]; Fossey, Matt, PhD[1]

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Introduction: Harmful gambling can negatively impact the lives of more than just those engaging in gambling. Concerned significant others (CSOs) could experience various impacts , such as mental and physical health problems as well as within their relationships with the person gambling and others. The UK military veteran population is one that is increasingly being realised as a community with higher rates of harmful gambling. The motivations and co-morbidities that contribute to this increased risk have been explored to a degree but the impact of UK Veterans' harmful gambling on their CSOs has not.

Methods: Semi structured interviews are being undertaken with CSOs and six had been completed by April 2025. Findings from the first phase of the study informed the questioning in the interviews. The first phase of this study involved an online survey of UK veterans, collecting data on gambling activity, severity, financial

debt, coping mechanisms, aspects of mental health and use of healthcare services. To recruit for the second phase interviews, anyone who felt they have been impacted by the harmful gambling of a family member, friend or someone they have a personal relationship with who is a UK veteran was invited to participate.

Results: CSOs have so far reported multiple gambling types undertaken by the veteran and were only able to identify it as a harmful behaviour when finances for everyday life weren't available, significant sums of money had gone 'missing' or large sums of money were being borrowed from, family and friends. In the sample so far, CSO's have not described a clear link between harmful gambling and veteran status, with other social influences being cited as responsible. Emerging findings from the data so far speak of the emotional strain harmful gambling has on CSO's relationship with their veteran, with emotional fluctuation, dishonesty, domestic violence and isolation emerging as key themes in their stories.

Conclusion: These individuals' expressions of the impact Veterans' harmful gambling has is complex and subjective. The multi-faceted nature of the impact on their lives will make developing veteran considered support for those effected, a challenge. Our understanding of the prevalence of harmful gambling amongst UK veterans is developing. Given the already known extent to which military & veteran life and harmful gambling already have on the lives of those around them sheds light onto an urgent requirement to develop support for those effected by both of these two factors.

3D01: The experiences of spouses who supported Canadian Armed Forces members: Findings of the HMCS CHICOUTIMI well-being follow-up study

Williams, Lisa, MA[1]; Born, Jennifer, MSc[1]

[1]Director General Military Personnel Research and Analysis

Introduction: Families play a crucial role in supporting the health of veterans and active military personnel, yet some spouses feel that their own well-being is not a top priority. Military families feel that their perspective is often excluded when developing policies and making decisions that will impact not only the member/veteran's life but also their own. This presentation explores the well-being of the families of Canadian Armed Forces (CAF) members involved in a traumatic event aboard HMCS CHICOUTIMI.

Methods: In order to explore families' experiences after a major incident, this study conducted interviews with six spouses of military members involved in the fire aboard HMCS CHICOUTIMI. Using the Veterans Affairs Canada (VAC) Well-Being Framework, we broadly evaluated well-being by exploring a number of health domains, including health, purpose, social integration, life skills, and social and cultural environment. Interviews were coded using template analysis to identify relevant themes and subthemes.

Results: The incident impacted spouses' well-being in several ways, including the stress spouses' felt due to the incident and in relation to supporting the member's health. Some spouses reported relationship issues, developing a caregiving mindset accompanied by a loss of identity and secondary traumatic stress. Themes related to burnout were reported by spouses of ill and injured members as they took on additional responsibilities within the household to support the health needs of the member while also preserving stability in the family. Perceptions of support were mixed, with some spouses identifying communication gaps (such as not being formally informed about the event, not getting updates, etc.) and difficulty accessing support resources, while others stated that they received sufficient information and support. Despite noting a historical culture of not accessing care, and a lack of trust of the CAF, which compounded well-being issues, some spouses acknowledged improvements with CAF support over time. Some spouses also provided examples of the posttraumatic growth that they had observed in themselves and the members.

Conclusion: The research highlighted the burden that is put on a military spouse after a traumatic event. The needs of spouses and families varied, as did their experiences since the event. This study emphasized the continued importance of outreach to families following a major military incident. These insights may help guide future reactions to incidents and to better assist CAF and Royal Canadian Navy members and their families.

3D02: Social Isolation among Australian Military Spouses: Emergent Findings from a Qualitative Study

Johnson, Amy, PhD[1]; Best, Talitha, PhD[1]

[1]Central Queensland University

Introduction: The impact of military service on families is well documented and rightly receiving increasing attention; however, enhancing wellbeing for these families remains complex. While research has identified various risk and protective factors for military spouse wellbeing, social isolation is a critical yet understudied element within this population. Conceptualising military spouses as a socially isolated population shifts

understanding from individual resilience to structural factors creating disconnection. This study aims to characterise the nature of social isolation among military spouses and consider implications for policy, support services, and identity.

Methods: Semi-structured interviews were conducted with thirty-two female military spouses (20 with children), in relationships with Australian Defence Force personnel ranging from 2.5 to 23 years (M=13.42, SD=6.21). Participants included those working (n=12) and those living interstate at postings (n=16). Interviews lasting 40-60 minutes occurred in person or via Zoom. Data were analysed using inductive thematic analysis through NVivo (Version 20), employing descriptive coding and constant comparative methods. COREQ guidelines were followed throughout.

Results: Analysis established social isolation as a significant theme among military spouses, manifesting through geographical displacement from support networks, extended periods without partner contact, and emotional disconnection during crises. Participants described being 'completely closed off from life' in unfamiliar towns and struggling during significant life events, including bereavements. Isolation was compounded by abrupt transitions between constant companionship and sudden separation, creating 'emotional whiplash' that complicated coping mechanisms.

Conclusion: This study identifies social isolation as a distinct concept requiring targeted attention in military spouse research. Findings suggest isolation represents more than physical separation; it encompasses psychological disconnection affecting identity and wellbeing. This characterisation shifts focus from individual resilience to structural factors, positions experiences within broader social isolation literature, and may justify dedicated funding for community-building. This framing prompts reconsideration of posting policies, digital infrastructure during separations, and specialised mental health approaches. While acknowledging potential stigmatisation, this conceptualisation validates lived experiences while creating opportunities for more effective support systems addressing the unique complexities of military family life.

3D03: Navigating Military-Related Absences: The Resilience and Experiences of Service Members and their Spouses

Habiyakare, Clement, MPH[1]; Manser, Lynda, MMgt[1]

[1]Canadian Forces and Morale Welfare Services

Introduction: This study presents findings from the 2024 Family Resilience Experience Survey (FRES) on Military-Related Absences (MRAs), which include deployments, taskings, trainings, or imposed restrictions within the past 12 months. MRAs impact military families in complex ways, influenced by factors such as occupation, rank, and years of service, and vary in length and location due to operational demands. These absences can disrupt family routines, create emotional stress, and challenge family resilience. The study explored challenges, lessons learned, and opportunities experienced by three main family personas: currently serving members, their spouses and/or partners, and other respondents, aiming to inform practice, policy, and future research.

Methods: The survey used a mixed-methods approach, combining quantitative and qualitative techniques to capture diverse experiences. Conducted online via Qualtrics XM from May 1st to August 12th, 2024, it was available in both French and English. Convenience sampling was used, with approximately 980 participants. The study team used QDA Miner 6.0 to clean typographical errors and inconsistencies in the qualitative data, meticulously reviewing each open-ended response for accuracy and reliability.

Results: The survey identified several key challenges faced by currently serving members and their spouses or partners. The main challenge is operational tempo, with a lack of advance notice creating uncertainty for families. This unpredictability disrupts daily life, forcing some spouses or partners to manage family routines alone, often becoming solo parents if children are involved. The strain of these responsibilities can lead to emotional and logistical difficulties. Less resilient families, struggling to cope with these pressures, may consider leaving the military to maintain stability at home. These findings highlight the need for better support systems to help families navigate the demands of military life.

Conclusion: This study offers valuable insights into MRAs, emphasizing the need for flexible family support options and further research on optimal operational tempo. Addressing operational tempo and leveraging identified opportunities can enhance military family resilience. The survey recommends boosting local community engagement, developing consistent workshops or support groups, and expanding mental health and respite child care services to mitigate challenges faced by military families. Future research should include questions on financial stress and the experiences of members changing trades due to operational tempo to better understand and address these issues.

4D01: A comparison of peer support between Canadian youth with and without a parent or guardian in the Canadian Armed Forces

Thomas, Isabella, MSc[1]; Cramm, Heidi, PHD[1]; Craig, Wendy, PHD[1]; Mahar, Alyson, PHD[1]

[1]Queen's University

Introduction: Peer relationships play a crucial role in adolescents' social and emotional development, as well as their mental health. Military-connected-youth in Canada may experience unique stressors from having a parent(s) or guardian in the Canadian Armed Forces that could negatively impact their peer relationships. Stressors may include interruptions to their social networks and activities due to relocations or feeling misunderstood by non-military-connected peers. Additionally, youth in military families may develop stronger peer relationships from opportunities related to military family membership, including involvement in defence community events, resources, or organizations. The objective of this study was to describe peer connection among Canadian youth in military-connected families and compare the likelihood of reporting low peer support to those not in military-connected families.

Methods: This was a cross-sectional study using 2017/18 Health Behaviour in School-aged Children in Canada survey data including a sample of youth attending Grades 6 to 10. Questionnaires collected information on parental/guardian current or previous service in the Canadian Armed Forces, measures of peer support levels, and sociodemographic variables. Multivariable log binomial regression models adjusting for sex, grade, geography, and family affluence were used to estimate prevalence risk ratios, applying survey weights and accounting for clustering by school. Effect modification by sex and grade were investigated.

Expected Results: The study sample included 17,719 participants; 9.5% reported a parent(s) and/or guardian(s) served in the Canadian military. Among military-connected participants, 20.63% (N=328) reported low peer support compared to non-military-connected participants (15.80%, N=2605). After adjusting for sex, grade, geography, and family affluence, military-connected youth were 28% more likely to report low peer support compared to their non-military-connected peers (RR 1.28, 95% CI: 1.09-1.47 p<0.001). There is no statistically significant evidence that grade-group (p=0.38) or sex (p=0.47) changes the relationship between military family membership and low peer support. Qualitative evidence suggests potential interaction by grade and sex. Grades 6–8 students had a higher risk of low peer support (RR: 1.33; 95% CI: 1.11-1.60) compared to those in Grades 9–10 (RR: 1.17; 95% CI: 0.92-1.49). Similarly, male students showed a higher risk (RR: 1.39; 95% CI: 1.11-1.75) than female students (RR: 1.16; 95% CI: 0.94-1.44).

Conclusion: Social support may promote resilience for military-connected-youth. This study reveals that military-connected youth in Canada report less peer support than those not connected to the military. Targeted efforts to support peer connections in this population, and further research into the specific factors contributing to this difference, may be needed.

4D02: Impacts of relationship breakdown on children in service families: Insights from service providers on the need for services and resources

Briggs, Kelly[3]

[1]University of New England; [2]Central Queensland University; [3] Royal Canadian Chaplain Service; [4]Trenton Military Family Resource Center; [5]The Royal Canadian Legion; [6]Manna Institute

Introduction: Due to the stresses of military, veteran and first responder (public safety personnel) life, higher divorce and separation rates are experienced compared to civilian families. This can be particularly challenging for children, as their family life is already complicated with frequent relocations and transitions when their member parent moves in and out of the household due to training and deployments. Logistically, family separation in service families can mean challenges for children to have time with their member parent due to the military family lifestyle. Co-parenting can also be problematic, and the member parent's challenges in having time with the child may be further exacerbated.

Methods: To better support these families, a search for targeted services and resources was conducted using internet searches and contacting service providers. Using an online survey with closed and open-ended questions, we asked affected community and partners what resources and content they believed would best children in families experiencing relationship breakdown.

Results: This resource search revealed some online resources for parents and support workers but a dearth of evidence-based children's psychosocial resources that used lived experience narratives to support their understanding of these family changes and strengthen their coping strategies. While program such as Military Dads, Chaplaincy, Military Family Resource Centers and other services do excellent work in this area, they

do have access to targeted resources for children that are specific to service families. The survey revealed a range of ideas for the team to explore.

Conclusion: Findings highlight the need for targeted co-created evidence-based psychosocial resources for children, and their parents and support workers. Such resources can create opportunities for important conversations between children and adults about these issues. Early intervention is key to supporting children's wellbeing during times of transition. This will be of interest to service providers and service family researchers.

4D03: Shared Responsibility and Collective Competence: Enhancing Social Capital in Adult Children of Canadian Armed Forces Veterans Across the Life Course

Norris, Deborah, PhD[1]; Lamrock, Laryssa[2]; Reeves, Kathryn, MA[1]; McDonald, Cassandra, MEd[1]; Dupuis, Gabrielle[2]; White, Hailley[2]

[1]Mount Saint Vincent University; [2]The Royal

Introduction: Children in Canada's military families face unique challenges including frequent re-locations, prolonged separations from their parents, and heightened perceptions of risk associated with their parent's duties. These experiences shape their development, identities, and resilience in complex ways across the life course. A mitigating factor influencing the relationship between the imperatives of the military lifestyle and life-course impacts is social capital, a resource that develops through reciprocal relationships ongoing in formal and informal networks that function to enhance individual and collective resilience. The purpose of this study is to explore the role of social capital in enhancing resilience in the lives of adult children of Canadian Armed Forces (CAF) Veterans across the life course.

Methods: A total of 50 qualitative interviews and 50 online qualitative surveys were conducted with adult children, 18 years and over, of CAF Veterans. Participants represent diverse backgrounds and experiences, including age, gender, geography, rank of the Veteran, years of service, deployments, and elements of service. The semi-structured interviews were conducted over a secure video-sharing platform and transcribed verbatim. Surveys, consisting of open-ended questions aligned with the interview guide, were administered through Qualtrics. Open, axial, and selective coding was facilitated through MAXQDA to derive themes. All transcripts were cross-checked to ensure accuracy. This research was guided by a lived experience advisory board that co-developed the interview questions, recruitment strategies, and reviewed analysis procedures and findings.

Results: Findings from this study emphasize the integral role of social capital in fostering resilience and identity formation for military children. Participants retrospectively reflect on how experiences in military-connected communities, such as base housing, buffered the demands of the military lifestyle by providing essential emotional support, supporting well-being, and facilitating a shared understanding of military culture. Social capital was developed in these environments, enhancing resilience through reinforcing commitments to shared responsibility and collective competence, outcomes sustained throughout the life course. Participants offered recommendations for building support systems for contemporary military families predicated on the enhancement of social capital.

Conclusion: As Canadian military families continue to experience demands associated with military life, it is critical to investigate how adult children of military Veterans reflect on the mechanisms that help or hinder future resilience and well-being. This study highlights the underexplored but significant role of social capital in promoting well-being among military children. Insights from these retrospective accounts can inform current and future programs and policies that strengthen social networks and community connections for contemporary military families.

4D04: Social and emotional wellbeing of children from Australian military families: Insights from early childhood educators

Rogers, Marg, PhD[1, 5]; Johnson, Amy, PhD[2, 5]; VanStone, John[3]; Briggs, Kelly[4]

[1]University of New England; [2]Central Queensland University; [3]Canadian Armed Forces; [4]Canadian Forces Morale Welfare Service; [5]Manna Institute

Introduction: Despite the benefits of being part of a service family, children face many unique challenges, particularly as families move in and out of regional, rural and remote communities with limited support services. As communities face increasing strain from more frequent and intense climate disasters, civilian emergencies and conflicts, there is growing pressure on service members and their families. Personnel frequently cite 'family reasons' when leaving these vocations, yet children are often overlooked in policies or considered only as an afterthought. This has resulted in limited funding and fierce competition for services, research, and knowledge translation initiatives to support these families. This symposium addresses several

critical aspects of supporting service families locally, nationally and internationally.

Methods: First, we explore a mixed methods study of Australian early childhood educators' perceptions regarding the social and emotional wellbeing of young children (2-5 years) from military families, highlighting significant gaps in professional development and resource availability despite educators' crucial role. Second, we report on how we developed an international trauma-informed co-creation framework designed with service providers and those with lived experience to safely engage these families, highlighting the importance of trauma-informed approaches when working with potentially vulnerable communities. Third, using a preliminary literature review and insight from a Canadian service provider, we explored the unique impacts of relationship breakdown on children in service families with higher logistical burdens. This revealed a dearth of targeted resources for this cohort. Fourth, we present findings from a co-created international knowledge translation project focused on supporting children through family mobility – a common feature of service family life that affects education, relationships, and community connections.

Results: The results are provided for each distinct but related study and report. Throughout the symposium, we showcase evidence-based knowledge translation projects based on co-created psychosocial resources for Australian, Canadian and UK families. We discuss how these have been tested for suitability using trauma-informed frameworks with affected communities, service providers and other partners. We reflect on the successes and challenges of working in interdisciplinary and international teams to support this cohort, highlighting how collaborative approaches strengthen our work and deepen our impact.

Conclusion: The symposium concludes with a call for greater interdisciplinary and international cooperation to support these potentially vulnerable families. This will interest those who support families through service provision, evidence-based resources, policy development, and research.

4D05: The 'service child identity': An alternative conceptualisation for understanding how service children see themselves and understand their lives as members of the Armed Forces community

Robinson, Lucy, PhD[1]

[1]University of Oxford

Introduction: There are two existing, yet opposing, discourses pertaining to the conceptualisation of service children. One views service children through a deficit lens as 'vulnerable', 'disadvantaged' and "objects or victims – of militarisation" (Yarwood, Tyrrell & Kelly, 2021, p.260). The opposing discourse conceptualises and champions service children for possessing militarised characteristics like 'adaptability', 'bravery' and 'resilience' (Godier-McBard, Wood & Fossey, 2021; Hanna, 2020; Lee, 2020; McCullouch, Hall & Ellis, 2018). In both discourses, service children's identities are seen in relation to the military. Whilst central to our understanding of service children, focusing on the relational aspect of service children's identity leads to only a partial understanding of its complexity. Indeed, framing service children in this way overlooks the pivotal role of the children's own agency in their identity formation and the importance of their unique life contexts. Therefore, based on findings as part of a recently completed PhD, this presentation puts forward an alternative conceptualisation of service children - the 'service child identity'.

Methods: Bringing together voice research and creative methods, this research was undertaken with 19 British service children (aged 9-16) who participated in a range of innovative 'data generation' methods – self-portraits, relational maps, timelines and free responses – alongside discussion. Using the six-phase process of reflexive thematic analysis (Braun & Clarke, 2022), this multi-modal data was then interpretedbased on the two research questions guiding this project.

Results: A key outcome of the research was the development of an alternative conceptualisation of service children. Based on the research findings and in dialogue with James Paul Gee's work on identity (2000; 2017), the concept of the 'service child identity' has three facets: relational, contextual and child-led. Conceptualising service children in this way recognises: (1) the role and position of the military in the existence of the identity (relational); (2) the commonalities and differences in service children's military-related experiences (contextual); (3) service children's active role in identity formation and the propensity for change (child-led).

Conclusion: This conceptualisation offers both researchers and practitioners a more nuanced understanding of service children's identity beyond the static, passive and homogenising discourses of deficit or strength models. Moreover, it accommodates the inherent diversity of service children, recognises the children's active role in identity formation and allows for change over time. In doing so, it more suitably attends to the complexity of how service children see themselves and understand their lives as members of the Armed Forces community.

4D06: Peer-to-peer bullying among military-connected youth in Canada: Victimization and perpetration

Mahar, Alyson, PhD[1]; Fear, Nicola, DPHIL(OXON)[2]; King, Nathan, PhD[1]; McKenzie, Amber, PhD[2]; Craig, Wendy, PhD[1]

[1]Queen's University; [2]King's College London

Introduction: Peer-to-peer bullying among youth is well studied and associated with a range of outcomes including depression, anxiety, and poor school performance. Among youth from military families (termed military-connected youth), frequent relocations, prolonged parental absence(s), and the heightened risk of injury to the parent(s) may create an environment that results in a greater risk of bullying victimization and perpetration. We aimed to compare rates of bullying between youth with and without a military family connection.

Methods: This cross-sectional study used data from the 2017/18 Canadian sample of the Health Behaviour in School-aged Children survey, a nationally representative survey of school-attending youth (grades 6–10). Questionnaires administered in classroom settings collected information about current or previous parental/caregiver Canadian Armed Forces (CAF) service and indicators of bullying (victimization and perpetration). A range of bullying behaviours were included. Participants responded how frequently they engaged in each bullying activity; 2+ times per month was considered "the event". Multivariable log-binomial regression models estimated the association between military family connection and each indicator as relative risks (RR) and 95% confidence intervals (CI), accounting for survey weights and clustering by school.

Results: This study included 17,906 students; 1,706 (9.5%) reported a parent/caregiver with current or previous CAF service. Overall, 35.8% of military-connected youth reported being bullied at school at least twice in the past month compared to 27.2% of youth with no military connection. Most commonly, military-connected youth reported name calling, being made fun of, or teased in a hurtful way (20.8%), and lies being told or rumours spread, or someone encouraging others to dislike them (18.7%). Overall, 18.0% of military-connected youth reported bullying a peer at least twice in the past month, compared with 13.6% in youth with no military connection. In combination, 58.2% of military-connected youth reported no bullying at school in the last two months, 6.7% reported as the perpetrator only, 24.1% as the victim only, and 11.1% as both. On multivariable analysis, military-connected youth were 1.28 times more likely to report being bullied (95% CI: 1.12-1.48) and 1.24 times more likely to report having bullied someone else (95% CI: 1.09-1.42) at than youth not in military families.

Conclusion: Military-connected youth are significantly more likely to experience bullying and to bully others than non-military connected youth. Policies, programs and support directed toward mitigating impacts of a parental/caregiver military family career on these behaviours to prevent short- and long-term distress are warranted.

5D02: Online communication and problematic social media use among military-connected youth in Canada

Thomas, Isabella, MSc[1]; Cramm, Heidi, PHD[1]; Craig, Wendy, PHD[1]; Mahar, Alyson, PHD[1]

[1]Queen's University

Introduction: The effects of social media on adolescents are complex, influencing their social interactions, mental health, and identity formation. Higher levels of social media use are associated with symptoms of anxiety, depression, loneliness, lower self-esteem, and decreased psychological wellbeing. Social media and online communication may be recommended for military families to stay connected during deployments or across postings. The objective of this study was to explore online communication among Canadian military-connected youth and compare the prevalence of problematic social media use to their non-military-connected peers.

Methods: This was a cross-sectional study using 2017/18 Health Behaviour in School-aged Children in Canada survey data which includes a sample of youth attending Grades 6 to 10. Questionnaires collected information on parental/guardian current or previous service in the Canadian Armed Forces, extent of online communication, preference for online communication, social media use, and sociodemographic variables. Multivariable log binomial regression models adjusting for sex, grade, geography, and family affluence were used to estimate prevalence risk ratios, applying survey weights and accounting for clustering by school. Effect modification by sex and grade were investigated.

Expected Results: The study sample included 13,479 participants; 9.6% reported a parent(s) and/or guardian(s) who serves or served in the Canadian military. Military-connected youth were less likely to have intense use of online communication with close friends than non-military-connected youth (48.1% vs 53.2% respectively, p=0.04). There were no significant differences for extent of use with larger friend groups, internet friends, or others, or for preference of online

communication. Overall, 7.2% of military-connected youth reported problematic social media use compared to 6.6% of youth whose parent/guardian was not connected to the military (p=0.58). After adjustment for confounders, military-connected youth were as likely to report problematic social media use compared to their non-military-connected peers (RR 1.11, 95% CI: 0.84-1.47; *p*=0.46. Quantitatively these results were consistent for boys and girls (p=0.81) and across grade groups (*p*=0.09). There is qualitative evidence of an interaction across grade groups, grade 6-8 students had an RR of 0.93 (CI: 0.62 -1.39) and grade 9-10 students had an RR of 1.4 (CI: 0.94 -1.98).

Conclusion: The study found a lower proportion of military-connected youth are intense users of online communication with close friends and that they are as likely to report problematic social media use as their non-military-connected peers. These results provide context for the current supports in place for military families that are based online or that promote online communication and social media use.

5D04: Impact of military-related moral injuries on Canadian Armed Forces families: A scoping review.

Des Rosiers, Piaf, MSc[1]; McMurtry, Angus, PhD[1]; Tam-Seto, Linna, PhD[2]

[1]University of Ottawa; [2]University of Toronto

Introduction: Moral injuries (MI) involve damage to moral integrity due to transgressions against deeply held moral beliefs and expectations. The impact of these injuries can be widespread, impacting biological, psychological, behavioral, social, religious and/or spiritual domains. Research has revealed that family members of individuals who have MIs are also impacted, although the extent of this impact is not yet well understood. This scoping review aims to provide an evidence-based overview of the nature of this impact. Results from this scoping review will then serve to inform further research specific to the resilience of deploying CAF healthcare providers with families.

Research Question: How are Canadian military family members (spouses and children) impacted by moral injuries experienced by CAF members?

Methods: Design: This scoping review will be conducted using the methodological approaches identified by Arksey and O'Malley in 2005 and Peters et al. in 2020. Additionally, the PRISMA extension checklist for scoping reviews (2018) will be used for formatting and structure of the scoping review. Data will be mapped into Bronfenbrenner's ecological systems framework to capture impact across interconnected environmental domains, with additional mapping taking place using the Research Domains Criteria (RDoC) framework to capture human functioning-related impact (relating to emotion, cognition, motivation, and social behavior).

With guidance from a University of Ottawa research librarian, search strategies have been developed for MEDLINE, CINAHL, APA PsycInfo, Canadian Business and Current Affairs, Sociological Abstracts (including Social Services Abstracts), and Web of Science. CAF publications from the last 10 years will also be hand searched.

Covidence will be used to screen and select publications matching the research question. Two authors will review the publications, with additional authors recruited on an ad hoc basis to resolve conflicts.

Data will be specific to the Canadian military family experience, and will include both moral

injuries (MIs) and exposure to potentially morally injurious events (PMIEs).

Expected Results: Analysis will be completed by September 2025.

Conclusion: This scoping review will contribute an understanding of multifaced impacts of CAF-related MIs and PMIEs on CAF family members. The results will identify gaps and will guide a future research project involving study of risks and protectors to resilience of deploying healthcare providers in the CAF with families. The long-term goal of this research is to influence services, preventative policies and resilience-related educational programs.

Poster Presentations

P101: The Ripple Effect of PTSD: Secondary Traumatic Stress in the Family Unit of Individuals with PTSD

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Introduction: Post-traumatic stress disorder (PTSD) does not occur in isolation; it often affects close family members who are regularly exposed to trauma-related symptoms and disclosures. This may pose a risk for partners and family members of individuals with PTSD, whereby indirect exposure to trauma, also referred to as vicarious trauma, may cause secondary

traumatic stress (STS) symptoms. Critically, however, the experience of family members of individuals with PTSD remains largely understudied despite their heightened vulnerability to develop STS symptoms. This narrative review aims to synthesize existing research related to vicarious trauma and STS in the family unit of individuals with PTSD and inform future research trajectories.

Methods: Peer-reviewed articles and grey literature were identified using research databases such as ProQuest, PubMed, and Google Scholar. In this narrative synthesis, studies were consolidated to examine the impact of vicarious trauma and STS in the family unit of individuals with PTSD. The literature reviewed primarily consisted of qualitative studies, which emphasized the complex and unique experience of indirect trauma exposure in family members of individuals with PTSD.

Results: The current narrative review identified a consistent thematic pattern across studies, wherein the experience of STS within the family unit was frequently underrecognized despite evidence indicating substantial psychological distress and considerable symptom convergence with PTSD. Moreover, numerous studies explored the impacts of cohabiting with individuals with professions that typically involve trauma exposure (e.g., military personnel and public safety workers), highlighting the unique stressors and shifts in family dynamics that may emerge in the context of such occupational demands. Notably, only one neuroscientific study was identified, which investigated the neural correlates of COVID-related vicarious trauma in university students. This pinpoints a gap in the STS literature, whereby our understanding of the neurobiological underpinnings of STS is significantly lacking.

Conclusion: The limited focus on vicarious trauma and STS within the family systems of military personnel and veterans has resulted in an incomplete understanding of the consequences of indirect trauma exposure. This review synthesizes current evidence on STS in family members, emphasizing the need for methodologically rigorous studies to better characterize its psychological, relational, and functional impacts. Future research should also investigate the neurobiological underpinnings of STS in partners of individuals with PTSD, thereby informing the development of targeted, evidence-based interventions.

P102: Advancing Suicide Prevention for Military, Veteran, and Public Safety Families Through Deliberative Dialogues

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Brief Description: Suicide prevention among military, Veteran, and public safety personnel (MVPSP) and their families is an urgent issue. While considerable efforts have been devoted to understanding and addressing suicidality within these populations, families are typically regarded as a risk/protective factor or responsibilized for their loved one's safety. Little attention has been paid to families themselves. The rationale for this initiative is to bring together diverse knowledge holders to engage in dialogue about the unique challenges, needs, and experiences surrounding suicidality in these families. By making these dialogues accessible to the public, we aim to transfer knowledge about family-centered approaches to suicide prevention, intervention, and postvention.

Patient Population: 'Advancing Suicide Prevention for Military, Veteran, and Public Safety Families Through Deliberative Dialogues' employs a structured consensus-building approach developed by the McMaster Health Forum known as deliberative dialogues. While this project is not a formal intervention, it aims to strengthen suicide prevention efforts through family-centered, community-informed dialogues. To evaluate effectiveness, we will implement a multi-faceted assessment strategy:

1. **Listener Feedback**: Feedback will be gathered after each dialogue through surveys and reflections. This feedback will inform the design of future dialogues to ensure continuous improvement and responsiveness to community needs.

2. **Reach and Engagement**: We will assess the reach of the series by tracking analytics such as downloads, views, and social media engagement.

Results: This project addresses the critical need for innovative, family-centered approaches to suicide prevention among military, Veteran, families. The outcomes of this project include:

1. **Deliberative Dialogues Series:** This series will consist of five dialogues. Each dialogue will address a different set of issues related to the intersection of suicide, families, and public safety work. The series will culminate in concrete recommendations for organizations, families, practitioners, and policy makers.

2. **Lay Summaries (X5):** These summaries will outline key takeaway messages and highlight actionable recommendations based on each dialogue.

3. **Promising Practices Document:** This document will synthesize insights from the entire dialogue series, identifying evidence- and community-informed strategies that hold the greatest potential for improving suicide prevention efforts within military, Veteran, and public safety families.

Conclusion: The 'Advancing Suicide Prevention for Military, Veteran, and Public Safety Families Through Deliberative Dialogues' highlights a need for more family-centered approaches to suicide prevention. Insights generated via the dialogues have the potential to inform future research, policy, and services to better reflect family needs and realities. Moreover, with its emphasis on accessibility, the series is well-positioned to engage directly with military, Veteran, and public safety families.

P103: The Garnet Families Partnership Family Science Summer Institute: Advancing Knowledge and Fostering Connections for Defence and Public Safety Families

Cox, Marilyn, MA[1]; Norris, Deborah, PhD[2]; Campbell, Margaret, PhD[1]; Cramm, Heidi, PhD[1]

[1]Queen's University; [2]Mount Saint Vincent University

Brief Description: Defence and public safety families, or "Garnet families," face unique challenges not captured by one-size-fits-all models. Solving this problem is important to provide tailored support. The rationale is to bring together diverse knowledge holders, including academics, emerging scholars, practitioners, defence and public safety representatives, and the public, to transfer knowledge and engage in open dialogue about the value and application of Family Science for Garnet families. The biannual Garnet Families Partnership Family Science Summer Institute (FSSI) trains graduate students and highly qualified professionals. Activities include workshops, networking, and a public panel. The aims are to transfer knowledge, facilitate training/networking, and enhance cultural literacy. The evaluation assesses if these objectives are achieved.

The evaluation plan includes participant feedback surveys to assess changes in knowledge, skills, and attitudes; pre-post tests to measure understanding of Family Science and competency development; reflective journaling and group discussions to capture personal growth and areas for improvement; mentor and practitioner feedback to assess the mentorship experience and content relevance; tracking of long-term participant outcomes like publications and community engagement; and analysis of the public panel and podcast's reach and effectiveness in enhancing awareness of Garnet families. This comprehensive approach will evaluate the FSSI's success, identify areas for improvement, and demonstrate the impact on participants, practitioners, and the broader community.

Patient Population: Military and Public Safety Personnel Families

Results: The FSSI is expected to develop an interdisciplinary cohort of trainees with enhanced knowledge, and competencies in applying Family Science theory, research methods, and social policy in a trauma-responsive, ethical, and occupationally sensitive manner. The institute will facilitate cross-sectoral training, networking, and knowledge exchange opportunities to bridge the gap between academic research and community-based practice. Additionally, the public engagement activities, such as the podcast series, will assess their reach and effectiveness in enhancing awareness and understanding of the needs and experiences of Garnet families within the broader community. The long-term impact will be evaluated by tracking participants' academic and professional trajectories.

Conclusion: The Garnet Families Partnership Family Science Summer Institute (FSSI) represents an investment in supporting defence and public safety families. By cultivating an interdisciplinary cohort, the institute aims to bridge research and community practice through networking, mentorship, and knowledge exchange. The public engagement activities will raise awareness of Garnet families' experiences, and tracking participants' trajectories will demonstrate the program's long-term impact. This transformative initiative, supported by a plan for evaluation, positions the FSSI to drive meaningful policy changes and supports.

P104: How relocation services provided by MFRCs offer tools for successful community integration and connectivity. The impact of these services on family well being and operational readiness in the CAF.

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[3]Military Family Resource Centres

Program/Intervention Description: The CFMWS publication "Military Families & Relocation" notes that approximately 10,000 families relocate each year, of which 8,000 are to new provinces. To support the relocation process, MFRCs provide family-centred, tailored services and programmes to meet their needs and support the process of community integration and liaison with local services, the civilian service provider and the military community. This collective impact approach avoids duplication of resources and supports families to receive holistic support to integrate into the wider community. Evaluation used by all participating MFRCs will address whether the service or programme has achieved its intended purpose and objectives, and whether participants' expectations have been met.

Evaluation Methods: The MFRC's approach to program evaluation uses outcome-based measures. This is a systematic way to examine the extent to which a program has achieved its goals.

Quantitative evaluation will be used to measures items such as number of programs or numbers of participants, or level of satisfaction. A review of services and programs will be conducted as well as an evaluation of the use of services and programs. Interviews and survey will be conducted.

Qualitative indicators are important in understanding experiences and perceptions. Data can be collected through focus group, interview or questionnaires.

Results: MFRCs provide situational awareness of the new community and connect military families.

Feedback from families is used by the MFRC to improve future services to address gaps in provision.

A grid will be established to ensure that common quantitative data is measured by each MFRC on relocation services. Data analysis will demonstrate to the CIMVHR Forum the quantitative results, while also assessing the qualitative impact of our services.

Conclusion: Families are relocated to regions with no family or social connections for support, MFRCs support families to navigate health care, childcare and education systems, the employment and career landscape for the spouse/partner, which has a direct impact on the family's financial stability.

According to Health & Wellness Canada, research consistently shows that being part of a community significantly improves mental health and emotional well-being. Studies from Canadian mental health organizations have found that people who feel connected to their community experience lower rates of anxiety and depression, and report higher levels of life satisfaction. MFRCs provide opportunities for emotional support, shared experiences, and meaningful connections through relocation services.

Qualitative evaluation conducted on relocation services indicates that these services enhance family well-being and allow the military member to remain mission ready.

P106: Exploring Food-Related Behaviours and Well-being in Australian Veterans and Their Families

Best, Talitha, PhD[1]; **Johnson, Amy, PhD[1]**

[1]Central Queensland University

Introduction: Food and food-related behaviours are essential pillars of mental, emotional, physical and social health. For veterans and families of veterans, there are unique factors that may impact food related behaviours. Despite emerging evidence that many social, physical, biological, psychological and demographic factors influence diet quality in the general population, few studies that have investigated correlates of diet quality in veterans and no studies in families of veterans.

This study examines self-reported diet quality in veterans and families of veterans, perceived well-being, and contextual factors of mealtime structure and eating behaviour.

Methods: A cross-sectional online survey from 54 Australian veterans and family members of veterans, with a complete data response rate of 76%(n=41). Participants completed self-reported measures of mealtime structure, diet quality, and mental well-being, including emotional, social and psychological functioning.

Results: Participants included veterans (26.2%), veteran and family member of veterans (21.4%) and family members of veterans only (52.4%). Service backgrounds included Navy (19%), Army (42.9%) and Air

Force (33.3%), and combined services (4.8%). Diet quality was overall moderate across the three groups, with no significant differences. Most respondents (59.5%) reported living with their partner/spouse and dependants and typically eating with family. Family members of veterans demonstrated statistically significant relationships between higher diet quality and improved emotional and psychological well-being that were not observed in veteran groups. While no statistically significant relationships emerged between mealtime structure, diet quality and well-being, this study provides a preliminary framework for considering the role of food-related behaviours in well-being among veterans and their families.

Conclusion: Results highlight a need to consider broader contextual factors when exploring food-related behaviours and wellbeing in veterans and their families. Family routines and mealtime structures appear to present unique challenges that may impact overall health. Future research should contextualise the role of food within a framework that considers factors relevant to both veterans and their families as distinct pathways to wellbeing. By doing so, it may be that food-related behaviours and diet quality may service as a pathway for not only greater health, but also a mechanism to support families of veterans by building a deeper understanding of the commitment to health in families of veterans, and maximising the social connection food can provide in communities for veterans and their families.

P107: Family Violence and Breakdown among Canadian Military Families: Exploring their Lived Experiences

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[1]Canadian Forces Morale and Welfare Services

Introduction: Building from past research (including Skomorovsky and LeBlanc, 2017; and Jones, 2012, and Manser, 2018), Military Family Services (MFS) conducted a mixed-methods research study that explored the lived experiences of Canadian military/Veteran families who have experienced family violence and/or breakdown. The research examined how aspects of the military lifestyle compounded experiences of family violence/breakdown, relationship dynamics, barriers to accessing support and experiences of reporting abuse.

Methods: Conducted from November 2022 to March 2023, the study utilized quantitative and qualitative methods through an online survey and semi-structured interviews. The online survey yielded 121 responses, and fourteen semi-structured interviews were conducted (3 in-person, and 11 virtually). Research participants were recruited through the MFS Facebook page, social media posts, internal Community of Practice emails, and Military Family Resource Centers. Inclusion criteria required that participants had experienced family violence/breakdown in the past five years and identified as a military member/Veteran or a current/past partner or spouse of one. Interview questions included: what aspects of the family violence/breakdown experience were most challenging, what helped the most during these challenges (including programs/services and social support), and topics (such as financial abuse, coercive control or verbal abuse) that participants would have liked information on or services for.

Results: For demographics, 64% of survey respondents and 7% of interviewees identified as a military member/Veteran, and 36% of survey respondents and 93% of interviews identified as a current/past partner/spouse of a military member/Veteran. In total, 61% of respondents identified as a woman, 36% as a man, 1% as gender diverse and 2% chose not to disclose.

Study findings are grouped under: (1) types of family violence experienced, (2) relationship challenges, (3) access to support for family violence, (4) barriers to accessing such support, and (5) reporting family violence.

Key findings include that the most common forms of family violence experienced by study participants were emotional, mental and/or psychological abuse and trauma; isolation was both a form of violence and a factor facilitating other forms of violence; and financial difficulties were the most common issue causing conflicts/tensions in their relationship prior to the family violence.

Conclusion: Using the Military and Veteran Family Services Program (MVFSP) Levels of Service, the authors link the findings to recommendations for service providers with the aim of improving services to better serve military members/Veterans and families. The research provides a deeper understanding of the experiences of military members/Veterans and their families regarding family violence.

MIXED MENTAL AND PHYSICAL HEALTH AND WELL-BEING

Podium Presentation

5D01: The Military and Veteran Spouse Wellness Survey

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Introduction: The Military and Veteran Spouse Wellness Survey (MVSWS) assessed the wellness needs and challenges of spouses of both active-duty service members and veterans across all U.S. military branches. While prior research has explored military family well-being, this was the first national survey to focus exclusively on spouses, addressing a critical gap in the literature. Guided by the Substance Abuse and Mental Health Services Administration's (SAMHSA) Eight Dimensions of Wellness, the survey examined wellness domains and their variation among demographic factors such as military branch affiliation and gender. Data was collected from September 2024 to January 2025, and preliminary analyses have been completed.

Methods: Developed by a team including military and veteran spouses, the cross-sectional survey combined validated tools (for example, PHQ-9, Insomnia Severity Index, TAPS-II) with original questions and satisfaction ratings. Following pilot testing with spouse-serving organizations, the survey was distributed online via snowball sampling. A total of 1,150 spouses participated, representing all service branches. Data were analyzed using SPSS for frequencies and demographic comparisons.

Results: Overall satisfaction: Spouses reported highest satisfaction in spiritual (7.10) and environmental (7.72) wellness, and lowest in physical (5.60), emotional (5.98), and social wellness (6.31).

Challenges: Emotional wellness scores reflected mild depression and anxiety, with over half of caregiving spouses reporting high caregiver burden (n = 151 out of 294, 51.4%). LGBTQ+ spouses experienced the highest emotional distress, while Air Force and Officer/Warrant Officer spouses reported lower levels of depression and anxiety.

In terms of physical wellness, overall substance use was low, though 40% (n = 453) reported recent alcohol use and 14% (n = 158) were categorized as higher-risk drinkers. Social wellness scores indicated moderate support and marital satisfaction, but many spouses reported loneliness and difficulty finding community. Air Force and Officer/Warrant Officer spouses again reported better outcomes.

Strengths: Spiritual wellness emerged as a key strength, with many spouses reporting a strong sense of purpose and connection. Environmental wellness was also high, especially among Air Force spouses, who expressed satisfaction with housing, access to nature, and safety.

Conclusion: The MVSWS highlights both strengths and vulnerabilities across wellness dimensions for military and veteran spouses. Findings emphasize the need for targeted support in emotional, physical, and social wellness, while leveraging strengths in spiritual and environmental domains. Though snowball sampling may limit generalizability, this study offers a valuable foundation for future research and policies aimed at enhancing spouse well-being and, in turn, military family stability and readiness.

Poster Presentation

P105: Lights Out: Exploring Sleep in Public Safety Families - A Scoping Review

Hajj, Jessica, MSc (Cand)[1]; Mendoza, Rebecca, MSc (Cand)[1]; Tam-Seto, Linna, PhD[1]

[1]University of Toronto

Introduction: As public safety personnel (PSP) provide essential services to ensure safety and security to the public, there are occupational risks and demands associated with these careers that affect family life. PSP families encompass those who are directly impacted by these occupational stressors (e.g., spouses, partners, children, etc.) and are acknowledged for serving alongside PSPs. It is recognized that PSP families experience unique lifestyle dimensions including logistics (e.g., shift-work, relocation), risks (e.g., hazard exposure), and identities (e.g., social expectations). These unpredictable routines, imbalances in household responsibilities, and exposure to hazards can disrupt families' sleep schedules, increase hypervigilance, and lead to sleep loss and exhaustion. Sleep is essential to daily functioning, with sleep disruptions affecting engagement in everyday activities and overall health. However, sleep is not well understood among PSP families, highlighting a need for a synthesis of the current literature. Thus, the aim of this scoping review is to explore how sleep among PSP families is described and understood in the literature.

Methods: The JBI methodological framework is being used to guide the scoping review process, as well

as the human ecology and family systems theories. A comprehensive search strategy was developed to retrieve relevant, peer-reviewed studies of English language from Five Eyes countries published between 2001 through October 2024 across five academic databases. Currently, full-text review and data extraction are simultaneously underway.

Expected Results: Among the 100 initially identified articles, 48 articles were included for full-text review. We anticipate about 25 articles being included in this review, suggesting that few articles explore sleep within PSP families. Thus far, we have observed that sleep quality is investigated as a secondary outcome to physical or mental health challenges, with several studies evaluating the bi-directional relationship between sleep and overall health. We also observed a narrower representation of PSP and family, with most relevant articles exploring sleep among U.S. military, Veterans, and law enforcement families, and focusing largely on spouses/partners, with little exploration of children or other family members.

Conclusion: Overall, it is expected that the current literature will not cohesively represent sleep among PSP families. We anticipate gaps in how the literature describes the dynamic between sleep and daily functioning as it relates to the unique lifestyle dimensions of PSP families. This research area will likely require further investigation to inform the development of policies, programs and services for sleep among PSP families.

PUBLIC SAFETY PERSONNEL

HEALTH POLICY

Podium Presentation

1B03: Women in Paramedic Services Leadership in Ontario: Participation, Pay, and Lived Experiences

Arseneau-Bruneau, Dominique, MA[1,2]; Mausz, Justin, PhD[2,3]; Salvis, Sarah, MSc[4]; Tannous, Andy[5]; **Donnelly, Elizabeth, PhD[5]**

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Introduction: Women remain underrepresented in healthcare leadership, often earning less than men. This may be true in paramedicine as well, but research is limited, and specific data Canadian data are scarce. Our objectives were to (1) assess the current demography of paramedic services leadership in Ontario; (2) estimate potential pay gaps; and (3) explore the lived experiences of women in executive level leadership roles.

Methods: We employed a *convergent parallel mixed methods design*. First, we abstracted records for leadership positions (e.g., superintendent, commander, deputy chief, chief) from the Ontario Public Sector Salary Disclosure list. Two raters independently assessed presumed gender, resolving discrepancies through consensus. Interrater agreement as measured using a kappa statistic and Chi-square tests compared the proportions of men and women at different leadership levels (entry, middle, executive). Median income distributions were compared using a Wilcoxon rank-sum test, stratified by leadership level.

In parallel, we conducted in-depth, semi-structured interviews with a purposively selected sample of 10 women in executive level leadership roles (i.e., chief or deputy chief) to explore their career pathways, obstacles, and enabling factors. These interviews followed a biographical narrative approach and were analyzed using inductive thematic analysis with successive rounds of open and focused coding.

Expected Results: We found that 76% of leadership roles were held by men, with women account for 23% of entry, 35% of middle, and 15% of executive leadership positions. Compared to men, women were twice as likely to occupy middle leadership roles (OR 2.00, 95% CI 1.35–2.98, $p<0.001$), but half as likely to hold executive positions (OR 0.54, 95% CI 0.33–0.87, $p=0.012$). While income at the executive level was comparable ($p=0.327$), women in entry and middle leadership earned $0.90 and $0.95, respectively, for every dollar earned by men ($p<0.001$ for both).

The qualitative findings revealed that women executives demonstrated resilience and a strong commitment to professional development, but faced systemic challenges including limited mentorship, exclusion from informal networks, and unequal expectations based on gender. Assertiveness was often mischaracterized, and inappropriate comments about appearance were common. Supportive spouses, equitable domestic partnerships, and supervisors who respected work-life balance were key enablers of success.

Conclusion: Our findings suggest the existence of both gender and pay gaps in leadership roles within Ontario paramedic services. In addition, preliminary findings suggest that while women's paths to leadership are fraught with adversity, supportive partners and bosses who value their professional growth and respect work-life boundaries are key drivers of career advancement.

HEALTH SERVICES

Podium Presentation

2E03: Evaluating PeerConnect: Usability, Impact, and Strategic Recommendations for Enhancing Peer Support Among Public Safety Personnel

Siqueira Cassiano, Marcella, PhD[1, 2]; Ricciardelli, Rosemary, PhD[1, 2]

[1]University of Winnipeg; [2]Memorial University

Program/Intervention Description: This study evaluated PeerConnect, a mobile application designed to facilitate peer support among public safety personnel (PSP) in Ontario, Canada. Amid increasing reliance on digital health technologies, PeerConnect aimed to streamline peer support services, raise wellness awareness, and encourage help-seeking behaviors within PSP communities. Funded by Ontario's Ministry of the Solicitor General, the app featured five tools: Connect, Newsfeed, Resources, Self-Assessment, and Events.

Evaluation Methods: A mixed-methods approach was employed, comprising a quantitative survey (N=455) and qualitative interviews (N=23). The survey assessed the app's usability, usefulness, and user demographics, while interviews provided contextual depth and explored perceptions and suggestions. Survey data were analyzed statistically to assess significance, and interview transcripts were thematically coded using NVivo.

Results: Approximately 50% of survey respondents

used PeerConnect, and over 70% of users expressed satisfaction with the app. Connect and Newsfeed were the most used features, with Connect and Self-Assessment rated most favorably. Most users appreciated the app's convenience, particularly for initiating peer support and accessing mental health information. Notably, 40% of users were peer support providers, introducing positive bias. Barriers to use included limited internet access, lack of awareness, and concerns about the app's utility compared to existing support systems. Non-users primarily cited lack of interest, redundancy with existing services, and the limitations of virtual support. While users self-reported better mental health than non-users, statistical analysis indicated no causal relationship between app use and improved well-being. Nevertheless, nearly 90% of users believed organizations should continue offering the app.

Conclusion: PeerConnect was well-received among PSP users, particularly those involved in peer support roles. The app was valued for its ease of use and ability to support workplace mental health awareness and connection. However, uptake was limited by promotional shortcomings and skepticism about digital support models. Despite the lack of a demonstrable impact on mental health outcomes, the app fostered a culture of care and streamlined support delivery. Future implementation should include better promotional strategies, targeted engagement of non-users, and continued evaluation of app-based mental health interventions to optimize peer support infrastructure in public safety settings.

2E05: A Framework for Culturally Competent Mental Health Care for Canada's Public Safety Personnel

Ritchie, Kim, PhD[1, 2, 3]; Brown, Andrea, PhD[2]; McKinnon, Margaret, PhD[2, 3]

[1]Trent University; [2]McMaster University; [3]Homewood Research Institute

Introduction: Public safety personnel (PSP)-including police officers, firefighters, paramedics, correctional workers, and communicators- are regularly exposed to potentially traumatic events as part of their occupational duties. As a result, PSP are at an increased risk for a range of mental health challenges, including post-traumatic stress disorder (PTSD). The COVID-19 pandemic further compounded these stressors by increasing workload pressures and organizational stress. These cumulative challenges have significantly impacted PSP mental health contributing to increased burnout and workforce attrition.

Addressing the mental health needs of PSP requires culturally competent mental health providers-those who understand the unique demands os PSP roles, including the physical, psychological, and organizational realities of the job. This presentation introduces a finalized cultural competency framework designed to enhance the capacity of crisis link responders and peer supporters to deliver relevant and effective mental health care for Canadian PSP.

Methods: Guided by Marrelli et al's (2005) six-step approach to competency modeling, we developed the framework using both quantitative and qualitative data. Input was gathered from over 600 surveys and 60 interviews completed by a broad spectrum of PSP occupations. The framework was further refined in collaboration with an advisory group of frontline PSP, ensuring practical relevance and authenticity.

Results: The resulting PSP cultural competency framework including 10 interactive modules covering key topics such as the impact of trauma, organizational culture, cumulative stress, and the effective of conflict and disruption on family life. Each module features embedded quizzes and first-person video narratives from PSP, creating an engaging and immersive learning experiences.

Conclusion: The cultural competency framework represents a critical step in building capacity among mental health providers to office evidence-informed, culturally responsive care to PSP.

PRIMARILY MENTAL HEALTH AND WELL-BEING

Podium Presentations

1E01: Associations among Daily and Monthly Mental Health Self-Monitoring and Mental Health Disorder Symptoms in Public Safety Personnel completing Emotional Resilience Skills Training

Shields, Robyn E., MSc[1]; Andrews, Katie L., PhD[1]; Maguire, Kirby Q., BA (Hons)[1]; Teckchandani, Taylor A., MSc[1]; Lix, Lisa, PhD[2]; Carleton, R. Nicholas, PhD[1]

[1]University of Regina; [2]University of Manitoba

Introduction: Public safety personnel (PSP) are at increased risk for mental health challenges due to increased exposure to potentially psychologically traumatic events, as well as workplace stressors. The PSP Posttraumatic Stress Injury Study is a longitudinal study which includes daily and monthly mental health self-monitoring tools intended to increase participants' awareness of trends in their mental health disorder symptoms, thus potentially mitigating mental health

challenges. The current study examined associations between frequency of use of the daily and monthly self-monitoring tools and mental health disorder symptoms among PSP.

Methods: A diverse sample of PSP (*n*=191 at pre-training; *n*=119 at post-training; *n*=56 at 1-year follow-up) completed Emotional Resilience Skills Training, full assessments at pre-training, post-training, and 1-year follow-up, and daily and monthly mental health self-monitoring surveys throughout the study duration. A series of separate multiple linear regression models tested the associations between frequencies of daily and monthly self-monitoring and mental health disorder symptom total scores at post-training and 1-year follow-up, adjusting for pre-training or and post-training symptom scores, respectively.

Results: A total of 4967 daily surveys (*M*=30.79±41.37), and 341 monthly surveys (*M*=2.19±1.21) were collected from 119 participants from pre-training to post-training, and a total of 3913 daily (*M*=41.39±80.38) and 248 monthly (*M*=3.04±3.01) surveys were completed from post-training to 1-year follow-up. At 1-year follow-up, daily survey frequency was significantly inversely associated with depressive- (*B*=-.007, *SE*=.004, *p=.044*) and trauma-related (*B*=-.021, *SE*=.011, *p=.036*) mental health disorder symptom total scores. At 1-year follow-up, monthly survey frequency was significantly inversely associated with depressive- (*B*=-.269, *SE*=.115, *p=.012*), trauma- (*B*=-.732, *SE*=.309, *p=.012*), and anxiety-related (*B*=-.284, *SE*=.121, *p=.012* mental health disorder symptom total scores. When assessed together, only monthly survey frequency remained inversely associated with depressive- (*B*=-.284, *SE*=.130, *p=.025*), trauma- (*B*=-.685, *SE*=.380, *p=.045*), and anxiety-related (*B*=-.392, *SE*=.146, *p=.013*) mental health disorder symptom total scores. At post-training, there were no associations between daily and monthly surveys frequency and mental health disorder symptom scores.

Conclusion: Engagement with mental health self-monitoring was associated with fewer/lower? mental health disorder symptoms. While both daily and monthly appear to mitigate mental health disorder symptoms after 1-year, when assessed together, monthly surveys remained associated with fewer/lower mental health disorder symptoms, possibly because participants completed proportionally more monthly than daily surveys. Incorporating structured and regularly scheduled mental health self-monitoring may be a proactive, cost-efficient way to mitigate mental health disorder symptoms among PSP.

1E02: Self-Monitoring Moderates the Association Between Potentially Psychologically Traumatic Events and PTSD Symptoms Among Royal Canadian Mounted Police During Their First Year of Service

Andrews, Katie L., PhD[1]; Shields, Robyn E., MSc[1]; Maguire, Kirby Q., BA[1]; Teckchandani, Taylor A., MSc[1]; Lix, Lisa M., PhD[2]; Carleton, R. Nicholas, PhD[1]

[1]Psychological Trauma and Stress Systems (PTSS) Laboratory, Department of Psychology, University of Regina; [2]Department of Community Health Sciences, University of Manitoba, Canada

Introduction: First year Royal Canadian Mounted Police (RCMP) officers experience exposures to potentially psychologically traumatic events (PPTEs) and associated mental health disorder symptoms. Self-monitoring has been evidenced to improve mental health by encouraging self-awareness, which can lead to earlier access to treatment. The current study examines associations between mental health self-monitoring and self-reported mental health disorder symptoms among RCMP officers during their first year of service. The current study also examines whether mental health self-monitoring mitigates the relationship between PPTE exposures and mental health disorder symptoms.

Methods: RCMP members (n=181) completed daily and monthly mental health self-monitoring surveys throughout their first year of service and self-reported mental health disorder symptoms and PPTE exposures at pre-deployment and 1-year follow-up. Multiple linear regression models tested the association between frequency of mental health self-monitoring during the first year of service and mental health disorder symptom scores. Linear moderation models tested interactions between frequency of daily and monthly self-monitoring, PPTE exposures, and mental health disorder symptom scores at 1-year follow-up.

Results: A total of 10,296 daily surveys and 1,392 monthly surveys were collected from 181 participants during from pre-deployment to 1-year follow-up. At 1-year follow-up, participants completed a median and inter quartile range (IQR) of 20 (IQR=73) daily and 7 (IQR=8) monthly surveys. Total number of daily surveys was significantly inversely associated with Posttraumatic stress disorder (PTSD) Checklist (PCL-5; B= -.043, SE=.012, p<.001), Patient Health Questionnaire-9 (PHQ-9; B= -.009, SE=.003, p=.003), and Generalized Anxiety Disorder-7 (GAD-7; B= -.009, SE=.003, p=.001) total scores. Total number of monthly surveys was significantly inversely associated with PCL-5 (B= -1.055, SE=.169, p<.001), PHQ-9 (B= -.134,

SE=.053, p=.006), and GAD-7 (B= -.120, SE=.046, p=.005) total scores. Total number of daily and monthly surveys remained inversely associated with PCL-5 (B= -1.02, SE=.034, p=.002 and B= -1.314, SE=.217, p<.001) respectively), PHQ-9 (B= -.028, SE=.011, p=.007 and B= -.140, SE=.067, p=.020) respectively), and GAD-7 (B= -.022, SE=.058, p=.013 and B= -.113, SE=.058, p=.027) respectively), when assessed together. Daily and monthly self-monitoring frequency moderated of the relationship between total number of different types of PPTEs and total number of PPTE exposures and symptoms of PTSD at 1-year follow-up (all p values <.05).

Conclusion: Greater engagement with daily and monthly self-monitoring was associated with better mental health outcomes. Self-monitoring may provide a cost-effective, readily accessible, evidence-based tool to mitigate mental health challenges. Mental health self-monitoring may also mitigate PTSD symptoms associated with PPTE exposures.

1E03: Trouble with the curve: The 90–9-1 rule to measure volitional participation inequalities among Royal Canadian Mounted Police cadets during training

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Introduction: Self-monitoring is an important part of several scientifically validated psychological therapeutic techniques. Poor emotional awareness is also a latent causal factor of symptoms of several mood- and anxiety-related disorders. Mood self-monitoring can improve emotional self-regulation by increasing general emotional self-awareness. However, effective self-monitoring requires consistent voluntary participation to be therapeutic or prophylactic for mental health disorder symptoms.

Methods: Participants in the RCMP Longitudinal PTSD Study (n=772; 72% male) completed a Full Assessment upon entry to the Cadet Training Program (CTP), including self-report screening tools for generalized anxiety disorder (GAD), social anxiety disorder (SAD), major depressive disorder (MDD), posttraumatic stress disorder (PTSD), alcohol use disorder (AUD), and panic disorder (PD). Participants also had voluntary access to mental health self-monitoring tools in the form of short daily surveys about their physical and mental wellbeing with individual results presented via a personalized smartphone app dashboard. Participation in mental health self-monitoring was described using the 90-9-1 Rule, which classifies users into mutually-exclusive categories: Limited Contributors (the 90% of actors who do not, or rarely contribute), Contributors (the 9% who seldom contribute), and Superusers (the 1% who contribute substantially). These participation categories were examined for associations with symptom levels and positive mental health disorder screens reported at pre-training.

Results: A total of 18,557 daily survey records were collected. Superusers (n = 8) produced 6.4%, Contributors (n = 69) produced 49.2%, and Limited Contributors (n = 695)produced 44.4% of daily surveys. A statistically significant inverse relationship was observed between pre-training PTSD symptom levels and number of daily surveys completed (p<.05). Limited Contributors also had the largest percentage of pre-training positive screens for self-reported mental health disorders; with 4.5% screening positive for PTSD, 7.1% for MDD, 8.3% for GAD, 4.0% for SAD, and 1.7% for PD.

Conclusion: Group differences in volitional participation highlight the importance of identifying Superusers, Contributors, and Limited Contributors with measures of inequality. These results hold significant policy implications for mandating minimum use of mental health self-monitoring tools when made available to members of public safety organizations, as those experiencing mental health challenges may be less likely to volitionally engage with the tools.

2E02: PeerOnCall: How does technology affect peer support engagement?

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Introduction: Peer support can be a trusted resource for Public Safety Personnel to manage the ongoing pressures of their work, but timely, private access to support can be challenging. Mobile health technology has the potential to reduce barriers and increase access to help, however, little is known about adoption and impact given the traditional models of in-person

peer support. This presentation will explore peer support outreach data from a national implementation study of PeerOnCall, an app-based peer support platform designed by and for Canadian Public Safety Personnel.

Methods: A multi-site mixed methods implementation study of PeerOnCall was conducted over a 4-6 month period in 42 public safety organizations across Canada. Patterns of peer support outreach were tracked across sectors and organizations (corrections, emergency communications, fire, paramedic and police services) . Baseline (n=48) and follow-up (n=34) interviews with organizational champions and focus groups with peer support providers were conducted to explore barriers and facilitators to accessing app-based peer support.

Results: Overall, 18% (n=168) of app users from participating organizations reached out for peer support during the trial period, although rates varied within and across sectors. Key themes from the qualitative interviews highlighted opportunities for technology to reduce barriers to accessing support, provide options for outreach and address gaps in coordinating and evaluating peer support services. Challenges were also noted related to the impersonal nature of technology, messaging regarding when/how to use app-based peer support, and the time needed to build the awareness and trust to overcome barriers to change.

Conclusion: App-based peer support is a new 'tool in the toolbox' to support Public Safety Personnel, but integration and uptake takes time, considering how it fits within an overall system of support. Research from an implementation science lens is important to document what works for whom in the unique context of public safety work.

3E02: "We're not just patients": A qualitative examination of public safety service users' experiences with staff at an inpatient mental health treatment facility

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Introduction: Posttraumatic stress disorder and substance use disorder are highly prevalent among public safety personnel (PSP), including first responders and active/retired military members, due to the trauma-laden nature of their work and associated challenges. While evidence-based psychotherapy provided within inpatient mental healthcare facilities provide a crucial environment for addressing these challenges, the quality of treatment provided by staff – as perceived by service users – plays a invaluable role in shaping the recovery outcomes of these individuals. Understanding how PSP wish to be treated by staff during their inpatient care is vital as PSP often face unique barriers to seeking mental health treatment, including (self) stigma (especially among men), fear of judgment, and concerns about being misunderstood by healthcare providers. Additionally, how staff interact with service users has been shown to influence treatment adherence, therapeutic alliance, and overall satisfaction with care—factors that are critical in achieving successful treatment and recovery outcomes.

Methods: This qualitative interview study explores the perspectives of PSP who received treatment at an inpatient trauma and substance use recovery facility in Ontario, Canada, focusing on their interactions with staff and the impact on their recovery outcomes. We conducted 30 semi-structured, in-depth qualitative interviews with participants. Interviews, lasting 20–75 minutes, were audio-recorded for accuracy and documentation but destroyed once transcription was complete. A qualitative content analysis approach was employed to interpret participant responses through a process of coding and identifying patterns or themes.

Results: Findings revealed three key themes: (1) "Professionals Treating Professionals," highlighting the importance of staff treating PSP with respect and recognizing their professional identities; (2) "Mutual Responsibility," emphasizing the value of flexibility and trust in fostering autonomy and safety; and (3) "Worthy of Kindness," illustrating how genuine care and empathy from staff—across all roles—contributed to emotional safety and healing.

Conclusion: Incorporating service user perspectives into mental health care is crucial for developing effective and responsive services; as well, facilities can optimize therapeutic outcomes, create environments conducive to psychological healing, and foster a strong therapeutic alliance, all crucial for recovery. Research shows that service user involvement in service design leads to more person-centered care, increased satisfaction, and improved health outcomes. This study underscores the role of genuine connection in inpatient care tailored to the unique needs of PSP and offers healthcare providers a guide on how to operationalize the therapeutic alliance in this specific occupational population.

3E03: Public Safety Personnel and Workers´ Compensation: Ontario Mental Stress Injury Claims from 2014 to 2023

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Introduction: Public safety personnel (PSP) in Ontario who have a work-related psychological injury and need healthcare supports and/or time away from work are eligible for support through the Workplace Safety and Insurance Board (WSIB) of Ontario. WSIB Ontario's Mental Stress Injury Program (MSIP) covers three categories of mental stress injuries: chronic mental stress, traumatic mental stress, and posttraumatic stress disorder (PTSD), and provides healthcare coverage, loss of earnings benefits, and return to work (RTW) support services for approved claims. Previous research has identified rising WSIB Ontario claim costs for this category of workers. WSIB Ontario MSIP claims represent a significant human and financial cost for PSP, public safety organizations, and their communities.

Methods: This quantitative descriptive study explored claim-level data from WSIB Ontario for PSP who had approved MSIP claims between January 1, 2014 and December 31, 2023. Pearson Chi Square Tests, T-tests, and ANOVA were used to understand differences between groups across personal and claim level variables. SPSS version 30 was used for all statistical tests.

Results: Of the 11,306 PSP who had an approved MSIP claim with WSIB Ontario between 2014-2023, 33.2% were police officers, 29.5% were paramedics, 20.4% were correctional workers, 9.8% were firefighters, 7.1% were communicators/dispatchers. Police officers, firefighters, and communicators/dispatchers had more cumulative traumatic event claims, while paramedics had more single traumatic event claims. Paramedics were most likely to RTW successfully while firefighters were least likely. PSP who successfully RTW were more likely to be younger on average (37.9 vs. 47.6 years old) and have fewer average years of work experience (10.4 vs. 17.8 years).

Conclusion: The results of this study indicate that PSP whose WSIB MSIP claims were linked to a single traumatic event were more likely to RTW compared to those with cumulative traumatic event claims. Additionally, workers who were younger and had fewer years of experience were more likely to successfully RTW. These findings suggests that PSP would benefit from proactive mental health supports to reduce the cumulative impact of work-related trauma exposures, as well as prompt approval of workers' compensation claims and access to related healthcare and RTW supports when needed.

4B06: The Mental Health of Royal Canadian Mounted Police Officers: A Scoping Review

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Introduction: The Royal Canadian Mounted Police (RCMP) is the federal police service in Canada, with responsibilities in law enforcement (i.e., municipal, provincial, territorial, federal) from coast to coast to coast. RCMP officers may face similar challenges to other Canadian public safety personnel (PSP) or police, with a distinguishing mandate that includes responsibility for policing over 75% of Canada's geography, including many isolated and rural locations, as well as several Indigenous communities. RCMP serve to protect the safety and security of the public at diverse levels, including internationally. Recent advances have been made exploring the mental health of Canadian PSP broadly, but there are gaps in exploring RCMP mental health when compared to other Canadian PSP groups, including municipal and provincial/territorial police. The current scoping review was designed to describe the current state of RCMP officer mental health.

Methods: Arksey and O'Malley's (2005) five-step process was used to guide the development and process of the scoping review. Search strategies for PsycInfo, CINAHL, Criminal Justice Abstracts and Medline were developed with consultation of a research librarian. Covidence was used to guide article selection.

Results: In total, there were 2,572 studies identified as potentially relevant, with 276 full-texts assessed for eligibility. A final data set of 48 primary studies was identified for analyses due to meeting inclusion criteria, and were published before April 8, 2025. Over half of the primary studies drew on datasets from two large studies on Canadian PSP and RCMP. Data were extracted using an extraction form developed a priori based on the research objectives. A dynamic interplay between individual, operational, organizational, and interpersonal factors is apparent as influencing the mental health of RCMP officers. Data were also analyzed regarding their career trajectory, highlighting how the job itself, rather than pre-existing factors, may contribute to the complex and variable RCMP mental health experiences.

Conclusion: The current state of the literature indicates that the complex nature of mental health of RCMP officer mental health, from training to retirement, involves interactions among individual, operational, organizational, and interpersonal factors. Based on the complex occupational needs and responsibilities of RCMP officers, our results indicate a need for increasingly holistic health research alongside tailored approaches to RCMP mental health care for RCMP officers from training to retirement and beyond.

4E01: Pre- vs. Post-Pandemic Prevalence of Mental Disorder Symptoms Among Paramedics in Ontario

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Introduction: In a 2019 study, we surveyed paramedics in Peel Region, Ontario and found that one in four screened positive for at least one mental disorder just months before the COVID-19 pandemic. Given the pandemic's prolonged operational and psychological demands on public safety personnel in Canada, our objective was to estimate the post-pandemic prevalence of mental disorder symptoms among paramedics in multiple services in Ontario.

Methods: Replicating our 2019 study, we administered a pen-and-paper cross-sectional survey to paramedics attending compulsory in-person continuing medical education sessions in Peel Region and Essex-Windsor, Ontario. The survey included validated self-report screening tools for posttraumatic stress disorder (PTSD), major depressive disorder (MDD), and generalized anxiety disorder (GAD), scored according to standard criteria. We used descriptive statistics to characterize the sample, various tests of proportions to assess for differences in screening outcomes between study sites and periods, and multivariable logistic regression to evaluate associations between demographic characteristics and the risk of a positive screen.

Expected Results: Of 1,031 eligible paramedics, 1,007 chose to participate; 12 surveys were excluded due to missing data, yielding a final sample of 995 participants and an overall response rate of 96%. The participants were predominantly men (60%), white (72%), in a relationship (75%), college educated (63%), and working full-time (73%) at the primary care paramedic level (74%). Overall, 12% screened positive for PTSD, 25% for MDD, and 23% for GAD. Suicidal ideation within the past 14 days was reported by 10% of participants. The prevalence of MDD was significantly higher in Peel Region than Essex-Windsor (26% vs. 20%, p=0.03) while rates of PTSD (12% vs. 10%, p=0.32) and GAD (24% vs. 22%, p=0.51) were similar across sites. After adjusting for demographic characteristics, career length was associated with an increased risk of PTSD (OR 1.03 per year, 95% CI 1.01-1.06, p=0.005). The risk of a positive screen for MDD or GAD did not vary as a function of participant demographics.

Compared to our 2019 study (n=589), the post-pandemic prevalence of PTSD was similar (9% vs. 12%, p=0.05), but MDD (15% vs. 25%, p<0.001) and GAD (15% vs. 23%, p<0.001) increased significantly. In total, 34% of participants screened positive for at least one mental disorder in 2024 compared to 24% in 2019 (p<0.001).

Conclusion: The post-pandemic prevalence of major depressive disorder and generalized anxiety disorder has increased substantially since 2019 among Ontario paramedics, while PTSD prevalence remains consistent but still elevated compared to population levels.

4E02: The Impact of Violence on Paramedic Mental Health in Ontario

Johnston, Mandy[1]; Mausz, Justin, PhD[1,2]; Donnelly, Elizabeth, PhD[3]; Aleem, Nadia, MD[2,4,5]; Batt, Alan, PhD[2,6]; McConnell, Meghan, PhD[7]; Tavares, Walter, PhD[2]

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Introduction: Occupational violence carries the potential for significant physical and psychological harm, yet pervasive underreporting has historically limited researchers' ability to study its mental health impacts. Leveraging a novel point-of-event violence reporting system embedded within the electronic patient care record, our objective was to assess the association between exposure to violence and mental disorder symptoms and burnout among paramedics in Ontario.

Methods: This is an in-progress study. For this analysis, we surveyed paramedics in Peel Region attending compulsory in-person continuing medical education sessions between September and December 2024. Participants completed self-report screening tools for posttraumatic stress disorder (PTSD), major depressive disorder (MDD), generalized anxiety disorder (GAD), insomnia, alcohol

use disorder (AUD), and the Copenhagen Burnout Inventory (CBI). Paramedics could participate anonymously or confidentially; responses from confidential stream participants were linked to violence reports filed since February 2021. We used logistic regression to model the probability of a positive screen on exposure to violence, including trend analyses by severity.

Expected Results: Of the 676 participants (96% of eligible), 418 (62%) opted for the confidential stream. In total, 283 (68%) reported at least one violent incident (average 2.37 [±3.85]) with 46% involving a physical assault. Women were somewhat more likely to report violence (Odds Ratio [OR] 1.51, 95% Confidence Interval [CI] 0.99-2.32, p=0.05), with the highest risk among mid-career paramedics (5-20 years; OR 3.70, 95% CI 1.75-7.72, p<0.001) compared to recruits. The risk was lower among part-time (OR 0.35, 95% CI 0.20-0.59, p<0.001) and community paramedics (OR 0.34, 95% CI 0.11-0.99, p=0.04).

Our point estimates suggest paramedics exposed to violence tended toward higher odds of PTSD (13% vs. 11%, OR 1.25, 95% CI 0.67-2.37, p=0.47), MDD (27% vs. 23%, OR 1.31, 95% CI 0.81-2.12, p=0.25), GAD (27% vs. 21%, OR 1.47, 95% CI 0.90-2.41, p=0.11), insomnia (31% vs. 26%, OR 1.43, 95% CI 0.90-2.27, p=0.11) and moderate or greater burnout (OR 1.51, 95% CI 1.02-2.35, p=0.03). While overlapping the null, our CIs weight heavily toward increased risk. Trend analysis using an ordinal violence severity variable showed a consistent, though non-significant, elevation in psychological risk with increasing severity.

Conclusion: Although not all findings reached statistical significance, exposure to violence was consistently associated with elevated psychological risk. While we are confident we are directionally correct on the nature of this risk, data from additional services are anticipated later this year and may support more precise estimation of effect size.

4E03: Chronic Workplace Stress and Mental Health Outcomes in Ontario Paramedics

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Introduction: Occupational exposure to trauma is frequently cited as a contributor to high rates of mental disorder symptoms among public safety personnel, including paramedics. However, chronic workplace stress may also play a significant role. Our objective was to explore the burden of chronic stress and assess its relationship to mental health in two Ontario paramedic services.

Methods: We administered a pen-and-paper cross-sectional survey to paramedics attending compulsory continuing medical education in Peel Region and Essex-Windsor, Ontario. The survey included validated screening tools for posttraumatic stress disorder (PTSD), major depressive disorder (MDD), generalized anxiety disorder (GAD), insomnia, alcohol use disorder and the Copenhagen Burnout Inventory, alongside the Emergency Medical Services Chronic Stress Questionnaire (EMS-CSQ). The 20-item EMS-CSQ measures stress across two domains: organizational (e.g., union-management relations) and operational (e.g., shift work, risk of injury), rated from 1 (no stress) to 7 (a lot of stress), with scores ≥4 indicating moderate stress. We used descriptive statistics and Pearson correlations to examine the perceived stress burden and its association with mental disorder symptoms and burnout.

Expected Results: Of 1,031 eligible paramedics, 995 provided usable data (response rate 96%). Participants were predominantly men (60%), white (72%), in a relationship (75%), college educated (63%), and working full-time (73%) at the primary care paramedic level (74%). Mean workplace stress was 3.14 (SD 1.14) with operational stressors rated higher than organizational stressors (3.19 vs. 3.11, p<0.001). The most stressful items included staffing shortages (4.44), fatigue (4.32), and shift work (3.84). Organizational stress was lower among part-time paramedics (2.63 vs. 3.29, p<0.001), while operational stress showed no difference. Stress levels increased with career length, with senior (20+ year) paramedics reporting higher organizational (3.74 vs. 2.25, p<0.001) and operational stress (3.11 vs. 2.87, p=0.002) than recruits (0-2 years).

Both domains were positively correlated with mental disorder symptoms and burnout, but operational stressors demonstrated stronger associations, particularly for MDD (r=0.56) and overall burnout (r=0.69). Operational stress explained 31.4% of the variance in depression scores (vs. 12.6% for organizational stress), with similar patterns for anxiety (30.5% vs. 13%) and insomnia (26.8% vs. 11.7%). Operational stress accounted for 48% of the variance in overall burnout.

Conclusion: Chronic workplace stress is both prevalent and moderately correlated with psychological distress, with operational stressors appearing to have an especially significant impact and the burden of stress varying according to employment classification and career stage.

4E04: Sleep Disturbances and Fatigue Among Ontario Paramedics: a Hidden Crisis

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Introduction: Fatigue has been identified as a significant occupational health and safety risk for paramedics, yet data on sleep quality in Ontario's paramedics remain limited. Our objective was to estimate the prevalence of insomnia and fatigue-related symptoms in two Ontario paramedic services and assess their association with mental disorder symptoms.

Methods: We administered a pen-and-paper cross-sectional survey to paramedics attending compulsory continuing medical education in Peel Region and Essex-Windsor, Ontario. The survey included validated screening tools for posttraumatic stress disorder (PTSD), major depressive disorder (MDD), generalized anxiety disorder (GAD), insomnia, alcohol use disorder, the Copenhagen Burnout Inventory (CBI), and the Emergency Medical Services Chronic Stress Questionnaire (EMS-CSQ). Both the CBI and EMS-CSQ assess fatigue-related symptoms, with the EMS-CSQ also measuring perceived stress from shift work. We used correlation coefficients to explore the relationship between insomnia and mental disorder symptoms and used logistic regression to estimate the risk for mental disorders among participants reporting insomnia.

Expected Results: Of 1,031 eligible paramedics, 995 provided usable data (response rate 96%). Participants were predominantly men (60%), white (72%), in a relationship (75%), college educated (63%), and working full-time (73%) at the primary care level (74%). Overall, 30% met the screening threshold for probable insomnia, with 6% reporting severe symptoms. CBI responses indicated that 63% were frequently or always tired, 42% felt exhausted at the end of their shift, and 35% were physically exhausted in general. On the EMS-CSQ, 65% reported at least moderate stress due to fatigue, 57% at least moderate stress from shift work. The risk of insomnia increased with career length: mid-career (5-20 years; OR 1.94, 95% CI 1.17-3.21, p=0.009) and senior (20+ years) paramedics (OR 2.53, 95% CI 1.35-4.75, p=0.004) around twice as likely to screen positive compared to recruits (0-2 years). Insomnia scores were moderately correlated with symptoms of PTSD (r=0.45), anxiety (r=0.52), and depression (r=0.62; all p<0.001). Participants screening positive for insomnia were substantially more likely to screen positive for MDD (OR 8.99, 95% CI 6.50-12.44), PTSD (OR 6.05, 95% CI 3.99-9.17), and GAD (OR 5.51, 95% CI 4.02-7.54); all p<0.001.

Conclusion: Disturbed sleep and fatigue are widespread and closely linked to mental disorder symptoms among paramedics, underscoring the need to address sleep quality, rest, and recovery as a critical driver of occupational health and wellness.

4E05: A Participant-entered Approach to Paramedic Mental Health Research: Lessons from a Dual-Stream, High Engagement Study

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Introduction: Given the pressing mental health challenges facing the paramedic profession, meaningful engagement with research is critical to driving policy change. Yet, survey-based studies often suffer from low response rates, limiting both internal and external validity. As part of a broader post-pandemic paramedic mental health study, our goal was to enhance engagement, strengthen methodological rigour, and connect at-risk paramedics to mental health care using a participant-centered design.

Methods: We partnered with two Ontario paramedic services to distribute a pen-and-paper mental health survey during compulsory in-person continuing medical education sessions. The survey, developed in collaboration with the services and labor union, included validated screening tools for PTSD, major depressive disorder (MDD), generalized anxiety disorder (GAD), among others. After a 10-minute orientation, consenting participants could choose to complete the survey anonymously or receive a confidential personalized mental health report by providing their name and email address. The report summarized their screening test results and offered recommendations for follow-up

care. Two to three months later, these participants were invited to complete a brief follow-up survey with Likert scale and yes/no questions about the perceived utility of the report, their intentions to pursue mental health care, and open-ended comments (analyzed thematically).

Expected Results: Of 1,031 eligible participants, 995 (96%) provided usable responses, with 58% (n=581) opting for the confidential stream. We successfully sent 578 personalized reports, and 225 participants completed the follow up survey (39% response rate within stream; 23% of overall sample). Among respondents, 62% found the report helpful and 78% agreed that it reflected how they felt about their mental health. Fourteen percent accessed recommended services and 15% contacted a mental health professional, while 34% indicated they intend to do so in the future. Participants screening positive for PTSD, MDD, or GAD were significantly more likely to have contacted a mental health professional based on the information contained in the report (OR 4.34, 95% CI 1.99-9.48, p<0.001).

Our thematic analysis of survey comments revealed that the paramedics valued the opportunity to participate, framing it as a "mental health check-in" offering insight into their well-being: "*The report was eye opening for me. Despite feeling well, I've since been in contact with a psychologist. I've also encouraged others to do the same. Thank you for doing this*."

Conclusion: A dual-stream model with personalized feedback reports appears to be a feasible, acceptable, and impactful approach to engaging paramedics in mental health research while directly supporting help-seeking among those at risk.

5C01: Economic Evaluation of Proactive Stress Mitigation Programs for Public Safety Personnel and Frontline Healthcare Professionals: A Meta-Analysis

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Introduction: Public safety personnel (PSP) and frontline healthcare professionals (FHP) are at increased risk of exposure to potentially psychologically traumatic events (PPTE) and developing posttraumatic stress injuries (PTSI). However, evidence is lacking regarding the effectiveness of "prevention" programs designed to mitigate PTSI proactively. This review aims to identify published research on the return on investment (ROI) of proactive PTSI mitigation programs tailored for PSP and FHP who are regularly exposed to PPTEs.

Methods: This study was pre-registered with PROSPERO, followed PRISMA systematic literature review procedures while using Covidence software. Primary searches were conducted in SCOPUS and Web of Science using publication years (2014-24) and English language as filters. A population-intervention-comparison-outcome (PICO) framework was used to define study variables of interest and the keywords.

Eligible studies for meta-analysis were required to report means along with either standard error or standard deviation values for the outcomes of interest. A common-effects and random effects model were applied to pool effect sizes across studies using standardized mean differences (SMD) and their corresponding 95% confidence intervals (CI). Cohen's criteria were used to interpret an SMD. Heterogeneity was quantified using the I2 statistics and forest plots to graphically display summary effect sizes across studies.

Results: The systematic review identified a total of 3805 studies; 753 duplicates were removed, leaving 3052 studies for the title and abstract screening; 85 studies entering full-text review with 15 studies eligible for analysis.

A significant pooled effect size of 0.85 (95% CI: 0.74–0.96) indicates a meaningful impact of the interventions although the high level of heterogeneity (I^2) indicates substantial variability between studies. A positive SMD or Hedges' g indicates a favorable economic outcome.

Program Duration: The box plot confirms the trend that shorter interventions (≤6 months) tend to yield higher ROI. Intensive, shorter-term programs may be more cost-effective in generating ROI.

Interventions: While stress reduction interventions tend to offer the highest ROI potential, their variability suggests effectiveness depends on program design and organizational context. Prevention and resilience programs provide more consistent but moderate ROI, reinforcing their value in reducing turnover and absenteeism.

Conclusion: Proactive interventions focusing on PSP and FHP stress management and resilience deliver substantial economic benefits with ROI values ranging from -20% to 3560%. Most interventions were effec-

tive in reducing psychological distress and improving workplace outcomes while offering a ROI.

5C02: An exploratory study of the effectiveness of Public Safety organization implementation of proactive strategies for increased resilience and stress mitigation

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Introduction: Workplace mental health interventions are increasingly employed by public safety organizations to address their employee's well-being and occupational stress, yet evidence on intervention effectiveness and associations with organizational level measurements remains limited. The study was designed to provide insights about integrating mental health strategies for organizational well-being, and identify potential associations among survey responses and organizational outcomes.

Methods: Five public safety organizations completed internally-driven externally-facilitated projects to improve mental health based on internal priorities and training on a psychological standard. Data were collected over a three-year span. At the individual level, employees voluntarily completed online self-report surveys before (n = 372) and after (n = 207) implementing diverse proactive mental health interventions. Surveys included standardized screening tools for mental health disorders and measures of occupational stress, work engagement, stigma, and resilience. At the organizational level, administrative data were collected annually, including sick leave hours and extended health benefit costs related to psychological services.

Survey responses were aggregated at the organizational level to evaluate overall shifts in employees' mental health well-being. Given the small sample size, rank-based correlation analyses were used to explore potential associations among occupational stress, work engagement, stigma, and organizational indicators such as sick leave hours and extended health costs.

Results: Three of five agencies showed improvements in average scores on most measures (i.e., 7/9). One fire agency had a statistically significant decrease in operational stress while the other reported a statistically significant decrease in anxiety and an increase in work engagement.

"Negative comments from the public" was among the top operational stressors showing the greatest improvement across all police departments, being "shift work" and "not enough time with family and friends" among the fire agencies.

Kendall's tau between organizational stress and psychological health costs was 1.0 pre-intervention and 0.67 post-intervention. Tau between changes in organizational stress and average psychological health costs during the intervention was also 1.0, while changes in engagement and average costs showed an inverse tau of -1.0.

Conclusion: Most participating agencies (i.e., 3/5) showed improved average scores across most (i.e., 7/9) mental health and occupational stress measures. Rank-based correlation analyses indicated potential associations between organizational stress and psychological health-related costs, with an inverse relationship observed between changes in work engagement and costs. Results underscore the potential value of sustained tailored mental health strategies that use standards while considering the complexity of organizations. Further research with larger samples is needed to better evaluate long-term effectiveness and causal relationships.

6D04: Support After First Responder Suicide: Translating Lived Experience into Practical Postvention Practice and Policy in Australia and Beyond

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Introduction: First responder personnel—including volunteer or employed police, firefighters, paramedics, and corrections officers—face cumulative occupational stressors and are at elevated risk for suicide. In Australia, the past decade has seen a concerning rise in suicide deaths among emergency service personnel. The impact of these deaths extends far beyond the individual, profoundly affecting families, peers, and organisational readiness. Civilian bereavement supports, however, are often ill-suited to the cultural and operational realities of first responder communities. The Support After First Responder Suicide (SAFeRS) Study aimed to understand how bereaved families and colleagues experience support following a first responder suicide, and to identify the barriers and enablers to accessing timely, culturally appropriate postvention services.

Methods: Co-designed with a lived experience stakeholder advisory committee, the study employed a two-stage mixed qualitative design: an online national survey with open-ended questions (n=64 complete responses), followed by semi-structured interviews (n=33) analysed using thematic analysis within a critical realist grounded theory framework. Individuals included must have been exposed to the suicide death of an emergency services worker and self-identify as either a family member, a co-worker/peer, or a service provider who supports the former. Participants were over 18 years of age and spoke English.

Results: Findings highlight significant gaps in service awareness, role clarity in organisational response, and mismatches between available supports and the needs of culturally unique first responder communities. Participants described inconsistent access to information, fragmented coordination of care, and a lack of proactive outreach. Themes identified also illuminated the importance of trauma-informed, peer-led, and occupation-specific responses that respect the operational culture and emotional toll of emergency services work, and how this extends to families.

Conclusion: The translational impact of SAFeRS is already underway. Insights are informing the co-adaptation of civilian resources, such as those from Stand-By Support After Suicide**,** for use in first responder settings, embedding sector-specific language, cultural sensitivity, and role-relevant referrals. A best practice national postvention framework is currently in development, with potential for formal policy adoption across Australian jurisdictions and embedment into first responder organisations nationally. Critically, this research offers a model of postvention that is transferable across international emergency service contexts. As suicide among public safety personnel is a global concern, SAFeRS contributes to a growing evidence base that supports culturally responsive, system-wide approaches to bereavement support. Its translational design provides a blueprint for other nations seeking to develop or refine postvention responses for first responders, grounded in the voices of those most affected.

6E01: Mental health of Royal Canadian Mounted Police after the first year of service

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Introduction: Serving Royal Canadian Mounted Police (RCMP) have high prevalence of mental health disorders, with 65% screening positive for one or more mental health disorders --- a rate much higher than in the general population. Previous results from the RCMP Longitudinal PTSD Study indicate much lower prevalence (7.3%) of mental health disorders among cadets immediately prior to deployment --- comparable to, or lower than, prevalence in the general public. These stark differences implicate service-related experience as a potential factor in the development of mental health challenges for RCMP members. The current study tests this by quantifying changes in the mental health of new RCMP members over their first year of service.

Methods: Participants were RCMP members (n=181; 72.8% male) participating in the RCMP Study who reported mental health disorder symptoms on validated self-report measures and during clinical interviews at pre-deployment and 1-year follow-up. Generalized anxiety disorder (GAD), social anxiety disorder (SAD), panic disorder (PD), major depressive disorder (MDD), posttraumatic stress disorder (PTSD), and alcohol use disorder (AUD) were assessed following the first year of service and compared with pre-deployment assessments. Assessments following the first year of service were compared across sociodemographic categories). Comparisons were made to an experienced sample of RCMP and the general public.

Results: After the first year of service, participants self-reported statistically significantly higher symptom severity (all *ps*<.05) and subsequent positive screens (all *ps*<.001) for SAD, MDD, and PTSD, compared to pre-deployment. No statistically significant differences in positive screens were evidenced based on clinical interviews. Sex and gender were not associated with differences in self-report or clinical interview mental health disorder screens following the first year of service. Based on self-report measures, the prevalence of one or more mental health disorders after the first year of service (15.0%) was higher than at pre-deployment (7.3%; *p*<.05) and higher than in the general public (10.1%; *p*<.05), but lower than among more experienced RCMP (65%; *p*<.001).

Conclusion: Compared to pre-deployment and to norms within the general public, new RCMP members report increased mental health disorder symptoms and disorder prevalence after the first year of service, but lower symptoms and prevalence compared to experienced RCMP. Results suggest RCMP mental health challenges begin to develop as early as the first year of service, underscoring the need for continuous evidence-based supports and assessments for members.

6E02: Potentially Psychologically Traumatic Event Exposures among Royal Canadian Mounted Police Officers after the first year of service

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Introduction: Growing evidence highlighting the discrepancies in mental health between experienced Royal Canadian Mounted Police (RCMP) and cadets implicates service-related experiences in the development of mental health challenges rather than pre-existing conditions or traumatic exposures. This inference is further supported by reported increases in mental health disorders among RCMP after one year of service. Exposure to potentially psychologically traumatic events (PPTEs) is an inherent part of police service and has been associated with several mental health disorders. The objective of the current study was to assess the PPTE exposure prevalence after one year of service and examine associations between first-year PPTE exposures and mental health disorders among RCMP.

Methods: RCMP members (n=181; 72.8% male) participating in the RCMP Longitudinal PTSD Study self-reported mental health disorder symptoms and PPTE exposures after one year of service.

Results: After one year of service, participants reported exposure to ~6 PPTE types, which was higher than the Canadian general population (~2; p<.001) but lower than samples of more experienced RCMP (~13; p<.001) and PSP (~11; p<.001). After one year of service, participants reported lower exposure prevalence for all PPTE types than more experienced RCMP (all *ps* <.001) and PSP (all *ps* <.001). Participants reported the highest prevalence of exposures through any modality (i.e., it happened to me, witnessed it, or learned about it) to physical assault (76.2%), serious transportation accident (68.0%), sudden accidental death (62.4%), assault with a weapon (60.2%), and sexual assault (60.2%); with most exposures endorsed as "part of my public safety job." Several PPTEs were statistically significantly associated with screening positive for posttraumatic stress disorder (PTSD), major depressive disorder (MDD), generalized anxiety disorder, and any mental health disorder (all *ps* <.05) but not social anxiety disorder and alcohol use disorder. The total number of different PPTE types was associated with increased odds of screening positive for PTSD, MDD, and any mental disorder (all *ps* <.01).

Conclusion: The current results provide the first assessment of PPTE exposure prevalence among RCMP after one year of service, and evidence that RCMP report more varied and frequent PPTE exposures than the Canadian general population. The current results highlight the substantial number of PPTEs that occur in just one year of service, which may be a contributing risk factor for several mental health disorders, underscoring the need for continuous evidence-based supports to mitigate the impact of PPTEs on RCMP.

6E03: Personality profiles of Royal Canadian Mounted Police: Changes after the first year of service

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Introduction: The first year of police service signifies a major shift in social roles and involves frequent exposure to occupational stressors, all of which may impact personality. The current study presents personality profiles of RCMP officers following their first year of service. The current study also examines personality differences relative to pre-deployment; differences based on gender and other sociodemographic variables; and differences relative to the general population.

Methods: Participants were RCMP (n=181) who completed their first year of service and self-reported personality using the HEXACO-100 Personality Inventory at pre-deployment and 1-year follow-up. Paired samples t-tests were conducted to test for changes in the scores on the six HEXACO factors and the 24 facets. Independent sample t-tests and Analysis of Variance (ANOVA) F-tests were performed to test for differences in personality among several sociodemographic characteristic categories. Independent samples Z-tests were used to compare RCMP personality profiles at 1-year follow-up to a previously surveyed sample of the general population. Effect size estimates for compari-

sons used Cohen's d values (i.e., small, *d*=.20; medium, *d*=.50; large, *d*=.80) and partial eta squared (i.e., small, =01; medium, =.06; large, =.14).

Results: At 1-year follow-up, women (partial eta squared=.139, *p*<.001) and females (*d*=-.850, p<.001) reported higher Emotionality than men, and men (partial eta squared=.093, *p*<.001) and males (*d*=.507, p<.01) reported higher Agreeableness than women. At 1-year follow-up, RCMP men reported small reductions in Honesty-Humility, Emotionality, Extraversion, Conscientiousness, and Openness to Experience (*d*=.204 to .299, all *ps*<.05). At the facet-level, RCMP men reported reductions in Social Boldness, Sociability, Liveliness, Diligence, Prudence, Forgivingness, Creativity, and Unconventionality (*d*=.203 to .386 all *ps*<.05). For women, only Patience (*d*=-.374, *p*<.05) increased from pre-deployment to 1-year follow-up. Differences between RCMP and the general population have remained consistent from pre-training, to post-training, and now at 1-year follow-up, evidenced by moderate to large differences (*d*=.270 to .946, all *ps*<.001) in personality factors (i.e., higher Honesty-Humility, Extraversion, Agreeableness, Conscientiousness; lower Emotionality and Openness to Experience) compared to the general population.

Conclusion: The current results provide novel insights about the personality profiles of RCMP officers following the first year of service. The results suggest the first year of service does not negatively change the personality of RCMP, because the personalities profile patterns suitable for contemporary policing were retained. There were differential changes in personality during the first year of service for men and women RCMP. Implications will be discussed.

6E04: Putative risk and resilience factors for predicting mental health among Royal Canadian Mounted Police after the first year of service: A longitudinal study

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Introduction: Royal Canadian Mounted Police (RCMP) cadets at pre-deployment have lower putative risk and higher self-perceived resilience than community young adult norms. Putative risk factors are associated with adverse mental health outcomes, while resilience is associated with positive mental health outcomes. Putative risk factors may be increased by occupational stressors including potentially psychologically traumatic events (PPTEs), which have been shown to increase RCMP risk for developing mental health disorders. The current study investigated changes in putative risk factors and self-perceived resilience among RCMP from pre-deployment to after the first year of service (i.e., 1-year follow-up), compared the results to community young adult norms, and examined sex and gender differences in self-perceived resilience, to better understand how occupational stressor exposure relates to these individual difference factors that in turn impact mental health.

Methods: Data were collected as part of the ongoing RCMP Longitudinal PTSD Study via a self-report survey at pre-deployment and at 1-year follow-up. Participants (*n*=181) completed measures of several putative risk variables (i.e., anxiety sensitivity, fear of negative evaluation, state anger, illness/injury sensitivity, intolerance of uncertainty, pain anxiety), self-perceived resilience, and sociodemographic questions. Paired sample *t*-tests were used to compare participants' 1-year follow-up scores to their pre-deployment scores, and independent samples *t*-tests were used to compare participant scores to published young adult norms. Linear moderation models were used to assess whether sex or gender moderated changes between time points.

Results: At 1-year follow-up, participants reported statistically significantly higher scores on anxiety sensitivity, illness/injury sensitivity, and state anger compared to pre-deployment. Nonetheless, RCMP reported statistically significantly lower scores on all putative risk variables, and statistically significantly higher self-perceived resilience, compared to young adult general population norms. Women and female RCMP reported statistically significantly lower self-perceived resilience than men and male RCMP, respectively, across time. Neither sex nor gender moderated changes from pre-deployment to 1-year follow-up.

Conclusion: After the first year of service, longitudinal results indicate that RCMP may be at a higher risk of mental health challenges due to their higher putative risk and lower resilience levels, relative to pre-service. Occupational stressors, including PPTEs, may contribute to changes in putative risk and resilience levels. Self-perceived resilience differs based on gender and sex variables. While RCMP report lower putative risks and higher self-perceived resilience than community young adults, prior research with military cadets indicates that RCMP with relatively higher anxiety sensitivity may still be at higher risk for mental health challenges.

P109: Long-term impact of COVID-19 on mental health and occupational outcomes of healthcare workers in England: Findings from the NHS CHECK study

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Introduction: United Kingdom (UK) data show population mental health worsened in early 2020, but evidence for healthcare workers (HCWs) is mixed and often limited to clinical staff and cross-sectional designs. We used NHS CHECK, a nationwide HCW cohort study, to investigate the pandemic's long-term impact on HCWs mental health and occupational outcomes.

Methods: NHS CHECK includes clinical and non-clinical staff from 18 National Health Service (NHS) organisations. Baseline data collection was April 2020 to January 2021, with follow-up at approximately six (N=2,736), 12 months (N=3,476) and 32-months (N=3,076) after baseline. Latent class analysis (LCA) was used at each time point to identify co-occurring mental health symptoms and work-related stressors. Outcomes included symptoms consistent with depression, anxiety, post-traumatic stress disorder (PTSD), alcohol use disorder, burnout, and intention to leave the profession. Regression analyses identified baseline individual and employment predictors of the profiles at each time point.

Expected Results: The sample was predominantly comprised of women (83%) and White HCWs (90%). At baseline, 52% were aged 41–60, 50% were married, and 37% held non-clinical roles. Most participants felt supported by colleagues (92%) and managers (83%) and reported low exposure to morally injurious events (MIES: mean=15, SD = 9). A two-class solution provided the best fit. Across time points, most participants (~70%) belonged to a "low symptomatology" class, characterised by low adjusted probabilities of meeting clinical cut-offs across all outcomes. The remaining 30% were classified in a "high symptomatology" class, with high adjusted probabilities of depression (77–85%), anxiety (64–78%), PTSD (66–87%), burnout (57–65%), and intention to leave (61–73%), but relatively low probabilities of alcohol use disorder (17–25%). Within this class, the highest probabilities of depression, anxiety, and PTSD were observed at 6 months, with the lowest at 32 months, except for PTSD, which dropped at 12 months but increased again at 32 months. Results from the regression analysis suggested that older age (>51 years) and perceived managerial support were consistently associated with the low symptomatology class, while experience of moral injury was associated with the high symptomatology class.

Conclusion: The findings highlight the lasting impact of the pandemic and provide further support to the importance of sustained support. Interventions that acknowledge and support staff in processing distressing experiences may help mitigate long-term psychological distress. The findings also point at the protective role of managerial support at preventing or mitigating adverse mental health and occupational outcomes.

P110: Mieux comprendre les trajectoires de blessures de stress post-traumatique chez les pompiers : une évaluation longitudinale

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Introduction: Comme les miliaires, les pompiers sont régulièrement exposés à des événements potentiellement traumatiques (ÉPT) au travail, ce qui augmente leur risque de développer des blessures de stress post-traumatiques (BSPT). Les études existantes estiment qu'environ 30% des pompiers présentent des symptômes liés à la dépression, à l'anxiété ou au trouble de stress post-traumatique (TSPT), ce qui peut entraîner des répercussions importantes sur leur prestation de travail. Cette étude longitudinale a pour objectif de mieux comprendre l'évolution des BSPT chez les pompiers en 1) identifiant les trajectoires de BSPT sur une période de 12 semaines et 2) déterminant les facteurs de risque et de protection associés à ces trajectoires.

Méthodes: Pour ce faire, 274 pompiers ayant été exposés à au moins un ÉPT au cours du dernier mois ont été recrutés. Ceux-ci ont rapporté, via une application mobile, leurs niveaux de symptômes dépressifs, d'anxiété et de TSPT à deux semaines d'intervalle pendant 12 semaines; ainsi que leurs niveaux de stress professionnel, leur soutien social et leurs styles d'adaptation. Un modèle de régression logistique multinomiale a été utilisé pour évaluer la relation entre les variables prédictives et les trajectoires de BSPT.

Résultats: Des analyses de classes latentes ont permis d'identifier trois trajectoires pour chacune des BSPT étudiées : résilience, symptômes faibles et symptômes modérés. Parmi les participants appartenant à au moins une des trajectoires de symptômes modérés (*n*=25), 68% présentaient conjointement des symptômes de dépression et de TSPT. Par ailleurs,

le style d'adaptation d'évitement et de distanciation représente le prédicteur principal de l'appartenance à la trajectoire de symptômes modérés (p<0.001), et ce, à travers les trois BSPT. L'âge, le nombre d'années d'expérience, le stress lié au travail opérationnel, un historique de troubles psychologiques et un soutien social plus faible constitueraient également des facteurs de risque au développement de certaines BSPT à travers le temps.

Conclusion: Les résultats de cette étude contribuent à enrichir la littérature existante concernant le développement et le maintien de BSPT chez les pompiers. Ils permettront d'orienter le développement d'interventions spécifiques et adaptées aux caractéristiques de ces travailleurs, mais aussi à celles de populations connexes, telles que les militaires. Une meilleure compréhension des BSPT et des facteurs associés contribuera aussi à guider les gestionnaires de casernes dans le choix et la mise en œuvre d'interventions efficaces au sein de leurs équipes, visant non seulement à préserver la santé psychologique des travailleurs, mais également à maintenir la qualité des services rendus à la population.

P111: Et toi le paramédic, comment ça va ?

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Introduction: À ce jour, la littérature reconnait que les individus occupant des métiers dans le domaine de l'urgence sont davantage prédisposés, par leur fonction, à être victime d'enjeux psychologiques (Gersons et Carlier, 1992; Carlier et Gersons, 1994). En effet, ce sont plus de 20 % des intervenants d'urgence qui en seront affectés en cours de carrière (Clohessy et Ehlers, 1999; Donelly 2009; Sterud, 2006). Carleton et al. (2018) offrent un regard plus contemporain concernant les estimations relatives à la fréquence et la gravité des symptômes de troubles mentaux pour le personnel de la sécurité publique canadien. En effet, l'exposition à des évènements potentiellement traumatisants dans le cadre du travail contribue au risque de développer des symptômes cliniques significativement corrélés à des troubles mentaux. Qui plus est, la pandémie de COVID-19 a accru notre dépendance envers les travailleurs de la santé et le personnel de la sécurité publique en plus d'avoir eu des incidences négatives supplémentaires sur leur santé (Patel et al., 2023). Le technicien ambulancier paramédic (ci-après paramédic) occupe un rôle capital dans le déploiement de la chaine préhospitalière lorsqu'une situation critique survient. Différents auteurs rapportent que la profession paramédic est hautement exigeante, tant au niveau physique que psychologique (Nirel et al., 2008; Sterud et al., 2006).

Méthodes: La présente étude descriptive quantitative vise à brosser un portrait initial en matière de santé psychologique des paramédics québécois en contexte post-pandémie à l'aide de questionnaires validés : le test d'inventaire de burnout de Maslach (MBI), le Hospital Anxiety and Depression scale (HAD) et le Post-traumatic Stress Disorder Checklist for DSM-5 (PCL-5).

Résultats: En réponse au déploiement de l'étude, 282 paramédics (168 hommes; 60 %, 114 femmes; 40 %) ont participé à la collecte de données. La symptomatologie associée à la dépression et l'anxiété est bien présente. Près d'un.e répondant.e sur 5 (18 %) bénéficierait d'un traitement pour trouble de stress post-traumatique. L'épuisement professionnel affecte près d'un.e répondant.e sur deux (44 %), en plus d'une dépersonnalisation marquée (69 %) et d'un accomplissement personnel faible ou modéré (65 %).

Conclusion: Les résultats obtenus dénotent la pertinence certaine de ce projet de recherche. La collecte de données a également mise en lumière certaines tendances à explorer, notamment le fait que les répondants de sexe masculin ont obtenu des scores significativement plus élevés que les répondantes de sexe féminin (excepté pour l'anxiété), en plus d'un score d'accomplissement personnel plus faible.

P112: PeerOnCall comme outil numérique de santé mentale : Une étude de faisabilité auprès des policiers de la Sûreté du Québec

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Brève description: Les policiers présentent un risque accru de développer des troubles liés au stress post-traumatique (TSPT) et d'autres troubles de santé mentale, tout en faisant face à d'importantes barrières à la demande d'aide. Pour pallier ces en-

jeux, plusieurs corps policiers mettent en place des programmes de soutien par les pairs, dont l'efficacité reste toutefois peu documentée. Notre évaluation porte sur *PeerOnCall*, une application mobile visant à faciliter l'accès au soutien par les pairs et à améliorer l'identification précoce des difficultés psychologiques. L'intervention cible le personnel policier d'une organisation policière provinciale au Canada. L'application permet aux utilisateurs de consulter les pairs disponibles, d'obtenir de l'information, et de visionner des vidéos faits pour et par les pairs. Les pairs reçoivent une formation standardisée en soutien par les pairs, accréditée par Le Centre d'étude sur le trauma (CÉT). Cette évaluation vise à examiner la faisabilité, l'acceptabilité et l'efficacité perçue de *PeerOnCall*, ainsi que son impact potentiel sur la demande d'aide, la connaissance du TSPT et les obstacles rencontrés par les pairs dans leur rôle.

Population: Nous procédons à une étude faisabilité nous permettant de déterminer si l'application mobile PeerOnCall peut constituer un outil d'intervention efficace. Nous adoptons un devis mixte combinant une approche qualitative inductive et une approche quantitative. Les mesures incluent des questionnaires pré-post sur la perception du soutien, les connaissances en santé mentale et l'utilisation des services. Des entrevues semi-structurées seront menées avec des pairs-aidants et des utilisateurs pour explorer la pertinence culturelle de l'application, les facilitateurs, les obstacles à l'usage, l'implantation et la satisfaction des usagers. L'analyse thématique guidera l'interprétation des données qualitatives. Les indicateurs de la demande incluent la fréquence de l'utilisation de l'application et l'évolution des demandes de soutien.

Résultats: À cette date, la collecte de données est en cours. Nous prévoyons obtenir des résultats préliminaires à l'hiver 2025. Ces résultats porteront principalement sur l'acceptabilité de l'outil, l'évolution de la demande d'aide et les perceptions des pairs sur leur rôle et leurs défis.

Conclusion: Bien que les résultats soient attendus, nous anticipons que l'application *PeerOnCall* permettra de réduire les barrières à la demande d'aide et de mieux outiller les pairs dans leur rôle. L'évaluation contribuera à orienter les pratiques organisationnelles en matière de santé psychologique au travail, en plus d'informer les politiques de prévention dans les milieux à risque élevé. Elle alimentera aussi la recherche sur l'implantation d'outils numériques en soutien à la santé mentale en contexte policier.

P113: Understanding the experiences of spouses/significant others of Public Safety Personnel during inpatient mental health treatment: A Research Protocol

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[1]Queens University; [2] Memorial University of Newfoundland; [3]Edgewood Health Network

Introduction: Public Safety Personnel (PSP) have a higher prevalence of mental health conditions, such as Posttraumatic Stress Disorder (PTSD) and substance use disorders (SUDs), compared to the general population. Spouses and significant others (SSOs) of PSP are also affected, experiencing increased stress and adverse health outcomes due to their loved ones' work-related trauma. However, there is limited research on how these challenges impact SSOs and how to support them during intensive treatment of their PSP loved ones. The study focuses specifically on the experiences of SSOs of PSP while they are receiving inpatient mental health treatment.

Methods: The study employs an interpretive phenomenological approach (IPA) to explore the impacts of inpatient care on PSP SSOs through semi-structured interviews. A minimum of 10 participants will be recruited from an inpatient facility in Ontario, Canada, where PSP are undergoing inpatient treatment. Interviews will be transcribed, coded and themes will be constructed that shed light on PSP SSO's experiences.

Expected Results: Expected result suggest PSP family experiences are unique in that there are unique impacts of PSP inpatient treatment on SSOs. We anticipate these impacts will be psychological, emotional, social, and logistical in nature.We intend to fill the knowledge gap in how families of PSP experience in treatment by providing an understanding of SSOs experiences during and will help to identify the types of support SSOs may need during this challenging time.

Conclusion: These findings help to improve or optimize care and recognition for those who stand beside PSP struggling with severe mental health and addiction issues. SSOs are impacted in significant ways by the work their PSP loved ones do. When PSP require intensive treatment, such as inpatient care, the impact of such treatment on SSOs is not well understood. The intention is to better understand these impacts and to develop supports and resources that directly assist SSOs while their loved ones receive the help they so desperately need.

P114: Organizational Supports for the Retirement Transition of Public Safety Personnel: A Case Study Protocol and Preliminary Insights

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Introduction: This case study aims to examine the retirement transition protocols of an exemplar organization that has proactively implemented programs to support the well-being of public safety personnel during this critical life stage. Public safety personnel face heightened risks for mental health challenges upon retirement, including substance misuse, post-traumatic stress symptoms, and suicidality. Effectively managing this transition is crucial, as the post-retirement period can span decades, and inadequate organizational support can have serious consequences for retirees and their families. The study objectives are to: 1) learn about the formal and informal retirement protocols at the exemplar organization; 2) identify the types of activities, events, and symbolic gestures that support the transition; 3) explore the retirement experiences of retirees at the organization; 4) synthesize the findings; 5) disseminate emerging practices; and 6) build capacity for further research to inform decision-making and knowledge mobilization.

Methods: This is a qualitative case study investigating the retirement transition protocols and experiences of public safety personnel at an exemplar organization. The study will use a mixed-methods approach, including policy analysis and semi-structured interviews with organizational leaders and recent retirees. Data will be analyzed using framework analysis to identify key themes and inform the development of an evidence-based toolkit to support the implementation of successful retirement transition strategies across public safety organizations.

Expected Results: The expected outcomes of this case study are to: 1) Identify the formal and informal retirement protocols and practices implemented by the exemplar organization to support the transition of public safety personnel into retirement, 2) Understand the perspectives and experiences of recent retirees regarding the retirement transition process, including stressors, sources of support, and recommendations, and 3) Synthesize the findings to develop an evidence-based toolkit to guide the implementation of successful retirement transition strategies across public safety organizations.

Conclusion: This research has the potential to significantly impact PSP and their families by promoting mental health and well-being during this critical life stage. The findings will inform the development of a toolkit to support evidence-based strategies for retirement transitions in public safety organizations. The partnership with the exemplar organization, ensures the toolkit is grounded in real-world experiences and can be effectively disseminated to other public safety sectors. This case study contributes to limited research on PSP retirement transitions, filling a crucial gap and providing valuable insights to support those who dedicated their careers to protecting their communities.

P115: Organizational Factors and Ontario Public Safety Personnel Mental Wellness

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Introduction: Public Safety Canada estimates that more than 250,000 Canadians work in public safety roles. The number and cost of workers' compensation mental health claims in this sector have been rising and public safety organizations often mitigate this issue with individual interventions, neglecting the impact of organizational factors on employees.

Methods: This mixed methods study included a survey for public safety personnel (PSP) working in Ontario, hosted on RedCap from June-Dec. 2024. It was advertised through PSP associations, unions, employers, and social media platforms. Follow up virtual semi-structured interviews were conducted Jan.-Feb. 2025. Quantitative data was analyzed using descriptive statistics and qualitative data was analyzed using framework analysis.

Results: 651 survey participants met inclusion criteria, with an average age of 41 years. 47% identified as women, 52% as men, and 1% as other or prefer not to specify. Participants included Border Services Officers (143), Communicators/Dispatchers (24), Correctional Workers (140), Firefighters (96), Paramedics (133), Police Personnel (82), other and support roles (60); some participants occupied more than one role. Average participant scores on a measure of work-related stressors (Management Standards Indicator Tool) showed above average stress-related risks, a psychological distress screening tool (Kessler-6) showed low risks for serious mental illness, and a measure of work engagement (Utrecht Work Engagement Scale-9) showed average levels of work engagement. 83% endorsed access to peer support at work, 63% to critical incident debriefing, 61% to external mental health supports, and 77%

to extended health benefits. Participants had mixed views of the effectiveness of employer efforts to support mental wellness at work.

The 15 follow up interview participants had an average age of 46 years, 8 identified as women and 7 as men. Participants included Border Services Officers (3), Communicators/Dispatchers (1), Correctional Workers (3), Firefighters (3), Paramedics (3), and Police Personnel (2). Many participants identified low staffing, low control at work, and conflict between supervisors and coworkers as chronic stressors. Participants had mixed views of the effectiveness and sincerity of employer efforts to support mental wellness at work and endorsed the need for greater funding for wellness benefits and supports, and more tailored training about mental health.

Conclusion: This study is the first of its kind, capturing Ontario public safety employer efforts to support employee wellness, and employee experiences of these efforts, revealing mixed perceptions of quality and effectiveness. Findings can be used to consider the most impactful use of organizational resources to support employee mental wellness.

P116: Facteurs de risque et de protection des blessures de stress post-traumatique chez les agents des centres d'appel 911

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Introduction: Les agents des centres d'appel 911 sont exposés de façon répétée à des événements potentiellement traumatiques, à un stress opérationnel constant et à des situations émotionnellement exigeantes. Ces facteurs augmentent leur risque de développer des blessures de stress post-traumatique (BSPT), incluant l'anxiété, la dépression, le stress post-traumatique et les comportements suicidaires. Pourtant, cette population, essentielle à la sécurité publique, demeure largement sous-étudiée. Peu de recherches se sont penchées sur les facteurs psychosociaux propres aux agents 911 et leur contribution aux BSPT, ce qui limite le développement d'interventions adaptées et efficaces. Cette étude vise à combler cette lacune en identifiant les facteurs de risque et de protection associés aux BSPT. Pour ce faire, un sondage a été mené auprès de 694 agents 911 à travers le Canada entre novembre 2020 et mai 2021.

Méthodes: Un devis transversal avec échantillonnage de convenance a été utilisé. Sur une base volontaire, les participants ont rempli un questionnaire en ligne évaluant leurs BSPT (p. ex., anxiété, dépression, stress post-traumatique, consommation d'alcool) ainsi que divers facteurs contributifs (p. ex., exposition antérieure à des événements potentiellement traumatiques, antécédents de troubles psychologiques, recherche d'aide, stress opérationnel, soutien social, qualité de vie). Des analyses de régression linéaire permettront d'examiner les associations entre ces facteurs et les BSPT. Ces analyses seront stratifiées selon le sexe assigné à la naissance afin d'explorer d'éventuelles différences spécifiques. Le rôle de genre et l'origine ethnique seront considérés comme covariables dans les modèles de régression.

Résultats attendus: Dans notre échantillon, 33,0 % des participants présentaient au moins un trouble de santé mentale lié aux BSPT, un taux significativement plus élevé que celui observé dans la population générale. Les femmes rapportaient un risque plus élevé que les hommes de développer certains troubles mentaux associés aux BSPT. Les analyses des associations entre les facteurs contributifs et les BSPT seront présentées lors du congrès.

Conclusion: Les résultats mettront en évidence les facteurs contributifs spécifiques aux BSPT chez les agents 911, permettant ainsi d'orienter le développement d'interventions sur mesure. Ces interventions pourraient améliorer les conditions de travail des agents 911 canadiens et, par conséquent, renforcer la sécurité des Canadiens en situation de crise.

P117: Evaluation of a Workplace Reintegration Program for Alberta Public Safety Personnel Experiencing Operational Stress Injury: Preliminary Results

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Introduction: Public safety personnel (PSP) are at risk of operational stress injuries (OSI). The potential functional impairments caused by OSI can contribute to challenges with returning to pre-injury operational requirements. A peer-led workplace reintegration program (RP) has been implemented across Canada, with the goal of assisting PSP in their return-to-work (return-to-work) after OSI. Although the RP has been utilized nationally and internationally, there is a paucity of research regarding the interplay of the RP and return-to-work outcomes for PSP. The purpose of this longitudinal pilot study is to address the impact of the RP

on the return-to-work of PSP who have experienced potentially psychologically injurious events/OSI.

Methods: PSP (emergency medical staff, municipal police, firefighters, and Royal Canadian Mounted Police) from four PSP organizations in Alberta who had experienced OSI and were engaged in the RP were recruited to participate in this prospective study (N=54). Recruitment and data collection were completed via online surveys scheduled at the initiation of the RP and at 3, 6, 9, and 12-month time points from 2021 to 2025. Surveys address PSP participants' work status, symptoms of post-traumatic stress disorder (PTSD), perceived health-related quality of life, mental health knowledge, workplace engagement, perceived resilience, and workplace presenteeism. Descriptive, baseline, and non-parametric repeated-measures statistics were analyzed.

Expected Results: Baseline statistics showed that PSP participants entering the RP had good mental health knowledge (M=47.62, SD=4.020) based on the Mental Health Knowledge Schedule. Scores on the PTSD Checklist for DSM5 (PCL5) ranged widely, with the mean score around the cut-off indicative of PTSD (M=31.32, SD=18.996). On the SF-12, participants scored their mental health below average (M=36.13, SD=11.945) compared to their civilian counterparts. Repeated measures analysis showed statistically and clinically significant change in PTSD symptoms across five time points (Z=11.977, p=0.018). There was no significant difference in health-related quality of life, mental health knowledge, workplace engagement, perceived resilience, and workplace presenteeism over time.

Conclusion: The RP, as a component of PSP organizational efforts to improve return-to-work after OSI, may contribute to a decrease in mental health symptoms. Challenges with a low sample size and the available survey tools may have impacted the sensitivity of the study. Further evaluation of the RP is needed to understand its impact on sustained return-to-work for PSP. Additional research focusing on workplace reintegration and its integration with healthcare, worker's compensation organizations, and other partners would be advantageous.

P118: Adaptation and evaluation of the implementation of a protective mental health intervention (Resilient Minds) for Canadian volunteer firefighters

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[1]University of Western Ontario; [2]McMaster University; [3]University of Prince Edward Island; [4]Vancouver Fire and Rescue Services; [5]Queen's University; [6]University of Regina

Introduction: Psychologically traumatic exposures are common among firefighters. In response, a variety of mental health training programs have been introduced as protective supports. Resilient Minds is one of the few developed specifically for firefighters, originating as a peer-led mental health and resiliency training for career firefighters in Vancouver, British Columbia. This study was designed to assess the adaptation, implementation, and delivery of the Resilient Minds program for volunteer firefighters in Prince Edward Island.

Methods: A concurrent triangulation mixed-methods approach was used. Survey data were collected from firefighters who participated in the training, and semi-structured interviews were performed with peer trainers, members of leadership, and firefighters who participated in the implementation. Summary statistics were performed to analyze the quantitative data, and thematic analysis was performed to analyze the qualitative data following interpretive description methods. We followed the Consolidated Framework for Implementation Research to guide our data collection and analyses.

Results: Participants identified that Resilient Minds being created for firefighters was an important relative advantage, and confirmed the high-priority need for mental health training for firefighters. Both constructs contributed to a positive internal context by facilitating stakeholder buy-in during program implementation. Participants who completed the modules feedback survey (n=203) typically described the training as helpful (84%) and reported high intention to use the information (86%). At 3-month follow-up (n=54), most participants reported being able to recall the training (83%), as well as increased support from colleagues (59%) and leadership (50%). Our qualitative data (n=18; 5 women, 13 men) indicated improved coping and awareness of mental health challenges, and decreases in mental health stigma. Suggestions to improve the adaptation and implementation of Resilient Minds included simplifying the content, creating additional resources, and funding to support training costs.

Conclusion: Our results support the adaptation, implementation, and delivery of Resilient Minds among Canadian volunteer firefighters. Scaled delivery of the training across Canada will require collaborations among the developers, local implementation leads, and other stakeholders in the local fire services to adapt the course content and implementation procedures

that consider the unique needs of each fire department and the resource scarcity in the volunteer sector.

P120: From Stigma to Safety: Shifting Perceptions of Inpatient Psychiatric Care for Public Safety Personnel

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Introduction: Mental health stigma remains a significant barrier to care, particularly for individuals entering inpatient treatment. Among public safety personnel (PSP), societal portrayals of psychiatric institutions often evoke images of restrictive, impersonal environments, contributing to reluctance in seeking help (e.g., Armstrong et al., 2018). Newell and colleagues (2021) identified stigma and worries about confidentiality as significant barriers to help seeking from those in PSP professions. This study explores PSP service users' initial perceptions and anticipated worries of inpatient psychiatric care and the realities of their experience at Gateway, a residential facility specializing in trauma and substance use disorders.

Methods: 30 semi-structured interviews were conducted with PSP service users at Gateway, an inpatient treatment facility for active military, veterans, and PSP between April 2024 and August 2024. Participants were asked to reflect on their expectations prior to admission and how these perceptions shifted during their stay. Qualitative thematic analysis was used to identify emergent themes.

Results: Participants initially reported anticipating an overly clinical, institutional setting, marked by control and emotional detachment. These expectations, shaped by public stigma, led to hesitation in seeking treatment and anxiety about their admission. However, Gateway's non-institutional atmosphere—characterized by communal living, peer engagement, and reduced external stressors—facilitated a shift in this perception. Service users described the environment as a "live-in residence" rather than a hospital, which fostered a sense of personal agency and psychological safety. Shared routines and structured peer support helped normalize mental health challenges, reduced self-stigma, and promoted trust in therapeutic relationships. Participants also engaged in various recovery-oriented activities such as mindfulness, peer-led meetings, and recreational practices, which contributed to increased resilience and self-exploration.

Conclusion: Findings highlight the continued impact of stigma against treatment for mental health disorders. Service user accounts of the reality of their experience demonstrate the transformative role of residential treatment environments that prioritize community, inclusion, and dignity. Gateway's design not only facilitated clinical recovery but also enabled participants to redefine their perception of the mental health treatment and their own recovery journeys in a non-judgmental, empowering context. The shift from institutional fear to communal connection underscores the need for the dissemination of corrective education about psychiatric treatment as ongoing stigma may prevent some from accessing needed care.

P121: Implementation and Evaluation of a Psychological First Aid Program to Manage Post-Traumatic Stress Injuries in Canadian Provincial Police : a Participatory Action Research

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Program/Intervention Description: In Canada, 64.7% of national and 36.7% of provincial police officers screen positive for post-traumatic stress injuries (PTSI). The Public Health Agency underscores the urgent need to develop and widely implement best practices for managing PTSI, ensuring officers continued ability to protect the population. The psychological first aid (PFA) framework encompasses trauma-informed knowledge to guide the development of PTSI mitigation practices. Based on this framework and on a pilot study conducted in the Sûreté du Québec (SQ, provincial police), we propose a PFA program that includes a PTSI awareness e-learning, a PFA training provided by local trainers, and a peer-to-peer PFA intervention to mitigate PTSI among police officers. We aim to evaluate the feasibility and impact of its large-scale implementation within the SQ.

Evaluation Methods: A mixed-methods participatory action study is currently performed in 5 phases according to the phased PFA implementation and the dynamic sustainability frameworks. The program was adapted to environmental needs; is progressively deployed; will be evaluated in terms of feasibility; impact; and potential sustainability. Ten SQ' trainers were trained to provide the training, aiming to

train 322 peer helpers (responders) who could then administer the intervention to officers who need it (beneficiaries). The e-learning is in development and will be then disseminate. The program feasibility (demand, practicality, accessibility) will be assessed in 10 trainers, 30 responders, and 20 beneficiaries using interviews and intervention reports. Its impact will be assessed on PTSI literacy and stigma in up to 5885 officers using pre- post-e-learning questionnaires, on perceived competence to provide the intervention in 175 responders using pre- post-training questionnaires, and on protective factors (professional quality of life, work safety, coping styles, sense of efficacy and of hope) and psychological manifestations (PTSD, anxiety, depression) of PTSI in 64 beneficiaries using pre- post-intervention questionnaires.

Results: A good feasibility is expected. The e-learning would increase mental health literacy and decrease stigmatizing attitudes (co-primary outcomes), the training would enhance perceived competence to deliver the intervention (primary outcome), and the intervention would improve protective factors (co-primary outcomes) and reduce psychological manifestations (secondary outcomes) of PTSI.

Conclusion: The program aims to instruct police officers to recognize PTSI, promote self-care strategies and help-seeking, enhance organizational mental health support, and expand psychological support to rural areas. If the results are significant, the project could prove fruitful and transferable to other high-risk organizations. Evidence for drawing best trauma-informed practice recommendations will be provided that may inform future directions for policy decisions.

P122: The Relationship of Test Performance on Sensory-based cognitive assessments on functional impairment and symptoms of posttraumatic stress disorder in a sample of public safety personal

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Introduction: Public safety personnel (PSP) are disproportionately affected by posttraumatic stress disorder (PTSD) due to repeated exposure to traumatic environments when in the line of duty. These environments require both adequate sensory processing and cognitive performance to properly perform in. Research has provided evidence towards deficits in cognitive functioning amongst individuals with PTSD. Despite this evidence, there has been little investigation into the interplay between sensory processing and cognitive performance-especially in trauma-exposed PSP. The present study aims to investigate how performance on sensory-based cognitive tasks relate to PTSD symptom severity and functional impairment among trauma-exposed PSP.

Methods: This study employed a cross-sectional design using baseline data drawn from a secondary analysis of a larger research project. Participants (n=78) were trauma-exposed PSP who completed two questionnaires: PTSD checklist for DSM-5 (PCL-5) and World Health Organization Disability Assessment Scale 2.0 (WHODAS 2.0). Additionally, they completed computer based sensory reliant cognitive tasks. Questionnaire data was collected virtually though REDCap web-based survey platform) and cognitive data was collected via Creyos (online cognitive assessment tool). Using R version 4.3.0, bivariate correlations and multiple linear regression were completed.

Results: In a sample of 78 trauma-exposed PSP, after FDR correction, statistical analysis revealed a significant negative correlation between Rotations (cognitive task assessing visuospatial processing and mental rotation) on both PTSD symptom severity ($r = -0.27$, $p = .04$) and functional impairment ($r = -0.33$, $p = .008$). No other cognitive tasks were found to be significantly correlated to any psychological measures. As such, subsequent regression models focused exclusively on this cognitive variable. Multiple linear regression were conducted to examine whether performance on the Rotation task predicted functional impairment and/or symptom severity. In both models, poorer performance on Rotations was a significant predictor of increased function impairment ($B = –10.78$, $p = .001$) and more severe PTSD symptoms ($B = –15.75$, $p = .028$). Results remained significant even after controlling for age.

Conclusion: Although exploratory in nature, results of the present study found that poorer performance on Rotations (visuospatial processing and mental rotation) was significantly associated with greater PTSD symptom severity and functional impairment, even after controlling for age. These findings are consistent with the existing evidence of cognitive deficits in PTSD but also begin to highlight a potential role for sensory-based cognitive dysfunction as a contributing factor. These findings suggest that deficits in visuospatial processing in conjunction with mental rotation may be an important avenue to research further.

P123: What about the (PSP) Kids? Developing Public Safety Personnel Youth and Kids (PSPYK) – An Online Hub of Upstream Mental Health Supports

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[1]University of Regina

Introduction: There are many risks and challenges that Public Safety Personnel (PSP) face that influence PSPs' home lives. PSPs are more likely than their civilian counterparts to experience mental health concerns and the same is true for their family members. Given that more than 70% of mental health challenges develop before adulthood, the symbiotic and mutually reinforcing relationship between PSP-connected family members means it is crucial to provide resources that specifically address the wellbeing of PSP children/youth. While supports exist for adult PSP-family members, there are few resources specifically designed to meet the needs of children and youth in PSP-connected families. The purpose of this study is to develop an online resource for PSP-connected children and create training materials for those working with PSP-connected children.

Methods: We will use a multiple methods approach to achieve our purpose through three distinct yet interrelated phases, each addressing a specific objective:

Phase 1: We will conduct a rapid review and environmental scan to synthesize the experiences/needs of PSP children and the gaps in existing resources. This phase will include consultation with children and youth themselves, their parents/guardians and child-serving organizations who work with military and public safety children/youth.

Phase 2: The online tool for children and youth will be created using findings from phase 1 and consultations with key stakeholders Consultations will involve iterative focus groups with children/youth, parents/guardians, and service providers to obtain feedback throughout the development process, enabling us to refine and tailor the online resource to the needs of PSP-connected children.

Phase 3: Conducted concurrently and with the same methodology as phase 2, phase 3 will focus on the creation, development, and refinement of training materials for those working in child-serving organizations to support and enhance practice with PSP-connected children.

Expected Results: The final outcomes for this study include: 1. a synthesis of available literature and existing services for PSP-connected children/youth; 2. a new online resource specifically developed for PSP-connected children; and 3. new online training materials targeted child-serving organizations and service providers (e.g., educators, clinicians, community organizations) to improve service quality for PSP-connected children. These new online resources will be evidence-based and rooted in PSP families' and child-serving providers' lived experience and perspective.

Conclusion: PSPYK will provide a new evidence-based, responsive, and resonant resource that will support meaningful and long-lasting change for PSP-connected children and those entrusted with their care.

PRIMARILY PHYSICAL HEALTH AND WELL-BEING

Podium Presentations

5C04: The Prevalence and Characteristics of Violence Against Paramedics in Ontario

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Introduction: Occupational violence in healthcare is a complex and growing problem, with a recent study estimating the prevalence of violence in two Toronto Emergency Departments (ED) at 1.15 incidents per 1,000 ED visits. Similar data for paramedics are sparse, in part because of a lack of standardized reporting infrastructure. Leveraging a novel reporting system embedded within the electronic patient care record, our objective was to assess the prevalence of violence against paramedics in multiple services in Ontario.

Methods: The External Violence Incident Report (EVIR) gathers quantitative and qualitative data about violent encounters as documented by the affected paramedic at the time of event. Paramedics filing an electronic patient care report are prompted to complete an EVIR if they experienced any form of violence (e.g., verbal abuse, threats, physical or sexual assault) during the 9-1-1 call. Using a rolling recruitment approach, we reviewed EVIRs submitted by twelve paramedic services in Ontario and used descriptive statistics to characterize the violence. We calculated an overall pooled rate of violence per 1,000 9-1-1 calls and used rate ratio tests and Poisson regression to compare the incidence of violence between sites.

Expected Results: A total of 1,140 paramedics filed 2,867 violence reports (mean 2.11 [±3.85] reports per paramedic), with 56% of reports documenting a phys-

ical or sexual assault and 9% (n=265) indicating the paramedic was physically harmed. Most (50%) of the violence occurred at the scene and 80% of reports listed the patient as the perpetrator, with substance use (49%) and mental health (35%) cited as contributing factors in a large proportion of cases.

Incidence rates varied by study site from 0.58 (Manitoulin-Sudbury) to 4.53 (Peel Region) incidents per 1,000 9-1-1 calls, with a pooled rate of 2.52 violent encounters per 1,000 calls (95% Confidence Interval [CI] 2.51-2.52). Likewise, the rate of physical assault ranged from 0.42 (Manitoulin-Sudbury) to 2.68 (Peel Region) per 1,000 9-1-1 calls, with a pooled rate of 1.42 assaults per 1,000 calls (95% CI 1.41-1.42). In a weighted Poisson regression adjusted for call volume and time using the reporting system, the risk of violence appeared lower in urban vs. rural services (Rate Ratio [RR] 0.43), but the effect was not statistically significant (95% CI 0.13-1.42, p=0.164).

Conclusion: Paramedics appear to experience a risk of violence more than twice that of healthcare workers in ED settings. The risk of violence may be more pronounced in rural services, but additional data is needed to refine this estimate further.

6A05: Shouldering the Burden: Exploring the Challenges and Impact of Work-Related Shoulder Disorders on North American Firefighters: A Qualitative Study

Osifeso, Temitope, MSc[1,2,4]; MacDermid, Joy, PhD[1,2,3,4]; Berinyuy, Dorala, MSc[1]; Szekeres, Mike, PhD[1,4]; Parikh, Pulak, PhD[1]; Faber, Kenneth, MD[1,2]

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Introduction: Rationale: Firefighters (FFs) are exposed to physically demanding tasks that increase their risk of work-related shoulder disorders (WSDs). Despite the critical nature of their work, qualitative research remains limited in exploring the impact of WSDs on their well-being, as well as the challenges they encounter within the workplace and healthcare system.

Objectives: To explore: 1) The impact of WSDs on the well-being and job performance of FFs, 2) The occupational health challenges encountered by FFs with WSDs during recovery.

Methods: A total of 14 firefighters (Males =9, Females =5) between 26-63 years old experiencing WSDs were purposefully sampled by age, sex, gender, and geographical location. Data was collected through virtual one-on-one semi-structured interviews and transcribed verbatim. Interpretive description methodology was used, and data was analyzed using thematic analysis.

Results: Firefighters with WSDs indicated that pain and mobility limitations significantly impaired their ability to perform critical job tasks such as lifting, reaching, and administering life-saving interventions. In their personal lives, WSDs disrupt routine activities, fitness, and family interactions. Sleep deprivation due to pain and shift work further exacerbates physical and cognitive strain, impacting their job performance. Occupationally, FFs reported lost work time, financial strain, and career setbacks due to modified duties, often leading to feelings of guilt, isolation, and diminished professional identity. Additionally, operational challenges related to poorly designed firefighting equipment and protective gear were reported to increase the risk of shoulder re-injury, particularly for female FFs and those with smaller statures. Lastly, healthcare challenges such as a lack of tailored healthcare protocols and suboptimal intervention programs were reported.

Conclusion: This study underscores the complex interplay of physical, occupational, and psychosocial factors in shaping firefighters' experiences with WSDs. This emphasizes the need for ergonomic improvements, better healthcare protocols, and psychosocial support to improve the well-being of FFs with WSDs.

MIXED MENTAL AND PHYSICAL HEALTH AND WELL-BEING

Podium Presentations

2C04: A Qualitative Exploration of the Retirement Experience of Royal Canadian Mounted Police Veterans and their Families

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[1]McMaster University; [2]St. Joseph's Healthcare Hamilton; [3]Homewood Research Institute; [4]Queen's University

Introduction: Current research suggests that the transition to retirement is a critical experience for Veterans, who may experience significant challenges during transition from service to civilian/Veteran life. Most service to civilian transition research has focused on the transition of Canadian Armed Forces military personnel, while little research has focused on the transition and reintegration of Royal Canadian Military Police (RCMP) Veterans. After retiring from service, RCMP Veterans fall under the mandate of Veteran Affairs Canada, but little is known about how these Veterans

access services and support. In order to understand the unique needs of RCMP Veterans and the impact of service and retirement on their health and well-being, this study set out to gain a better understanding of this experience. By interviewing family members, we hope to gain insights on how retirement impacts the family as well as the Veteran and how they could be better supported.

Methods: This study is the qualitative arm of a larger, two-part project seeking to better understand the experiences of retirement amongst RCMP Veterans. To address this research gap, we conducted in-depth semi-structured qualitative interviews with RCMP Veterans and their family members using a purposive sampling approach and inductive analysis based on the Interpretive Phenomenological method. Through this approach, we are able to collect detailed accounts of retirement amongst RCMP Veterans and their families and the strengths and challenges these Veterans encounter, which will help us to better understand this phenomenon as a whole.

Expected Results: The results of this project are pending and anticipated to be complete by October 2025. Current research suggests that the transition to retirement is a critical experience for Veterans, who may experience a host of difficulties during their transition, including mental health challenges, family tension, and feelings of isolation. However, most civilian transition research has focused on the transition of Canadian Armed Forces (CAF) military personnel, while little research has focused on the transition of RCMP Veterans. This study will help to provide a better understanding of RCMP retirement to help inform supporters such as Veterans Affairs Canada about the unique experiences of these Veterans.

Conclusion: This study provides a much-needed look into the retirement experience for RCMP Veterans. This study will help to shape future resources and supports for RCMP Veterans and their families based on the information gathered.

2D05: A Co-Designed Family Initiative Toolkit for Public Safety Organizations

Richmond, Rachel, PhD (Cand)[1]; Ricciardelli, Rose, PhD[2]; MacDermid, Joy, PhD[3]; Cramm, Heidi, PhD[1]

[1]Queen's University; [2]Memorial University of Newfoundland; [3]University of Western Ontario

Introduction: Public safety personnel (PSP) families face unique lifestyle challenges linked to the risks and requirements of PSP occupations and require support. Organizational responses to family needs emphasized the need for a user-friendly resource to help these organizations provide familial support. The objective was to collaboratively develop a practical, evidence-informed toolkit to help organizations implement family-forward initiatives.

Methods: A co-design methodology was employed, incorporating three data collection phases: (1) focus groups, (2) interviews, and (3) a feedback survey. Three focus groups were conducted with PSP stakeholders from diverse sectors (fire, police, and paramedics), aiming to understand needs, generate ideas, and create a toolkit prototype. Four in-depth interviews were conducted with PSP professionals who provided detailed usability feedback on a refined prototype of the toolkit. Finally, the toolkit was disseminated to a broader audience via a survey to gather qualitative and quantitative data regarding usability and relevance.

Results: Focus groups and interviews confirmed the need for family-forward initiatives and provided insights into key barriers and facilitators for toolkit use, such as leadership support and resources. The family-forward toolkit is an interactive resource designed to guide public safety organizations in developing and implementing family-forward initiatives. It consists of multiple concise and actionable components that are dynamically tailored based on user responses to an initial survey, ensuring that the content is relevant to their organizational context, resources, and goals. The toolkit includes initiative recommendations, planning worksheets, prompts for stakeholder engagement, and checklists to support users through each stage of the initiative development process. This personalized structure allows users to move at their own pace, revisit previous work, and generate a customized action plan aligned with their unique needs. Participants highlighted its applicability in both their current roles and for those new to family initiatives. Survey data from 14 respondents showed high usability (93% found it somewhat to extremely easy to use) and perceived helpfulness (57% rated it "very helpful"). Qualitative feedback emphasized the toolkit's practicality, step-by-step guidance, and relevant content. Areas for improvement included enhancing the user experience, interactivity, and visual design.

Conclusion: This co-designed toolkit supports the planning, implementation, and evaluation of family-forward initiatives and has been positively received by professionals across public safety sectors. It fills a critical resource gap by aligning with both organizational

and family needs. Future research should evaluate the toolkit in real-world applications and expand co-design efforts to include PSP families themselves.

2E01: Alberta CARES: A Study on Health and Wellness of Public Safety Communicators in Alberta

Siqueira Cassiano, Marcella, PhD[1]; Johnson, Douglas, PhD[2]

[1]University of Winnipeg; [2]MacEwan University

Introduction: In 2016, the federal government recognized the unique challenges faced by public safety professionals and called for research on operational stress injuries. Since then, studies on the health and wellness of paramedics, firefighters, police officers, and correctional officers have expanded. However, public safety communicators—such as 911 operators, dispatchers, and tactical radio personnel—have received little attention despite experiencing high levels of burnout and PTSD. The study supporting this presentation addresses this gap. This presentation will (1) examine health and wellness outcomes and determinants for communicators in Alberta and (2) highlight communicators' primary sources of occupational stress and job satisfaction. Our working hypothesis assumed that the prevalence of PTSD among communicators was higher than among other first responders. We also anticipated that organizational factors would be the primary source of stress for communicators.

Methods: The research team employed a trauma-informed approach, a social-ecological model, and a mixed-method explanatory sequential design to survey (n=150) and interview (n=60) communicators across Alberta's EMS, fire, and police services. The trauma-informed approach fostered collaboration with agencies and participants vulnerable to high stress. Meanwhile, the social-ecological model enabled an analysis of health and wellness from socio-cultural, institutional, and structural perspectives. The explanatory sequential design allowed for a deeper understanding of survey findings by contextualizing them with qualitative data.

Expected Results: The findings indicate that communicators experience a high prevalence of stress and PTSD compared to other public safety professionals. As predicted, organizational issues—particularly those related to supervisors and leadership—are a significant source of stress for communicators.

Conclusion: This study provides the first evidence-based assessment of communicators' health and stressors in Alberta, positioning Canada as a key contributor to emergency communication research. The findings offer insights for improving work practices and training, ultimately fostering a healthier, more resilient workforce that benefits both communicators and the communities they serve.

3E01: Canadian Security Intelligence Service Operational Employees: Experiences of Moral Harm, Distress, or Injury

MacLellan, Stan, ABD[1]; **Ricciardelli, Rosemary, PhD[2]**

[1]Charles Sturt University; [2]Memorial University of Newfoundland

Introduction: Canadian Security Intelligence Service (CSIS) operational employees are first responders who ensure national security - they protect Canadians from threats (i.e., terrorism). They are security and intelligence officers with variable and diverse occupational responsibilities and require skill sets often unimaginable. Although instrumental to national security, CSIS employees are unacknowledged and unrecognized in society - a potential source of moral harm, distress, or injury. They cannot disclose who they work for or what they do, which impedes recruitment clearly.

Methods: We conducted 38 semi-structured interviews with CSIS employees - the first of such studies ever. We coded each transcript and used a semi-grounded constructed approach to analyze the data. Focusing on the interconnections between the data constituting each theme.

Results: In our analysis, we focus primarily on responses to the questions around describing their occupational responsibilities and if they feel acknowledged for their role in public safety (and by whom). Participants overwhelmingly described their occupational responsibilities as the protection of public by means of maintaining and ensuring national security. However, they felt unrecognized and unacknowledged by society for their role as they receive no positive credit, which was intensified by the restrictions on sharing details about their occupational role, their responsibilities, and even the service for which they work.

Conclusion: The combination of their interpretation of their role and their lack of recognition for it, particularly by not being recognized as first responders - was a source of moral harm, distress and even potential injury. Many participants, however, did feel recognized by their employer. CSIS employees experience moral harm, distress, or injury, which is in part informed by the lack of public recognition or awareness and their inability to speak to occurrences in their work.

3E04: The Space Between: Barriers and Facilitators to Implementing Workplace Health and Wellbeing Programs for Paramedics: A Scoping Review

Salvis, Sarah, MSc[1]

[1]District of Timiskaming Social Services Administration Board

Introduction: Paramedic Services are implementing interventions to support the health and wellbeing of staff, including (but not limited to) peer support, resiliency training, and violence prevention initiatives. However, workers compensation claims and paramedic ill health remain high, pointing to a gap between evidence and practice. Therefore, the aim of this study was to identify barriers and facilitators to implementing workplace health and wellbeing programs for paramedics via a scoping review.

Methods: This scoping review followed the Joanna Briggs Institute methodology and used the PRISMA-ScR reporting checklist. The population of interest: paramedics, concept: implementation of health and wellbeing initiatives/program, and context: paramedic service organizations. I searched PubMed, Embase, CINAHL, PsycINFO and Scopus. I also sought out grey literature. I then screened all records, extracted relevant data, and completed a basic content analysis for barriers, facilitators, and outcomes. I consulted experts throughout the search design process. A second reviewer spot checked the screening phase.

Results: The search yielded 16503 records. After removal of duplicates, screening, and exclusions, 43 remained. Twenty-five barrier categories and 27 facilitator categories were identified. The operational context barrier and the organizational context facilitator were the most frequently reported categories, 49% and 56% of records, respectively. Barrier categories spoke to, among other things, the impact of patient acuity, absence of organizational support, and inadequate knowledge. Whereas facilitators found the existence of policies, holistically embedded initiatives, and leadership support contributes to implementation success. Many of the categories were reported as both facilitator and barrier, with two unique findings being the population's culture and identity. That is, a hero-based paramedic identity can be a barrier to implementation, while aligning an initiative with the broader paramedic culture can be a facilitator. Self-reported perceptions of the intervention/program were the most frequently noted outcome (44% of records) across 30 different categories.

Conclusion: The results demonstrate that there is a broad and complicated body of evidence in the space between evidence and practice. Leaders deciding how to implement programs aimed at tackling the health and wellbeing of their paramedic staff may find it challenging to navigate such a broad evidence base. Paramedic Services should consider collaborating with others working in the space. Future research should focus on clarifying how effective health and wellbeing programs can be implemented in paramedic workplaces and what leaders need to know to support both implementation and broader evidence-based decision making. Researchers and leaders could partner to ensure the evidence to practice gap is bridged.

5C03: Changes in perceived obstacles to workplace reintegration amongst Alberta Public Safety Personnel: A longitudinal pilot study using the Return-to-Work Obstacles and Self-Efficacy Scale

Jones, Chelsea, PhD[1]**;** Tamkee, Karina, BSc[1]; Brémault-Phillips, Suzette, PhD[1]

[1]University of Alberta

Introduction: Public safety personnel (PSP) are at an elevated risk of experiencing potentially psychologically injurious events (PPIE) and developing operational stress injury (OSI). The potential functional impairments caused by OSI can contribute to challenges with returning to pre-injury operational requirements. PSP face many real and perceived barriers to workplace reintegration after experiencing a PPIE/OSI. A better understanding of how perceived obstacles to return-to-work and self-efficacy impact workplace reintegration may lead to improved services to facilitate safe and sustained return-to-work. The purpose of this longitudinal pilot study is to measure changes in perceived return-to-work obstacles and workplace self-efficacy over time amongst PSP who are in a workplace reintegration program due to a PPIE/OSI.

Methods: PSP (emergency medical staff, municipal police, firefighters, and Royal Canadian Mounted Police) from four PSP organizations in Alberta who had experienced OSI and were engaged in a workplace reintegration program were recruited to participate in this prospective study (N=54). Recruitment and data collection were completed via online surveys scheduled at the initiation of the workplace reintegration program, and at 3, 6, 9, and 12-month time points from 2021 to 2025. The Return-to-Work Obstacles and Self-Efficacy Scale (ROSES) for common mental disorders was used to measure change in the perception of return-to-work obstacles over a 12-month period in 10 dimensions. Descriptive and non-parametric repeated-measures statistics were analyzed.

Results: Mean baseline scores were noted to be in the "general problematic range," with job demands and cognitive difficulties scoring as the most prominent return-to-work obstacles. A statistically significant decrease in the perception of obstacles was noted over the 12-months in 6 of 10 dimensions including those related to medication difficulties (Z=16.817, p=0.002), relations with co-workers (Z=15.556, p=0.004), work/life balance (Z=11.977, p=0.018), fear of relapse (Z=24.047, p=0.001), cognitive difficulties (Z=18.366, p=0.001), job demands (Z=16.023, p=0.003), and the overall score (Z=17.910, p=0.001). The latter three dimensions are significant predictors of return-to-work. Changes in work-related self-efficacy were not statistically significant.

Conclusion: An improved understanding of the perceived obstacles impacting the workplace reintegration of PSP is integral to ensuring that effective treatment and support can be tailored to PSP to enable the best possible outcomes. Further research on this topic may assist PSP organizations, healthcare providers, researchers, and workers compensation organizations with providing better support for PSP returning to operational duties.

Poster Presentation

P119: Experiences in recovery, treatment, and return to work following an acute cardiac event among firefighters: a descriptive thematic analysis of firefighter experiences

Stretton, Sara, PhD (Cand)[1]; **MacDermid, Joy, PhD[1];** Attalla, Joline, PhD (Cand)[1]; MacPhee, Renee, PhD[2]; Walton, David, PhD[1]

[1]University of Western Ontario; [2]Wilfred Laurier University

Introduction: Heart disease is the leading cause of death and disability worldwide and includes any disease affecting the heart or blood vessels. Stress has been widely cited as a potential factor in the development of heart disease and acute cardiac events. Firefighters are hypothesized to have an incremental risk of developing heart disease and experiencing an acute cardiac event due to the high mental and physical demands of the job. There is limited literature on treatment, recovery, and how to successfully return to this high-cardiac risk work environment. This study explored the recovery, treatment, and return-to-work (RTW) process for acute cardiac events among firefighters, with a specific focus on psychological stress and mental health.

Methods: Using Moustakas's transcendental approach to phenomenology, we recruited 8 firefighters who had an acute cardiac event during their career. Firefighters participated in a semi-structured interview that explored their experience during treatment, recovery, and RTW. Data was analyzed in a two-reviewer process using thematic analysis.

Results: Analysis revealed four major themes: (1) there is a lack of consideration of what it means to be a firefighter during treatment and recovery; (2) mental health difficulties are overlooked and a major barrier to recovery and RTW; (3) mental and physical illness stigma within the fire organization impedes a successful recovery and RTW; and (4) social support is critical to a successful recovery and RTW.

Conclusion: The results of this study highlighted a pressing need for formalized fire-specific treatment, recovery, and return-to-work processes to ensure a successful return.

SERVING MEMBERS

HEALTH POLICY

Podium Presentations

2B05: From Research to Action: A Participatory Engagement Initiative to Improve Culture Change in the Canadian Armed Forces/Department of National Defence

Silins, Stacey, PhD[1]; Born, Jennifer, MSc[1]

[1]Department of National Defence

Brief Description: Participatory research methods are innovative processes that encourage researchers, participants, and relevant stakeholders to work together to effectively address a social issue. Acknowledging the transformative potential of these methods, this presentation will showcase an initiative to implement participatory methods within the Canadian Armed Forces (CAF)/Department of National Defence (DND), through a study aimed at learning from the experiences of Defence Representatives (DRs) involved in the CAF's *Restorative Engagement (RE) Program* to address sexual misconduct. RE programs leverage trauma-informed practice and experiential learning for the purpose of building "common cause" for addressing complex organizational challenges. During the program, DRs engage with Persons with Lived Experience (PWLE) to learn about the impacts of sexual misconduct, and then reflect, as a cohort, on what is needed to improve culture in the CAF/DND. DRs subsequently identify opportunities to address issues at the individual, collective, and systemic levels – thus becoming principal agents for culture change.

The *DR Cohort study* will follow DRs for one year, to assess the impacts of the program on attitudes and approaches to leadership with regards to sexual misconduct and culture change more broadly. The study will also explore the successes and challenges that participants encountered as they applied what they learned in their work environments. As a first step, researchers established two research partnership groups to collectively guide, inform, and learn from the DR Cohort Study, and to meaningfully apply research findings in their own work in the area of sexual misconduct and culture change.

Patient Population: Researchers engaged a number of individuals linked to the RE program (i.e., RE managers; DR alumni; PWLE), as well as policy, training, and program representatives from relevant DND/CAF organizations including Chief Professional Conduct and Culture and the Sexual Misconduct Resources and Support Centre.

Results: Over the past year, these groups (*DR Program Alumni and Partners in Research to Action*) have participated in collaborative meetings to establish study priorities and set feasible goals for their own contributions. Researchers have supported these collaborations by providing workshops to familiarize the groups with the RE program and to teach them about the research methodologies that will be used in this study.

Conclusion: These partnership groups will provide input during data analysis, reflect collectively on study findings, and identify knowledge translation opportunities for programs and policy, thereby maximizing their impact within the organization. Details of these activities, and the emerging benefits and challenges of this novel initiative, will be discussed.

5A02: Fostering team cultures that support high performance and well-being: Lessons learned from specialized military teams.

Shields, Duncan, PhD[1]; McKenna, Brian[2]

[1]University of British Columbia; [2]Atlas Institute for Veterans and Families

Introduction: The historical emphasis in military enculturation on the suppression of particular responses such as fatigue, fear or pain, underscores the adaptive and functional nature of these norms in preparing personnel for dangerous conditions. Others have speculated however that such expectations of military culture may contribute to a heightened health related stigma associated with military personnel, compared to civilian populations (For example, Frank, Zamorski and Colman, 2018). The very qualities that are highly valued and which may aid in the performance of tasks, may inadvertently isolate military personnel during times of distress and create barriers to peer support and care.

Specialized teams within the military offer an important opportunity to examine practices that support both high performance, team cohesion, recovery and resilience. These teams tend to have explicitly designed "nimble" learning cultures in which tradition is weighed against innovation in service of mission, and therefore afford an opportunity to examine emerging and best practices in team performance and well-being.

Methods: In this qualitative study, we conducted semi-structured interviews with 20 former members of specialized military units, to understand, in their own words, the culture and context in which resiliency, well-being, team cohesion and high-performance requirements were negotiated and maintained. Interviews

with members of specialized small units such as Navy divers, Airforce SAR Techs and Infantry Special Operations, and Australian Commandos provided an opportunity to research wellness practices of individuals and groups that are positioned at the top of the status hierarchy of the military, and that are therefore influential on the culture as a whole. The design and goals of the project were informed by an advisory group of former military members who provided strategic advice and assisted in participant recruitment. Participants interviews were analyzed using a grounded theory and narrative analysis approach.

Results: The interviews and identified themes point to distinct team attributes and interpersonal traits and practices that support team performance, high team cohesion and the provision of excellent recovery environments, both post mission, and in many cases post career. Team members interviewed described high performance teams that were intensely cohesive, despite high levels of diversity and the routine presence on significant interpersonal conflict that required members to engage in proactive and effective resolution between themselves.

Conclusion: This research has important implications for designing organizational cultures that support high performance and mission accomplishment but that also provide the conditions that allow for excellent recovery and resilience of personnel after the mission.

Poster Presentation

P134: Occupational Risk of Skin Cancer in Military Personnel: A Narrative Review

Demir, Anita, BHSc[1, 2]; Sanchez, Otto, MD, PhD[1]

[1]University of Ontario Institute of Technology; [2]Canadian Armed Forces

Introduction: Skin cancer is a significant occupational health concern for military personnel due to frequent exposure to ultraviolet radiation during outdoor training, operations, and deployments. This narrative review investigates whether military personnel, including active-duty members and veterans, experience higher rates of skin cancer compared to civilians, and how these risks vary across military trades and occupations. Understanding these patterns is crucial for developing evidence-based prevention strategies and raising awareness within military settings.

Methods: A narrative literature review was conducted using peer-reviewed articles and military health reports sourced from PubMed. The search included keywords such as “cancer,” “neoplasm,” “military,” and “army,” and focused on studies published up until January 2025. The review analyzed 11 studies, including retrospective cohort studies, case reports, nested case-control studies, and systematic reviews, which assessed skin cancer incidence, exposure factors, and preventive interventions among military personnel. Findings were synthesized to focus on melanoma and non-melanoma skin cancers and the impact of military-specific exposures.

Expected Results: The review demonstrates that military personnel face a significantly higher risk of skin cancer compared to civilians, especially in roles involving extensive sun exposure or outdoor activity. This risk is particularly high for those in aviation-related positions, such as fixed-wing pilots and aircrew, due to prolonged exposure to UV radiation and cosmic ionizing radiation. Military personnel deployed to regions like the Middle East, where UV radiation is intense, face even greater risks. Additionally, studies consistently show higher melanoma rates among military personnel, with the highest risk observed in Caucasian men, older service members, and those in aviation and special operations. Preventive strategies, including sun safety education, protective gear, and regular skin screenings, are effective in promoting early detection and raising awareness. However, their inconsistent implementation across military branches limits their effectiveness.

Conclusion: Military service is associated with an increased risk of skin cancer, particularly for those in occupations with high sun exposure. While preventive interventions exist, inconsistent application across different military units reduces their impact. Additionally, the studies reviewed were international, and further research is needed on the Canadian military. This review emphasizes the need for standardized, occupation-specific policies for sun protection and early detection, providing a foundation for future initiatives aimed at reducing preventable skin cancer in military populations.

HEALTH SERVICES

Podium Presentations

3B04: Abortion Access in the United Kingdom Armed Forces: stigma, barriers and learning through challenge.

Guest, Ruth, MSc[1]; Kinkaid, Victoria, MSc[1]; **Willman, Anthony, MSc[1];** King, Kate, MD[1]

[1]Academic Department of Military General Practice

Introduction: Abortion is a common pregnancy outcome; in the United Kingdom (UK) 1 in 3 women will have an abortion by the age of 45. Despite women making up 11.9% of the UK Armed Forces, anecdotal voices from

patient groups and clinicians highlight their gender-specific needs not being addressed by the UKAF. There is a worldwide absence of literature and policy on abortion-care in the Armed Forces, including rates and experiences. This survey addresses this lack of data on abortion experiences in UK serving women to ensure the UK Armed Forces is providing the best possible care for them. This presentation will also consider the barriers to conducting research in a stigmatised subject and share the authors learning points from this experience.

Methods: A REDCap survey was circulated amongst UK servicewomen via email and social media networks, and snowball distribution was utilised to widen participation. Quantitative data was used for descriptive statistics and qualitative data was analysed iteratively by the authors with regular meetings to agree on themes.

Results: 427 servicewomen responded: 124 (29%) declared they previously had an abortion, with 102 (23.9%) being in service. 12 (11.8%) of these had required this healthcare whilst on deployment. Four key themes emerged; 'Trust in information holders', 'Influences, barriers and access', 'systemic lack of awareness', and 'life in the military'. The results were used, alongside stakeholder involvement, to design infographics and clinical 'Best Practice Guidelines' to raise awareness of and education around abortion challenges in the UK Armed Forces.

Conclusion: This is the first study to collect data on UK Servicewomen's experience around abortion-care, and highlights a complex interplay of factors which may influence abortion-care designs. Stigma and judgement were pervasive threads running through all themes, negatively impacting UKAF women. Evidence-based policies and information on abortion are recommended for both service-people and healthcare professionals to facilitate access to abortion and begin to de-stigmatise it in the AF. The authors will share the results of the rapid recommendations including policy change and education along with discussing the barriers to disseminating the information as a result of ingrained stigmatisation of abortion.

5B04: Overview and Future of Resuscitation Sciences in the Canadian Armed Forces

Singh, Kanwal, PhD[1]; Beckett, Andrew, MD[2]; Rhind, Shawn, PhD[1]

[1]Defence Research and Development Canada; [2]University of Toronto

Brief Description: Lessons from every kinetic conflict and retrospective civilian trauma analysis have consistently demonstrated hemorrhage remains the leading cause of preventable death. While recent advances in blood-based resuscitation and hemorrhage control have saved lives, too many are still lost. This trauma research program takes an ambitious, multifaceted, multi-year, approach by combining leading clinical trials with foundational science to accelerate the use of prehospital blood products, pioneer new therapies, and shape evidence-based transfusion practices. The program aims to not only advance trauma care in the Canadian Armed Forces, but to help transform the entire Canadian civilian trauma system for the future.

Patient Population: Canadian Armed Forces and Canadian civilian trauma system.

Results:

1. **Clinical trials**
    1. Study of Whole Blood in Frontline Trauma (SWiFT) Canada. Timeline: End late 2025; ~50 patients, 2 units whole blood (1L) vs 2 units RBCs (500mL) + 2 units plasma (500mL). Pilot feasibility and efficacy study understanding the benefits of administering prehospital whole blood.
    2. SWiFT Canada 2.0 – Pan-Canada study. Timeline: 2026-2029. Preliminary results support prehospital whole blood use. Statistically-powered; 2 units whole blood (1L) vs 2 units RBCs (500mL) + 2 units dried plasma (500mL).
2. **Basic Sciences/Translational Research**
    1. R&D of domestic dried plasma by Canadian Blood Services using Canadian donors. Provide safety and clinical data for Health Canada approval. Timeline: Ongoing; 5+ years.
    2. R&D of novel therapeutics for hemorrhagic shock, conversion to universal blood types, and extended blood products stability. Timeline: ongoing; 5+ years.
3. **Evidence-based Policies, Transfusion Practices and Training**
    1. Blood planning and logistics: 8 units of whole blood equivalent/casualty and stockpiling of dried plasma. Timeline: On-going.

2. Integration of broader prehospital blood practices among conventional forces, including dried plasma, whole blood, and walking blood bank. Timeline: Ongoing; 3-year.

3. Development of evidence-based training programs for blood transfusion across CAF and civilian paramedic services. Timeline: Ongoing; 3-year.

4. **Dedicated Trauma Research Institute**

    1. Establishing a CAF-led research centre bringing together military and academic expertise. Timeline: 5-10-year.

Conclusion: In times of war, advancements in military trauma care have consistently driven innovations in civilian medicine. In times of peace, the military relies on the civilian trauma system to sustain progress and translate new findings back into the operational context. In this spirit of continuous innovation, we present an overview of our current research and future vision for trauma care – anchored by a singular priority: to reduce preventable deaths from hemorrhage, both on the battlefield and across Canada.

Poster Presentations

P133: Feasibility of AI-Assisted Point-of-Care Lung Ultrasound During Aeromedical Evacuation: A Pilot Study

Côté, Melissa, MSc[1]; Tran, Khoa, MSc[2]; Arntfield, Robert, MD[1]

[1]Western University; [2]Carleton University

Introduction: Point-of-care ultrasound (POCUS) could be transformative in military medevac operations, where rapid identification of torso injury informs triage and potentially life saving interventions. Current use of POCUS in medevac environments is limited by the physical environment and the need for skilled operators trained to interpret findings. Artificial intelligence (AI) has the potential to make POCUS accessible in challenging, resource-limited settings by automating ultrasound interpretation. This preliminary study evaluates the feasibility of AI-automated lung sliding detection for pneumothorax in high-vibration environments, evaluating its application in medevac trauma care.

Methods: Two expert sonographers obtained three-second lung ultrasound clips with a Butterfly IQ+ probe from two healthy subjects in two scenarios: a controlled hospital environment and in-flight on a fixed-wing aircraft. Clips were obtained in four anterior and anterolateral lung zones while subjects were upright. An AI trained pleural line detector identified regions for lung sliding analysis, and a lung sliding classification model produced prediction scores for the presence or absence of lung sliding. Scores were compared between environments using a paired t-test.

Results: No statistically significant difference in lung sliding confidence scores was found between control clips (n=15, mean=91.7%, SD=6.6%) and in-flight clips (n=15, mean=88.0%, SD=10.2%) (t=0.060, p=0.953). The AI model demonstrated high confidence in detecting lung sliding across both control and in-flight settings, with consistent performance between the two environments.

Conclusion: These preliminary findings support the feasibility of AI-interpreted lung ultrasound in high-vibration environments typical of medevac scenarios. Given that torso trauma is a common battlefield injury requiring urgent exclusion of pneumothorax, this technology has the potential to equip medics with limited ultrasound training to make rapid, confident diagnoses—even in-flight. This study offers proof-of-concept for the use of AI-assisted POCUS in military evacuation settings. The AI's reliable performance under vibration strengthens its role in enhancing battlefield trauma care and improving outcomes for injured warfighters. By enabling expert-level diagnostics without reliance on highly trained personnel, AI interpretation may also support more informed and timely clinical decision-making. Further research is needed to assess how vibration affects interpretation in confirmed cases of pneumothorax or absent lung sliding.

P135: Point-of-Care Ultrasound Use in the Canadian Armed Forces: Current Practices, Barriers, and Opportunities for Integration

Dion, Pierre-Marc, MD[1,2]; Coleby, Jill, MD[1,3]; Richer, Dominic, MD[1]; Alie, Tristan, MD[1,4]; Cross, Charles, MD[1]; Young, Jody-Lynn, MD[1,4,5]

[1]Canadian Armed Forces; [2]McGill University; [3]Dalhousie University; [4]Hôpital Montfort; [5]University of Ottawa

Introduction: Point-of-care ultrasound (POCUS) is a valuable clinical tool that enhances diagnostic accuracy and procedural guidance across various medical conditions. It is particularly useful in military settings, where other imaging modalities may be unavailable due to operational and environmental constraints. While POCUS is used by various healthcare providers and settings, its integration within the Canadian Armed Forces (CAF) healthcare system remains unclear. This study examines POCUS utilization in the CAF, identifies barriers to adoption, and assesses training and

resource requirements for broader implementation.

Methods: A cross-sectional survey was conducted between September 6 and November 24, 2024, involving CAF clinicians, including Physicians (CCFP/CCFP(EM) Medical Officers, RCPSC Medical Specialist Officers), Physician Assistants (PAs), and Nurse Practitioners (NPs). The survey assessed the frequency of POCUS use, clinical applications, barriers, and perceived training and resource needs. Results were summarized descriptively.

Results: A total of 112 clinicians (41% response rate) participated in the survey. Respondents included 61% (n = 68) CCFP/CCFP(EM) Medical Officers, 17% (n = 19) Medical Specialists, 16% (n = 18) PAs, and 6% (n = 7) NPs. Regarding POCUS access, 59% (n = 66) had access to a device, with 52% (n = 33) using it in operational settings and 48% (n = 30) in garrison. POCUS was used in the Emergency Department (86%, n = 50) and prehospital settings (72%, n = 42), with primary applications in trauma (95%, n = 55), lung assessments (72%, n = 42), and basic cardiac evaluations (76%, n = 44). POCUS was performed more than once per day among 36% (n = 21), and 29% (n = 17) used it a few times a week. In terms of training, 73% (n = 57) received POCUS education, primarily through formal training (67%, n = 52) or on-the-job learning (42%, n = 33). Barriers included lack of access to machines (58%, n = 61) and insufficient training (41%, n = 44). Respondents emphasized the need for increased funding for POCUS devices (86%, n = 92) and more on-site training (64%, n = 68).

Conclusion: This study identifies barriers to POCUS adoption in the CAF, including limitations in training, equipment availability, and the absence of standardized guidelines. Addressing these through targeted training, improved access to equipment, and the development of protocols could enhance POCUS integration into CAF health services. Further research is needed to assess the impact of these interventions on adoption and effectiveness in military health services.

P138: Enhancing Canadian Forces Health Services Trauma Readiness and Care with a Data-Driven Military Trauma System: A Narrative Review

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Introduction: The Canadian Forces Health Services (CFHS) excelled in trauma care during Afghanistan operations. However, evolving global threats necessitate changes to the CFHS doctrine and tactics, highlighting the need for a whole-of-systems approach to trauma care. A narrative review was conducted to identify how incorporating a military trauma system founded on data-driven performance improvement will prepare the CFHS to deliver optimal deployed trauma care in the future operational environment.

Methods: This narrative review searched PubMed and Google Scholar using the keywords "trauma system," "military," and "performance improvement." Twenty relevant English articles were included. Findings were categorized into benefits, components, and development of trauma systems. Recommendations for the CFHS were aligned with the 2024 Government of Canada defense policy and Canadian Forces Health Services modernization strategy.

Results: The literature revealed four key benefits of a data-driven military trauma system (a) optimized resource allocation; (b) enhanced clinical decision-making; (c) streamlined processes; and (d) facilitation of a continuous learning system. These advantages collectively can optimize trauma care delivery and readiness in military operations, but the effectiveness of a military trauma system depends on leadership investment and commitment. Implementing strategies across the strategic, operational and tactical levels of operations will help the CFHS optimize its healthcare capability and achieve its mission to provide agile, responsive and resilient evidenced-based care anywhere, anytime.

Conclusion: This review demonstrates that a data-driven military trauma system can enhance trauma readiness and improve clinical outcomes within the CFHS amid evolving global threats.

P142: "Inconveniencing the institution": An interpretive exploration of pregnancy experiences of Royal Canadian Navy service members

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Introduction: While pregnancy universally reshapes identity and self-perception, its duality of physical transformation and social expectation takes on heightened complexity in the regimented, hierarchical, and masculinized culture of the Canadian Armed Forces (CAF). The duality of pregnancy, of simultaneously being oneself and accommodating another, takes on an additional layer of complexity for those employed in high-stakes, male-dominated profes-

sions like the military. For CAF service members in the Royal Canadian Navy (RCN), the unique demands of operational readiness, industrial workplaces, and organizational hierarchies intersect with the deeply personal and physical realities of pregnancy, creating a set of challenges and experiences that are underexplored.

Methods: This study aimed to understand the subjective experiences of RCN service members who experienced pregnancy. In-depth, semi-structured interviews were conducted with ten participants. Participants were asked open-ended questions which allowed them to reflect on their pregnancies and interactions with the Canadian Forces Health Services Group (CFHS), their chain of command, and other institutional structures. All interviews were audio recorded, transcribed, and de-identified.

The transcripts were analyzed using qualitative methods informed by the epistemological and technical processes of Interpretative Phenomenological Analysis (IPA). As a methodology, IPA is phenomenological, hermeneutic, and idiographic, making it ideally suited for exploring how individuals make sense of significant life experiences. This approach allowed for an in-depth interpretation of how participants understood and navigated their pregnancies within the unique cultural and operational framework of the RCN.

Results: The findings of this study highlight several key group experiential themes (GETs). Three GETs will be discussed: 1) shaping an internal locus of control, 2) exposure to external locus of control, and 3) identifying as an imposition to the institution. Participants detailed the challenges of balancing professional responsibilities with personal health and well-being, their experiences with institutional policies, CFHS, and the interpersonal dynamics within their chain of command and peers. Many also shared the strategies they used to assert agency within a male-dominated and operationally focused organization.

Conclusion: This research highlights the need for enhanced institutional policies and cultural shifts to better support pregnant service members ensuring greater inclusivity and equity in operational environments. The findings contribute to the broader field of military health services research by offering unique personal narratives to bolster recommendations for supportive workplace environments.

P146: Cost impact of demographic changes in Canadian Armed Forces on cancer screening and overall budget

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[1]Defence Research and Development Canada

Introduction: The Government of Canada directed the Canadian Armed Forces (CAF) to increase female representation within their ranks towards 25%. Consideration has also been given to improving retention, which could include encouraging members to delay retirement. Since average healthcare costs for adults increase with age and are higher for women in several age groups, either of these demographic changes could increase the cost of CAF health services. The CAF Surgeon General asked us to develop methods to estimate this increase for long-term budget planning. For system-level costs, we analyzed claims filed by CAF members for health services provided by third parties and compared results to statistics published by the Canadian Institute for Health Informatics (CIHI). We are also conducting a specific analysis on the impact on cancer screening costs, beginning with breast cancer.

Methods: Using CAF demographic data and claims filed through the Federal Health Claims Process System (FHCPS) from April to September 2023 for services provided that year, we estimated the cost per member for each of twenty demographic groups characterized by sex and age. We then looked at the cost impact of increasing female representation and having more members aged 40–59. For cancer screening, we are using FHCPS data to develop a distribution of charges from third-party providers for the various sub-procedures, combined with incidence estimates for the Canadian population from the Canadian Task Force on Preventative Health Care.

Expected Results: Our preliminary estimate is that increasing female membership to 25% would increase the cost of health claims by about 5.5%. Furthermore, increasing the proportion of members who are 40–59 to 40% (from 30.7%) would result in an increase of about 7.9%, for a compounded increase of 14% when combined with the increase in female representation. Larger percentage changes would be expected for the cost of cancer screening, particularly those strongly correlated with sex assigned at birth.

Conclusion: The cost of health services in the CAF is impacted not only by its total strength, but also by its demographic composition. As such, the cost of health services can be expected to increase as female representation increases and as military members serve for

longer. The demographic effects observed in this study were in qualitative agreement with data published for by CIHI for the Canadian general population. We should also anticipate larger increases in specific procedures impacted by sex and age, such as most cancer screening programs.

P161: Navigating Unfamiliar Waters: Enhancing Medical Readiness for Naval Operations in the Canadian Forces

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Introduction: Canadian Armed Forces (CAF) medical personnel are expected to deliver medical support across diverse operational environments, including army, air force, and naval settings. However, those without a primary naval designation often receive limited maritime-specific training, which may compromise their effectiveness during naval deployments. The demand for environmental interoperability is heightened in the context of CAF-wide personnel shortages, and as identified in consultation with Royal Canadian Navy (RCN) health services leadership, there exists a need to identify and mitigate gaps in readiness among health services personnel to support naval operations. Additionally, this study comes at a pivotal moment with widespread modernization of RCN medical capabilities and evolving scopes of practice across CAF medical trades. Leveraging this timely opportunity, this qualitative study aims to address the identified need by exploring the challenges and opportunities to enhance medical environmental capability, specifically in the maritime setting. The protocol for this study is complete and data collection will soon be underway.

Methods: This is a qualitative study involving semi-structured interviews with military health services medical personnel with an occupation including, but not limited to: medical officer, nursing officer, physician assistant, medical technician/paramedic, and medical assistant/combat medic. Participants must have current or prior involvement in a maritime exercise, tasking, or operation. We will be interviewing personnel both within and outside the CAF, such as those from allied nations, to capture diverse perspectives. Interviewees will be recruited through various methods, including: targeted invitation, chain of command dissemination, and snowball sampling. Data will be collected according to a predetermined interview guide and data will be analyzed through inductive thematic analysis.

Expected Results: We aim to delineate the specific competencies required for effective medical support in maritime operational settings, identify deficiencies in current capability, and uncover barriers to the optimal deployment of health services personnel in naval environments. The study will also seek to explore actionable opportunities to address these limitations and enhance overall medical readiness.

Conclusion: By investigating factors that limit the effective deployment of health services personnel in maritime operations, this study seeks to contribute to increasing operational readiness and improvement of health services training, policy, and planning. These findings will be particularly relevant as the CAF modernizes its medical capabilities and adapts to a dynamic operational landscape. Upon completion of data analysis, results will be disseminated through publications and briefings. These will include actionable recommendations to Canadian Forces Health Services leadership to mitigate deficiencies and strengthen maritime medical capability.

PRIMARILY MENTAL HEALTH AND WELL-BEING

Podium Presentations

2B01: A Literature Review on the Experiences of 2SLGBTQIA+ Service Members and Veterans Impacted by Military Sexual Trauma

Biskupski-Mujanovic, Sandra, PhD[1]; Fox, Morgan, BA[1]; Orchard-Young, Shannon, MA[1]; Tam-Seto, Linna, PhD[1]

[1]University of Toronto

Introduction: Military Sexual Trauma (MST) has been well documented, as has discrimination against members of the Two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, and asexual (2SLGBTQIA+) community during the LGBT Purge and Don't Ask, Don't Tell, and the legacy that it has left behind. Despite acknowledging that 2SLGBTQIA+ individuals experience higher rates of sexualized or discriminatory behaviours than heterosexual members, there has not been sufficient attention paid to understanding how their experiences are different in order to address, resolve, and eliminate MST faced by 2SLGBTQIA+ servicemembers and Veterans, therefore we ask: What is known from existing scholarly literature about the experiences of MST by 2SLGBTQIA+ military members and Veterans?

Methods: A scoping review was completed using the framework developed by Arksey and O'Malley (2005), where we searched concepts related to sexual orientation, gender identity, MST, and military service. Data-

bases were searched including PubMed and CINAHL with additional searches on Google Scholar, to include literature from Five Eyes nations that were published between 2010-2024.

Results: A total of 28 articles were included in the review. Most articles were quantitative in nature (n=17), followed by review papers (n=8), and qualitative sociology papers (n=3). Articles were retrieved from 22 different journals, with most in journals focused on health, including trauma, psychology, and psychiatry (n=22). We analysed data from a social ecological lens to understand the multiple levels of influence on MST experiences and the interconnectedness across them. Three themes emerged: 2SLGBTQIA+ service members and veterans face heightened risk and impact of MST; their experiences are shaped by gendered military norms, discrimination, and homophobia; and there is a pressing need for culturally competent resources, support, and services.

Conclusion: It has been well document that the risk of MST is heightened for 2SLGBTQIA+ servicemembers and Veterans resulting in a host of negative health and well-being outcomes, yet less is known about how their challenges are different from their heterosexual, cis-gender counterparts. The purpose of the literature review was to identify how their experiences are different to better inform policy, supports, and services. Important conclusions were made about how societal and systemic bias, prejudice, and stigma affect 2SLGBTQIA+ servicemembers and Veterans that experienced MST. This review found that there is a lack of supportive and culturally competent resources, supports, and services to address this issue. Approaching this problem from a social ecological lens provides opportunities for policy intervention on various levels.

2B03: A literature review on recruitment challenges for research with hard-to-reach populations: 2SLGBTQIA+ servicemembers who experienced Military Sexual Trauma

Biskupski-Mujanovic, Sandra, PhD[1]; Tam-Seto, Linna, PhD[1]

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Introduction: Participant recruitment is foundational to research and failure to recruit participants can result in increased costs and barriers for timely completion of a research project. Further, participant recruitment can be challenging if the community one is trying to connect with might be difficult to define or hard to reach. 2SLGBTQIA+ servicemembers and veterans can be considered hard to reach given their social locations in the CAF, stemming from historical and continued discrimination. Likewise, servicemembers and veterans that experienced military sexual trauma (MST) may also be hard to reach given the sensitive nature of the topic and the struggles victims/survivors have endured when experiencing MST, disclosing it, and seeking justice.

Methods: A literature review was conducted to summarize existing studies, highlight key concepts, methods, and challenges for the recruitment of marginalized populations with a small representation such as 2SLGBTQIA+ servicemembers and Veterans. The literature search was conducted in several databases (Google Scholar, Scopus, Web of Science) using keywords informed by the research team's recent challenges with recruitment. Only peer-reviewed articles that engaged with recruitment of 2SLGBTQIA+ people or hard-to-reach populations were included.

Results: The review summarizes the unique recruitment challenges for 2SLGBTQIA+ servicemembers and veterans. The review engages with personal reflections based on the authors' experiences with recruitment throughout. In this review and reflection, recruitment challenges were understood from a social ecological lens where multiple levels were considered, as well as the interconnectedness across them. Five dominant challenges were identified, including 1. Labelling the population and subject matter terminology, 2. Confidentiality, 3. Civil-military gap, 4. Distrust of the research process, and 5. Increased stigma in the current political climate.

Conclusion: It is well documented that historically marginalized communities such as 2SLGBTQIA+ servicemembers and Veterans are at higher risk of MST. As such, tailored and culturally appropriate interventions are needed to address the unique MST experiences of this community. Yet there is a dearth of information on this population, and we struggled to attract the number of participants we expected. By reflecting on our choices and experiences of recruitment, we conducted a literature review to better understand the nature of the barriers we faced. We concluded that some research design choices aimed at inclusivity, may have inadvertently been limiting. Importantly, increased stigma and discrimination towards 2SLGBTQIA+ people in society more broadly presents risks that are difficult to mitigate yet highlight the importance of pursuing this research agenda.

2E04: "I wasn't alone": Exploring relational dynamics among public safety service users undergoing inpatient mental health treatment in Canada

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Introduction: Public safety professionals, first responders, and active or retired members of the Canadian Armed Forces often navigate high-stress and demanding work environments where they can be exposed to abhorrent materials and possibly traumatic events. The consequences can include the development of mental health disorders, including posttraumatic stress disorder (PTSD) and substance use disorders (SUD). However, limited recent research explores the mental health challenges faced by public safety personnel seeking treatment for PTSD and SUD, especially from the perspectives of those who are accessing inpatient treatment.

Methods: The current study, based on semi-structured interviews conducted with 30 public safety professional service users who received inpatient treatment at a recovery centre in Ontario, Canada, fills a void in the literature by qualitatively exploring their relational experiences during their treatment. Each participant underwent treatment between April 2024 and August 2024 and were approached by a member of the research team (not directly involved in their clinical care) about the study during the final two weeks of their treatment. Participant responses were transcribed verbatim and analyzed using qualitative content analysis to identify themes and patterns within the data.

Results: We explore how the roles and relationships (e.g., group cohesion) between peers and fellow service users developed during their recovery as well as their broader perspectives on their mental health care and treatment. Specifically, we found cohort cohesion and population exclusivity underpinned treatment experiences for service users, alongside three subthemes, including willingness to be open, ability to trust, and validation.

Conclusion: We discuss the implications of our findings for the clinical mental health treatment of public safety professionals, emphasizing how building relationships with fellow service users may be integral to successful treatment outcomes for this population of study.

3A01: Examining Canadian Armed Forces mental health clinicians' perceptions of key facilitators and barriers to using measurement-based care

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Introduction: Measurement-based care (MBC) is an evidence-based practice that systematically collects patient-reported process and outcome measures to track treatment progress. The data are used to identify when patients are not progressing as expected. In this way, MBC supports clinicians in refining mental health treatment as needed. Although MBC can improve patient outcomes when implemented consistently, uptake in military/veteran healthcare systems has been less than optimal. The objective of this study was to understand clinician perspectives regarding MBC to identify key barriers/facilitators to successful implementation.

Methods: Clinicians working within the Canadian Armed Forces (CAF) mental health care system participated in one-on-one virtual interviews. Interview questions were based on the updated Consolidated Framework for Implementation Research (CFIR) and aimed to explore barriers/facilitators to the implementation of MBC within the CAF at the level of individuals, clinics, the organization, the innovation, and the implementation process. An iterative process that used a combination of inductive (data-driven) and deductive (theory-driven) approaches was used to analyze the interview data.

Results: A total of 43 interviews (33 English and 10 French) were analyzed for common themes. At the individual level, while clinicians were generally favorable in their attitudes towards MBC and saw its utility, they nevertheless expressed concerns that MBC could undermine clinician autonomy, and negatively impact clinical care for patients if implemented without sufficient flexibility. Clinicians identified limitations with the current MBC information-technology platforms/systems, which in their view hinder the integration of MBC into everyday clinical workflows. Furthermore, clinicians expressed the view that they were able to track the progress of their patients even without a formal MBC approach, suggesting there may be relatively low motivation for using MBC. Clinic- and organizational-level themes that emerged included the perception that headquarters did not sufficiently account for patient characteristics, including the proportion of patients presenting with a "crisis", or clinician time commitment and workload in MBC implementation plans and policy. Clinicians reported limited MBC training and experi-

ence prior to entering the CAF health care system and they suggested the need for a more sustained and clinically-focused MBC training within the CAF.

Conclusion: Our results highlight a range of barriers and facilitators to implementing MBC within the CAF, pointing to possible implementation strategies to address them in the future, such as more intensive/sustained training, more in-depth consultations with clinic staff, and more flexibility and clinician discretion in its application. Additional recommendations based on implementation science are also discussed.

3A02: The impact of occupational stress on mental health outcomes in the Canadian Armed Forces: a sex-stratified study

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Introduction: The increased prevalence of mental health conditions among military members and Veterans in Canada relative to the Canadian general population has been well-documented. However, female Canadian Armed Forces (CAF) members may have different occupational exposures and stressors than their male counterparts (e.g., lower likelihood of deployment-related trauma, accidents, and some types of violent events than male CAF members but greater likelihood of experiencing military sexual trauma) that could influence their mental health outcomes and patterns of mental health service use. Using the 2019 Canadian Armed Forces Health Survey (CAFHS), the objectives of the proposed research are to 1) describe and contrast the sex-specific occupational experiences and sources of work stress among CAF members; and 2) investigate the influence of occupational stress on a) mental health outcomes and b) past-year mental healthcare access among CAF members overall, and by sex.

Methods: This study uses data from the 2019 CAFHS, a stratified random sample of Regular and Reserve Force CAF members that was conducted between January and June, 2019. Our work will be guided by an advisory group of female and gender-diverse CAF members. Using an abbreviated version of the Job Content Questionnaire (JCQ), we will describe sources of work stress among CAF members overall and stratified by sex. We will create a summary measure of occupational stress using JCQ scores, which will be used as the primary exposure variable for our modeling. We will conduct adjusted logistic regression models to estimate the association between occupational stress levels and the odds of 1) mood disorders, 2) anxiety disorders, and 3) posttraumatic stress disorder among CAF members overall and stratified by sex. We will also conduct adjusted negative binomial regression models to estimate the association between occupational stress levels and rates of past 12-month mental health service use among CAF members overall and stratified by sex. The presence of effect measure modification by sex will be evaluated using a statistical interaction product term between the occupational stress and sex in the full models.

Expected Results: This work is ongoing. All data has been collected, and we anticipate that final analyses will be completed by July, 2025.

Conclusion: Overall and sex-stratified results will inform our conclusions, which will be used to inform relevant healthcare planning and service delivery.

3A03: Characterizing Physiological Stress in Response to Haptic Stimulation During a Simulated Military Checkpoint Scenario

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Introduction: Enhancing mental health and resilience within the Canadian Armed Forces (CAF) is a priority, with programs like the Road to Mental Readiness (R2MR) focusing on improving performance and well-being through education and exercises. Recent feedback from surveyed CAF members indicates a desire for more realistic stress exposure training (SET). While virtual reality (VR) training has primarily relied on visual engagement, this study explores the potential of haptic stimulation to augment presence. Using a serious game checkpoint scenario, this research investigates how haptic feedback and surround sound can enhance immersion. Preliminary verification trials on civilian participants suggest that haptic stimulation may increase the realism of VR training, while influencing physiological (e.g., heart rate (HR)) responses. The goal of the current study is to further evaluate the physiological and psychological impact of haptic stimulation on CAF personnel during an operationally relevant task.

Methods: In partnership with Ontario Tech University, Defence Research Development Canada developed a serious game synced with haptic stimulation and surround audio, co-created with CAF Military Police.

Twenty primary reserve members of the Canadian Army are being recruited to participate. After completing preliminary questionnaires and baseline HR measurements, participants received pre-training in vehicle checkpoints and room clearing, followed by mission orders and a VR training module. In a repeated measures design, two scenarios (counterbalanced) were completed with and without haptic stimulation (Haptic vs. Control). Performance within key events (e.g., vehicle search) was assessed using enabling checks (EC) from CAF doctrine, with participant qualitative feedback and stress ratings provided through an After-Action Review (AAR).

Expected Results: Preliminary analyses from ten CAF participants indicate an increase in HR and subjective stress ratings ($p<0.01$) during combat related events (i.e., enemy engagement) relative to passive events (i.e., transport). Further, subjective stress ratings were also higher in the Haptic condition relative to the Control condition ($p<0.05$). During AAR, most participants reported that wearing the haptic garment induced a heightened sense of immersion, with some noting increased stress. The pre-training resources effectively prepared participants to a baseline score above 60% on their ECs. Ongoing data collection and analyses of additional physiological metrics (e.g., heart rate variability) are expected to yield further insights into the impact of haptic stimulation during simulated checkpoint operations.

Conclusion: This study investigates how haptic immersion influences physiological responses to stress in an operational task. Preliminary findings suggest that haptic wearables can enhance immersion and subjective stress, supporting its potential utility during the application simulated SET.

3A04: Tailoring PTSD Pharmacotherapy: Real-World Prescribing Practices, Challenges, and Insights from Canadian Operational Stress Injury (OSI) Clinics

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Introduction: Canadian Operational Stress Injury (OSI) clinics play a vital role in the treatment of military-related Post-Traumatic Stress Disorder (PTSD), a condition often marked by chronicity, comorbidities, and treatment resistance. This study explores pharmacological prescribing practices among psychiatrists working in OSI clinics, focusing on both clinician- and patient-level factors influencing treatment decisions.

Methods: As part of a multi-year research collaborative (Mind PTSD Collaborative), we launched a two-part survey which was administered across multiple OSI clinics. The first part focused on clinician demographics, PTSD assessment methods, and key factors guiding prescribing decisions. The second part captured patient demographics, PTSD history, comorbid conditions, and medication use.

Results: Data from 20 clinicians and 438 patients across Quebec, Ontario, Manitoba, and Alberta were analyzed. Clinicians emphasized prior positive experience with medications, tolerability, avoidance of adverse effects, and comorbid physical conditions as key prescribing considerations. However, assessment practices varied significantly, revealing a gap in standardized clinical practice.

Patients had a mean age of 47.71 years (SD = 9.03), were predominantly male (88.4%), and had been living with PTSD for an average of 8.15 years. The majority presented with at least one mental (78.3%) and physical (87.7%) comorbidity. Over 62% had been on pharmacotherapy for five or more years, and 60.3% had concurrent psychotherapy. Most patients (86.8%) were prescribed at least one antidepressant, and the average number of PTSD-related medications per patient was 3.04 (SD = 1.65), with variability across provinces.

Conclusion: Prescribing practices in OSI clinics reflect both alignment with clinical guidelines and divergence in areas where guidelines fall short in addressing real-world complexity. While antidepressant use remains foundational, the heterogeneity in assessment methods and patterns of multiple medication use highlights a pressing need for standardized evaluation protocols and more individualized treatment strategies. Importantly, the findings underscore the necessity of accounting for the chronic and multifaceted nature of military-related PTSD—where shared principles exist, but treatment must also reflect the unique contexts of trauma exposure, comorbidity, and resistance.

3D04: The impact of relocations on financial well-being among Regular Force members of the Canadian Armed Forces

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Introduction: Relocations are frequently cited by military personnel and their families as being among the top challenges of military life. Against the backdrop of a housing crisis and rising costs of living, processes like finding affordable quality housing or, in the case

of spouses, securing new employment, which are inherent to relocation, may have significant financial implications for members. Using data from a Canadian Armed Forces-wide survey, the aim of the current study was to explore the impact of relocations on financial stability among Regular Force personnel.

Methods: Data were collected using the Policies and Programs Your Say Survey (YSS), which was administered via e-mail between November 2023 and January 2024 to a stratified random sample of Regular Force and Primary Reserve members. A total of 2,077 Regular Force members (for a response rate of 38%) and 1,079 Primary Reserve members (for a response rate of 27%) provided usable data, resulting in an overall response rate of 33%. For the purposes of this study, descriptive analyses were conducted on Regular Force members' responses to questions in sections of the survey that focused on financial satisfaction and the impact of postings.

Results: About one-half of Regular Force members (49%) who had geographically relocated reported that their overall financial situation is worse off compared to their last posting, compared to 26% who felt that their financial situation is better off. Additional analyses pointed to little variation by gender, age, rank, family status, and household income. Top reasons why members felt they were financially worse off after their relocation included higher cost of living (82%), an increased mortgage (32%), and not being eligible to receive certain benefits (32%). Loss of employment of one's spouse and an increase in children's expenses were also cited (16% and 15%, respectively).

Conclusion: Taken together, results demonstrate how geographic relocations have the potential to markedly impact the financial situation of Regular Force members. Indeed, concern with cost of living as well as the impact of relocations on spousal employment and housing expenses remains a challenge, and can place significant strain on the health and well-being of military families. An important limitation of the current study is that information on members' geographic location before and after their last posting was not available for analysis. Collecting this additional information in future cycles of the YSS would be valuable to shed light onto key regional variations regarding the impacts of relocations on financial well-being.

5A04: Making the invisible visible: Understanding Canadian military culture through communities of practice

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Introduction: The Canadian military's ideal culture is defined as achieving mutual respect, dignity, and inclusion amongst its members. Beginning in basic training, recruits are inculcated into this culture through formal learning and informal socialization. However, it is important to recognize that a disconnect may exist between espoused intent and the individual experience of military members. For some, this disconnect might be slight enough to go unnoticed. For others, the disconnect reflects systemic issues related to sexual misconduct, discrimination, and exclusionary practices. A recent attempt at revising institutional culture added inclusion as a military value. The Canadian military describes inclusion as a call to hateful and discriminatory behaviour and conduct. Communities of Practice (CoP) refers to a group of people who share a common interest and come together to learn and improve their practice. As a learning theory, it offers tools for thinking about how informal knowledge is gained, shared, and integrated into shared group beliefs.

Methods: Using case study methodology, my doctoral work positions the military value of inclusion as something that is taught and learned within a CoP and contributes to one's military identity. To make informal learning and the invisible elements of military culture visible, I will conduct thematic analysis using: (1) documents related to training; (2) imagery of visible artefacts; (3) individual interviews with military instructors; and (4) focus groups with military recruits. Data collection will occur Spring/Summer 2025.

Expected Results: Previous studies lead me to believe participants may identify tension between personal and professional identities and I expect my results to show the same. As a military value, inclusion is therefore seen as essential to creating a sense of cohesion amongst military members. Yet, we do not know how the military value of inclusion, as espoused, contributes to the development of a military identity, as lived. To understand this tension, we must consider both the visible and invisible aspects of culture that recruits learn, and experienced members must teach during basic training.

Conclusion: This research aims to understand how the military value of inclusion contributes to military culture and individual identity as an espoused idea by considering how it is taught and learned during basic training. This represents an opportunity to identify how informal learning supports or subverts the military value of inclusion as espoused by the CAF since the release of its revised ethos.

5D03: Gender Differences in Experiences and Impacts of Military Service Among Dual Service Couples

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Introduction: The important role that spouses play in supporting military members is widely recognized and a variety of programs and services are offered to help them manage the demands and impacts of military life. Previous research has highlighted the unique experiences of dual service couples where both spouses are serving in the military, but the experiences of dual service couples in the Canadian Armed Forces specifically have not yet been examined in depth, nor have gender differences been explored. The current study addresses this gap in the literature.

Methods: The 2022 Quality of Life (QoL) survey was administered electronically to a stratified sample of spouses of Regular Force members. The current study focused on responses from 1,326 spouses in dual service couples. Approximately half of these respondents were women and half were men. Over 90% were Regular Force members themselves, and they were posted to the same geographic location as their spouse. More than half were currently serving as non-commissioned members. To ensure that results were representative of the population, survey weights were applied to all analyses. Population estimates were calculated to describe spouse responses regarding their experiences (e.g., postings) and the impacts of military service (e.g., on career, family, relationships, work-life balance), and gender differences were examined.

Results: Although most spouses reported satisfaction with various aspects of their military lifestyle, a considerable minority of both men and women expressed dissatisfaction with their work-life balance and indicated that managing both operational demands and military responsibilities has had an impact on their family most to all of the time. Women were significantly more likely to express dissatisfaction with the impact of their family responsibilities on their work and career goals. Men were significantly more likely to report dissatisfaction with their time away from their family and the frequency of those absences. Significantly higher proportions of men reported being operationally deployed in the last ten years, being geographically posted three or more times in the last ten years, and reporting that financial issues was one of the top issues that negatively impacted their family.

Conclusion: These results show the tension that military spouses experience in meeting the demands of their family and those of the CAF. Significant gender differences highlighted the family-related barriers that women may face, such as the reduced ability to take on career advancing opportunities like deployments. These results can inform efforts to support CAF members and their families.

Poster Presentations

P126: Evolving Practice: An Iterative Adaptation of Cognitive Processing Therapy for Racial Trauma Contexts

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[1]University of Manitoba

Program/Intervention Description: In January 2025, the Canadian Armed Forces reached a class action settlement to acknowledge discrimination and harassment that its members endured based on their "race, ethnicity, colour, and/ or Indigeneity." Current research indicates that racialized individuals are more likely to develop PTSD at higher rates and experience poorer clinical outcomes (Sibrava et al., 2019, Williams et al., 2018). Individuals who experience racial traumas could demonstrate similar symptoms and outcome trajectories to those who experience criterion-A stressors (Williams, 2019). Experiences of racial harassment and discrimination also contribute to poorer health outcomes (Stopforth et al., 2022). A report on the Systematic Racism in the CAF (Knight, 2021) indicated reduced feelings of inclusion, lower feelings of occupational achievement and therefore lower life satisfaction.

While the terms of the settlement included restorative engagement processes and measures to improve the culture of the CAF, there are currently limited treatment resources to provide support to those who have experienced racial traumas alongside operational traumas. Cognitive Processing Therapy (CPT) is an evidence-based treatment protocol that has demonstrable effectiveness in treatment of trauma in veterans (Holder et al., 2020, Jericho et al., 2022) and has been culturally adapted to provide better treatment outcomes (Pearson et al., 2019). However, there is no current research on the effectiveness of CPT for treatment of racial traumas in a military population.

Evaluation Methods: Williams and colleagues (2022) suggested the following components as being important for treatment of racial traumas: Validation of the experiences, Psychoeducation on the connection between racism and mental health, Self-compassion, Self-care, Mindfulness, Recounting and Processing of

the Traumatic Experience, Cognitive Restructuring, Skills Building in Confronting Racism, Posttraumatic Growth and Meaning Making, and Social Action. Using the FRAME model (Stirman et al., 2019) which is a model for adaptation of interventions we propose adapting the CPT protocol to include these components to address the experiences of veterans, active CAF members, and RCMP members and veterans who have experienced racial traumas.

Results: The CPT adaptation is currently in progress with the goal of developing a CPT group for individuals who self-identify as experiencing racial trauma. Qualitative feedback will be solicited and outcomes will be tracked using measures such as the OQ-45, the PCL-5, the PHQ-9, and the Racial Trauma Scale. This will be an iterative process informed by the feedback of the participants.

Conclusion: Findings are expected to contribute to the knowledge of treatment of racial traumas to improve psychological and occupational functioning.

P128: Military Education Recognition across Canadian Military, Veteran and Family Connected Campus Consortium Member Postsecondary Institutions: Preliminary Environmental Scan Results

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1Portage College; 2University of Alberta; 3Canadian Military, Veteran and Family Connected Campus Consortium

Introduction: Recognition of the high-quality training and experiences of Canadian Armed Forces (CAF) members within post-secondary institutions (PSIs) is a key focus of partners and members of the Canadian Military, Veteran and Family Connected Campus Consortium (CMVF3C). Launched to facilitate (1) a coordinated approach to post-secondary educational supports for military members (regular, reservists, rangers), veterans and their families, and (2) collaboration among key stakeholders (military members, veterans, post-secondary institutions (colleges, polytechnics and universities), Canadian Armed Forces, Veterans Affairs Canada (VAC), and partners), CMVF3C members are invested in supporting academic success and career advancement. Acknowledgement of military training and credentials through Military Credential Recognition would reduce redundancy in training and enhance academic and career pathways.

Methods: An environmental scan was conducted of 'front-facing' Information available from a list of CMVF3C member PSIs.

Results: 29 CMVF3C member PSIs offered a summary overview for the environmental scan. Based on the review, institution's Military Education Recognition were grouped into four categories: Not Applicable (n=11/29; does not speak to Military Credential Recognition or Prior Learning Assessment and Recognition (PLAR); Possible (n=8/29; Identifies Military PLAR pathways, required application and consultation with PSI); Some (n=7/29; PLAR listed for one or a grouping of programs and/or CAF training); Robust (n=3/29; PLAR listed for a large variety of programs and/or CAF training). Common trends emerged regarding military equivalencies: 1. Reference was often made either to military occupational classifications, trade qualifications, or a 'named' trade qualification; 2. Some PSIs list courses either with or separate from MOCs and trade qualifications. Leadership courses are most commonly listed; 3. Language courses are often identified separately; 4. Minimal reference was made to work hours and their alignment to credits.

Conclusion: Of those CMVF3C member PSIs reviewed, 62% speak to a Military PLAR process, and 34% have front-facing information regarding the Military PLAR or equivalency pathways that speak to how training is recognized. A common working framework and evaluation of work experience may be beneficial. A national equivalency framework to assess and recognize CAF members' existing skills, expertise, and credentials would support individualized learning pathways, opening doors to new career opportunities while reducing systemic barriers to education and employment. Ultimately, Military Education Recognition across PSIs would provide greater alignment between the post-secondary and military training systems, supporting military-connected learners with efficient access to academic programs as recognized in provincial systems.

P131: Masculinity Contest Culture in the military: A conditional process model of the effects on well-being and retention

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Introduction: Historically masculine workplaces, such as the military, can perpetuate cultural norms that require their members to feel like they need to continuously prove their manhood. This includes exerting dominance over others and avoiding anything that may be perceived as feminine. This masculinity contest culture (MCC) has been associated with a variety

of negative individual and organizational outcomes, including reduced perceptions of psychological safety and increased work-life conflict. However, there is limited research exploring the protective factors that may buffer against the negative effects of these cultural norms. This study examined the moderating effect of a fair supervisor on the relationship between MCC and two outcomes (i.e., burnout and turnover intentions), through two mediators (i.e., team psychological safety [TPS] and work-life conflict [WLC]).

Methods: This study is based on secondary analyses of the 2024 Your Say Matters: Defence Team Well-Being Survey. The sample for this study consisted of men (n = 1,105) and women (n = 401) from the Canadian Armed Forces (CAF) Regular Force. Structural equation models (SEM) were conducted for men and women to assess the direct and indirect effects of MCC on CAF members' experiences of burnout and turnover intentions through perceptions of TPS and WLC, conditional on perceptions of their supervisor's interpersonal justice.

Expected Results: MCC had an indirect effect on CAF members' experiences of burnout and turnover intentions through both TPS and WLC regardless of perceptions of supervisor interpersonal justice. However, the extent of this mediation effect differed between CAF men and women. In addition, perceptions of interpersonal justice interacted with the negative effect of MCC on TPS among CAF men but not CAF women.

Conclusion: The current findings highlight the negative effects of MCC through reduced perceptions of TPS and increased levels of WLC. However, the differences observed between CAF men and women suggest that the role of supervisor interpersonal justice and the negative effects of MCC are not equal between genders. These findings may inform CAF strategies and policies intended to foster a healthier organizational culture and improve retention.

P132: Constructing an Understanding of Racial Trauma in the Canadian Armed Forces: A literature review

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Brief Description: Racial trauma is a significant yet under-researched phenomenon within the research community and the Canadian Armed Forces (CAF). While systemic and personal racism has been extensively documented in civilian contexts, the unique stressors and long-term mental health consequences of racial trauma within a military setting remain largely unexplored. My literature review synthesizes existing research on racial trauma, highlighting the psychological, physiological, and intergenerational effects of racism. This review underscores the gaps in research, the limitations of current mental health interventions, and the need for institutional recognition of racial trauma within the CAF, as well as how Canadian Forces Health Services can effectively address it.

Patient Population: The review examines racialized personnel within the CAF, particularly Black, Indigenous, and People of Colour (BIPOC), who experience the impacts of both overt and covert racism during their military service.

Results: My literature review highlights several key themes in racial trauma research:

1. Psychological and physiological impacts – Continuous exposure to microaggressions, discrimination, and systemic exclusion results in stress-related disorders, including PTSD-like symptoms, depression, and anxiety.

2. Institutional and structural barriers – Military institutions (US and Canada) frequently deny or minimize racial trauma, hindering access to mental health support and policy reform.

3. Gaps in research and diagnosis – Unlike combat and sexual trauma, racial trauma is not formally acknowledged as a legitimate diagnosis in the DSM-5 and within military mental health frameworks, which restricts access to specialized interventions.

4. Intergenerational Effects – Prolonged exposure to racism can result in epigenetic changes affecting the mental health of descendants and contributing to long-term generational stress within racialized military families.

Conclusion: My literature review highlights the urgent need for systemic research on racial trauma within the CAF and advocates for policy reforms that recognize and address its impact. The findings indicate that acknowledging racial trauma as a legitimate stressor, similar to combat or sexual trauma, is crucial for developing effective mental health interventions. By addressing this research gap, my work aims to inform military mental health policies and contribute to the long-overdue recognition of racial trauma within the CAF.

P136: Examining the Feasibility and Acceptability of an Online Cognitive Processing Therapy Group for Women Affected by Military Sexual Trauma

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Introduction: Sexual assault, harassment, and gender-based discrimination among military personnel is a notable problem within many defence forces around the world, including Canada's armed forces. Exposure to non-consensual sexual or sexualized activity may lead to long-term adverse psychosocial, physical, and mental health outcomes, including military sexual trauma (MST). The cascade of deleterious impacts on those affected by MST is well-established. Yet, there is a notable gap in the Canadian military and veteran health research on the efficacy, suitability, and acceptability of trauma-focused psychotherapies (TFPs) for MST. Current TFPS have only modest effect sizes and dropout rates remain high, particularly among women with MST. These findings underscore the need to understand barriers to treatment retention and to optimize current TFPs to improve clinical outcomes for Canadian servicewomen and veterans with MST. Through an intersectionality lens, this mixed methods study aims to examine the feasibility and acceptability of an online Cognitive Processing Therapy (CPT) group adapted for female-identifying Canadian Armed Forces (CAF) members and veterans with lived experience of MST.

Methods: Female-identifying CAF members and veterans were recruited through convenience and purposive sampling between January 2024 to January 2025. Data was collected through demographic surveys, standardized self-reported quantitative measures, and open-text questionnaires. Clinicians and administrators involved in the design and delivery of the intervention are currently being recruited through purposive and snowball sampling, and data will be collected through demographic surveys and semi-structured interviews. Interview responses will be audio recorded, transcribed, and analyzed using reflexive thematic analysis. Descriptive statistics (i.e. mean values and frequencies) will be calculated for each survey variable and used to summarize demographic data. A mixed methods design was used as multiple perspectives offer a deeper, more contextualized understanding of the feasibility and acceptability of this novel intervention.

Expected Results: This study is in progress. Results will provide greater insight into the suitability and acceptability of this TFP for women with lived experience of MST. Expected themes include MST treatment barriers and facilitators, intersections of identity and TFPs, and recommendations for future intervention research.

Conclusion: This project has the potential to advance our understanding of disparities in the design and delivery of current TFPs for women affected by MST, and may provide insight into the unique mental health needs of Canadian servicewomen and veterans whose lives have been impacted by sexual assault, harassment, and gender-based discrimination in the military workplace.

P139: Data fusion and feature extraction of multi-modal time-series data using the Kendra framework: Application in stress resilience training and moral ethical decision-making

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Introduction: There is increasing interest in collecting multi-modal data (e.g., subjective ratings, physiology) in the study of performance and mental health of military population. The integration of these data streams provides a holistic view and is crucial in understanding multi-faceted experience such as trauma and stress. However, the fusion and processing of these various data streams into higher-order features can be complex and computationally expensive. Faced with these challenges, we have over the years, developed a Python framework called Kendra streamlining the aggregation of time-resolved multi-modal data and the efficient extraction and storage of features from those. In this work, we report on the use of this tool in two projects - stress resilience training (SRT) and moral ethical-decision-making (MEDM) relevance to military population.

Methods: In the context of two projects which involved capturing participant's physiological measures, e.g., heart rate variability (HRV), facial expressions and emotions when immersed in virtual reality (VR), the National Research Council Canada (NRC) used Kendra to extract meaningful features from multi-modal time-series data. The various data streams were given specific 'tags' based on conditions (e.g., baseline, task, recovery), which allowed fusing different types of data. Corresponding to each identified 'tag', several features (e.g., average HRV) were extracted from the time-series data using two different window sliding approaches - *consecutive windows* and *overlapping windows*

approach. In *consecutive windows* approach, data was divided into non-overlapping intervals whereas the *overlapping windows* approach allowed segments to share portions of data. For both approaches, HRV was computed by using different time intervals (15s, 30s, 60s, 120s) and offsets (1s, 5s) between consecutive windows.

Expected Results: For the SRT project with 12 participants, both window approaches yielded distinct patterns of HRV corresponding to different types of stressors. Specifically, the *consecutive windows* approach captured transient changes in HRV when switching between conditions (e.g., baseline to task) and thus found to be more suited to the experimental paradigm. There was strong overlap in patterns of HRV during study conditions for selected time intervals. Ongoing analyses include building machine-learning models for predicting subjective ratings of stress using the HRV features extracted from the different time intervals.

Conclusion: This work highlights the usefulness of the Kendra framework for facilitating the management and processing of multi-modal time-series data. Unlike the traditional method of computing HRV, a flexible approach with the capability of capturing transient changes in HRV was shown, with potential applications in the context of SRT and MEDM.

P141: She'll be right…but let's make sure: Designing targeted care for serving Female Australian Defence Force women at risk of or diagnosed with PTSD—key considerations for an effective, gender-responsive model

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[1]Central Queensland University

Introduction: Female Australian Defence Force (ADF) veterans remain underserved by current mental health care models, which are predominantly male-oriented and fail to address the unique risk factors and service experiences of women. This research identified a critical gap in targeted, gender-responsive care for ADF women at risk of, or diagnosed with, PTSD. Addressing this issue is essential to improving mental health outcomes and long-term reintegration for female personnel.

Methods: This study employed a mixed-methods design incorporating a systematic literature and policy review, qualitative content analysis, and comparative evaluation. The population of interest included current and former female ADF members at risk of, or diagnosed with, PTSD. Due to ethical restrictions, primary data collection involving direct participant recruitment was not permitted; instead, data were sourced from open-access lived experience transcripts submitted to the Royal Commission into Defence and Veteran Suicide (RCDVS).

Sampling was purposive, focusing on literature and policy documents relevant to gender-specific PTSD care, as well as established mental health models from Five Eyes (FVEY) countries. The main outcome measures included identification of systemic and structural barriers to care, evaluation of the effectiveness of cognitive behavioural therapy (CBT) and cognitive processing therapy (CPT), and the feasibility of implementing gender-responsive interventions within ADF and DVA systems.

Results: This study revealed several critical findings regarding the mental health care of female ADF veterans. A major outcome was the identification of persistent structural and cultural barriers limiting access to PTSD care. Female veterans consistently reported disengagement from services due to stigma, lack of trust, and the dominance of male-oriented clinical environments. This theme was reflected in the analysis of lived experience transcripts submitted to the RCDVS.

The review of existing treatment models found broad support for CBT and CPT as effective PTSD interventions in general veteran populations. However, few of these programs were specifically designed for or evaluated in female cohorts, revealing a gender gap in both service design and delivery.

Conclusion: The findings have direct implications for policy reform, including the need to embed gender-specific PTSD screening, increase access to female clinicians, and integrate trauma-informed, hybrid (in-person and telehealth) delivery models. For practitioners, the study highlights the importance of culturally safe and gender-sensitive approaches. For researchers, it underscores the urgent need for more empirical studies focused on female veteran mental health, particularly in the Australian context.

P149: Méta-analyse de l´observance aux thérapies cognitives-comportementales visant le TSPT chez les militaires.

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Introduction: Les militaires sont susceptibles de développer un TSPT. Les thérapies cognitives-comportementales (TCC) sont efficaces pour traiter le

TSPT chez les militaires, mais ils semblent retirer moins de bénéfices thérapeutiques que les civils. L'observance aux traitements représente le degré de concordance entre le comportement de l'usager et son plan de traitement, ou le niveau d'interaction avec le contenu du traitement. L'observance aux TCC pourrait expliquer le manque de réponse aux traitements du TSPT chez les militaires, car une meilleure observance aux traitements est associée à une réduction de symptômes supérieure. Or, le taux d'abandon de traitement des militaires est supérieur aux civils. Toutefois, des limites dans la littérature rendent difficile de savoir si les conclusions tirées sur les différences de genre, l'observance et l'efficacité des TCC s'appliquent à l'ensemble des populations militaires, ou varie plutôt selon leur niveau d'activité (en service ou vétéran).

Méthodes: Cette méta-analyse vise à évaluer quantitativement la littérature sur les militaires ayant un TSPT et comporte 3 objectifs : 1) évaluer si l'observance aux TCC varie selon le niveau d'activité; 2) examiner la relation entre l'observance aux TCC et l'évolution des symptômes de TSPT; 3) identifier les variables influençant l'observance aux TCC. Les études devront: 1) évaluer une TCC chez des militaires; 2) rapporter des données quantitatives de symptômes de TSPT pré-post; 3) rapporter des données quantitatives d'observance. La littérature grise sera incluse. Les recommandations du PRISMA seront suivies. Le g de Hedges décrira les différences de moyennes normalisées. Le biais de publication, l›hétérogénéité, et la qualité des études seront évalués. Des analyses de méta-régression identifieront les variables influençant l›observance.

Résultats attendus: Il est attendu que l'observance aux TCC varie selon le niveau d'activité, soit entre les militaires en service et les vétérans. Une corrélation positive est attendue entre l'observance aux TCC et la réduction des symptômes de TSPT. Il est attendu que le genre, la modalité de traitement, et le type d'événement traumatique influencent l'observance aux TCC.

Conclusion: Ce projet permet de clarifier les influences potentielles à l'origine de la réponse limitée aux traitements du TSPT chez les militaires. L'étude permet également d'avancer l'état des connaissances sur l'observance aux traitements psychologiques et son association avec les gains thérapeutiques, notamment dans le traitement du TSPT chez les militaires. Une meilleure compréhension des mécanismes de traitement du TSPT pourrait contribuer à développer des interventions plus efficaces auprès des militaires et améliorer leur bien-être.

P151: Advances in Moral Injury Research (2020–2025): Synthesis of Conceptual, Clinical, and Preventative Progress

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Brief Description: Over the past five years, research on moral injury (MI) has expanded rapidly, propelled by growing national and international recognition of its profound impact on military personnel, healthcare workers, first responders, other high-risk groups, and their families. This overview synthesizes recent progress in four key domains: conceptualization, measurement, treatment, and prevention, while highlighting ongoing challenges in reconciling inconsistent findings and charting future directions.

Patient Population: This synthesis is focuses on the patient population consisting of individuals impacted by moral injury (e.g., military personnel, veterans, healthcare workers, first responders, other high-risk groups, and their families).

Results: Moral injury is now widely understood as a multidimensional phenomenon arising from events that violate core moral values, whether through action, inaction, or betrayal by trusted individuals or institutions. While early research focused on combat and military contexts, contemporary definitions have broadened to include occupational betrayal, systemic injustice, and ethical dilemmas faced by civilians, underscoring the broader societal relevance of MI. Measurement has advanced considerably following decades of poorly operationalized definitions and inconsistent tools. Recently, a handful of better-validated scales have provided clinicians and researchers with reliable instruments to assess MI and track treatment outcomes. These advances increase confidence in case identification and monitoring, though work remains to harmonize constructs across studies and disentangle MI from overlapping conditions like PTSD and depression. Treatment research has accelerated, with promising evidence for targeted interventions. Approaches such as Adaptive Disclosure and Building Spiritual Strength are being evaluated for their ability to address the social, cognitive, emotional, and spiritual dimensions of MI, though further research is needed to establish their effectiveness across diverse populations and settings. A summary of the progress of treatment approaches will be discussed. There is emerging interest in exploring prevention methods;

focusing on upstream strategies, such as ethical leadership and organizational policies designed to reduce exposure to morally injurious situations, is a promising direction.

Conclusion: Despite progress, the field continues to grapple with inconsistent terminology, underpowered studies, and a lack of longitudinal data. Key questions remain regarding the influence of contextual and cultural factors, the mechanisms underlying effective treatments, and the scalability of prevention models. This overview underscores the relevance of recent advances in MI research for clinical care and population health. It highlights the need for continued cross-disciplinary collaboration to translate emerging insights into actionable solutions for mitigating the impact of moral injury.

P153: Understanding gender identity development among transgender and gender diverse military members and Veterans

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Introduction: In 2019, the Canadian Armed Forces (CAF) implemented policies for rights to define ones' own gender identity. These policies include respecting privacy of transgender and gender diverse (TGD) members, addressing discriminatory conduct, and providing access to gender affirming care. To date, no research has been conducted on how TGD military members and Veterans came to understand their gender identity, and how social and institutional support impacted their transitions. The purpose of the present study was to synthesize the experiences of gender identity development among TGD military members and Veterans, in order to understand the role of social support, and the impact on mental health.

Methods: The present study used a phenomenological approach to describe and synthesize the experiences of TGD military members and Veterans. Twelve military member/Veteran participants were interviewed using a semi-structure protocol and interviews were transcribed. One- to two-page narratives were created from interview transcripts using participants' own words to form coherent stories. These narratives were then analyzed to identify shared themes and points of divergence.

Results: From the review of narratives, the following themes were identified: early experiences with gender non-conformity, identification with others who are TGD, understanding one's own gender identity, social support when coming out, navigating social roles and the military, and living authentically. Social support and mental health intersected across the gender identity development themes. Participants discussed how they had to advocate for themselves during their transition and the ways in which stigma towards TGD individuals exists in the military.

Conclusion: The results of the present study found intersections between gender identity development themes and mental health symptoms and provide vital information for the CAF, family members, and health professionals in how to best support those who identify as TGD. Although policies currently exist in the CAF to protect the rights of TGD members, the present study suggests that disparities are persistent, and more can be done to support individuals during their medical and/or social transition.

P154: Military Dads - Program Evaluation Framework

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[1]Military Family Resource Centre

Program/Intervention Description: Military Dads is a 10-week group program supporting CAF members who identify as fathers in balancing and strengthening their relationships. Despite widespread recognition that parental engagement improves outcomes for children and families, resources tailored for fathers generally – and those serving, specifically – are limited and underutilized within the current CAF support structure. Military Dads fills this gap, offering peer support within an environment normalizing parenting within military contexts through MFRC and Military Chaplaincy Co-Facilitation. Activities support psychosocial learning related to processing experiences, child-centred parenting, and interpersonal connections. Individual sessions (3) explore fathers' unique scenarios, working on tangible goals to promote quality family life, thereby enhancing professional capability. A Contact worker connects with parenting partners and the child(ren)'s mother(s) to inform them of program objectives and offer information regarding additional resources for military connected families. Prospective Co-Facilitators and Contact workers must complete the Military Dads Training – funded by CFMWS and scheduled for September 2025 – with the expectation that many regions will launch their inaugural Military Dads groups in early 2026.

Evaluation Methods: Military Dads was developed

and piloted over 4 years with over sixty participants in Trenton and Kingston, ON and including a Francophone group in Saint-Jean, QC. The Program Evaluation Framework utilizes a layered evaluation approach aligned with national MFSVP standards. Participants complete brief questionnaires before program commencement, in week 10, and again at 6, 12, and 24 months. These track changes in self-awareness, child-centred parenting, co-parenting relationships, and operational readiness. Parenting partners complete short questionnaires at weeks 2 and 9 to offer their perspective and meet additional support needs. Responses are grouped by key outcomes and analyzed for patterns and lasting impact. Findings support ongoing program improvement, shape future expansion, and help guide follow-up supports for fathers after program completion.

Results: Indicators thus far are that Military Dads participants develop their connection and parenting skills including increased comfort in utilizing child-centred fathering. Further, mothers and military connected youth are supported in accessing other resources (ex: mental health supports). Three groups are currently in progress and will add statistically to these results prior to CIMVHR 2025.

Conclusion: When fathers are positively involved in their lives, children thrive – yet there are few evidence-based programs that are father-centric. When men are well supported and have access to resources and knowledge for parenting, their mental health benefits. When military connected families learn and grow, the Canadian Armed Forces is strengthened.

P156: Well-Being in the Canadian Armed Forces: An examination of gender-related differences among military leaders

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[1]Department of National Defence

Introduction: Supporting the health and well-being of members of the Canadian Armed Forces (CAF) is critical for ensuring a resilient and operationally ready military. Leaders hold influential roles that shape organizational climate and directly impact the well-being of their teams (Guérin & Chiasson, 2024; Jensen & Squires, 2024); given this, understanding and supporting their well-being is also vital. While most research on health and well-being in the workplace has focused on subordinates' experiences, relatively few studies have considered the health and well-being of leaders themselves, especially in military contexts. The experiences of leaders may also vary depending on demographic factors such as one's gender, although there has been little research examining the association of leadership responsibilities and well-being separately for men and women. The few studies that have disaggregated findings by gender have identified differences in self-reported aspects of well-being (e.g., burnout, loneliness, work-life conflict) among leaders, with worse effects observed in women than in men. Few studies with military personnel have examined such variables in relation to leadership status and gender.

Methods: This study examined the relationship between supervisory role and indicators of health and well-being using data from the 2024 Your Say Matters Survey, a large survey of Canadian Armed Forces members. The sample included n = 859 men and n = 331 women in the Regular Forces.

Expected Results: Using independent samples t-tests, men and women were compared on eight health and well-being indicators, including five aggregate/mean scores of psychological distress, burnout, resilience, and work-life balance (i.e., work-life conflict and life-work conflict) and three single questionnaire items representing physical health, mental health, and job stress. Compared to men, women reported significantly greater psychological distress, burnout, and job stress, and significantly lower resilience, life-work conflict, and mental health. There were no significant gender-related differences in work-life conflict or physical health.

Conclusion: The implications of these findings, and recommendations for bolstering the health and resilience of leaders, are discussed.

P160: Serving Families, Serving Nations: A Scoping Review on the Experiences of Military-Connected Mothers

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[1]University of Toronto

Introduction: The transition to motherhood is a major life role change (Horne et al., 2005), with many mothers describing it as the central focus or main activity in their daily lives (Avrech Bar et al., 2011). For women in the military - another demanding, all-consuming role - the experience of motherhood may differ from the experience of civilian mothers (MacDermid, Wadsworth & Southwell, 2011). Existing knowledge syntheses have focused on the state of the physical health of military mothers (Iobst et al., 2021; Trego et al., 2021), but motherhood encompasses more than pregnancy and childbirth (Larson, 1999). To date, no synthesis has

examined the broader experiences of motherhood in the military. This topic is important to explore, with implications for recruitment and retention of women service members, the children of mothers who serve, and healthcare providers working with military-connected families. This scoping review examines literature on the experiences of motherhood for women who are serving or have served in the military.

Methods: For this scoping review, a systematic search of OVID MEDLINE, OVID Embase, OVID PsycINFO, CINAHL, and sociological abstracts was conducted to identify articles examining the experience of motherhood for women service members and veterans. Peer-reviewed, English-language articles were included in this study originating from a Five Eyes Nation, a NATO country, or Israel and published between 1987-2025. Articles were analyzed using a combination of deductive and inductive coding. NVivo software was used to support the coding and thematic analysis process.

Expected Results: The initial search identified 469 articles, of which 54 met the inclusion/exclusion criteria. Most studies were conducted in the United States (n=46), with few from other countries (n=2); six did not specify a location. The literature largely focuses on the perinatal period and mothers of young children, with less attention to motherhood throughout the life course. Emerging themes include increased perinatal mental health challenges, disruptions in the mother-child relationship, difficulty balancing military and maternal roles, post-deployment reintegration challenges, and gendered differences in military parenthood.

Conclusion: This scoping review identifies key gaps in the literature, including limited research on military motherhood across the life course. It highlights unique challenges, such as balancing military and parenting roles, mental health concerns, and reintegration after deployment. Findings point to important gaps in research and have implications for healthcare, policy, and support services for military families.

P162: Evaluating R2MR: The Evolution of its Evaluation Strategy and Findings from a Large-Scale Outcome Evaluation

Wood, Valerie, PhD[1]

[1]Department of National Defence

Program/Intervention Description: The Road to Mental Readiness has undergone significant changes in its evaluation efforts since its inception in 2008. Initially, program evaluation efforts were mainly in the form of formative process evaluations. However, recently in collaboration with DGMPRA, R2MR implemented a rigorous monitoring evaluation strategy, including the development of a program theory, where the program's performance on key performance indicators (KPIs) is reported on an annual basis both internally and to the Directorate of Quality and Performance. In addition, we have recently conducted a large-scale outcome evaluation on all available matched pre- and post-training data collected on the KPIs since 2010. Presented here are the findings from this evaluation.

Evaluation Methods: We were able to synthesize/meta analyze matched pre- and post-training data for over 2800 participants from years 2017-2024. Participants were Canadian Armed Forces members who had completed pre- and post-training surveys as part of their R2MR occupation, career, or deployment training. While there were variations in the evaluations and measures used, items were aggregated as necessary and categorized according to our KPIs including perceptions of knowledge, tested knowledge, confidence in detecting mental health issues (in oneself), intentions for seeking help for mental health issues, confidence in supporting others, and stigma.

Results: We found significant pre-post training changes in all KPIs with the exception of stigma which showed the largest variation in scores, and for which scores were relatively low at baseline or pre-training. We also found that the type of training (occupation, career, deployment) moderated some of the pre-post training effects, such that occupation training packages had greater changes in scores relative to basic training and deployment training packages.

Conclusion: There have been significant changes to R2MR's program evaluation efforts since its inception in 2008. Current evaluation efforts are in the form of monitoring and outcome evaluations, with the goal of better understanding and actively managing the program's performance and maximizing its positive impacts, in addition to identifying how it is producing change in KPIs for CAF members. Our recent outcome evaluation indicates that the program is largely successful at contributing to changes in many outcomes for CAF members, but with stigma identified as potentially more resistant to change. In addition, occupation training packages seem to produce the greatest amount of change in KPIs for CAF members.

PRIMARILY PHYSICAL HEALTH AND WELL-BEING

Podium Presentations

1A02: Brain Rehabilitation: Use of a digital solution

Di Battista, Alex, PhD[1, 4]; **Hutchison, Michael, PhD[1, 2, 3];** Rhind, Shawn, PhD[1, 4]; Shiu, Maria, PhD[4]

[1]University of Toronto; [2]David L. MacIntosh Sport Medicine Clinic; [3]Centre for Sport-Related Concussion Research, Innovation, and Knowledge; [4]Defence Research and Development Canada

Introduction: Concussions pose significant challenges, particularly for populations like the Canadian military, where rapid recovery is critical. Evidence supports structured aerobic exercise for concussion recovery, yet traditional equipment limits accessibility. Mobile health (mHealth) apps offer a solution by delivering personalized, evidence-based exercise protocols with minimal equipment, complemented by usability features like instructional videos and monitoring. This study evaluates the feasibility, safety, usability, and clinical utility of a mobile app designed to facilitate concussion rehabilitation.

Methods: A two-week, prospective, single-arm pilot study enrolled adults with physician-diagnosed concussions. Participants used a mobile app delivering a continuous aerobic resistance exercise (CARE) protocol, requiring minimal equipment. Feasibility was assessed via retention, adverse events, and achievement of a target heart rate (HR) of 60%±5% (age-adjusted maximum: 220-age), monitored using an Apple Watch. Usability was evaluated with the mHealth App Usability Questionnaire (MAUQ) and custom questions on exercise flow, voice command clarity, and report usability, rated on a 7-point Likert scale. Symptom changes were tracked pre- and post-exercise.

Expected Results: No adverse events were report among participants. Median HR was 57% (IQR 49%-65%) across sessions, with 60% achieving target HR. MAUQ responses showed 90% positive ratings for ease of use, navigation, and usefulness, with 100% approval for voice clarity and exercise reports. Symptom burden decreased with 94% posterior probability.

Conclusion: The mobile app proved feasible, safe, and user-friendly for delivering concussion rehabilitation exercises, achieving target exercise intensities and reducing symptoms. Its potential to enhance recovery in diverse settings warrants further investigation for broader application, particularly in military contexts.

2A01: Less of the same: Examining the impact of repetitive low-level occupational blast exposure on brain connectivity in early career military operators

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[1]Defence Research and Development Canada

Introduction: Exposure to low-level blast (LLB) is a common occurrence when military operators, such as breachers and snipers, conduct explosive breaches or fire heavy weapons. In military circles, "breacher brain" is a common complaint among members who experience symptoms including headaches, sleep disturbances, and neurocognitive deficits, following repeated LLB exposure. Previous research from our group has found that military operators exhibited enhanced brain connections after an average of 5.5 years of breaching experience. However, it is unclear whether these observed neural changes from chronic LLB exposure are similarly found in operators with less breaching experience, specifically early career breachers and snipers. Thus, we aimed to determine whether neural changes would be exhibited in early career operators. We hypothesized that early career operators would display alterations in brain connectivity.

Methods: Early career Canadian Armed Forces (CAF) operators were recruited for an ongoing longitudinal monitoring study to examine the effects of repetitive LLB exposure. Participants underwent a resting state functional magnetic resonance imaging (rs-fMRI) brain scan after they completed a one-year selection program to become operators. A control group comprised of age- and sex-matched CAF students also underwent a rs-fMRI scan prior to beginning the same selection program. We analyzed the rs-fMRI data using graph theory to study brain network characteristics.

Expected Results: Sixteen early career operators and students were included in the preliminary analysis. Early career operators had 1.8 ± 0.9 years of breaching experience whereas students had 0.06 ± 0.2 years of breaching experience ($t[30]=7.46$, $p < 0.001$). However, no significant differences were observed in the global efficiency (i.e., capacity of information exchange between brain regions) throughout the brain between the early career operators and students ($t[30]=-0.05$, false discovery rate-corrected $p = 0.96$).

Conclusion: Contrary to our hypothesis, these null findings demonstrate that there are no significant alterations in brain connectivity of operators with less than

two years of breaching experience. While this study cannot pinpoint the exact onset of neural changes, the results here suggest that early career operators with less than two years of breaching experience display a brain connectivity profile distinct from their experienced counterparts with 5+ years of breaching experience. These findings further support the notion that the accumulation of LLB exposure over many years can lead to both neural changes and neurological deficits. Thus, the first two years of an early career operator may represent a window of opportunity to preserve neurological health through proactive management and mitigation strategies.

4A01: Mapping the evidence for pelvic floor dysfunction in female military and Veterans

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Introduction: Nearly 47% of females in the general population are suffering from pelvic floor dysfunctions (PFDs) including urinary and faecal incontinence, pelvic organ prolapse (POP) and chronic pelvic pain (CPP). The evidence regarding PFDs among military personnel and Veterans, although limited, is pointing toward a more alarming situation. We have conducted the first scoping review to identify, map, and appraise existing evidence for PFDs in female military personnel and Veterans.

Methods: Following the Joanna Briggs Institute methodology for scoping reviews and was reported in accordance with Preferred Reporting Items for Systematic Reviews and Meta Analyses Extension for Scoping Reviews guidelines. An exhaustive list of terms pertaining to PFDs and military topics was searched from inception to 06-July-2024. Retrieved texts underwent screening by two authors and disagreements went to a third reviewer. Extractions were then consolidated, interpreted, and summarized.

Results: Of the 125 included publications (32% abstracts, 64% peer-reviewed articles, 3% government reports, 1% letter), 94% examined personnel from the United States (US), 3% Australia, 2% Canadian, and 1% UK. Cross-sectional studies accounted for 70% of sources, while only 6% reported on clinical trials and 4% were longitudinal observations. Urinary incontinence (UI) was the most common dysfunction examined (37%) followed by pelvic pain (25%), interstitial cystitis/bladder pain syndrome (IC/BPS) (13%), sexual function (12%), overactive bladder (10%), endometriosis (10%), POP (8%), and lower urinary tract symptoms (5%). The prevalence of PFDs varied considerably (UI 10-57%, overactive bladder 4–35%, CPP 5-67%, POP 1-50%, IC/BPS 1-2%, and sexual dysfunction 8.4-88%) depending on dysfunction type, nation, military service-related factors (e.g., occupation, service element, service time) and method of data collection (e.g., survey, medical records, validated questionnaire). While 8 sources examined treatments in clinical trials, only 2 were original randomised control trials (RCT). One RCT examined mindfulness or healthy lifestyle to treat CPP (mindfulness was found more effective than healthy lifestyle), while the other examined pelvic floor exercises with and without biofeedback to treat UI (both reduced UI symptoms, no differences between groups). The treatments reported in medical files were pharmaceuticals and surgery.

Conclusion: The existing literature indicates PFDs are significantly more prevalent in female military and Veterans compared to the general population. That said, the majority of studies were cross-sectional epidemiological studies and nearly all involved US personnel. Few studies examined treatment, though pelvic floor exercises are suggested to be helpful in treating UI in in female military and Veterans.

4A02: Transforming Women's Wellness in the Canadian Armed Forces: Early Insights on Reach and Program Delivery from the Evaluation of the Prenatal and Postpartum Physical Fitness and Wellness Program

Baskerville, N. Bruce, PhD[1]; Dutil, Caroline, PhD[1]; **Harrison, Geoff W., PhD[1]**

[1]Canadian Forces Morale and Welfare Services

Program/Intervention Description: The Department of National Defence is committed to expanding health services and physical fitness programs to better meet the needs of women and gender-diverse military personnel. Introducing PNP3, a new women's wellness initiative aimed at enhancing the overall wellness and fitness of women in the Canadian Armed Forces (CAF) during the prenatal and postpartum periods. This initiative focuses on physical wellness, aiming to reduce musculoskeletal injuries, prepare women for return to duty, and maintaining functional health as they age. PNP3 has two key

components:

1. **In-Person Prenatal and Postpartum Fitness Programming**: These sessions follow the guidelines of the Canadian Society for Exercise Physiology, ensuring safe and effective workouts.

2. **Education:** This part of the program supports physical health and psychological wellbeing by providing information on nutrition, postpartum care and recovery, sleep habits/hygiene, and mental health.

The focus of this presentation is to provide preliminary findings on program satisfaction, implementation fidelity and delivery to date.

Evaluation Methods: The evaluation of PNP3 employs multiple lines of evidence focusing on the program's relevance, delivery, and outcomes. Data collection methods included monthly program records on year-to-date caseload, intakes conducted, referral source, active participants, exercise kits distributed, and exits. Additionally, a satisfaction survey was made available to participants when exiting the program and to all active participants in November 2024. This survey assessed satisfaction with various program elements, PSP staff, and the likelihood of recommending PNP3. Data were analyzed descriptively using Microsoft Power BI.

Results: PNP3 has engaged 429 participants across Canada, with ongoing efforts to expand its reach. A similar number of prenatal (52%) and postpartum (48%) intakes have been conducted. Program referrals included 30% from Canadian Forces Health Services, 32% word-of-mouth, and 23% from digital media. Active monthly members ranged from 180 to 213. The satisfaction questionnaire received 89 responses, with 98% reporting they would recommend the program to friends and colleagues. Over 90% of participants were either very or extremely satisfied with all program elements, and more than 98% of participants agreed or strongly agreed that PNP3 staff were helpful, knowledgeable, and responsive.

Conclusion: To date, the high level of engagement and overwhelming satisfaction with PNP3 support its potential to positively impact the health and resilience of our military personnel. However, there is a critical need to continue expanding the program's reach to more CAF members, particularly earlier in the prenatal period, to maximize its benefits and support.

4A04: Health-related research involving service women in the UK Armed Forces between 1990 and 2024: A scoping literature review

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[1]Defence Medical Services (UK); [2]Anglia Ruskin University (UK); [3]University of Warwick (UK)

Introduction: Women are serving in increasing numbers across the United Kingdom Armed Forces (UKAF) and, since 2018, have full role parity with men. As female representation grows, health-related research must keep pace to ensure healthcare delivery meets sex-and gender-specific needs. There is concern that existing research involving UK service women does not adequately reflect their needs, and gaps remain in the knowledge base. This study aimed to address this gap by systematically reviewing health-related research involving UKAF service women published between 1990 and 2024.

Methods: This scoping review followed Joanna Briggs Institute guidelines and incorporated an intersectional approach. A systematic search of four bibliographic databases (Ovid Medline, EMBASE, CINAHL and PsycINFO) was conducted capturing 1990 to 2024, using a combination of keywords and medical subject headings. Eligible sources included peer-reviewed articles and grey literature; were published in English; involved actively serving women in the UK Regular and Reserve forces and focused on physical and mental health, well-being, and operational readiness. Findings were synthesised descriptively and with accompanying narrative summaries. Studies were categorised using three frameworks: the six research priorities of the Defence Medical Services (DMS), the life course framework from the Women's Health Strategy for England and the UK Clinical Research Collaboration's Health Research Classification System.

Expected Results: Searches of databases and grey literature identified 1,797 records. After removing duplicates and conducting dual-blind title and abstract screening, 465 articles underwent full-text review. Of these, 135 met the inclusion criteria for data synthesis. This scoping review maps the existing literature on service women in the UKAF outlining study designs, participant demographics and contextual factors. Findings show that most studies used quantitative methods, focused on musculoskeletal conditions and were conducted during basic training and in the Army. Few studies addressed priority areas in the Women's Health Strategy for England. The most common research types were aetiolog-

ical and surveillance studies, with most aligning to the 'Ready and Able' theme of the DMS research priorities. In contrast, few studies addressed 'Combat Casualty Care' or 'Closing the Sophistication Gap'.

Conclusion: These findings provide a comprehensive overview of the scope and depth of health-related research involving service women in the UKAF and categorising studies against established frameworks identified significant gaps in knowledge and areas for future study. Ensuring military healthcare and research is applicable, relevant and effective for this sub-population is not only a medical necessity but also a moral and ethical imperative.

4A05: Sex differences in physical injuries among the Canadian Armed Forces – an analysis of the CAF Injury Surveillance System

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Introduction: Physical injuries among Canadian Armed Forces (CAF) personnel lead to poor health outcomes, increased costs, and reduced operational readiness, making injury prevention a priority. While female personnel are essential to modern defense forces, research on their injury patterns in the CAF remains limited. This analysis compares injury rates between female and male CAF personnel.

Methods: This Injury Surveillance System analysis is based primarily on data from the Canadian Forces Health Information System (CFHIS, the CAF electronic medical records). ICD codes associated with primary care visits were used to categorize injury visits by their nature and body region. Statistics on the 2023 total number of visits and trends in the injury distributions are presented by sex. Chi-square tests of independence are used to assess statistical significance. Inclusion of other factors such as age, military rank, and job type are planned, as will 2024 data when available.

Expected Results: In 2023, about 60,700 injury-related medical visits were captured by the CAF Injury Surveillance System - 48,433 among males, and 12,267 among females. The overall proportion of the population with at least one injury visit was statistically significantly higher among females compared to males (40.8% vs 33.4%, p <.00001).

The "lower back and pelvis" was the most frequently affected body region among visits for both males (13,625) and females (3,067), 28% and 25% of all injuries, respectively. "Pain in area" related visits were by far the most common nature of injury for both males (21,171) and females (5,286), 44% and 43% of all injuries, respectively.

Despite the similar general trends, there were notable differences between males and females for certain injuries. For concussions for example, females were 64% more likely to have at least 1 visit in 2023 (2.3% vs 1.4%, p <.00001). Similarly, females were 50% more likely to have a visit for an ACL or PCL sprain (0.6% vs 0.4%, p <.01).

Conclusion: There are similarities and important differences in injury-related visits across sex in the CAF. Overall, female personnel had a higher proportion of injury-related visits. While general trends in injury were similar, there were significant differences in specific injuries such as concussions and ACL/PCL sprain. Further investigations are needed to understand and act on the factors contributing to sex-specific injury trends, particularly in the context of military roles, physical demands, and training requirements.

5B01: AI Powers Effective Blood Transfusion Triage: Point-of-Care Informed Feature Organization and Multi-Classifier Modelling

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[1]Defence Research and Development Canada; [2]University of Toronto; [3]Sunnybrook Health Sciences Centre; [4]St. Michael's Hospital; [5]Royal Canadian Medical Services

Introduction: Massive hemorrhage is a leading cause of preventable mortality in battlefield and trauma settings. Effective blood transfusion decision-making across various points of care is challenging, often leading to suboptimal outcomes. Artificial intelligence and machine learning (AI/ML) offer a promising solution by improving triage accuracy and optimizing blood resource allocation. This preliminary study presents a framework for organizing clinical features at points of care to identify key predictive features, and using a multi-classifier modelling strategy to develop high-performance ML models. The aim is to establish the foundation for an AI-assisted transfusion triage system that improves both efficiency and patients' outcomes.

Methods: A retrospective dataset from the Ontario Trauma Registry was used, containing 73,117 trauma patients and 604 multimodal clinical features. These

features were categorized into two phases of care: pre-hospital (31 features) and in-hospital (104 features) phases. Two outcome-balanced datasets (each > 3,000 samples) were created for separate phase-specific analyses. A comprehensive data pre-processing strategy was implemented. The CV-rRF-FS-SVM (cross validation with recursive random forest and support vector machine) algorithm was applied using the NMT (Neural ML Tools) toolkit for feature selection. Transfusion status served as the outcome variable. The on-going analysis aims at using a multi-classifier strategy and NMT-selected features, which included six ML classifier algorithms. These prototype classifiers form the basis of selecting the top-performing ML model for further validation and refinement.

Expected Results: In the pre-hospital phase, age group, heart rate at the scene, and the primary injury type were identified as critical predictors. As an initial assessment, the SVM model build with the working datasets with 12 selected features achieved an impressive ROC-AUC of 0.80 on a 20% holdout test set. For the in-hospital analysis, 18 key features, including age group, injury type, and medical complications, were identified. These features collectively yielded an ROC-AUC of 0.89 in the corresponding initial SVM model. The higher performance in the in-hospital model likely reflects greater data availability and clinical details.

Conclusion: This study successfully identified key determinants for blood transfusion triage in both pre-hospital and in-hospital settings. This approach reveals subtle yet clinically meaningful patterns that often elude conventional analytical methods. The use of a multi-classifier strategy is critical in developing high-performance, scalable, and deployable ML models. These findings highlight the transformative potential of AI/ML in revolutionizing transfusion triage practices, significant for enhancing trauma care in both military and civilian settings. Future work will focus on real-world validation and clinical integration into operational practice.

5B02: Enzymatic Conversion of ABO Blood to Universal Donor Type-O: A Scalable Solution for Far-Forward Transfusion

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[1]Avivo Biomedical Inc.; [2]University of British Columbia; [3]University of Toronto

Introduction: In military and emergency medicine, the availability of universal donor blood is essential for rapid transfusion, particularly in far-forward and austere settings where type-matched units are impractical to stock. Avivo Biomedical Inc. ("Avivo") is developing an enzyme-based platform to convert all ABO blood types to universal type-O, eliminating compatibility constraints and enabling simplified logistics. In 2019, a pair of enzymes capable of efficiently removing A-antigens from red blood cells (RBCs) was discovered. These enzymes have since been optimized, scaled, and formulated for extended stability, with preclinical evaluation underway. However, B-antigen conversion has remained a significant challenge, especially in whole blood. This study presents new data on the enzymatic conversion of AB blood to universal type-O using a combination of A- and B-antigen cleaving enzymes, highlighting progress toward a field-deployable, ABO-independent transfusion solution.

Methods: A-antigen cleaving enzymes were heterologously expressed in *E. coli* and purified through multistep chromatography to achieve high purity. Stability-enhancing formulations were developed to extend shelf life under variable storage conditions. A newly engineered B-antigen cleaving enzyme was identified and evaluated alongside A-antigen enzymes for AB to O conversion. RBC antigen removal was assessed via flow cytometry (FACS) using anti-A and anti-B antibodies. Conversion studies were conducted using AB whole blood and blood components treated with both enzymes (25 µg/mL each) at 4, 22, and 37°C for 2 hours in PBS, plasma (40% HCT), and whole blood. Residual antigens were quantified by FACS.

Expected Results: A-antigen enzymes were successfully scaled and validated under transfusion-relevant conditions, supporting readiness for in vivo preclinical testing. The lead B-antigen enzyme exhibited improved efficiency compared to all previously reported candidates. Ongoing engineering efforts aim to refine activity and stability. When combined, the A- and B-antigen enzymes achieved complete removal of both antigens across all tested conditions, including whole blood, demonstrating the robustness and versatility of the approach. Formulated enzymes retained activity under extended storage, supporting potential field deployment.

Conclusion: This work demonstrates the feasibility of full enzymatic ABO conversion to type-O using Avivo's dual-enzyme strategy, marking a critical step toward a universal donor blood product. The platform offers a scalable and logistics-friendly solution to transfusion challenges in combat and emergency medicine. Continued efforts are focused on optimization, production scaling, and regulatory advancement to support clinical translation for military and civilian use.

5B03: Prehospital Whole Blood Transfusion for Hemorrhagic Shock: A Systematic Review

Not for Publication

6A01: Operational fitness is associated with physical activity, nutrition, and sleep

Theriault, Francois, PhD[1]; Clair, Véronic, MD, PhD[2]; Strauss, Barb, MSc[2]; Dubiniecki, Christine, MSc[2]; Smyth, Anna, MSc[1]; Gagnon, Patrick, MSc[2]

[1]Canadian Forces Morale and Welfare Services; [2]Canadian Forces Health Services Group

Introduction: The Canadian Armed Forces (CAF) Physical Performance Strategy calls on Command Teams to promote physical activity, nutrition, and sleep in order to strengthen a culture of operational fitness. However, there is a lack of timely data to quantify the association between health behaviours and fitness levels, and to identify prevalent barriers to healthy living. This limits Command Teams' ability to make informed decisions on health promotion action within their lines.

Methods: We administered a short, voluntary survey to CAF members completing their mandatory operational fitness evaluation. The survey included validated measurement scales for physical activity level, nutrition, and sleep quality. The survey also included a checklist of potential barriers to regular physical activity, healthy eating, and adequate sleep. Survey responses were deterministically linked to participants' fitness scores, dichotomized as high vs low. Cross tabulations and a generalized linear model with logit link function were used to measure the association between behaviour indicators and fitness scores.

Results: Between April 2024 and March 2025, 7,142 Regular Force members completed the voluntary survey during their operational fitness evaluation (6,048 males, 1,094 females). Overall, 65% of survey respondents achieved high scores on their evaluation. The likelihood of high scores increased 1.23-fold (95% CI: 1.17, 1.29) for each 10-point increase in physical activity scores, 1.16-fold (95% CI: 1.09, 1.22) for each vegetable or fruit portion consumed in a typical day, and 1.08-fold (95% CI: 1.03, 1.13) for each 1-point increase in the sleep quality scale. Notable barriers to physical activity included lack of time at home (32% of females vs. 24% of males; p<0.001) and at work (30% of females vs. 24% of males; p<0.001), and discomfort with being active in public (14% of females vs. 8% of males; p<0.001). Notable barriers to healthy eating included cost (18% of females vs. 21% of males; p=0.046) and stress (17% of females vs. 10% of males; p<0.001). Notable barriers to adequate sleep included stress (45% of females vs. 31% of males; p<0.001) and family responsibilities (32% of females vs. 28% of males; p=0.040).

Conclusion: Physical activity, nutrition, and sleep are significantly associated with the operational fitness level of CAF members. Furthermore, there are important and modifiable barriers preventing CAF members from engaging in healthy behaviours. Evidence-informed health promotion initiatives could target these barriers and their underlying causes, in order to enhance operational fitness. These initiatives will need to embrace a GBA+ lens, given observed sex-differences in the distribution of barriers.

6A02: It Takes a Unit: Parallels Between Family and Military Unit Influence on Physical Fitness Performance

Dutil, Caroline, MSc[1]; Theriault, François, PhD[1]; Gagnon, Patrick, MSc[1]

[1]Canadian Forces Morale and Welfare Services

Introduction: In the dynamic environment of the Canadian Armed Forces (CAF), physical fitness is not just a personal goal but a critical operational requirement. The family unit is a well-established influence on children and adolescents' physical activity behaviours, offering a stable environment where norms and expectations shape long-term habits. In contrast, CAF members are often required to change unit as part of routine postings, exposing them to new workplace cultures that may differ in their emphasis on physical fitness. Given physical readiness is an operational requirement in the CAF, this exploratory research examined whether unit-level fitness culture—defined by aggregate fitness score—affects changes in individual physical performance. Specifically, we examined whether transitions between low-, average-, or high-performing units are associated with changes in individual fitness scores among CAF personnel recently posted to a new unit.

Methods: This retrospective cohort analysis included 5,418 CAF personnel who were posted to a new unit sometime after their baseline fitness evaluation between April 2016 and March 2017. Units were categorized as low, average, or high performing based on aggregate fitness scores. Individual transitions between units (e.g., low-to-average, high-to-low) were grouped into nine categories. The primary outcome was the change in individual fitness score between the last assessment in the previous unit and the second assessment in the new unit, allowing at least six

months of integration. Multivariable linear regression assessed the association between unit transition and fitness change, adjusting for age, rank, and biological sex.

Results: Personnel posted to higher-performing units generally improved, while those posted to lower-performing units declined ($F(15,5402) = 20.8$, $p < 0.001$, $\beta_0 = 28.7$). Estimated changes in fitness scores ranged from +62.4 to -37.0—a 99-point gap relative to the median baseline score of 338. The effect of transition was bi-directional but asymmetric: upward moves (e.g., low-to-high: +30.0 [95% CI: 8.3, 51.6]) were associated with modest improvements, whereas downward moves (e.g., high-to-low: -49.4 [95% CI: -61.0, -37.8]) showed sharper declines. Rank also contributed significantly, with junior non-commissioned members showing lower gains (e.g., -7.9 [95% CI: -11.8, -4.1]).

Conclusion: This study provides novel evidence that the performance culture of a military unit can influence changes in individual physical fitness following a posting. Personnel who were posted to higher-performing units experienced gains, while those moving to lower-performing units saw declines. Like families for youth, military units can shape individual behaviours–highlighting the importance of leadership in fostering a culture that supports physical readiness.

6A03: Development and Evaluation of Pre-Basic Military Training physical fitness program for the Canadian Armed Forces

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[1]Canadian Forces Morale & Welfare Services

Program/Intervention Description: The Pre-Basic Military Training (PRE-BMT) fitness training program was developed to establish a minimum level of physical fitness needed to optimize performance and reduce the risk of injury during BMT. Completing the PRE-BMT is an important step towards candidates' physical preparation for BMT. The PRE-BMT is intended to prepare candidates for the BMT physical demands of walking and standing for prolonged durations, running, drill classes, physical training and field training exercises. The program is part of a package that includes a Self-Assessment, a 12-week regular and 6-week advanced Fitness Training Program, an Injury Prevention Program and Nutrition Information. All the content is available free online.

Evaluation Methods: To evaluate the level of awareness and usage of the program, the research team surveyed BMT candidates. The research team also accessed the PRE-BMT website analytics and analyzed differences between downloads, the sessions, users, and engagement rate between 2023 and 2024. Given that the program was in its second year of implementation, the expectation was to observe an increase in awareness and usage in comparison to its first year.

Results: Throughout 2024, 4359 candidates (3578 men, 769 women, 12 non-binary) consented to participate in the survey. Of the sample, 29.6 % (1289) were aware of the PRE-BMT fitness training program before arriving at the Canadian Forces Leadership and Recruit School and 55.5 % (715) chose to participate in the program. Of the participants, 29.1 % (208) had high engagement where training adaptations would be expected. Interestingly, the program's participation rate was higher in women than men ($p<.05$), with differences between provinces ($p<.05$). Regarding the website analytics, the program was downloaded 12,679 (+396%) times, 27,012 (+962%) new users engaged with the website during the year, for 48,907 (+532%) sessions, and a webpage engagement rate of 59.94 (+4.69%) %.

Conclusion: In conclusion, awareness and usage of the PRE-BMT fitness training program saw a significant increase in 2024 compared to 2023. This surge can be attributed to enhanced marketing efforts by Canadian Forces Morales & Welfare Services and the Canadian Forces Recruiting Centres, particularly through the distribution of information cards. However, high engagement remains relatively low and will need to be addressed with additional promotional efforts. Moving forward, an analysis of program satisfaction and effectiveness in enhancing the physical readiness of candidates will be completed.

6A04: Physical injuries among new personnel in the Canadian Armed Forces – An analysis of the CAF Injury Surveillance System

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Introduction: Physical injuries have impacts on health, wellness, and career progression during a CAF member's career and beyond. The time immediately after joining the CAF may be a period of increased susceptibility to injury due to sudden

changes in physical activity type and intensity. The CAF Injury Surveillance System provides insight into injury patterns, based on administrative health data, and can be used to investigate how injury trends in the initial period of a CAF member's career compare to other periods.

Methods: To identify injury visits from relevant ICD codes, we used data from the Canadian Forces Health Information System (CFHIS). For this study, "new personnel" were considered those within their first 90 days of service. They were compared to those not in their first 90 days of service. Descriptive analyses were performed for total volume of injury-related visits, and by key variables. Chi-square tests of independence were used to assess differences in proportions. Results presented are for 2023; 2024 data will be used when available.

Results: Of 60,701 clinical visits that had an ICD code related to injuries, there were 781 (0.78 visits/person-year) among new personnel, and 59,920 (0.96 visits/person-year) among non-new personnel. Among new personnel, females were more than twice as likely as males to have an injury related visit in the year (16.2% vs 7.9%, $p<0.05$), while among non-new personnel, females were 21% more likely to have an injury related visit (40.7% vs 33.7%, $p<0.05$). "Head and neck" injuries were the most common type of injury among new personnel, while "lower back and pelvis" was the most common region of injury among non-new personnel. Visits for injuries with a "pain in area" nature were much higher among non-new personnel. Once these visits were excluded, there was a slightly higher rate of injury visits among new personnel (591, 0.59 visits per person-year) when compared to non-new personnel (33,653, 0.54 visits per person-year).

Conclusion: While overall the rates of injury visits among new personnel were not higher, the patterns of injuries varied notably. Among new personnel, females had a much higher relative rate of injury visits. Also, the "head and neck" region was the most common body region affected. Further, once the "pain in area" injury codes were excluded, the overall rate of injuries were slightly higher among new personnel. This analysis helps characterize injury patterns among new personnel and highlights some potential areas of focus for prevention efforts.

Poster Presentations

P125: The Prenatal and Postpartum Program in Action: Preliminary Findings on Prenatal and Postpartum Physical Fitness and Wellness in the Canadian Armed Forces

Harrison, Geoffrey, PhD[1]; **Baskerville, Bruce, PhD[1];** Dutil, Caroline, MSc[1]

[1]Canadian Forces Morale and Welfare Services

Program/Intervention Description: The Prenatal and Postpartum Physical Fitness and Wellness Program (PNP3) is a groundbreaking initiative by the Department of National Defence, aimed at expanding overall wellness and physical fitness programs to better serve women and gender-diverse military personnel. PNP3's mission is to boost the overall wellness and fitness of prenatal and postpartum personnel in the Canadian Armed Forces (CAF) through innovative programs and services that promote physical wellness. Currently in active development, PNP3's flagship offering is in-person fitness programming, adhering to the Canadian Society for Exercise Physiology guidelines. This presentation unveils preliminary findings from a longitudinal outcome survey, accessible to all CAF members who are pregnant or up to 12 months postpartum.

Evaluation Methods: We designed this survey with two key objectives: (1) to map out the fitness and wellness journeys of CAF members during their prenatal and postpartum phases, and (2) to assess the impact of PNP3 on the Performance 4 (P4) behaviours integral to the CAF's BALANCE strategy. Participants completed up to four surveys at different stages: early prenatal (<28 weeks), late prenatal (28+ weeks), early postpartum (1-6 months), and late postpartum (7-12 months). We tracked physical fitness (IPAQ-SF), nutrition (Modified FDFFQ), sleep (PSQI), and social support (MSPSS), comparing PNP3 participants with non-participants. We analyzed the data using chi-square tests with R version 4.4.0 and RStudio version 2023.09.0.

Results: To date, we have received responses from 426 participants for Survey 1 (Baseline), 108 for Survey 2, and 34 for Survey 3, with a follow-up compliance rate of approximately 40%. The demographics of Survey 1 respondents are representative of the CAF. Initial findings from the Baseline Survey revealed that PNP3 participants are significantly more likely to meet healthy guidelines for physical activity during both prenatal ($\Delta = 18\%$, $p = .04$) and postpartum ($\Delta = 28\%$, $p < .001$) phases and for sleep duration during postpartum ($\Delta = 17\%$, $p = .03$). Results for social support approached

but did not meet significance during prenatal (Δ = 11%, p = .08) and postpartum (Δ = 7%, p = .16). Longitudinal analyses are ongoing to evaluate the sustained impact of PNP3 participation over time.

Conclusion: Early results from our baseline survey suggest that PNP3 participants exhibit notable improvements in P4 behaviours compared to non-participants. Continued data collection will help us further understand the causal relationships between PNP3 participation and P4 behaviours, as well as other long-term outcomes.

P129: Dizziness among Canadian Armed Forces Recruits and Active-Duty Personnel

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Introduction: Dizziness is a prevalent medical complaint, often described as a feeling of light-headedness or imbalance. It can also be associated with other physical (e.g., neck pain, headache) and mental (e.g., anxiety, depression) health symptoms. The lifetime prevalence of dizziness in the general population is estimated to be between 15 and 40%. Dizziness is more common among females and tends to increase with age. However, little is known about the prevalence of dizziness in military populations. Dizziness could impact operational readiness and lead to lost duty days. This preliminary study aimed to examine self-reported rates of dizziness in the Canadian Armed Forces (CAF) at entry to basic military training and among active-duty personnel.

Methods: Data were derived from the Recruit Health Questionnaire (RHQ) and the Department of National Defence (DND) audiometry database. The RHQ assesses dizziness with the question "In the last four weeks, how much have you been bothered by any of the following symptoms." The DND audiometry database assesses dizziness with the question "Have you recently experienced dizziness?" Descriptive analyses were used to examine the proportion of self-reported dizziness by demographic and occupational characteristics among CAF recruits and active-duty personnel from 2010 to 2017.

Expected Results: Preliminary findings from 24,438 recruits and 75,267 active-duty personnel indicate that self-reported dizziness appears more prevalent among military recruits (14.6%) than active-duty personnel (10.8%). In both samples, females (recruits: 20.8%; active-duty: 15.2%) reported higher proportions of self-reported dizziness than males (recruits: 13.4%; active-duty: 10.1%). Among recruits, dizziness was most prevalent in the younger age groups (17-29 years: 15.0%; 50-59 years: 10.5%), whereas among active-duty personnel, the oldest age groups had the highest rates (17-29 years: 6.9%; 50-59 years: 15.0%).

Conclusion: The self-reported rates of dizziness align with the existing literature on sex differences; however, discrepancies were observed in age-related findings between both samples and compared to the general population. It is possible that individuals with more severe physical symptoms, such as dizziness, are less likely to complete basic training and consequently do not appear in the later audiometry dataset. In the active-duty CAF population, dizziness was 50% more common among females than males, a health concern that has not previously been identified in the CAF female population and one that requires further research to understand the contributing factors and impacts.

P137: Physical Rehabilitation in the Canadian Forces Health Services– A quantitative utilization analysis

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[1]Canadian Armed Forces; [2]Canadian Forces Health Services; [3]Department of National Defense; [4]Defense Research and Development Canada

Program/Intervention Description: The Canadian Forces Health Services invests significant resources annually into the management of musculoskeletal conditions, as it is estimated that these conditions represent more than 35% of primary care visits. The Clinic Performance and Resources Indicator Tool (CPRI) was designed for Physical Rehabilitation, Directorate of Medical Policy, with the goal of assessing the performance of CFHS Physical Rehabilitation Services and their ability to meet the demands for services from CAF members. Additionally, it evaluates the distribution of injuries among CAF members to provide situational awareness on the most common reasons for accessing services. It also examines the operational effectiveness and cost efficiency of the in-garrison clinics across the country. The purpose of this submission is to present a utilization review of physiotherapy services demonstrating tangible measures that can be used to quantify the increasing demand in physiotherapy services as well as program efficiencies.

Evaluation Methods: Data was extracted from the Canadian Forces Health Information System physiotherapy records and Federal Health Claims Processing Services data. Datasets containing null values or patient

identifiers were removed to ensure the validity of the analysis. Duplicate entries were identified and excluded based on document creation date, provider identity, patient identifier, and document modification date. This data cleansing process ensured the uniqueness and accuracy of all recorded transactions.

Results: The analysis provided insights into each clinic's ability to meet physiotherapy demands, including the rate of in-garrison care versus external referrals. Trends in common injuries were identified, with lumbar/spinal injuries, knees and shoulder injuries being the most prevalent. Additionally, injury occurrences were found to be more frequent in operationally focused or high-training locations such as Halifax, Petawawa, and Valcartier, suggesting a correlation between injury rates and operational activity levels.

Conclusion: The thorough analysis of CFHS Physical Rehabilitation services and its clients through the CPRI Tool revealed important trends in services being provided, such that areas for improvement to patient care can be developed. Furthermore, the results of program changes can now be tracked to improve clinic efficiency and effectiveness in meeting CAF client demand. Further exploration of patient characteristics is necessary to determine correlations between injuries and factors such as age, gender and military occupation. This information will help develop targeted preventative measures to reduce injury rates and improve the overall effectiveness of the CFHS Physical Rehabilitation program.

P140: Immune cells across synovial joint health, recovery and disease

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Introduction: Military members face high rates of knee joint injury, often leading to chronic pain and post-traumatic osteoarthritis (PTOA), which can be disabling and reduce force readiness. Persistent inflammation following injury is a key contributor, but the mechanisms that drive or resolve it are not fully understood. Myeloid cells mediate both processes, yet their role in synovial joint healing remains unclear. This study aims to identify myeloid subsets and pathways involved in joint inflammatory resolution to guide novel therapeutic strategies for PTOA prevention. We hypothesize that resolved joints will have myeloid subsets highly expressing genes, such as LYVE1, TREM2, and FOLR2, and be more abundant. Data procurement and integration are complete, with preliminary results available.

Methods: This retrospective study analyzed publicly available single-cell RNA-sequencing (scRNA-seq) datasets from synovial tissue of healthy controls (n = 15), recovered knee injured patients with resolved joint inflammation (n = 4), and symptomatic knee osteoarthritis patients (n = 8). All data analysis was performed in R using Seurat with default settings and integrated using Harmony. Synovial myeloid cells were identified, computationally isolated from all synovial cells, and sub-clustered (e.g., macrophages, dendritic cells, and mast cells). Differentially expressed genes (DEGs) were identified across joint conditions (resolved vs. healthy, OA vs. healthy, OA vs. resolved), and pathway enrichment was conducted using the Panther database to highlight processes associated with resolution.

Expected Results: Interim analyses from 48,513 synovial cells revealed 5 major cell types and 9 distinct myeloid subtypes. Myeloid composition varied by joint condition. S100A8+ macrophages dominated OA tissue (42.2%) but were nearly absent in healthy (0.4%) and resolved (0.2%) tissue. In contrast, LYVE1+ CD163hi macrophages were most abundant in healthy (48.4%), declining in resolved (17.5%), and absent in OA. Dendritic cells were enriched in healthy (26.6%) and resolved (31.9%) compared to OA (8.2%). Differential expression and pathway enrichment showed immune remodeling, inflammation, neurovascular remodeling, and stress response in resolved / OA vs. healthy, with wound healing and TGF-beta signaling unique to osteoarthritic synovium.

Conclusion: Our findings support that alarmin-expressing S100A8+ macrophages are enriched in osteoarthritic tissue, while CD163hi macrophages and dendritic cells are more abundant in healthy and resolved joints. Resolution was associated with immune and neurovascular remodeling pathways, suggesting a role in controlling inflammation. These novel insights may guide the development of targeted therapies to prevent post-traumatic osteoarthritis, particularly for military personnel at high risk of joint injury and disease.

P143: The Use of Recombinant Factor VIIa in the Management of Adult Traumatic Hemorrhage: A Systematic Review

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[1]Western University; [2]Canadian Armed Forces; [3]London Health Sciences Centre

Introduction: Recombinant Factor VII (rFVIIa) is occa-

sionally used as an off-label salvage therapy in severe traumatic hemorrhage. Although use in civilian trauma centres is not standardized, there may be a role for rFVIIa as a hemostatic agent in austere or combat environments. This systematic review explored rFVIIa's effect on mortality, blood product usage, coagulation parameters and thromboembolic complications in acute traumatic hemorrhage.

Methods: A literature review was executed using Medline and Embase. Only peer-reviewed adult studies were included. Two reviewers performed the screening and data extraction process, with the supervising author providing deconfliction. In total, 1512 titles/abstracts and 133 full-text articles were screened, of which 18 were subject to data extraction.

Expected Results: Initial results suggest no mortality benefit at the 24-hour, 48-hour, and 30-day time points. Although there is no mortality benefit, the data suggests that rFVIIa reduces the need for red blood cell (RBCs) transfusions but not other types of blood products. There is no increased thromboembolic risk with the use of rFVIIa. Furthermore, no differences were observed in patients' length of stay at the hospital.

Conclusion: These preliminary results suggest that recombinant FVIIa does not yield a mortality benefit but reduces the need for packed red blood cells at the 24hr time point. As such, rFVIIa can serve a unique role in military, trauma, austere and combat environments. In these settings, where there is an absence or limited supply of blood products, rFVIIa may be able to prolong the window for transportation to a field hospital. This is even more pertinent in conflicts with a near-peer adversary, where medical evacuation or other means of transportation to a field hospital are limited and contested. In those environments, achieving hemostatic control over a prolonged period will be critical.

P144: The Impact of Occupational Therapist Integration on Prescription and Cost of Assistive Devices and Adaptative Equipment for Canadian Armed Forces Members

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[1]Department of National Defence

Program/Intervention Description: Prescribed ADAE enhance activities of daily living (ADLs), instrumental ADLs (IADLs), and productivity by addressing limitations in self-care, mobility, cognition, and communication. From 2018 to 2024, the number of OTs increased from four to 24 in response to the CAF's more complex rehabilitation needs resulting from armed conflicts and changes to retention standards. OTs are uniquely skilled to assess functional limitations of ill and injured and prescribe ADAE to restore function. This project evaluates the impact of OT integration on ADAE costs and prescription frequency.

Evaluation Methods: A retrospective analysis of CAF health claims examined expenditures from 2018 through 2024 for Program of Choice (POC) -01 (aids of daily living) and POC-13 (special equipment).

This project identified the types and costs of prescribed items. Items were then categorized based on prescription frequency (i.e., very frequently, frequently, less frequently, and not prescribed).

Results: The average annual combined POC-01 and POC-13 expenditures was $390,007.90 from 2018 through 2024. Trend line review indicates relatively stable POC-01 expenditures while POC-13 was less consistent and contributed more to the total ADAE costs annually.
The POC-01 very frequently and frequently prescribed categories included mobility aids and equipment rentals while less frequently prescribed items related to skin integrity.
The POC-13 very frequently and frequently prescribed categories included fewer occurrences than POC-01 with "other essential especial equipment" being the most frequently prescribed item.
It is important to note that CAF was not engaged in sustained, large scale, kinetic operations during the period examined.

Conclusion: The POC-01 expenditures between 2018 and 2024 may suggest that OTs are ensuring appropriate and consistent prescription of aids to daily living. The need for mobility and bathroom aids is in accordance with the high prevalence of lower extremity NMSKI of the CAF population. The findings for POC-13 expenditures suggest that the need for special equipment is less consistent than POC-01 items and possibly more influenced by needs associated with uncommon conditions or complex care. The use of "other" as an item descriptor limits the analysis of POC-13. Future research should examine the prescribing patterns among different CFHS healthcare providers, and regional variations in prescribing patterns in addition to member satisfaction with ADAE prescriptions. The usage pattern of POC-13 "other" should be reviewed to ensure universal application.

P147: Rates of heat exhaustion and heat stroke in the Canadian Army, Royal Canadian Air Force, and Royal Canadian Navy: Sex-specific trends from 2018 to 2024

Marion, Danielle, MSc[1]; Bogaert, Laura, PhD (Cand)[1]; Jones, Brent, MD[1]; Abraham, Natalia, MD[1]

[1]Department of National Defence

Introduction: Heat illnesses, ranging from mild to severe and potentially life-threatening, pose significant risks to the health and operational readiness of the Canadian Armed Forces (CAF) personnel. These risks are heightened by the physically demanding nature of military duties, combined with various occupational exposures and individual risk factors. To address this risk, the Heat Illness Surveillance System (HISS) was initiated in 2018 to monitor and mitigate heat illnesses within the CAF. This retrospective study builds on previous findings from 2018 to 2022, providing updated insights into the rates of heat exhaustion and heat stroke through 2024, with a focus on sex-specific trends and associations with demographic and occupational factors.

Methods: This study utilizes electronic health record data from the Canadian Forces Health Information System (CFHIS) to identify cases of heat stroke and heat exhaustion diagnosed between January 2018 and December 2024. Cases are identified using ICD-10 diagnostic codes. These data are linked to service history data from the Master Patient Index to generate incidence rates. Sex-specific incidence rates per person-year are compared across key demographic and occupational factors over time. Logistic regression is conducted to explore associations between demographic and occupational factors and the risk of heat exhaustion and heat stroke.

Expected Results: Analyses are currently ongoing and expected to be completed ahead of the 2025 Canadian heat season. Once completed, sex-specific rates will be summarized over time and compared across military commands and age groups. Odds ratios highlighting associations between demographic and occupational factors and diagnoses of heat exhaustion and heat stroke will be presented.

Conclusion: This study will provide updated, sex-specific insights into the rates of heat exhaustion and heat stroke across military commands and offer a better understanding of demographic and occupational risk factors. By identifying trends and high-risk subgroups, the findings will support the development of targeted prevention strategies aimed at reducing the incidence and severity of heat illnesses within the CAF.

P148: A 7-year Study of Heat Illness in Canadian Armed Forces Personnel: Sex Differences of Contributing Factors

Marion, Danielle, MSc[1]; Bogaert, Laura, PhD (Cand)[1]; Jones, Brent, MD[1]; Abraham, Natalia, MD[1]

[1]Department of National Defence

Introduction: Canadian Armed Forces (CAF) personnel are routinely tasked with performing military duties under physically and environmentally demanding conditions. Heat illness is a notable health risk, encompassing a spectrum of conditions ranging from mild (e.g., heat rash) to severe and potentially life-threatening (e.g., heat stroke). Although largely preventable, effective mitigation strategies require a comprehensive understanding of the various factors contributing to these cases. This understanding is complicated by the unique occupational exposures faced by personnel, including intense physical exertion and the use of protective equipment, coupled with individual characteristics, such as fitness level and hydration status. To address this issue, the Heat Illness Surveillance System (HISS) was initiated by the Canadian Forces Health Services' Directorate of Force Health Protection in 2018. This study leverages HISS data to analyze trends and identify key characteristics of heat illnesses within the CAF ahead of the 2025 Canadian heat season.

Methods: Since 2018, a 3-page surveillance report form has been used by attending healthcare teams to document cases of heat illness among CAF personnel in Canada and abroad. A minimum of 100 forms have been completed annually since inception. This study will analyze data from forms completed between January 2018 to December 2024. The form captures comprehensive information, including demographics, body composition, environmental conditions, activity type, acclimatization, equipment worn, underlying health conditions, medication or supplement use, treatment provided, and heat illness classification. Sex-stratified analyses will be conducted to explore similarities and differences in the factors related to the occurrence and severity of heat illness in male and female CAF personnel.

Expected Results: This study will summarize seasonal and geographic trends by heat illness severity, with a focus on sex-specific comparisons. The frequency and distribution of case characteristics observed throughout the 7-year study period will be described separately for female and male personnel, including age, BMI, rank, military component, wet bulb globe temperature, acclimatization, sleep, hydration, clothing and equipment worn, and activity type at time of heat illness.

Conclusion: This descriptive analysis will provide a foundational understanding of trends and characteristics of heat illnesses within the CAF over a 7-year period. These findings will support the development and implementation of targeted prevention strategies that account for sex-specific differences, aiming to reduce the severity and overall burden of heat illness. Evidence from this analysis will lead to enhancements to the CAF HISS to better monitor and describe relevant contributing factors, including those unique to sex.

P152: Sex-differences in Reported Discomfort During Exposure to Seated Whole-body Vibration

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[1]University of Guelph

Introduction: Canadian Armed Forces (CAF) members are exposed to whole-body vibration (WBV) while driving. WBV is associated with musculoskeletal injuries (MSKI) such as low-back pain, particularly for females. Discomfort experienced during WBV exposure is a predictor for back injury. Previous work has reported sex-differences in tri-axial WBV (vertical, lateral, and fore-aft) at the head and spine during WBV, however, it is unknown if these sex-differences contribute to increased discomfort or injury risk. To better understand MSKI risks for CAF members, it is important to examine the relationship between sex-differences in tri-axial vibrations at the pelvis and head, and discomfort during WBV.

Methods: 24 participants (12 male/12 female) were exposed to vertical vibrations representative of what CAF personnel may experience in military vehicles. Exposures included 3, 20 second trials at combinations of 0.25m/s2 or 0.5m/s2 root-mean-square (RMS) acceleration and eight discrete frequencies from 1 – 15Hz. Discomfort was verbally reported using a 7-point scale and primary discomfort region was reported and binned according to Porter's Comfort Scale. Accelerations were recorded at the pelvis and head using tri-axial accelerometers and weighted for health according to ISO 2631-1. Accelerations and discomfort scores were analyzed using mixed-factorial ANOVAs, including within subject factors of input acceleration and frequency, and a between subject factor of sex. Post-hoc Bonferroni pairwise comparisons were performed when appropriate ($p<0.05$).

Results: Significant sex-differences were found in discomfort scores and tri-axial accelerations at the head and pelvis. Females experienced greater discomfort and fore-aft vibration at the pelvis compared to males at 13 and 15Hz. Females experienced greater lateral vibration at the head at 0.25m/s2 RMS input vibration. At 13 and 15Hz, females reported low-back as the primary discomfort location up to 3.5 times more often than males. Males experienced peak discomfort at 5Hz, where they reported greater discomfort, and experienced increased vertical vibration at the head. Males reported discomfort diffusely throughout the trunk, neck and head, whereas females reported discomfort primarily in the low-back and pelvis.

Conclusion: The observed discomfort sex-differences may be related to fore-aft and lateral accelerations experienced during WBV, which are associated with increased spinal shear forces. Intervertebral discs and zygapophyseal joints have a lower injury threshold for shear rather than compressive forces, which may influence injury risk. The results of this work suggest that female CAF members may require vibration mitigation strategies that reduce accelerations in the fore-aft and lateral directions to better prevent discomfort and decrease injury risk.

P158: An Acute Respiratory Illness Outbreak Among Recruits related to Adenovirus at the Canadian Forces Leadership and Recruit School, St. Jean: Surveillance and Public Health Response

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[1]Department of National Defence; [2]University of Ottawa

Introduction: Adenovirus outbreaks are a recurrent issue in military recruit populations, causing substantial morbidity and significant disruptions to training schedules. Although outbreaks have occurred for decades among US military recruits, outbreaks among Canadian recruits were infrequent over the past two decades until 2017. From 2017 to 2019, four separate adenovirus outbreaks occurred at the Canadian Forces Leadership and Recruit School (CFLRS), St. Jean. This investigation examines the most recent outbreak in 2024/25 among recruits at CFLRS, emphasizing the importance of surveillance and timely public health interventions.

Methods: The outbreak was detected through the Acute Respiratory Infection Surveillance Program (ARISP); a laboratory-based surveillance system that monitors weekly acute respiratory illness rates per

100 recruits. Chest X-ray data were monitored to track the outbreak's progression, with rates calculated per 1000 recruits. The investigation included enhanced nasopharyngeal (NP) swabbing for adenovirus among recruits; genotyping of positive adenovirus swabs; and maintaining a line listing to track cases. A confirmed case was defined as a recruit at CFLRS since September 2024 with a laboratory-confirmed adenovirus infection identified through PCR testing. Descriptive statistics were used to analyze the number and percentage of affected recruits by age, sex, and platoon.

Results: From September 2024 to February 2025, a total of 231 confirmed cases of adenovirus among recruits were identified (83.1% male; 16.9% female). Twenty-one NP swabs were genotyped with 20 (95.2%) identified as Type 4 and 1 (4.8%) as Type 1. Over 75 pneumonia cases were reported from September to November 2024, with chest X-ray rates peaking at 19 per 1000 recruits in early December, just before the school closed for two weeks. Clustering was observed within specific platoons. No hospitalizations occurred, indicating mild to moderate illness severity. Enhanced public health measures implemented included hand hygiene, cough etiquette, early care seeking, early masking of symptomatic recruits, limiting interaction between platoons, isolation of cases, and enhanced cleaning and disinfection of common high-touch areas. Uptake of public health measures was variable due to poor acceptability and/or feasibility within the recruit training environment.

Conclusion: Adenovirus outbreaks continue to emerge throughout the year in this recruit population. ARISP surveillance is essential for monitoring outbreak metrics and enabling rapid public health interventions to minimize training interruptions. Greater emphasis on early care seeking, reducing contact between platoons, and more instructor oversight of dorm room cleaning might be beneficial. Consideration should be given to vaccination against adenovirus Type 4 to prevent future outbreaks.

P159: Comprehensive Risk Factors Assessment for Cold Injuries during 2023 Canadian Arctic Training

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[1]Defense Research and Development Canada

Introduction: Freezing cold injuries (FCIs) like frostbite are common in Arctic training and operations. In addition to the traditional statistical analysis methodology, the recent advancement of machine learning (ML) approaches has enabled effective assessment of multi-modality datasets for key factor identification and predictive modelling in the context of FCI. Using these methods, this study examined the type, location, and cause of FCIs during three Arctic activities: Operation NANOOK-NUNALIVUT, Exercise Guerriere Nordique, and Air Operations Survival-Arctic Aircrew.

Methods: Before deployment, demographic data (age, rank, service time, Arctic experience), height, hand measurements (length, breadth, circumference), and body composition (mass, body fat %, lean mass) using a bioelectrical impedance scale (InBody 570, South Korea) was measured in participants. Active medical surveillance was performed by trained medics to diagnose FCI, and injured participants completed a Cold Weather Injury Survey to record FCI type, location, and mechanism of injury. Unpaired t-tests were used to compare individual factors between those with FCIs and those without. The ongoing ML analysis (CV-rRF-FS-SVM, or Cross-Validation with Random Forest Feature Selection and Support Vector Machine) focuses on multivariate and multi-modality risk factor identification, as well as producing several classification models for CFI prediction.

Expected Results: Sixty participants experienced an FCI, compared to 150 participants without FCI. The most common injury locations were the fingers (n=35) and nose (n=20). Injuries resulted from various mechanisms, including land-over-snow vehicles travel (n=21), wet/frozen clothing (n=15), removal of personal protective equipment for task performance (n=15), or unintended exposure of skin (n=14). No significant differences were found between the groups for demographics, injury history, whole-body or hand morphology/anthropometrics (all $p > 0.05$). The on-going ML analysis aims to identify *risk factor clusters* that could be used to model and predict CFI. We have established a CV-rRF-FS-SVM modelling framework for the analysis.

Conclusion: Whole-body morphology, hand anthropometrics, and demographics do not differ significantly between individuals with FCI and those without. Thus, there may be no 'ideal' soldier body-type more resilient to FCI in CAF Arctic operations. Future research should focus on areas at high risk for FCIs (e.g., fingers, nose) and their interaction with the environment, personal protective equipment, and tools, given the lack of differences between groups. Additionally, our ML framework demonstrates the viability of using multivariate and multi-modality dataset to model FCI.

MIXED MENTAL AND PHYSICAL HEALTH AND WELL-BEING

Podium Presentations

1A01: Development of a rat model of repetitive concussion-induced mild traumatic brain injury

Wang, Yushan, PhD[1]; Nelson, Peggy[1]; Villanueva, Mercy[1]; Cai, Lily[1]; Shei, Yimin[1]; Palmer, Meaghan[1]

[1]Defence Research and Development Canada

Introduction: Traumatic brain injury (TBI) has been a leading cause of morbidity and mortality for Canadian Forces (CAF), veterans and civilians. However, there is no standardized diagnosis or treatment for TBI, induced either by blast or by a concussive force. It is also unknown if a common mechanism is shared in TBI caused by different insults. The current study was undertaken to establish an experimental concussion model in laboratory animals with the goal of developing differential diagnostic biomarkers and treatment strategies.

Methods: DRDC Suffield Research Centre has developed a Computer Automated Release and Drop Assembly (CARDA) to study concussion induced TBI in rats. To induce concussion/mTBI, rats were anaesthetized with 3% isoflurane for 8 min, their heads shaved, and placed chest down and restrained on the CARDA platform. The chin rested on a support which breaks away at impact. A 1 cm metal disc was centered over the target area on the rat's shaved head and held in place by a small dot of double-sided tape. This ensures a diffuse injury platform of CARDA. A free falling 450 gram weight was dropped onto the rat head from a distance of 80 cm. Animals were subject to concussion either once or four times within two minutes from each impact. At different times post concussion (from one day to six weeks), rats were tested for behavioural outcomes and then sacrificed to harvest brains for further analysis.

Expected Results: Behavioural tests showed that animals in the repetitive concussion group spent significantly less time in the open arms 1 day, 3 days 1 week and 6 weeks after concussion, indicating increased anxiety and depression-like symptoms. Western blot analysis showed that the expression of glial fibrillary acidic protein (GFAP) was significantly increased three days after repetitive concussion, indicating astrogliosis. Confocal microscopic studies revealed that NADPH Oxidase 4 (NOX4), a protein that is involved in oxidative stress, is dramatically increased in rat brain cortex at day 1 after either single or repetitive concussion. This increase persists for at least 6 weeks after concussion, indicating increased oxidative stress.

Conclusion: In conclusion, we have developed a closed head injury model to investigate mechanisms of concussion. This model is able to demonstrate clear behavioural as well as molecular changes. This will enable us to directly examine similarities and differences in TBI caused by primary blast and concussion. Future studies will involve the development of therapeutic agents to mitigate TBI damage

1A03: Using Large-Scale Data-Driven Approaches to Improve the Classification of Traumatic Brain Injury: The TBI-CLASS Study

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Introduction: Traumatic brain injury (TBI) is a leading cause of death and disability in people under 40 years of age in Canada and in serving military/veterans. No current pharmacotherapy has clear long-term functional benefits in patients with TBI. This is in part due to a failure to translate the great heterogeneity in affected hosts, injury characteristics and management into meaningful clinical targets or improved classification systems. Multimodal machine learning (ML) applications remain limited in the context of TBI classification and could assist future clinical trials. Through the TBI-CLASS study, we aim to examine common data elements in large-scale clinical TBI data and identify underlying patient phenotypes using data-driven approaches.

Methods: This study was approved by our local hospital institutional review board (Unity Health Toronto). Through international collaboration (US/Europe) to collate relevant multimodal data at different time points (pre-injury/injury/post-injury), we obtained six relevant prospectively-collected TBI study datasets (>20,000 patients), including CENC and TBI Model Systems (TBIMS), then performed appropriate data cleaning, processing and dimensionality reduction (including principal component analysis). For clustering, we performed unsupervised ML techniques (including k-means, PAM; DBSCAN) to characterize an optimal number of clusters chosen from a set of 3 to 10 clusters based on Silhouette technique and Calinski-Harabasz index. Variables with >30% missing data were excluded.

Expected Results: Using datasets from CENC Study 1: Observational Study on Late Neurologic Effects of

OEF/OIF/OND Combat, through US-based FITBIR, we identified 1269 cases (139 female; 1130 males) of military patients with combat- and/or non-combat related mild TBI with >90 distinct patient data forms across modalities (e.g., sociodemographics, neuroimaging, comorbidities, lab values). We found an optimal solution of five distinct patient endotypes at baseline evaluation, and highlighted age-, comorbidity-, level of education- and gender-related distinctions across phenotypes.

Further, using a development set of 8455 patients with moderate-to-severe TBI from the TBIMS dataset, we identified 2,413 complete patient cases with 97 independent variables used for clustering. We found an optimal solution of three distinct patient phenotypes that we descriptively characterized and showed that one patient cluster had distinctly worse functional outcomes using Glasgow Outcome Scale-Extended at 1 year post-injury (adjusted $p<0.05$). We identified patient features most explanatory of principal components by modality.

Conclusion: We demonstrated feasibility of unsupervised clustering approaches on large, multimodal TBI datasets across the spectrum of injury and examined relations to long-term outcomes. Analysis extension to our combined datasets with linked phenotypes upon admission and at one year of injury will also be presented.

1A04: Dietary Supplements to Support Neurological Health of CANSOFCOM Members

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Introduction: There are known health and performance benefits for military personnel from select evidence-based dietary supplements when taken alongside a whole-foods diet, some of which could provide mission performance-enhancement. In particular, supplementation with creatine monohydrate, vitamin D, and omega-3 before and during periods of increased exposure to blasts and/or impacts may enhance brain protection and increase the rate of recovery. As such, the Canadian Special Operations Forces Command (CANSOFCOM), are currently undertaking research to investigate whether supplementation allows for the achievement of optimal blood levels of vitamin D and omega-3 in comparison to a control group.

Methods: Participants of two specific CANSOFCOM specialized courseware were divided into "intervention" (supplement, n = 21) and "control" (non-supplement, n = 8) groups based on their previous supplementation practices – those who were already supplementing were placed in the intervention group. A CANSOFCOM Performance Dietitian (PD) provided education and finger prick assessments to determine individual vitamin D and omega-3 levels for CANSOFCOM members pre-course and following 3-6 weeks of supplementation. Based on their blood levels, the PD advised participants in the intervention group on the appropriate dosages of vitamin D, omega-3, and creatine monohydrate, all of which were supplied to them.

Expected Results: At baseline prior to any intervention, across both courseware under research and an additional courseware collected as part of program evaluation, only 5.4% of CANSOFCOM members were in the desired 'low risk' zone for omega-3 index; and only 37.8% had optimal levels of vitamin-D. When supplementation was provided alongside PD individually-tailored education, there was an increase of individuals achieving 'low risk' omega-3 status (from 9.5% to 61.9%), and an increase of individuals achieving 'optimal' vitamin D status (from 42.9% to 71.4%), after 3-6 weeks of supplementation. In comparison, members in the control group of the same courseware showed no change in individuals achieving 'low risk' omega-3 status and a decrease in individuals achieving 'optimal' vitamin D status (from 37.5% to 12.5%).

Conclusion: These results demonstrate how provision of supplements, alongside Performance Dietitian guidance, can improve omega-3 and vitamin D status. This is promising for the brain protection and increased rate of recovery for members experiencing symptoms as a result of traumatic brain injury (TBI) or repetitive sub-concussive exposure (RSCE).

2A02: Investigating Tauopathy in Canadian Special Operations Forces with Repetitive Occupational Exposure to Low-Intensity Blast Overpressure

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Introduction: Chronic traumatic encephalopathy (CTE) is a progressive neurodegenerative tauopathy

linked to repetitive sub-concussive head impacts, including long-term exposure to blast overpressure (BOP), as commonly sustained by Special Operations Forces (SOF) personnel during routine training and operational deployments. This study utilized positron emission tomography (PET) imaging with [18F] flortaucipir and ultrasensitive blood biomarker analysis to examine whether repetitive low-level BOP is associated with elevated phosphorylated tau levels in the brain and blood, and whether [18F]flortaucipir uptake correlates with clinical symptom severity in elite SOF members.

Methods: PET [18F]flortaucipir Standardized Uptake Value ratios (SUVr) were measured in 25 male experienced SOF breachers and snipers (43.6±6.1 years) with extensive occupational exposure to BOP and in 10 healthy Canadian Armed Forces (CAF) controls without exposure to BOP (39.8±6.8 years). SUVr were calculated across six brain cortical regions using the cerebellum as reference tissue. Plasma concentrations (pg/ml) of total tau (T-tau), brain-derived tau (BD-tau), and phosphorylated tau isoforms (P-tau181, P-tau217, P-tau231), as well as amyloid-β peptides (Aβ40, Aβ42), were quantified using ultrasensitive Simoa® digital immunoassays (Quanterix).

Results: Regionally [18F]flortaucipir SUVr was elevated in temporal and frontal cortices in SOF vs CAF controls (age-adjusted $p=0.076$). Voxel-wise z-score maps found 88% of the LLMB exposed group to be 2 SD above the control mean. [18F]flortaucipir correlated with years of breaching and explosives ($r>0.40$; $p<0.05$). Higher SUVr in prefrontal cortex was associated with poor sleep quality ($r=0.52$; $p=0.01$), PTSD ($r=0.41$; $p<0.05$), anxiety ($r=0.44$ $p<0.05$), and post-concussive symptoms ($r=0.49$-0.65 $p<0.02$). Brain-derived, BD-tau, correlated with SUVr across brain cortices ($r>0.38$; $p<0.03$).

Conclusion: These findings suggest that abnormal brain tau deposition, as measured by in vivo PET imaging, correlates with dose-dependent exposure to repetitive BOP, indicating that cumulative military occupational exposure to low-intensity blasts may elevate the risk of developing tauopathy. Peripheral tau measurements further illuminate the long-term pathobiological impact, offering promise as less invasive early predictors of clinical symptom onset and supporting the establishment of safe exposure limits for SOF and other at-risk CAF personnel.

2A03: Exposure to repetitive blast overpressure results in neuronal abnormalities that can be longitudinally monitored with high-resolution electrophysiology: case control and case report studies

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Introduction: Subconcussive neurotrauma from long-term repetitive blast overpressure (ReBOP) is now known to cause profound neurological deficits with a growing body of evidence suggests functional and structural abnormalities in the brains of those exposed to career ReBOP. Advanced functional brain imaging with magnetoencephalography (MEG), a high-resolution electrophysiological technique that is a potent biomarker source for electrochemical activity in the brain, has shown that neurotrauma results in neuronal 'slowing'. This is caused by intense neural hyperpolarisation, cortical 'off states' seen in more severe TBI. We hypothesised these markers would be observed in those with the highest career ReBOP.

Methods: We recruited n=81 CAF personnel and Veterans across a variety of occupational roles and levels of career ReBOP. We present 2 studies, A) a case-control experiment where the cohort was divided into high (n=41; 26-66 years; 4 females) and low blast exposure (n=40; 28-63 years; 8 females) groups; and B) a case study of a SOF Veteran exposed to large amounts of ReBOP, longitudinally presenting with neurological symptoms and consistent functional brain abnormalities with respect to a large normative database.

Results: In study A, we examined the effects of ReBOP on neuronal activity (MEG), functional connectivity (MEG, fMRI), and neurological and mental health outcomes in a military sample. In participants with greater ReBOP, independent of concussion or traumatic stress, MEG revealed neuronal slowing (excess low-frequency activity) in right fronto-temporal and subcortical regions, and functional dysconnectivity in the posterior default mode network – a phenomenon not observed in fMRI. Additionally, participants with greater ReBOP reported worse somatic and cognitive outcomes, but no differences in mental health outcomes. In study B, we present longitudinal data assessed 4 months apart from an individual with probable CTE, who presents with severe neuropsychiatric symptoms, subjective cognitive decline, a small amount of cortical atrophy, and extreme functional abnormalities imaged via MEG scan, that includes fronto-posterior neuronal slowing – markers consistent with neurophysiological

studies of tauopathy and neurodegeneration.

Conclusion: These studies contribute to a growing body of evidence that career ReBOP results in cognitive dysfunction, neurological impairment and neuronal abnormalities, independent of lifetime concussion and traumatic stress history. Furthermore, these results show that baseline testing of cognition and functional imaging with MEG, followed up with longitudinal assessments can monitor the emergence and progression of abnormalities in service members in high-risk roles, presenting an opportunity for proactive prevention by identifying cumulative subconcussive neurotrauma before symptoms become apparent.

2A04: Uncovering Brain Injury in Military Personnel: A Principled, Bayesian Approach to Blood Biomarker Analysis

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[1]Defence Research and Development Canada; [2]University of Toronto

Introduction: Repeated head trauma in military personnel can lead to complex, overlapping symptoms driven by neuroinflammation, neuronal dysfunction, and cell death. While biofluid-based proteomic biomarkers show promise for detecting subclinical brain injury, real progress depends on principled analytical strategies—using causal inference, decision theory, and probabilistic modeling—to move beyond simple group comparisons and toward meaningful, actionable insights.

Methods: This presentation introduces a Bayesian analytical framework for interpreting complex biomarker data from Canadian Armed Forces members (n=19) and unexposed controls (n=19) with histories of (sub) concussive trauma. Blood samples were profiled using high-sensitivity immunoassays (ELLA, O-link, Quanterix SIMOA) to measure immuno-inflammatory and neurological markers—including interleukins, interferons, TNFs, chemokines, and indicators of neuronal, axonal, and astroglial injury. Directed acyclic graphs (DAGs) captured domain-specific causal beliefs, guiding probabilistic modeling in STAN to estimate effects. Decision theory, grounded in scientific and clinical context, was then applied to inform individualized risk assessment and improve prognostic insights.

Results: Preliminary findings suggest that ultrasensitive platforms like ELLA and SIMOA detect key biomarkers of neurodegeneration—including UCH-L1, NSE, NF-L/H, and tau proteins—at fg/mL levels. We expect to identify dose-response alterations in biological systems linked to neurodegeneration, corresponding to cumulative blast overpressure (BOP) exposure.

Conclusion: A principled statistical modeling strategy—rooted in causal inference, probabilistic modeling, and decision theory—is essential for translating complex biomarker data into actionable insights. By moving beyond simple group comparisons, this approach enables a clearer understanding of the underlying biology and supports meaningful clinical decisions in populations exposed to brain trauma.

3B03: Experiences and Perspectives of Pregnant Active-Duty Service Women in the Armed Forces: A Qualitative Evidence Synthesis

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Introduction: Pregnancy among active-duty service women (ADSW) presents unique challenges and experiences that can impact their well-being, access to healthcare and military careers. Understanding these experiences is crucial for informing policy and support systems within military organisations. This qualitative evidence synthesis (QES) aimed to explore the lived experiences and perspectives of pregnant ADSW in armed forces worldwide.

Methods: This study follows the Cochrane-Campbell Handbook for QES and aligns with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses protocol reporting guidelines. The protocol was pre-registered in the Cochrane Collaboration Qualitative and Implementation Methods Group registry. A comprehensive literature search was conducted in six bibliographic databases (MEDLINE, EMBASE, CINAHL Plus, APA PsycINFO, the Military and Government Collection and Web of Science) and ProQuest Dissertations in August 2024. The search strategy used keyword and medical subject heading terms related to the concepts of 'woman', 'pregnancy' and 'military' to identify articles reporting on experiences of ADSW—of all ages, ethnicities and occupational trades—from early pregnancy through to childbirth. Eligible studies were peer-reviewed journal articles, book chapters or doctoral theses and were published in English. Studies focusing solely on military veterans, reservists, fertility treatments and postnatal experiences were excluded.

Expected Results: After removal of duplicates, 2374 articles underwent dual, blinded title and abstract screen-

ing; 72 remained for full text dual, blinded screening. Twenty-one studies met the inclusion criteria, were published between 1989 and 2024, and included land, air and sea military service branches. The majority of included studies (18) were conduct in the United States. Line-by-line coding of study findings was conducted from which descriptive than analytical themes were developed. A thematic synthesis identified key themes which included challenges around reproductive decision making (including abortion), workplace interactions, (including sub-themes of stigma, the double bind of maternity policies), career implications access to and choices around maternal health care. Confidence in each finding was assessed using GRADE-CERQual and methodological limitations with evaluated using the Cochrane Qualitative Methodological Limitations Tool.

Conclusion: This is the first study to synthesise study findings on pregnancy experiences among ADSW in armed forces, addressing a critical gap in understanding the unique challenges they face while serving in male-dominated environments and navigating military healthcare systems. Findings highlight the complex experiences of pregnant ADSW as they balance personal and professional identity transitions and service navigation of antenatal care. The findings underscore the need for military policies that provide suitable structural, social and medical support and that promote inclusive military cultures.

4A03: Stronger Together: Insights from an Armed Forces Menopause Group Consultation Pilot

Guest, Ruth, MSc[1]; King, Kate, MD[1]; Willman, Anthony, MSc[1]; Kinkaid, Victoria, MSc[1]

[1]Academic Department of Military General Practice

Program/Intervention Description: As the number of women serving in the UK Armed Forces has increased, so has the number who are serving beyond the age of 40. This brings with it the unique challenges of experiencing menopause whilst serving in a male dominated environment. The percentage of women 40-44 years of age is 11.7%, very close to the overall rate of 11.9% however this drops to 8.4% in the 50-54 age bracket and 0% of the 110 serving personnel who are over 60. Previous work has demonstrated some of the challenges faced by women serving through the perimenopause and menopause including a sense of isolation, affect on career and difficulties accessing care. Group consultations have been marketed as a way to share experiences whilst having access to specialist menopause expertise. This pilot introduced a group consultation model to 12 women in the perimenopause and menopause consisting of 5 sessions: an introduction to menopause and HRT; diet and exercise in the perimenopause; contraception sex and relationships; sleep and mental health; and pelvic floor and vulval health.

Evaluation Methods: Throughout the pilot, the participants were aware this was a trial and consented to pre and post session surveys to evaluate each session individually, an overall survey to consider logistics and individual feedback followed by a half hour focus group to bring out more in depth review of their experience of the pilot as a whole.

Results: Pending formal review of the results pre CIMVHR, initial evaluation demonstrates improvement in knowledge and wellbeing scores across each of the 5 sessions with starting scores ranging from an average of 4.8 - 6.1 pre session to 7.3 - 8.2 out of 10 after the session. Comments around the content were positive "enlightening and helpful" also noting the benefit of a group setting "I was apprehensive about the group session but found it hugely beneficial to understand others' experiences". Comments in the final focus group evaluation demonstrated a sense of the Royal Navy looking after it's people and the groups being "retention positive", the time to consider ones own health needs away from the day to day work "first time in my naval career that I have paused and reflected on me'.

Conclusion: This early pilot demonstrates tangible benefits to servicewomen but also suggests many harder to measure impacts such as retention and increased sense of worth to the organisation. Exploration of the cost / benefit is vital for further evaluation.

5A01: A scoping review of rank group differences in the Canadian Armed Forces: How are members faring and how can we support?

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Introduction: Workplace well-being and retention are inherently linked. Employees who are faring well are engaged and satisfied with their occupation, are more likely to be committed to the organization, are less likely to experience burnout and psychological distress, and are more likely to stay. Given current reconstitution challenges in the Canadian Armed Forces (CAF), it is prudent to continuously examine how employees are faring and explore new opportunities to support members. This presentation provides an overview of rank group differences between CAF members based

on personnel survey results and introduces possible avenues to support members.

Methods: A scoping review was conducted to examine rank group differences in outcomes assessed through CAF surveys. We conducted a systematic search of the Director General Military Personnel Research and Analysis publication database and included reports of all large-scale CAF surveys that compared differences between rank groups (e.g., Junior and Senior Non-commissioned members [NCMs], Junior and Senior Officers) across a spectrum of variables, published in the last five years.

Results: Overall, 14 large surveys were identified with relevant reports describing rank group differences on over 200 outcome variables covering a wide range of topics including health and lifestyle, well-being, ethics, harassment and discrimination, leadership, finance, and retention. For most outcomes, lower ranking CAF members, particularly Junior NCMs (i.e., private to master-corporal), fared worse than their senior counterparts.

Junior NCMs fared better than Senior Officers on only 9 outcomes (e.g., Junior NCMs were less likely to feel emotionally drained half the days or more, and they were less likely to report an acute or repetitive strain injury in the past year). There were no reported rank group differences for 48 outcomes (e.g., work-life balance, psychological and social support). Junior NCMs fared worse than more senior ranks on the remaining 143 outcome variables, which represents nearly three-quarters (71%) of differences assessed.

Conclusion: Overall, Junior NCMs fared worse than other ranks on numerous workplace factors. Follow up research is currently underway to further understand the trend by leveraging the broader social scientific literature for comparable results, relevant theories, and potential intervention strategies. This line of research may serve to understand the diverse needs and expectations of this substantial group, thereby guiding initiatives and policy aimed at improving leadership practices, service member engagement and retention, and organizational performance.

5A03: Benchmarking Civilian Capability for Supporting Military Communities: Developing and Validating the Military Informed Cultural Competency Scale Across the Five Eyes Nations

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Introduction: Current and former military personnel, along with their families, form a unique cultural community shaped by shared values, experiences, and challenges of military life. Civilian professionals — such as healthcare workers, employers, educators, and government staff — are increasingly aware of the need for military cultural competency: the ability to understand, engage with, and effectively support military-connected individuals. Despite this growing recognition, there are few validated tools available to measure this competency, and existing tools are often limited to healthcare settings or tailored specifically to the American military context. This research addresses this gap by developing and validating the Military Informed Cultural Competency (MICC) Scale — a tool designed to assess civilian cultural competency across multiple professional sectors and the Five Eyes nations: Australia, New Zealand, Canada, the United Kingdom, and the United States.

Methods: The study followed a three-stage process:

1. Development of the initial MICC items based on existing literature & identified competency domains.

2. A three-round Delphi survey with 25 international experts from the Five Eyes countries to refine items, achieve consensus, and establish content validity.

3. Psychometric testing of the final MICC Scale with civilian participants (n > 1600) recruited via Prolific, all of whom will be civilians with no prior military service, were over 18, and fluent in English. Psychometric properties examined included internal consistency, inter-rater reliability, and validity testing (content, face, convergent, construct, concurrent, and discriminant), alongside an exploratory factor analysis. Analyses will be conducted overall and stratified by country to assess cross-national applicability.

Expected Results: The final MICC Scale comprises 41 items rated on a 5-point Likert scale (strongly disagree to strongly agree). The tool was expanded from an initial 37-item draft through the expert consultation in the Delphi process, ensuring relevance across different military contexts. Psychometric testing is anticipated to demonstrate high internal consistency, strong factor structure, and robust validity across all Five Eyes nations. Results will be presented, including recommendations for implementation and benchmarking.

Conclusion: The MICC Scale represents the first val-

idated, internationally applicable tool for measuring military cultural competency in all civilian professionals across the Five Eyes nations. It provides governments, service providers, educators, and NGOs with a standardised approach to assess and improve culturally informed practice. The MICC Scale supports tailored training, workforce development, and international benchmarking, while enabling cross-national research and policy collaboration. Its validation represents a critical step in improving service access, reducing barriers to care, and strengthening culturally competent support for military-connected populations.

Poster Presentations

P124: An Intersectional Analysis of Military Physician Mental Health

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[1]Canadian Armed Forces

Introduction: Physician Burnout has been called a public health crisis (Brandford & Glaser, 2021) and is linked to negative personal and professional consequences, including suicidal ideation (Kuhn & Flanagan, 2016; West, Dyrbye, & Shanafelt, 2021). Pre-pandemic, physician burnout in Canada cost an estimated $213.1 million CAD per year (Dewa & et al., 2014). Many physicians fail to recognize their level of distress (Shanafelt, et al., 2014) and are likely to refrain from declaring symptoms due to perceived negative professional consequences (Kuhn & Flanagan, 2016; Arnhart et al., 2019), serious for physicians and patients (Panagioti et al., 2017).

The Canadian Medical Association (CMA) conducts a National Physician Health Survey (NPHS) every four years. The 2025 iteration is ongoing; however, the 2021 report indicated more than 50% of practicing physicians describe high levels of burnout, leading many physicians to alter their practice. Although military physicians were respondents in both surveys, there is no disaggregated data available to better understand the specific burnout rates, and associated risks, for military physicians (CMA, 2021).

Methods: A comprehensive intersectional analysis literature review will be completed to comprehend physician burnout. Available statistics and data for Medical Officers in the Canadian Armed Forces will be reviewed.

Expected Results: Physicians' personal and professional responsibilities frequently conflict (Twafik, et al., 2021). It is expected individual characteristics, such as gender, race and other intersectional considerations, will differentially impact physician mental health. A plethora of popular press publications documented gender disparity for many female professions, particularly relating to the impact of COVID. Pandemic inequalities are also documented for female physicians (Frank et al., 2021) and it is anticipated literature will reveal intersectional characteristics have persisted beyond COVID and continue to impact patient care (Farid, Gagliardi, & Atkins, 2024).

GBA Plus analysis will consider multiple identity factors and advance potential disproportionate negative impacts of burnout on various groups. As female physicians are five times more likely to experience burnout and twice as likely to report suicidal ideation (Mayo Clinic, 2021), it is expected other factors such as age, geographical location and other perspectives also influence mental health issues (Korona-Bailey et al., 2024).

Conclusion: Military physicians' mental health is imperative for operational readiness and safe patient care. This poster will draw attention to the knowledge gaps surrounding military physicians' mental health challenges, and associated barriers to care, through application GBA Plus analysis. Future research directions and recommendations will be advanced to prioritize long-term mental health of serving military physicians.

P127: Diversity Characteristics of Canadian Armed Forces Personnel: A Summary of Gender-specific Results from the 2021 Census

Bogaert, Laura, PhD (Cand)[1]; Guo, Yanfang, PhD[1]; Weiss, Deb, PhD[1]; Strauss, Barb, MSc[1]; Abraham, Natalia, MD[1]; Wright, Helen, MD[1]; Rossi, Carlo, MD[1]

[1]Department of National Defence

Introduction: Canada's military populations is a unique subset of Canada's diverse population. There is little published information about the diversity of Canadian Armed Forces (CAF) personnel. Although the Department of National Defence (DND) collects some identity characteristics in administrative databases, on surveys, and in the electronic medical record, a comprehensive summary of diversity in the CAF has not been reported. The Statistics Canada 2021 Census asked about military service for the first time since 1971 allowing researchers to examine characteristics of the military population and make direct comparison to the non-military Canadian population.

Methods: We used publicly available 2021 Census data

for this cross-sectional descriptive analysis. Military service status was ascertained with the following census question: “Has this person ever served in the Canadian military?” and the following response categories: “Yes, currently serving in the Regular Force or the Primary Reserve Force”, “Yes, but no longer serving in the Regular Force or the Primary Reserve Force”, “No”.

We extracted count data from the Statistics Canada 2021 Census online data tables relating to ethnocultural identity, Indigenous identity, Canadian generation status, and religion, each stratified by gender and military service status. We calculated the proportions for each response category for each diversity characteristic of interest using the count data and stratified population estimates.

Results: Overall, the 2021 Census counted 97,625 Canadians as active members of the Regular Force or the Primary Reserve Force (19.3% women) and an additional 461,240 former members (16.2% women). The proportion of visible minorities varied substantially by military status: no CAF service, 25.7%; current members, 13.9%; former members, 4.3%. Indigenous identity was more common among women compared to men: 6.7% vs 5.27% in current members and 6.5% vs 5.0% in former members. Specific Indigenous identities varied by gender in currently serving Indigenous members: Indigenous women: First Nations, 54.1%; Métis, 30.2%; Inuit, 6.1%; Indigenous men: First Nations, 49.0%; Métis, 42.6%; Inuit, 4.7%. Generation status and religious identity also differed across gender and military status.

Conclusion: It is important to recognize identity characteristics of CAF members and endeavor to understand how those factors intersect to shape military experiences and impact health outcomes. This analysis is the first time that gender-stratified census data of diversity characteristics have been summarized for the CAF population and compared to other Canadians. At DND, data collection of identity characteristics is improving and will allow for internal analysis and reporting through a diversity lens.

P130: Enhancing Military Retention and Transition through Education Training Benefits

Chamberlain, Ross, BA[1]; Alshaer, Hala[1]; Short, Michael, MHSc[1]

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Introduction: Education training benefits (ETB) provide military personnel with opportunities to enhance their skills and knowledge, leading to personal and professional growth. The programs serve as powerful incentives for recruitment and retention by offering service members the chance to advance their careers, personal development, and support their dependents. This literature review was conducted to assess the current state of ETB across NATO nations. It examines how the availability of ETB impacts the recruitment and retention of military personnel, their transition to civilian life, overall veteran outcomes, and the possible effects of extending these benefits to dependents. By showcasing the impact of education training benefits, this review seeks to understand if ETB can enhance the retention and overall satisfaction among service members.

Methods: A thorough literature review of existing research was conducted, analyzing various studies and articles on the topic. The review was conducted, utilizing the platforms SAGE, ProQuest Military, and EBSCO Military. A comprehensive search strategy tailored to the research topic was created and used to search these platforms. The search results were transferred to an Excel spreadsheet for systematic screening. Abstract and title screening was performed for 7,453 papers. Following this, a full-text screening was conducted for 76 articles, along with a critical appraisal of these full-text articles to assess their relevance and quality. After full text screening, xx articles were included for final synthesis and analysis.

Results: The findings indicate that education benefits, such as the GI Bill, positively influence military personnel retention by providing incentives for higher education. These benefits have been shown to significantly support veterans in transitioning to civilian life, improving long-term outcomes such as labor force participation, earnings, and job satisfaction. Furthermore, the literature also suggests that the ability to transfer education benefits to dependents enhances retention, as service members are more likely to stay in the military to provide educational opportunities for their families.

Conclusion: During the literature review, very limited supporting articles about education benefits in the other Five Eyes countries were found. However, the U.S. education benefits are important for Canadian military personnel due to shared values and goals. Both countries aim to recruit and retain skilled military personnel for national security and operational effectiveness. By learning from U.S. programs, Canada can adopt similar strategies to enhance military retention and recruitment. In conclusion, these benefits not only encourage service members to continue their careers but also

support their overall growth and well-being.

P145: Fatigue during Arctic Military Operations of Varying Lengths: An Analysis of Work-Rest Cycles and the Resulting Psychomotor Vigilance Decrements

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Introduction: The harsh conditions of the Canadian Arctic make military operations in this region exceptionally challenging and hazardous. To ensure safety and avoid harm, meticulous attention to detail and regular risk assessments for potential accidents are essential. The expanding role of the Canadian Armed Forces (CAF) in the Arctic brings a pressing need to consider fatigue-related risks and errors during operations. Sleep deprivation and accumulated fatigue negatively affect decision-making abilities and psychomotor function (e.g., reaction time, vigilance). With operations on land potentially requiring extended durations, optimizing rest periods becomes critical to mitigate safety hazards caused by limited sleep opportunities.

Methods: Three separate research trials were conducted to assess the work-rest cycles of troops during Arctic military Operations of varying lengths. We analyzed wrist actigraphy data from 11 participants during the ICE-PPR (Joint Task Force [JTF] Ulfr) activity that occurred during Operation NANOOK-NULIVUT (Op NA-NU) 2025 and compared it to 15 participants from the Canadian Army during Op NA-NU 2019, and 15 participants during 2019 Ex GUERRIER NORDIQUE. We also collected data from Daily Logbooks, and participants performed a Psychomotor Vigilance Task and Modified Mackworth Clock test immediately before, midway, and after the ICE-PPR activity.

Results: The participants for both 2019 Arctic Operations (Op NA-NU, and Ex Guerrier Nordique) were on the land for 5-days/4-nights but experienced much less opportunity to sleep due to the high operational temperatures of the exercises, and the need to take turns each night for stove and wildlife watch rotations. Conversely, the participants during the 2025 ICE-PPR activity were out on the land for 16-days, but had much greater rest opportunities, in part because the operation was a self-paced test and evaluation equipment trial with ability to set work-rest cycles and stove/wildlife watches. None of the groups reached a point of critical exhaustion, determined from biological phenomenological models that were used to predict the neuro-behavioral effects of fatigue from sleep-wake cycles.

Conclusion: We observed a range of operational tempo at different timepoints between the three trials, however, there was no evidence of a critical impairment caused by limited sleep opportunity. The work-rest cycles for the shorter military operations in 2019 led to modest fatigue, but the limited duration of these activities meant that there was no safety risk caused by deterioration of psychomotor function from limited sleep. The sleep-wake cycles during the longer 2025 ICE-PPR activity were more favourable for adequate rest.

P150: Medical and Occupational Readiness in the Canadian Armed Forces (CAF-MOR): Study Protocol for a Novel Surveillance System

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Brief Description: The monitoring of medical and occupational readiness is essential for sustaining an operationally effective military force and warrants an ongoing and timely surveillance system. In the Canadian Armed Forces (CAF), this monitoring is currently conducted through the ad hoc analyses of administrative and electronic health records. To enable a comprehensive understanding of trends and risk factors related to medical disposition status, an integrated surveillance system has been created. This protocol describes the development and implementation of the Canadian Armed Forces Medical and Occupational Readiness (CAF-MOR) Surveillance System, which aims to:

1. Quantify and describe medical absences, duty limitations, medical category transitions, and medical release.

2. Identify vulnerable sub-populations and key risk factors associated with medical dispositions.

3. Enable the development of tools, such as risk prediction calculators, for forecasting medical disposition status.

Patient Population: The CAF-MOR Surveillance System will bring together several routinely collected data sources for epidemiological surveillance. Data linkages between the Canadian Forces Health Information System (CFHIS) and administrative and occupational databases will be housed within the Ca-

nadian Forces Health Evaluations and Reporting Outcomes (CF-HERO) data repository. Data will be linked from 2019 onwards and updated on a quarterly basis. The dataset will include all eligible members (including approximately 65,000 Regular Force members).

Results: This system will validate and analyze indicators for medical absences (e.g., count/rate of days absent, cost of lost workdays), medical duty limitations (e.g., count/rate of limitations, types of medical employment limitations), medical categories (e.g., % of personnel meeting minimum medical standards, rates of medical category transitions), and medical release. Indicators will be stratified by key variables, such as age group, sex, command, and military occupation. Results will be disseminated internally through an interactive Power BI dashboard and updated quarterly.

Conclusion: The CAF-MOR Surveillance System will represent a significant advancement in the monitoring of key medical and occupational readiness outcomes within the CAF. This system will pull together disparate data sources to deliver timely and actionable insights to military leadership and inform operational planning and policies relating to medical readiness.

P155: Predicting long-term to repetitive blast overpressure in military breachers and snipers using multi-modal and multi-Omics information with machine learning

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Introduction: Canadian Armed Forces (CAF) personnel are frequently exposed to low-intensity, repetitive blast overpressure (ReBOp) during training and operations. Prolonged ReBOp exposure can lead to dysregulation of neural functions, often occurring in the absence of overt brain injury or diagnosed concussion. Accurately characterizing the persistent effects of ReBOp is critical for developing early diagnostic and intervention strategies. Advances in artificial intelligence (AI) and machine learning (ML), combined with high-throughput Omics profiling—including transcriptomics, miRNA analysis, and epigenetics—offer promising avenues for identifying biological alterations associated with long-term ReBOp exposure. This study presents experimental classification models that integrate multi-modal and multi-Omics information to predict ReBOp effects in CAF personnel.

Methods: Nine snipers and unexposed controls were analyzed for mRNA expression, while salivary miRNA profiles were collected from 32 operators (snipers & breachers) and 24 controls. RNA-seq was performed on blood samples using the TruGen1 platform, and small RNA-seq was conducted on saliva using the Illumina HiSeq2500 platform. For methylation analysis, salivary DNA samples from 35 operators and 24 controls were profiled using Illumina's Infinium MethylationEPIC array. Transcriptomic data were quantified as normalized read counts, while DNA methylation levels were represented as "beta values". We then used a ML framework, specifically Random Forest Feature Selection and Support Vector Machine (CV-rRF-FS-SVM), to identify the most important multi-Omics targets for long term ReBOp effect. Finally, SVM classification models were developed using these features.

Expected Results: ML analysis identified key multi-Omic biomarkers–encompassing gene expression, miRNA levels, and DNA methylation patterns–that differentiated individuals with long-term ReBOp exposure. The experimental models demonstrated strong predictive performance, with cross-validated receiver operating characteristic area under the curve (CV-AUC) scores of 0.95 ± 0.10 for mRNA, 0.88 ± 0.18 for miRNA, and 0.98 ± 0.05 for DNA methylation data. Ongoing analyses are expanding the sample size and incorporating additional data modalities to further enhance of model robustness and generalizability.

Conclusion: This study demonstrates the potential of using multi-modal and multi-Omics data, analyzed through advanced ML approaches, to predict long-term effects of ReBOp exposure. The promising performance of these classification models highlights the utility of transcriptomic and epigenetic signatures in developing personalized systems for monitoring brain health in military populations. Such predictive systems could significantly advance clinical decision-making, enhance force protection, and optimize the health, performance, and operational readiness of CAF members.

P157: Occupational stress and adherence to cancer screening guidelines in the Canadian Armed Forces: a sex-stratified study

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Introduction: Occupational stress has been associated with an array of health-related impacts, including in-

creased rates of cardiovascular disease, musculoskeletal disorders, and mental health disorders. However, less is known about the impact of occupational stress on adherence to healthcare screening guidelines, such as mammography and colorectal cancer screening. The increased levels of physical and psychological stress associated with a career in the Canadian Armed Forces (CAF), and the known sex-based differences in the occupational experiences of CAF members render it an ideal occupation to study sex-specific associations between occupational stress and adherence to healthcare screening guidelines. This study uses the 2019 Canadian Armed Forces Health Survey (CAFHS) to 1) describe and contrast the occupational experiences, sources of work stress, and adherence to health screening guidelines among CAF members overall and stratified by sex; and 2) investigate the associations between occupational stress and adherence to a) breast cancer, b) cervical cancer, and c) colorectal cancer screening guidelines among CAF members overall and by sex, where applicable.

Methods: This study uses data from the 2019 CAFHS, a stratified random sample of Regular and Reserve Force CAF members that was conducted between January and June, 2019. Our work will be guided by an advisory group of female and gender-diverse CAF members. We will describe sources of occupational stress among CAF members overall and stratified by sex using an abbreviated version of the Job Content Questionnaire. We will also describe the percentage of CAF members who report receiving breast cancer screening in the past two years, cervical cancer screening in the past three years, and colorectal cancer screening in the past two years prior to completing the survey. We will conduct adjusted logistic regression models to estimate the association between occupational stress levels and the odds of meeting 1) breast cancer (mammography) screening guidelines, 2) cervical cancer (PAP test) screening guidelines, and 3) colorectal cancer (fecal occult blood test) screening guidelines among CAF members overall and by sex (where applicable). The presence of effect measure modification by sex will be evaluated using a statistical interaction product term between occupational stress and sex in the full model for colorectal screening.

Expected Results: This work is ongoing. All data is collected, and we anticipate that final analyses will be completed by July 31, 2025.

Conclusion: Overall and sex-stratified results (where applicable) will inform our conclusions, which will be used to inform relevant healthcare planning and service delivery.

VETERANS

HEALTH POLICY

Podium Presentation

4B04: Conceptions of Wellbeing in Veteran Research Literature

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Introduction: Well-being is increasingly recognized as a key indicator of societal progress, yet there is no universal consensus exists on how best to define, measure or foster it. This lack of clarity is amplified in veteran populations, where factors such as military identity, transition experiences and community reintegration may significantly influence well-being. This scoping review aims to clarify how well-being is conceptualized in the international literature. Specifically, we examined: (1) which domains of well-being are evaluated in veteran-focused research; and (2) how the veteran well-being literature compares to that of the general population.

Methods: We conducted a scoping review guided by PRISMA. Peer-reviewed, English language articles published since 2010 were included if they focused on veterans aged 18 or older and offered a clear conceptualisation of well-being. Studies focused on active-duty service members, younger populations or those lacking a defined well-being measure were excluded. Database searches spanned APA PsychArticles, PubMed, JSTOR, Wiley, EBSCO and the Cochrane Library. From more than 4,000 initial records, 503 articles met inclusion criteria following screening in Covidence by two independent reviewers. We extracted data on study design, participant characteristics and key well-being constructs, then conducted a narrative synthesis to identify common themes.

Expected Results: A preliminary analysis of 43 articles revealed 12 distinct well-being domains. On average, each study addressed three domains, ranging from one to eight. Mental (n=37), Social (n=25) and Physical (n=25) health were most frequently reported, followed by Family/Spousal, Financial and Work domains (n=12 each). General (n=9), Spiritual (n=8), Military Identity (n=4), Life Skills/Personal Development (n=2) and Meaning/Engaged Citizenship (n=1 each) were comparatively underexplored. This limited distribution is consistent with the research on well-being among the general population.

Conclusion: Any research or policy initiatives aimed at promoting veteran well-being must be grounded in a broad, commonly accepted understanding of well-being that recognises the multiple domains contributing to a comprehensive concept of health. Limiting well-being to individual psychological and physical factors neglects the pivotal influence of social context. Instead, incorporating a sense of community, belonging, identity, and spiritual well-being, among other relevant dimensions, offers a more holistic and inclusive framework. Embracing these broader perspectives will ultimately enhance our ability to support policy approaches tailored to veterans' diverse needs.

Poster Presentation

P189: Building and Maintaining Trust and Relationships among Service Providers to Better Understand the Veteran Population

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Introduction: Integrity, a cornerstone of the Canadian Armed Forces (CAF) Values and Ethics, underpins trust within its ranks. This principle must extend to military and Veteran research, particularly when studying vulnerable populations like homeless female Veterans. The research team's work reveals a critical need to address the "trust deficit" between researchers, Veterans, and service providers. Often, Veterans and their advocates, having experienced past research exploitation, erect protective barriers. Researchers must acknowledge this, recognizing that participation requires vulnerability and trust in outsiders. Building these bridges involves genuine relationship-building, active listening, and a commitment to reciprocity. Researchers must prioritize returning findings and fulfilling promises, demonstrating that their work is not extractive. Just as CAF members adhere to a strong ethical code, military researchers must adopt a parallel ethos, fostering trust and ensuring ethical, impactful engagement with those they seek to understand and assist. Therefore, military researchers must plan and account for building relationships among stakeholders, must accept that they need to earn the trust of these important intermediaries for vulnerable populations, and must adapt their findings to give back to a population which has already given so much for their country.

Methods: Our research team has learned several important lessons in trust building with stakeholders through our experiences with attempting to interview homeless Canadian female Veterans. The lessons

learned, ones that must be shared to the broader military research community, are lessons that can improve recruitment of vulnerable military and Veteran populations.

Expected Results: By engaging more directly with stakeholders and service providers, our research team was able to build trust over time. By spending time face to face, in an age where virtual meetings have become the norm, research members were able to make quality connections, enabling the stakeholders and service providers to understand the passion of the researchers to help the military and Veteran members. By doing so, stakeholders and service providers were then willing to assist with recruitment of vulnerable populations. Such involvement with stakeholders and service providers, specifically via an integrated Knowledge Translation approach, bolstered the initial trust with potential participants.

Conclusion: Trust with stakeholders and service providers is a necessary element when attempting to study a vulnerable population such as homeless Canadian female Veterans. Such populations often have the ability to make themselves invisible, thus making it impossible for recruitment. With the inclusion of stakeholders and service providers, a once invisible participant population can become accessible.

HEALTH SERVICES

Podium Presentations

4B01: Bridging the Gap: Improving Health Service Transition During Transition to Civilian Life for Canadian Veterans

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Introduction: Canadian Armed Forces (CAF) members use the military health system during service and transition to civilian provincial/territorial systems after release. Primary care is the first point of contact with the civilian health systems and has become increasingly interdisciplinary. Veterans experience health problems and use primary care more than the general population, making primary care transition during military-to-civilian transition (MCT) essential. Literature examining health service transitions associated with MCT is limited, with no in-depth investigations of CAF Veterans' lived experience, so we conducted a series of studies to begin building a knowledge base on this important aspect of MCT. The purpose of this session is to present the integrated results of these three studies to provide a comprehensive and rich picture of Veterans' health service transition.

Methods: We used a primarily qualitative multiple methods approach – including phenomenological and case study methods – to investigate Veterans' lived experience of MCT-related health service transition at three separate points: pre-release, post-release, and after primary care attachment. We combined the results of each study using a mixed methods integration technique – joint display table – to produce a synthesis of the health service transition across time, its health and well-being implications, and future directions for improving this important aspect of MCT.

Results: The transition to civilian primary care encompassed anticipation of and preparation for the change before release, navigating the change in the months and years after release, and eventually finding a civilian primary care provider. The earlier in the release process participants secured a primary care provider, the easier the transition was. However, protracted timeframes between release date and primary care attachment, combined with the abrupt loss of access to the military health system, led to gaps in access that could be difficult to navigate. The challenges and health implications were particularly profound for those with ongoing health issues requiring consistent access to care. The quality of primary care provision was strongly influenced by clinicians' military/Veteran cultural competence, particularly for those with service-related mental health concerns. Key areas for improvement include increasing preparation for the health system transition prior to the release date, preventing gaps in access to primary care after the release date, and increasing military/Veteran cultural competence among civilian primary care providers.

Conclusion: Continuous access to culturally-informed primary care throughout the transition is important. More research is needed to better understand this underexplored aspect of MCT to better serve transitioning Veterans in the future.

5E04: Inequities in Healthcare Access Among Equity-Deserving Veterans: A Call for Inclusive Care and Research

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[1]Veterans Affairs Canada

Introduction: The Veterans' Well-being Community Health Needs Assessment (CHNA) objectives included highlighting priorities for Canadian Veterans'

health and well-being; informing decision-makers; and supporting allocation of resources. The CHNA's mixed-methods approach included a survey that explored Veterans' experiences of health inequities and addressed knowledge gaps of equity-deserving Veterans' (EDV) health and well-being. Using intersectionality and GBA Plus, the CHNA survey explored and highlighted EDV experiences with barriers to health care access and use.

Methods: The survey used a cross-sectional, exploratory design with convenience and snowball sampling. Inclusion criteria included Canadian military service and over 18+. Recruitment strategies focused on outreach to individuals and organizations that supported women, 2SLGBTQI+, Indigenous, Black and racialized Veterans, and Veterans experiencing disability. Survey measures included demographics, self-reported health indicators, perceived health priorities, and healthcare utilization. Data collection and analysis was conducted using Qualtrics XM. Data collection occurred May-October 2024 (n=860). Descriptive statistics analyses with significance testing using chi-square and post-hoc pairwise z-tests were used between EDV and Veteran counterparts (men vs women, Indigenous vs not Indigenous, disability vs no disability, 2SLGBTQI+ vs not 2SLGBTQI+).

Expected Results: Select results indicate women, 2SLGBTQI+, Indigenous, and Veterans experiencing disability were more likely to report discrimination by healthcare providers compared to their counterparts. Women reported experiencing discrimination significantly more than men, and attributed this discrimination to sex, gender, and disability significantly more than men. Indigenous Veterans reported the highest rate of discrimination with a significantly higher proportion identifying race and culture as factors. Women Veterans and Veterans experiencing disability were more likely to report not receiving needed healthcare over the past year compared to their counterparts. Caregiving responsibilities, past negative healthcare experiences, stigma, and lack of available care when/where needed were identified as contributing factors.

Conclusion: Women, 2SLGBTQI+, Indigenous, and Veterans experiencing disability were more likely to report discrimination by healthcare providers. While each group reported varying levels of discrimination, common factors emerged within groups that were attributed to their experiences of discrimination. Interestingly, women, and Veterans who have disabilities reported similar barriers to accessing healthcare. Results demonstrate an urgent need for further investigation of EDV's experiences with healthcare providers, accessing services, and impacts on health and well-being outcomes. Healthcare professionals should critically examine conscious and unconscious biases, power dynamics, and influencing factors on EDV health and well-being. Researchers must ensure that survey designs integrate intersectional and GBA Plus perspectives, incorporating measures that investigate experiences of Veterans' health inequities and discrimination.

Poster Presentations

P168: Exploring the use of the International Classification of Functioning, Disability and Health for transition from military to civilian healthcare and community systems: a mapping review

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Introduction: Veterans experience a complicated healthcare transition as they adapt from military to civilian healthcare and community services. During this transition, Veterans may face barriers to adequate care such as building relationships with healthcare professionals and reconceptualizing their goals. The International Classification of Functioning, Disability and Health (ICF) is an accessible framework that may facilitate the transition process by serving as a reminder of the components underscoring the military to civilian healthcare transition process. Mapping the application of the ICF in the military to civilian healthcare and community transition process may help improve care coordination for Veterans.

Methods: This study used a mapping review methodology. A systematic search was conducted across six electronic databases: MEDLINE, EMBASE, CINAHL, PSYCInfo, Web of Science, and Social Science Abstracts. Doyle et al's key features of content analysis was used to descriptively map the application of the ICF.

Results: A total of 229 were retrieved from database searches and five studies met eligibility criteria. All studies were from the United States, with the exception of one from Israel. Findings demonstrated that the ICF has been used to guide research by helping researchers identify research questions and explore meaningful outcomes to measure transition. The ICF has also been used to improve Veterans' self efficacy, by serving as a tool that individuals can use to reflect on their needs and abilities, to better understand their health and advocate for services. Three out of five studies recommend-

ed the ICF be used to help healthcare professionals and care coordinators understand Veterans' strengths and weaknesses and to refer Veterans to more effective and personalized services. Similarly, healthcare services may extend beyond typical body function limitations and consider how environmental factors influence healthcare and participation. Example of factors to that require further exploration include education, opportunities for meaningful connection, understanding of financial supports, and resources for family members.

Conclusion: The ICF is a powerful framework that has been used in diverse populations to support healthcare decision making, with an emphasis on person-centered treatment planning. Qualitative research is needed to understand how the ICF can be used in a practical context for Veterans during the transition process. While there are many promising services available, Veterans still report issues with the transition process. Considering the systemic barriers that may impact access to services, it is important that Veterans are provided with tools and support to help them be involved in their own care.

P174: Healthcare access challenges for Veterans in Canada, the UK, Australia, and New Zealand: A review of the literature

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Introduction: Access to healthcare is a critical issue for military Veterans, especially since they face a higher prevalence of complex health conditions compared to the general population. While the United States (US) has a well-established Veteran healthcare system to meet Veterans' unique medical and psychological needs, other Five Eyes countries (i.e., Canada, United Kingdom, Australia, and New Zealand) do not. Instead, Veterans must rely on public healthcare services, which can lead to increased barriers to access in these countries compared to the US. Therefore, this study aims to inform efforts to improve access to culturally-competent healthcare for Veterans by conducting a scoping review of barriers to healthcare access in countries other than the US.

Methods: Published studies up until December 2024 were synthesized across CINAHL, PsycINFO, PubMed, Web of Science, and the Journal of Military Behavioural Health (n = 1,505 studies). Following PRISMA guidelines, two reviewers screened and extracted data. Thematic review was guided by Levesque's conceptual framework of healthcare access, providing a set of five dimensions of health system access and five abilities of the population to access healthcare.

Results: Twenty-five studies met inclusion criteria. Twenty studies were from the Veterans' perspective, three from the family's perspective, and two from the provider's perspective. Over half of these studies (n = 14) originated from the United Kingdom. The most commonly identified barriers were the ability of Veterans to perceive the need for care (n = 11) and to seek care (n = 13). In terms of the perceived need for care, seven studies found that Veterans did not trust healthcare, had previous bad experiences, had difficulties navigating the system, felt that help was inaccessible, and that finding help caused distress. Their ability to seek care was impeded by personal and social values (mental health stigma), and gender (reduced healthcare use by men suggesting unrecognized needs and women not accessing services perceived to be designed for men). The ability to reach healthcare was a barrier in nine studies, mainly due to a lack of social support. In terms of the healthcare system, the most common barrier identified was a lack of cultural competency (n = 6).

Conclusion: Many Veterans experience barriers in perceiving the need for care and when they do, they often experience barriers in seeking care, mainly due to mental health stigma. A lack of cultural competency in healthcare means that even when Veterans manage to access care, it is often lacking.

P176: Client-Reported Outcome Monitoring Information System: An Exploration of Client Perceptions and Experiences

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Program/Intervention Description: The Royal's Operational Stress Injury (OSI) Clinic utilizes the Client-Reported Outcomes Monitoring Information System (CROMIS), developed by Veterans Affairs Canada, to guide treatment and improve mental health outcomes through evidence-based psychometric measures. Despite its implementation in 2013, formal client feedback has been limited. To address this knowledge gap, a quality improvement project was initiated to better understand how clients perceive and experience CROMIS.

Evaluation Methods: An online survey was developed to explore client perceptions of and experiences with CROMIS at The Royal's OSI Clinic. Past and current clients of The Royal's OSI clinic who have consented to being contacted for research purposes were emailed a

link to the one-time survey for their feedback. The survey includes sociodemographic questions (e.g., age, gender, sex, service history, and clinical information) and CROMIS-related questions focusing on perceptions of and experiences with the purpose of CROMIS and the consent process, CROMIS administration and website navigation, CROMIS questionnaires, and CROMIS feedback from clinicians.

Results: Data collection is ongoing to ensure sufficient sample size for quantitative analyses. Data from 42 respondents has been collected so far, with 20 individuals reporting that they received individual treatment. Preliminary analyses reveals that the majority of treatment clients agree that CROMIS is a **clinically useful tool** and that its use has helped them to **better understand their treatment progress**. More than half of the participants also reported that CROMIS use has **positively influenced** their treatment experience. Notably, a vast majority of participants further indicated that they would **participate in CROMIS again** should they be re-referred to the clinic. Study participants also shared some **concerns with and barriers to CROMIS use**.

Conclusion: Study findings reveal that the use of CROMIS with clients is beneficial and positively impacts treatment experience. Study findings also identify areas for treatment providers to review with clients in an effort to alleviate concerns about or barriers to CROMIS use. Communication of key study findings to VAC may lead to or support implementation of such a survey across the network of OSI clinics in an effort to understand the impact of CROMIS use through a national lens. Future steps also aim to include translation of findings into practice for improved client care, such as using client feedback to make well-measured and meaningful process changes, for example, where needed.

PRIMARILY MENTAL HEALTH AND WELL-BEING

Podium Presentations

1B02: Insights into the health and well-being of women Veterans of the Royal Canadian Mounted Police (RCMP): A preliminary descriptive analysis

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Introduction: Women RCMP Veterans remain underrepresented in health research, despite growing numbers within the serving and Veteran populations (RCMP, 2023; The Veterans Ombudsman, 2016). Their work often involves hazardous and psychologically demanding conditions and can increase the risks of service-related injuries, including mental health challenges (National Police Federation, 2024). Gendered experiences, such as sexual harassment or discrimination, may further compound these risks (Bastarache, 2020). While research has begun to address the health of women in the RCMP, none has focused exclusively on them as Veterans (Poole, 2021). Drawing on data currently being collected via an online survey of women Veterans' well-being during and after service, this presentation offers a descriptive profile of a preliminary sample of women RCMP Veterans, examining individual, occupational, and health-related characteristics.

Methods: An online self-report survey, currently in progress, is being used to assess the specific health needs and mental health outcomes among women Veterans of the RCMP and Canadian Armed Forces. Well-being is assessed through validated measures of discrimination, harassment, access to health care and perceived barriers to care. Descriptive analyses will be conducted to report patterns among women RCMP Veteran participants.

Expected Results: Preliminary findings from a small sample (n = 35) of women RCMP Veterans (Mage = 55.6 years, SD = 7.7) indicate that participates report moderate to high mean scores of workplace discrimination (M = 30.0, SD = 11.1), sexual harassment (M = 5.2, SD = 4.5), organizational stressors (M = 4.80, SD = 0.88), and operational stressors (M = 4.70, SD = 1.10) during service. Exposure to potentially morally injurious events was also high (74.3%). A high prevalence of at least one lifetime mental health diagnosis was reported (94.3%), and of these, 69.7% were currently receiving support/treatment for one or more of these conditions. Participants also identified several barriers to accessing care, including concerns about job prospects, fear of mental health issues being on medical records and a desire to solve problems independently. The overall mean barrier score was moderate (M = 1.96, SD = 0.60).

Conclusion: To our knowledge, this is the first descriptive profile of women RCMP Veterans, offering initial insights into individual characteristics, occupational experiences, and health-related outcomes. However, due to the small sample size, the above results should be interpreted with caution. Further analyses will be conducted to provide a more accurate profile of this sample which may inform future work in this area.

1C01: Perceived value of military Service on post-Service life: A focus group study of United Kingdom ex-Service personnel

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Introduction: While generally viewed positively, evidence suggests the UK public consider ex-Service personnel (Veterans) as more vulnerable to mental health difficulties who require additional support transitioning into civilian employment and society. Much of the existing research focuses on the challenges faced by Veterans and less so about the benefits of military Service, prompting the question: how do Veterans perceive the value of their military Service on their post-Service life?

Methods: A qualitative study of nine online focus groups with 53 (45 male, eight female) UK Veterans of various ranks (tri-service) was conducted. To draw on a representative sample, participants were recruited through various mechanisms including social media platforms, employers, the civil service, and third sector organizations. Data were analyzed using reflexive thematic analysis (through a social constructivist lens). Veteran involvement and engagement were incorporated throughout the research design and analytical stages to enhance robustness.

Results: Two master themes were developed 1) taking advantage of the opportunities of Service and 2) obstructions to making meaning of the benefits on offer, both which rested on the Veterans' relationship to their past identity in a changing military environment, their new civilian-Veteran identity, and their identity compared to their new civilian counterparts.

In taking advantage of the opportunities of Service Veterans recognized how Service a) transformed them into better versions of themselves through social, emotional, intellectual and psychological growth; b) afforded a life well-lived, through social mobility and exposure beyond the 'norm'; and c) cultivated various hard and soft skills for success in transition to civilian life.

However, Veterans were often hindered in recognizing the unique contribution of their abilities by a) holding on to their military identity, thus preventing them benefiting from the benefits of Service and b) fixating on the military-civilian divide within an 'us' versus 'them' narrative. It was also acknowledged that not all Veterans leave military in the same way which could impact translating their value to civilian terms.

Conclusion: Focusing on the benefits of military Service provides emerging evidence of the onward value of Service whilst recognizing the potential barriers to realizing such benefits. These findings have consequent implications for the UK Ministry of Defence, Office of Veterans Affairs and others who support Veterans transitioning to civilian life. These findings are important for building balanced perceptions of Veterans (amongst themselves and for the general public) in a time of military recruitment challenges and retention across the global north.

1C02: The Veteran Connection Program: Enhancing Social Support and Well-being for Service-leavers through identity management

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Brief Description: Around 16,000 individuals leave the UK military annually, and over half experience mental health challenges such as PTSD, depression, alcohol misuse, or suicidal ideation, which are exacerbated by difficulties transitioning to civilian life. Identity loss and disconnection from military-based social networks significantly contribute to these problems, with more than half of service-leavers reporting feelings of loneliness and insufficient social support. Existing transition programmes typically neglect these underlying identity-related issues, focusing primarily on employment or individual mental health. Addressing this gap is critical, given that unsuccessful transitions annually cost UK taxpayers over £110 million. The present study developed and evaluated the Veteran Connection Programme (VCP), a group-based psychosocial intervention aimed at facilitating identity management and enhancing social connections for transitioning veterans. We hypothesised that participation in the programme would result in improved social identity management skills, stronger social connections, better civilian integration, and enhanced psychological well-being.

The study employed mixed-methods involving three intervention cohorts (N=21) across Australia and the UK. The VCP was co-designed with veteran input and delivered through peer-co-facilitated group sessions emphasising the importance of social identities during the transition from military to civilian life. Quantitative data collection included pre- and post-intervention

measures assessing thriving, group gain, self-efficacy in social identity management, and Military-Civilian Adjustment and Reintegration Measure (MCARM) scores. Qualitative data were gathered via participant feedback and interviews to assess programme acceptability and subjective experiences. Data analysis involved paired statistical comparisons (paired t-tests and effect size calculations) of pre-post intervention outcomes, alongside thematic analysis of qualitative responses.

Patient Population: Service leavers.

Results: Quantitative analyses revealed significant pre-to-post-intervention improvements in thriving, perceived group gain, self-efficacy in managing social identities, and military-civilian adjustment. Qualitative analyses demonstrated high programme acceptability, with participants highlighting meaningful improvements in social connections, identity clarity, and overall well-being following participation in VCP.

Conclusion: The results of this pilot of VCP demonstrated significant and meaningful preliminary benefits for transitioning veterans in managing identity-related challenges and improving social connectedness and psychosocial outcomes. These results supported the study's hypothesis that facilitating identity transitions through structured, peer-supported group interventions positively affects veteran adjustment and well-being. Future research will test the feasibility of VCP across different subgroups of veterans (e.g., female, early service leavers, minorities, rurally living) to expand this intervention to larger, diverse veteran populations and investigate its long-term impact. Findings suggest implications for policymakers and veteran support agencies, advocating for inclusion of identity-focused, socially-oriented transition programmes as essential components of veteran support systems.

1C04: Combatting Cultural Hysteresis: Renewing Veteran Clubs for Today's Diverse Community

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Introduction: As Australia's foremost non-goverment veterans' organisation, the Returned & Services League (RSL) has historically played a pivotal role in forging camaraderie, shared identity, and social support among those who have served. These bonds are widely recognised as protective factors against loneliness, mental distress, and elevated risks of suicide and self-harm. Despite its critical function in promoting veterans' well-being, the RSL has experienced a significant and ongoing decline in membership, particularly among younger, female, and culturally diverse veterans. This erosion of participation raises concerns about the organisation's future viability and its capacity to meet the evolving needs of those leaving military service.

Methods: In a mixed methods investigation of factors influencing this decline, an anonymous online survey was conducted with 76 current and former members of a South Australian RSL sub-branch between 2021 and 2024 (63.3% response rate). Responses to both multiple-choice and open-ended questions were analysed thematically using NVivo, revealing patterns in members' experiences, motivations, and perceptions.

Results: Findings highlighted that older white male Vietnam veterans, who constitute the dominant membership, often credit the RSL with reducing isolation and mitigating suicidality through mutual support. However, many respondents identified a reluctance to modernise, along with exclusionary behaviours and language that alienated newer and more diverse groups. This cultural rigidity appeared to accelerate membership attrition and undermine the RSL's role as a unifying, protective resource for all veterans.

Conclusion: These results illuminate challenges faced across the broader national RSL network. As Australia's largest veteran support organisation, the RSL is uniquely positioned to foster social connectedness and help mitigate suicidality nationwide. Addressing generational divides, embracing greater inclusivity, and modernising traditional practices are critical steps toward safeguarding its legacy and ensuring it continues to support the diverse and evolving veteran community.

2B02: No Women's Land: Australian Women Veterans' Experiences of Military Service, Military Sexual Trauma and Transition

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of Calgary; [7]Defence Force Welfare Association; [8]Cambrian Executive; [9]Wellington Free Ambulance; [10]Veterans SA; [11]Gallipoli Medical Research; [12]Military and Emergency Services Health Australia (MESHA); [13]University of Tasmania

Introduction: Women veterans' experiences of military service and transition exist within an established, dominant, masculinised culture, in which their presence is highly visible, challenged, and often subject to institutional prejudice. This project explores the Australian women veterans' experiences of military service, transition and post-service. The project generates new knowledge about women veterans' experiences of services and of military sexual trauma, post-service support issues for women veterans, and how transition and post-service mental health support programs can be adapted to better support women veterans. Its scope includes the voices and experience of women veterans who have served in the Australian Defence Force since 2000.

Methods: This research used an interpretive phenomenological approach to give value, emphasis and deeper understanding to the subjective meanings, experiences, and perspectives of women veterans. The research involved three stages. 1. In-depth qualitative interviews undertaken with 22 Australian women veterans examined how women veterans manage their identity as women in the military. Data analyses followed van Manen's methodological approach to thematic analysis. This first stage was complemented with 2. A review of group programs for women veterans and 3. Focus groups with women veterans to discuss the existing evidence for group programs and offer advice on their adaptation to the needs of women veterans.

Results: This research provides the most detailed current account of Australian women veterans' experiences of military service, military sexual trauma and transition. In-depth interviews elicited four themes: (1) Fitting in and managing identity with the military; (2) Gender-based challenges in conforming to a masculinized culture—proving worthiness, assimilation, and survival strategies within that culture; (3)Women are valued less than men—consequences for women veterans, including misogyny, sexual harassment and assault, and system failures to recognize women's specific health needs and role as mothers; and (4) Separation and transition: being invisible as a woman veteran in the civilian world. Systemic failures to recognize women veterans' specific health needs and identity as veterans consequently impact their service and post-service help-seeking and engagement with services to address their experiences of physical and mental health challenges which remain largely invisible or poorly addressed by available systems of support post-service.

Conclusion: Women veterans' adverse experiences largely stem from an entrenched masculinised military culture, in which military sexual assault is enabled, ignored, and condoned. Military and veteran support services have been slow to recognize, acknowledge, and address this significant issue. Tailored programs are essential.

2B04: Examining the role of institutional betrayal in the association between service-related sexual trauma and moral injury

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Introduction: It has been well-documented that service-related sexual trauma (SRST) is a serious issue for women in the Canadian Armed Forces (CAF) and Royal Canadian Mounted Police (RCMP) and that it has serious implications for those who experience SRST, including moral injury (MI; e.g., Lopes et al.), suicidal ideation and attempt (McAdams et al., 2025). Institutional betrayal (IB) is a common feature of both military and RCMP experiences (Bikos, 2023), and for those who have experienced SRST (Christl et al., 2024; McAdams et al, 2025). At present, no studies have examined the role of IB in the association between SRST and MI and this study begins to address that gap. It was hypothesized that SRST would be significantly associated with MI and that IB would moderate that association such that SRST would be more strongly associated with MI at higher levels of IB.

Methods: *N* = 157 women Veterans (*M*age = 54.61) of the CAF and/or RCMP completed a cross-sectional, online, self-report survey. SRST was measured using the Sexual Harassment subscale of the DRRI-2 (Vogt et al., 2003); moral injury was assessed using the Moral Injury Outcome Scale (MIOS; Litz et al., 2022), and institutional betrayal was measured using the IBQ-2 (Smith & Freyd, 2013). Additional socio-demographic information was also collected (e.g., age, income, rank).

Expected Results: Multiple linear regression was used to test the associations between SRST, IB, and MI with SRST and IB entered in step one and the interaction term (SRST x IB) entered in step 2 of the regression model. The overall model accounted for 39% of the variance in moral injury scores. SRST ($b = 1.64$; $t = 4.98$, $p < .001$) and IB ($b = 2.76$; $t = 4.67$, $p < .001$) significantly

predicted MI scores and IB significantly moderated the association between SRST and MI ((*b* = -.13; *t* = -3.51, p <.001)). An examination of simple slopes showed that at high levels of IB, low levels of harassment (i.e., one standard deviation below the mean) was associated with significantly higher moral injury scores compared to those who experienced low IB and low harassment.

Conclusion: Results demonstrate that SRST is associated with moral injury for some women Veterans and that this association can be significantly impacted by IB. Results will discuss future directions and how education and awareness can inform changes that promote accountability, transparency, and support for those affected by SRST and IB.

3B01: Effects of Novel, Emerging and Alternative Interventions for Women Veterans with Post-Traumatic Stress Disorder and Related Mental Health Disorders: A Systematic Review and Meta-analysis

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Introduction: Women Veterans experience unique gender-specific needs and barriers when accessing mental health treatments, which are often unmet and result in underutilization of services. There is an increasing need for information regarding novel, emerging and alternative health interventions to better address the unique health needs and concerns of women Veterans while considering their specific health disparities. This project aims to conduct a systematic review and meta-analysis to assess the effects of novel, emerging and alternative health interventions on mental health outcomes among women Veterans and serving members living with PTSD.

Methods: Using the USVA PTSD Repository, which includes studies indexed in PTSDpubs, MEDLINE, Cochrane CENTRAL, and PsychINFO, we will search for randomized controlled trials with at least 10 participants in each arm. We will include studies with women/female Veterans and active service members with PTSD, published up to April 1, 2025. Title and abstract screening, full texts screening, and data extraction will be conducted in duplicate. The Cochrane Risk of Bias tool will be used to assess risk of bias for each included study. Mean differences and associated 95% confidence intervals for continuous outcomes will be extracted, and effect estimates from multiple studies will be pooled.

Expected Results: The systematic review and meta-analysis will be completed by October 2025. Of the 550 studies published between 1988 and 2024 that are captured in the Repository, 203 (37%) included women Veterans and active service members, of which 175 (86%) examined the effects of novel, emerging and alternative interventions. The mean proportion of female study participants was 30%, with 99 studies including Veterans, 12 studies including active duty military members, and 48 studies having a mix of both. Sixty-one studies focused on psychotherapy interventions, 44 on Pharmacotherapy, and 16 on Complementary and Integrative Health. The most common interventions for PTSD included Internet-based facilitated self-help (5.3%), Transcranial magnetic stimulation (3.5%), and Prazosin (3.0%).

Conclusion: Our project will address the existing knowledge gap regarding the efficacy of novel, emerging and alternative interventions for mental health in women Veterans by examining sex- and gender-based effects and differences. Preliminary findings suggest there is an evidence-base at the intersection of these therapeutic approaches that can inform the mental health needs of women Veterans with PTSD.

3C01: Adverse Mental Health Outcomes and Alcohol Misuse Among United Kingdom Armed Forces Personnel: A 20-Year Cohort Study of Military Personnel Who Served During the Iraq and Afghanistan Conflicts

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Introduction: It is over twenty years since the start of the UK Armed Forces involvement in the conflicts in Iraq and Afghanistan. The UK Armed Forces experienced over a decade of active combat operations in Afghanistan (2001-2014), and Iraq (2003-2011). Over that period, 280,000 UK Armed Forces were deployed to these conflicts.

The King's Centre for Military Health Research has surveyed the health and wellbeing of serving personnel and veterans in a longitudinal cohort study since 2004. There have been three previous cohort data col-

lection points, with this study now reporting on Phase 4 findings (2022-2023).

Methods: This is the fourth phase of a longitudinal cohort study that has assessed the health and wellbeing of UK serving personnel and veterans since 2004. Participants were eligible for the fourth phase (2022–2023) if they took part previously (2014–2016) and consented to recontact. Primary outcomes included common mental disorders (CMD), probable post-traumatic stress disorder (PTSD), Complex-PTSD (C-PTSD) and alcohol misuse. The rates of adverse mental health outcomes, and alcohol misuse were described for the whole sample (Regulars/Reserves, serving/ex-serving personnel). Weighted percentages are presented along with unweighted cell counts.

Results: Overall (n=4104, response rate = 54·6%), most participants were male (86·0%, n=3531) with a mean age of 50·8 years. Most of the sample were veterans by Phase 4 (71·8%, n=2944) and had deployed to Iraq or Afghanistan (69·0%, n=2827). Of those who deployed, 28·6% (n=807) held a combat role on their last deployment.

CMD were the most prevalent outcome (27·8%), followed by probable PTSD (9·4%) and alcohol misuse (8·4%). The majority of PTSD experienced met the criteria for C-PTSD. Veterans compared to serving personnel reported higher rates of PTSD and C-PTSD; higher rates of both disorders were reported in those whose last deployment to Iraq or Afghanistan was in a combat role. Since the previous phase, rates of CMD and PTSD have increased, and alcohol misuse has remained high but stable.

Conclusion: The majority of those who served during the era of the post-2001 Iraq and Afghanistan conflicts do not report adverse mental health outcomes or alcohol misuse. There is however a substantial minority who do experience difficulties, particularly those who deployed in a combat role and who may need support into the future. This study is of particular importance to public health bodies, government policy makers (local, national and international), those undertaking health protection for the Armed Forces and those providing health and support services.

3C02: Digital Therapeutic App for Hazardous Alcohol Use in UK Ex-Service Women: A Randomized Controlled Trial

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Introduction: Alcohol misuse is prevalent in the United Kingdom (UK) Armed Forces (AF), with rates significantly higher than those observed in the general population. To date, digital health interventions targeting alcohol misuse have primarily focused on men, who comprise approximately 89% of the UK AF. However, women who have served in the Armed Forces also report disproportionately higher alcohol consumption compared to women in the general population. This two-arm, participant-blinded (single-blinded), confirmatory randomized controlled trial (RCT) evaluates the efficacy of a brief digital alcohol intervention, DrinksRation, in reducing weekly self-reported alcohol consumption from baseline to 3-month follow-up among women who have served in the UK AF.

Methods: In this two-arm, single-blinded randomized controlled trial (RCT), a smartphone app (DrinksRation), featuring interactive components tailored to the needs of women who have served in the UK AF (intervention arm), is compared against standard UK Government guidelines on alcohol use (control arm). The intervention was designed to enhance participants' motivation to reduce their alcohol consumption. Eligible participants included women who had completed at least one day of paid service in the UK AF. Recruitment, consent, and data collection were conducted entirely online. The primary outcome was the change in self-reported weekly alcohol consumption from baseline to 3-month follow-up, measured using the Timeline Follow Back for Alcohol Consumption method. The secondary outcome was the change in Alcohol Use Disorders Identification Test (AUDIT) score between baseline and follow-up, comparing the control and intervention groups.

Results: A total of 88 female veterans were included in the final analysis. At day 84, participants in the intervention group (n=39) demonstrated a significantly greater reduction in weekly alcohol consumption (mean difference = -8.7 units; 95% CI: -10.5 to -6.9; p<0.001) and in overall AUDIT score (mean difference = -5.4; 95% CI: -6.8 to -4.0; p<0.001) compared to the control group (n=25). No major adverse events or technical issues were reported during the trial.

Conclusion: The DrinksRation app significantly reduced alcohol consumption and hazardous drinking among female veterans, demonstrating strong engagement, high usability, and no adverse events during the present study. These findings support the use of tailored digital interventions to address alcohol misuse in veteran populations.

3C03: Tailoring Treatment for First Responders, Military and Veterans: Program Evaluation of Unified Protocol and Cognitive Processing Therapy in an Inpatient Program for Mental Health and Addictions

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Program/Intervention Description: Repeated exposure to occupational stressors can result in various mental health impacts for first responders, military and veterans (FRMV). For this reason, mental health and addiction treatment should be tailored to their unique needs. The 9-week inpatient Guardians program at Homewood Health Centre is designed for FRMV who experience one or any combination of PTSD, anxiety, depression, and addiction concerns. To meet the needs of FRMV whose primary symptoms were not trauma-related, the Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders (UP) was introduced in 2023. FRMV with trauma-related disorders continued to receive Cognitive Processing Therapy (CPT). Based on diagnoses at intake, clients participate in either UP or CPT. Clinical staff are trained in both clinical modalities and complete cultural competency training through the Wounded Warriors Trauma-Exposed Professionals program. The objective of this program evaluation is to review how treatment can be tailored to clients' non-trauma- and trauma-related concerns and examine any differences between CPT and UP groups using measurement-based care (MBC).

Evaluation Methods: The journey of the Guardians program and the use of MBC to inform clinical pathways, assess treatment effectiveness and improve programming will be reviewed. Clients complete symptom measures within an MBC system at intake, progress and discharge, including depression (PHQ-9), anxiety (GAD-7), trauma (PCL-5), cravings (ADCS), and perceived mental health. Within-group and between group differences in intake and discharge scores for the CPT and UP groups were analyzed using t-tests.

Results: Preliminary analyses show that 67 clients enrolled in the Guardians program completed intake and discharge assessments in 2024. 13% of clients were female. 50 clients participated in CPT and 17 in UP. There were statistically significant differences in depression, anxiety, trauma, cravings and perceived mental health scores between intake and discharge for both groups ($p < 0.05$). There were significant differences at intake in trauma symptoms (PCL-5) between the CPT and UP group ($p < 0.05$; large effect size, Cohen's $d = 0.983$). There were no significant differences in symptom change scores (intake to discharge) between the UP and CPT groups.

Conclusion: Clients in both the UP and CPT groups experienced improvement in their clinical symptoms, with no significant differences between groups. This suggests that both trauma-focused and non-trauma-focused treatments are effective among FRMV populations. While acknowledging the small sample size, this program evaluation suggests that MBC can be used to review differences between different treatment streams to improve tailored programming for FRMV with varying clinical needs.

4B05: Collaborative paths to understanding: Mental health and wellbeing impacts of participation in the 2025 Invictus Games

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Introduction: The Invictus Games, an international adaptive sports event for wounded, injured, or sick Veterans, are recognized globally as an opportunity to promote hope and recovery among Veterans, while also advocating for increased support for the Veteran community. Critically, the Invictus Games have also drawn attention to the lasting mental health and wellbeing impact of military service, decreasing stigma and promoting the need for increased support for the Veteran community. The IG are thought to occur within the context of personal recovery, which can be described as "a deeply personal, unique process of changing one's attitudes, values, feelings, goals, skills and/or roles... a way of living a satisfying, hopeful, and contributing life even with the limitations caused by illness."1

The 2025 Invictus Games (2025 IG), which took place in Vancouver Whistler 2025, presented a unique opportunity to explore the impact of sports and positive risk-taking on Veteran recovery. The aim of our research is to understand the experiences of 2025 IG competitors and explore the impact competing or has on their recovery processes.

Methods: Our study is using a longitudinal mixed-method, biopsychosocial design. Using a combination of online surveys, virtual interviews, and biometric data collection using Garmin fitness watches, we are collecting psychological wellbeing measures (e.g., PTSD, anxiety, depression), physiological markers (e.g., cardiovascular fitness, sleep quality), and asking partici-

pants to explore the impact and challenges of attending the 2025 IG.

Expected Results: The first round of data was collected in February/March 2025. Our preliminary findings indicate that for many Veterans, the 2025 IG was not about winning medals, but about camaraderie, perseverance, and personal growth. The 2025 IG offered Veterans an opportunity to serve their country internationally, encouraged them to push personal limits and improve their physical well-being, and created an environment that fostered a supportive community of individuals with similar life experiences.

Conclusion: Our preliminary findings highlight that, beyond improving physical health by providing a structured opportunity to train for their sports, the IG offers profound social and emotional benefits, such as fostering a sense of belonging and understanding among participants. These findings, combined with our one-year follow-up data, will help inform policy recommendations to advance the future of adaptive sports programs.

4C01: Forecasting PTSD recovery: Machine learning models reveal key predictors of post-treatment outcomes among inpatients completing treatment for PTSD

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Introduction: Post-traumatic stress disorder (PTSD) is a complex and heterogeneous illness, associated with significant daily impairment and comorbidity with other mental health conditions. It is unclear whether pre-treatment clinical symptom severity and fluctuations in symptom clusters over treatment can predict post-treatment outcomes among individuals who complete trauma-focused therapy for PTSD. Notably, no study to date has used machine learning algorithms to predict treatment response on a continuum (i.e., post-treatment symptom severity as a continuous variable). In the current study, we employed machine learning regression models to predict post-intervention outcomes in a real-world treatment-seeking population using self-report clinical data.

Methods: Secondary clinical data included pre- and post-treatment measures of PTSD and trauma-related symptom severity from adults who completed trauma-focused therapy for PTSD in an inpatient unit in Canada (n = 237). Two sets of non-linear machine learning models (Extremely Randomized Trees) were implemented to predict two target variables, which consisted of pre- to post-treatment percent reductions/improvements in (1) PTSD symptom severity and (2) functional impairment scores. The first set of analyses used pre-treatment clinical features as input variables, and the second set of analyses used pre- to post-treatment changes in clinical features as input variables.

Results: An average of 48% of the variance in post-treatment improvements in PTSD symptom severity (R2avg = .479, p = .003) was predicted by pre- to post-changes in emotion dysregulation, depression, anxiety, dissociation, and negative trauma-related beliefs about the world. Here, our models could predict reductions in PTSD symptom severity in new patients within 15 points out of 100. Furthermore, 39% of the variance in post-treatment improvements in functional impairment (R2avg = .394, p = .011) was predicted by pre- to post-changes in cognitive dysfunction, PTSD symptoms, and negative trauma-related beliefs about the world. Here, our models could predict reductions in functional impairment among new patients within 12 points out of 100. Pre-treatment clinical symptom severity (i.e., baseline emotion dysregulation, depression, dissociation, anxiety, etc.) did not predict post-treatment improvements in PTSD symptom severity or functional impairment.

Conclusion: Machine learning models accurately predicted trauma recovery in a novel subset of inpatients who completed treatment for PTSD. Our work suggests that tracking changes in clinical features over time (as opposed to static baseline measures) may be important in predicting future trauma recovery. Tailored treatment, which specifically targets symptom reductions in emotion dysregulation, depression, anxiety, dissociation, and trauma-related cognitions, may be beneficial for individuals with severe presentations of PTSD.

4C02: Neurofeedback for PTSD: Improving our Understanding of the Neural Mechanisms Associated with Symptom Decreases

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Introduction: This study investigated changes in resting-state functional connectivity following neurofeedback treatment in individuals with post-traumatic

stress disorder (PTSD). PTSD is associated with disrupted brain network connectivity, particularly within the default mode network (DMN), which supports self-referential thought and autobiographical memory. One key hub of the DMN, the posterior cingulate cortex (PCC), often shows reduced connectivity with anterior DMN regions, such as the medial prefrontal cortex, in individuals with PTSD reflecting trauma-related dysregulation. Neurofeedback, a brain-computer interface that provides real-time feedback on brain activity, is a promising intervention for PTSD that may help restore these disrupted connectivity patterns. In a recent randomized, sham-controlled trial conducted by our group, 20 sessions of electroencephalogram (EEG) neurofeedback led to a 61.1% PTSD remission rate in the experimental group. However, the neural mechanisms underlying these clinical gains remain unclear. The present study aimed to evaluate changes in PCC connectivity following EEG-neurofeedback and examine associations with symptom improvement.

Methods: Thirty-six participants diagnosed with PTSD completed the study, including those with military and first responder occupational trauma. Participants were double-blind randomly assigned to either an experimental or sham-control group and completed 20-weekly sessions of alpha-desynchronization EEG-neurofeedback. Moreover, resting-state functional magnetic resonance imaging (fMRI) scans were completed pre- and post-neurofeedback therapy. We examined pre-to-post changes in PCC functional connectivity and tested associations with reductions in PTSD symptoms.

Expected Results: Significant changes in connectivity patterns were only found in the experimental group. When comparing pre- to post-neurofeedback timepoints, we observed significant increases in resting-state functional connectivity between the PCC and prefrontal cortex regions (e.g, middle frontal gyrus) involved in emotion regulation. These changes suggest a partial restoration of disrupted DMN connectivity between posterior and anterior nodes. Furthermore, increased PCC-frontal connectivity was associated with reductions in trauma-related symptoms.

Conclusion: These findings provide preliminary evidence that EEG-neurofeedback may help restore disrupted DMN connectivity in individuals with PTSD, specifically by enhancing functional connectivity between the PCC and prefrontal regions implicated in emotion regulation. The observed associations between connectivity changes and symptom reduction highlight the potential neurobiological mechanisms underlying clinical improvements. This work supports the promise of EEG-neurofeedback as a targeted intervention for trauma-exposed populations and underscores the need for continued research to optimize its therapeutic application for veterans and first responders with PTSD.

4C03: 3MDR Overview and Effectiveness of 3MDR Therapy in Treating PTSD up to 12 Months Follow-up

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Introduction: This is the first paper of the symposium "The effectiveness of 3MDR psychotherapy in treating trauma related issues".

Military members and veterans, public safety personnel, and frontline healthcare workers are at increased risk of PTSD from operational trauma. Multi-modal Motion-assisted Memory Desensitization and Reconsolidation (3MDR) is an emerging therapy for PTSD due to operational trauma, originally developed for military members and now being utilized with public safety personnel and healthcare workers.

Methods: We studied quantitative changes in several mental health measures in n=50 participants with PTSD who received 3MDR therapy. Subsets of the 50 participants also completed data collection at follow-up at 3 months, 6 months, and 12 months after 3MDR. Participants included 24 men and 26 women, age 25-72. Two participants were active Canadian military members, and 15 were Canadian military veterans. They served in the regular forces (n=7) or the reserves (n=2) or both (n=8). 11 deployed domestically, and 15 deployed internationally. 28 served in public safety roles (police, fire fighter, paramedic, correctional officer, etc.), and 20 served as healthcare workers. (Some had multiple roles.) 22 participants had treatment-resistant PTSD, including all 17 military members and veterans.

Results: Mean PTSD scores assessed with the PCL-5 questionnaire dropped significantly from 48.6±2.2 (standard error) pre-3MDR to 32.2±2.9 post-3MDR (p=0.00001, permutation test). The PCL-5 score was 22.3±3.7 at 12 months follow-up (n=21 participants). We saw similar improvements in PTSD scores from the CAPS-5 clinical interview as well as scores for depression (PHQ-9), anxiety (GAD-7), life functioning (OQ-

45), and resiliency (CD-RISC-25).

Conclusion: These results extend the body of evidence for the effectiveness of 3MDR therapy in treating PTSD from operational trauma in three ways. They provide additional evidence, building on our previous studies of 3MDR with Canadian military members and veterans. They are the first results reported from 3MDR applied to Canadian public safety personnel and healthcare workers. They extend the follow-up period to 12 months post-3MDR therapy, building on our previous work which followed participants to 6 months after 3MDR.

4C04: Improvements in Moral Injury Symptoms with 3MDR Therapy

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Introduction: This is the third paper in the symposium "The effectiveness of 3MDR psychotherapy in treating trauma related issues".

Military members, Veterans, public safety personal and frontline healthcare professionals are vulnerable to experiencing moral injury - the profound psychological distress that can result from actions taken or not taken, which violate one's moral or ethical code. These groups are frequently exposed to ethically complex, emotionally charged situations where these injuries may occur. Moral injury often co-occurs with or contributes to PTSD, compounding its effects and complicating recovery. Multi-modal Motion-assisted Memory Desensitization and Reconsolidation (3MDR) is an intervention originally intended to address combat related PTSD in military members. 3MDR combines virtual reality, movement, and therapist-guided exposure to support emotional processing and trauma integration. 3MDR is being explored as a promising therapeutic approach for public safety personnel and healthcare providers.

Methods: 45 participants with PTSD completed the Moral Injury Outcome Scale (MIOS) before and after 3MDR therapy. Subsets of these participants also completed the MIOS at 3 months (n=21), 6 months (n=25), and 12 months (n=22) post 3MDR. Participants included 20 men and 25 women, age 25-72. One participant was an active Canadian military member, and 11 were Canadian military veterans. 23 served in a public safety role (police, fire fighter, paramedic, correctional officer, etc.), and 20 served as healthcare workers. (Some had multiple roles.)

Results: Mean MIOS score was 29.1±1.5 (standard error) pre-3MDR and 23.3±1.5 post-3MDR. This decrease was significant (p=0.00001, n=45, permutation testing with 100,000 iterations). The decrease in MIOS was maintained at 12 months follow-up M = 20.1±1.9). Similarly, MIOS Shame and MIOS Trust Violation subscales decreased from pre- to post-3MDR (p=0.0003 and p=0.00001, respectively, n=45, permutation test), and those decreases were maintained at the 12 month follow-up.

Conclusion: 3MDR therapy may be effective in reducing moral injury symptoms, including shame and trust violation, with improvements being sustained up to 12 months post-treatment. MIOS scores decreased significantly from pre- to post- intervention, indicating a robust reduction in moral injury-related distress immediately following 3MDR. At 12 months post-intervention, MIOS scores continued to decline. This sustained reduction suggests that the therapeutic effects of 3MDR extend well beyond the immediate post-treatment period, reducing core elements of moral injury, offering promise for those coping with psychological and moral consequences of operational trauma.

4C05: Experiences following a traumatic event: Findings from the HMCS CHICOUTIMI well-being follow-up study

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[1]Department of National Defence; [2]University of Toronto

Introduction: In October 2004, during its first trip as a Royal Canadian Navy (RCN) vessel, the HMCS CHICOUTIMI submarine was severely damaged in a fire. The crew spent nearly one week living and working aboard the disabled submarine. The Care and Custody Team (CCT) included RCN members who were mobilized in response to the incident. This presentation explores the well-being experiences of both the crew of HMCS CHICOUTIMI during the fire and the CCT team members who supported this incident.

Methods: A mixed-methods study was carried out to follow up on the health and well-being of crew and CCT members in the years after the incident. The Veteran Well-being Surveillance Framework provided a holistic model to explore well-being, highlighting five domains: health, purpose, social integration, life skills, and culture and social environment. The study included online questionnaires and individual semi-structured interviews to document the variety of well-being experiences. Interviews were coded using template analysis to identify relevant themes and subthemes, while descriptive statistics of survey results quantified the well-being experiences.

Results: The interviews and surveys identified a variety of physical health, mental health, and psychosocial issues that differed somewhat between the crew and the CCT. The crew reported more respiratory and post-traumatic stress issues, while the CCT reported more secondary traumatic stress. Employment in the Canadian Armed Forces (CAF), and later in the civilian workforce, was a source of purpose for both groups. Members of the CCT and the crew also shared similar transition experiences. In addition to the support from the CAF, the social integration domain included spouses, the submarine community, and outside (civilian) community groups, as sources of support for both the crew and CCT. The life skills domain identified the use of undesirable coping techniques in both groups. Lastly, the social and cultural environment themes that influenced well-being were found to be comparable between the crew and the CCT.

Conclusion: Despite experiencing different aspects of the HMCS CHICOUTIMI incident, CCT and crew members reported some similar well-being issues. We highlighted several concerns that the RCN and the CAF should consider in the event of a similar incident. These insights may help guide future responses to incidents and better assist CAF/RCN members by encouraging the uptake of support, thus potentially improving casualty care and transition experiences.

4C06: Before the Crisis Comes the Consultation: GPs as Gateways to Veteran Mental Health Support

Prevett, Andrew, BSW (Hons)[1,2]; Wadham, Ben, PhD[1,2]

[1]Flinders University; [2]Open Door Initiative

Introduction: Although mental health challenges are prevalent among military Veterans, between 40% and 60% of those affected do not seek the formal help they need. At the same time, over 85% of Veterans in Australia visit a general practitioner (GP), underscoring the pivotal role GPs play in recognising and intervening early in potential mental health issues. Understanding how risk factors such as sex, discharge type, rank, length of service, and time delays in seeking support contribute to mental health vulnerabilities is crucial for optimising care and preventing suicide and self-harm within this population.

Methods: This study analysed intake questionnaires from 150 South Australian Veterans who accessed advocacy support services through the Returned & Services League. Data were cross-tabulated by mental health and physical injury types, and logistic regression was applied to examine associations with biological sex, discharge status, deployment experience, military rank, years of service, and duration before seeking support. The analyses aimed to identify key predictors of service-related mental health conditions that could inform clinical best practices in primary care settings.

Results: Shorter service length, holding a junior rank, being male and voluntarily discharged, and being female and involuntarily medically discharged were all linked to an elevated risk of developing a mental health condition. These findings highlight how both service-related and demographic variables can shape the trajectory of veterans' mental health. Given that many Veterans rely on GPs as frontline healthcare providers, these risk factors could guide more targeted screening and early intervention measures.

Conclusion: The findings underline an urgent need for enhanced military cultural competence among GPs, who are uniquely positioned to detect and address mental health vulnerabilities in veterans before crises occur. Increased investment by the Department of Veterans' Affairs and health authorities is needed to equip GPs with the training and resources necessary to navigate the complexities of military culture, prevent missed opportunities for early intervention, and reduce the incidence of suicide and self-harm. By incorporating a deeper understanding of military experiences and risk factors, primary care practitioners can more effectively meet the needs of Australia's veteran community and improve long-term mental health outcomes.

5E03: Uncovering the neurobiology of identity-based moral injury among sexual and gender minority individuals

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[1]University of Ottawa; [2]Atlas Institute for Veterans and Families; [3]McMaster University; [4]Western University

Introduction: People who identify as sexual and/or gender minorities (SGM) are exposed to stressors related to their identities that are distinct, uncontrollable and chronic. Research suggests that SGM veterans and military members are exposed to higher rates of trauma, discrimination and minority stress than civilian SGM populations (Livingston et al., 2019). Additionally, in the Canadian context, SGM members of the Canadian Armed Forces, the RCMP

and federal public service were systematically discriminated against during the LGBT purge, whereby many individuals were exposed to traumas and morally injurious events. Critically, experiences of minority stress have been directly linked to adverse changes in cognition and behaviour (Newcomb & Mustanski, 2010) and poorer mental health (Meyer, 2003), including moral injury-related symptoms (Nicholson et al., 2025; 2022). A systematic review of the neurobiology of minority stress published by our research group found that exposure to minority stress may lead to altered functioning within intrinsic connectivity brain networks (Nicholson et al., 2022). Importantly, this review identified the need to study how moral injury may mediate the neurobiological relationship between minority stress exposure and mental health symptoms.

Methods: We collected data from a sample of 38 adult participants who self-identified as SGMs. Participants included LGBT Purge survivors, Veterans, military members, and civilians. All participants completed diagnostic clinical interviews, self-report symptom measures and underwent a functional magnetic resonance imaging (fMRI) scan. Here, we examined changes in resting-state brain network connectivity before and after recalling an identity-based morally injurious event. We processed the data using a standard pipeline in the Statistical Parametric Modelling package in Matlab® and then characterized the connectivity between seed regions in the insula and the rest of the brain. These connectivity findings were then regressed with measures of self-reported minority stress exposure and mental health symptoms.

Expected Results: We observed significant alterations in insula resting-state connectivity with intrinsic brain networks following moral injury memory recall. Critically, these alterations in connectivity were associated with levels of minority stress exposure and mental health symptoms.

Conclusion: These findings provide preliminary evidence that identity-based moral injury may alter intrinsic brain network connectivity among SGM individuals, in association with minority stress exposure and mental health symptoms. This study underscores the importance of examining the neurobiological impact of minority stress and moral injury in SGM populations. Future research is warranted to further elucidate mechanisms linking minority stress, moral injury, and mental health, and to inform the development of targeted, identity-affirming interventions.

6C01: Understanding the psychological health trajectories of older Canadian Veterans

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Introduction: Veterans in Canada face a multitude of challenges as they transition from military to civilian life, and growing evidence suggests that the health indicators of Veterans differ from the Canadian general population. To better address the needs of aging Veterans, it is important to examine the determinants of health to understand how these factors impact Veterans' psychological health and well-being over time. Limited research has explored the trajectories of older Veterans and the evolution of their health outcomes over time. Using longitudinal data from the Canadian Longitudinal Study on Aging (CLSA), the primary objectives of this research study are to 1) evaluate the trajectories of psychological health (depression, psychological distress, satisfaction with life) among older Veterans (aged 55 and over) over time, and identify distinct subgroups of trajectories within the Veterans' population, and 2) identify prospective predictors that impact Veterans' psychological health.

Methods: Latent Growth Curve Modeling (LGM) will be used to examine the psychological health trajectories (initial levels and slopes for depression, psychological distress, and satisfaction with life) of older Canadian Veterans. Growth Mixture Models (GMM) will be run to identify unobserved groups of individuals with similar trajectories of depression, psychological distress, and satisfaction with life. Class membership will be estimated using a multinomial logistic regression adjusted for a number of covariates (e.g., baseline age, sex, education, social engagement, chronic conditions, and activities of daily living).

Expected Results: The study is expected to identify several distinct trajectories of psychological health and well-being among older Canadian Veterans. This means we expect to see that Veterans do not all follow the same pattern of change in their psychological health and well-being as they age. Some may show improvement, some decline, and others may remain stable. Importantly, the study is expected to identify specific factors that predict which trajectory a Veteran will follow.

Conclusion: A better understanding of older Veterans' trajectories would paint a more comprehensive picture of their journey and the biopsychosocial determinants of health and well-being that impact it over time. It would also allow for the development of better-tailored interventions to the needs of older Canadian Veterans.

6C03: A pilot study to develop a preliminary cultural competency framework for healthcare providers caring for Veterans with concurrent PTSD and dementia in long-term care settings

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[1]McMaster University; [2]Sunnybrook Veterans Centre; [3]Trent University

Introduction: Symptoms of posttraumatic stress disorder (PTSD) in Veterans with dementia can be difficult to identify; therefore, healthcare providers (HCPs) often misattribute symptoms to other conditions. These symptoms can also be difficult for HCPs to manage, leading to burnout. Furthermore, the average age of Canadian Armed Forces Veterans is 61 years old and many are expected to enter older adulthood within the next decade. Changes to legislation are leading to the reduction of Veterans specific beds in long-term care (LTC) facilities, meaning these aging Veterans will live in community LTC homes that may not have the expertise to care for this population. There is a lack of research on this topic despite the increasing need for cultural competencies to inform care practices of providers working with this population. As such, this pilot project aims to develop a preliminary framework for HCPs in LTC working with Veterans with concurrent PTSD and dementia.

Methods: Marelli et al.'s (2005) competency modelling approach will be used to develop a preliminary cultural competency framework outlining critical information about the health needs and military culture considerations that HCPs working with Veterans with dementia and PTSD should be aware of. Qualitative data will be collected through semi-structured interviews at Sunnybrook Veterans Centre in Ontario with 10 Veterans aged 60+ living in a Veterans LTC facility with PTSD and dementia, 10 family members or caregivers of a Veteran with PTSD and dementia, and 10 HCPs with experience caring for this population. Qualitative data will be analyzed in accordance with Ritchie & Spencer's (1994) Framework Analysis to identify key themes, and these themes will be used to create the final framework which will include behavioural examples of how to apply the competencies in practice.

Expected Results: Data collection is on-going but will be completed and analyzed in time for dissemination at the conference. We expect to report important military characteristic considerations and unique symptom presentations and management requirements for caring for Veterans with PTSD and dementia, along with practical examples of how providers can utilize these in practice.

Conclusion: This framework is the first of its kind and can help inform training programs for HCPs working with older Veterans living in LTC with PTSD and dementia. Additionally, these findings will support the feasibility of using this methodology in future research and inform research priorities in this area. Overall, once the framework is developed it can be adapted to the care of other vulnerable populations.

6C04: Fostering the well-being of aging Canadian Veterans: The role of psychological flexibility and hope

Lauzon, André, PhD[1, 2, 4]; **Gregory, Adelina, MSc[1];** Houle, Stephanie, PhD[2, 3]; Rodrigues, Sara, PhD[1, 2]

[1]Atlas Institute for Veterans and Families; [2]University of Ottawa; [3]Veterans Affairs Canada; [4]Acadia University

Introduction: With the increase in the aging Canadian Veteran population, understanding the factors that enhance their well-being has become more critical than ever (VanTil et al., 2018). This study investigates two potential factors that may influence Veterans' well-being: psychological flexibility (PF) and hope. Research (Ong & Eustis, 2021; Plys et al., 2023) has consistently shown a strong link between PF and well-being in older adults. However, the specific processes through which PF influences well-being remain largely unclear (Kashdan & Rottenberg, 2010). One potential factor that could play a key role in this relationship is hope. Both PF and hope involve adapting to challenges and pursuing meaningful goals, which is particularly important to older adults (Heckhausen et al., 2021). Past research has suggested that hope may serve as a mediator between PF and well-being (Kimya et al., 2024). The purpose of the present study was to examine whether hope mediates the relationship between PF and well-being among older Veterans. It was hypothesized that hope would mediate the aforementioned relationship. This study utilized a cross-sectional design.

Methods: Preliminary analyses were conducted on a sample of 81 aging Veterans of the Canadian Armed Forces (M=69.27; SD=7.28) who responded to an online self-report survey that included questions about hope (Adult Hope Scale; Snyder et al. 1991), PF (Personalized Psychological Flexibility Index; Kashdan et al., 2020), and flourishing (Mental Health Continuum-Short Form; Keyes, 2002). A mediation analysis was conducted to examine whether the association between PF and flourishing was mediated

by hope.

Expected Results: Preliminary analyses suggested PF was significantly associated with both hope and flourishing. Mediation analysis revealed a significant indirect effect of PF on flourishing through hope (indirect effect = [B = 0.968], 95% CI [0.506-1.429] p < .001), and the direct effect between PF and flourishing was no longer significant, indicating full mediation.

Conclusion: Our preliminary results suggest that PF, while important, exerts its influence on well-being entirely through its impact on hope. That is, psychological flexibility helps older individuals cope with internal experiences and adapt to change; these abilities alone do not appear to directly enhance well-being unless they are accompanied by an increase in hopeful cognition. These results support and extend prior research highlighting hope as a key psychological resource in later life. Furthermore, results suggest that programs targeting older Veterans may be more effective if they intentionally support goal-setting, future-oriented thinking, and perceived agency, alongside practices that promote cognitive flexibility.

6C05: Shaping the Future of Aging Veterans' Research in Canada and Beyond: Developing a Strategic and Coordinated Aging Research Plan

Ritchie, Kim, PhD[1, 2, 3]

[1]Trent University; [2]McMaster University; [3]Homewood Research Institute

Brief Description:
Patient Population:
Results:

Conclusion: The discussant section of the symposium will synthesize key themes from the individual research presentations, with a particular focus on current knowledge related to population, education, and interventions related to aging Veterans. While attention to the needs of older Veterans is growing, many subpopulations--such as women, Indigenous Veterans, and those with complex co-morbidities--remain underrepresented in the literature. These enduring gaps underscore the need for a coordinated and strategic research agenda that prioritizes Veteran well-being, fosters cultural competent care, and embraces a deep understanding of Veterans' diverse lived experiences. To support this vision, a conceptual model will be presented that promotes a holistic and integrated framework to guide future research on older Veterans in Canada.

6D01: Veteran Suicide: Understanding the Social and Historical Dimensions

Wadham, Ben, PhD[1]; Lawn, Sharon, PhD[1]; Hamner, Karl, PhD[2]; Hutchison, Meggie, PhD[3]; Bird, Karen, PhD[1]; Prevett, Andrew, PhD[1]; Saikia, Udoy, PhD[1]

[1]Flinders University; [2]University of Alabama; [3]University of South Wales—Australian Defence Force Academy

Introduction: This project conducts an social and historical analysis of the ways the Australian government, the military, and the community have understood, governed, and serviced veteran suicide in Australia from 1914 to the present. This project generates new knowledge by moving beyond medical and psychological assessments to explore wider historical, cultural, and sociological relations of veteran suicide. The scope includes civil-military relations and the influence of the veteran sector and families and community.

Methods: This study adopts a critical social theoretical approach to understanding veteran suicide in Australia. The project asks, "What is the problem (veteran suicide) represented to be?" This question understands veterans, veteran trauma, and veteran suicide as social, historical, and political constructions. The 'veteran subject' is at the centre of how we understand war, repatriation, transition, and post-service support. This method analyses the institutions and actors that coalesce around the veteran and their family to govern veteran trauma. The study conducts 80 life history interviews with ex-service veterans (1975-present), 40 microhistories drawn upon the archives from 1914-1975, and a well-being survey with around 700 veterans. The study uses critical discourse analysis to explore the life and microhistories. Cultural differences are central to these accounts, including service, corps, rank, age, gender, sexuality, and ethnicity.

Expected Results: The research will produce rich accounts from the survivors of suicide attempts and the repatriation and biographical data of veterans who served in WWI and WWII. The life history interview highlights the veteran's life journey, identifying the highs, lows, and flashpoints across the veteran's life course. This approach permits a social ecological analysis of institutional, policy, and service provision confluence at the time of the self-harm or suicidal incident. After conducting 80 interviews and 40 microhistories, we see that cultural and system factors play a significant role in how a veteran and their family manage the veteran's trauma and moral injury. No survey data is available yet.

Conclusion: This presentation illuminates why life

course research is central to understanding veteran self-harm and suicidality. The life course approach complements medical and psychological research by providing the rich contextual data of the veterans life experiences before, during, and after service. This method permits analysis of the military suicide nexus—the extent to which military service is primary in enabling self-harm and suicidality. The presentation joins the interview with policy and cultural analysis to provide a novel way of understanding an intractable problem.

6D02: Longitudinal patterns of suicidality and social-familial functioning among Canadian Veterans: Findings from the Life After Service Survey

Houle, Stephanie, PhD[1]; Sweet, Jill, MSc[1]; Jones, Andrea, PhD[1]; Coulthard, Julie, PhD[1, 2]; Hall, Amy, PhD[1]

[1]Veterans Affairs Canada; [2]Department of National Defence

Introduction: Suicidality is of primary concern to the wellbeing of Canadian Veterans, who experience such difficulties at a higher rate than the Canadian general population. Evidence indicates that social factors influence the experience of suicidality, with research identifying relationship stress, low community belonging and support as risk factors. Such findings are limited, however, by cross-sectional designs. How these social factors may influence the development and persistence of suicidality over time remains to be thoroughly examined. This study is the first to use a longitudinal approach to understanding Canadian Veterans' suicidality in the context of their social-familial functioning.

Methods: Data were from the 2016 and 2019 waves of the Life After Service Survey, a nationally representative longitudinal survey of Canadian Veterans released from Regular Force service between 1998 and 2012. Veterans who completed both waves of the survey (n = 1,518, weighted N = 28,627) were included in our sample. Variables examined included self-reported suicidal ideation, suicide attempts, hopelessness, social support, family satisfaction and community belonging. Demographic and military characteristics were also considered, namely relationship stability, whether children live in the home, years since release, years of service, environment, rank, deployment experience, release category, age and sex.

Expected Results: Past-year suicidal ideation was endorsed by 7% of Veterans in 2016, of whom 61% also endorsed past-year suicidal ideation in 2019 and 13% reported a past-year suicide attempt in 2019. Of those who endorsed a past-year suicide attempt in 2019, 31% reported living with children. At both time points, those who endorsed suicidal ideation were more likely to have been deployed (p<.001). Past-year suicidal ideation was endorsed with higher frequency by those having served in the Land Forces, compared with Sea or Air Forces (p < .05). Regarding release type, medical release was most common among those endorsing past-year suicidal ideation (2016 and 2019, both p<.001). No statistical difference was observed between males and females for past-year suicidal ideation in 2016 or 2019. Statistically significant negative associations were observed between past-year suicidal ideation and hopelessness, social support, and family satisfaction (Cramer's V .31 to .54, p<.001). Additional longitudinal analyses of patterns of suicidality (stable, developing, remitted), and their associations with social-familial functioning are currently underway.

Conclusion: Findings from this study will provide novel insights regarding Veterans' experiences of suicidality over time in relation to their social-familial context. Such information is required to improve screening and prevention efforts and to better support Veteran families.

6D03: Assessing Psychological Pain in Male Veterans and First-Responders with a Novel Visual Analogue Scale

Heisel, Marnin, PhD[1]; Canetto, Silvia, PhD[2]; Carleton, R. Nicholas, PhD[3]; Conn, David, MB[4]; Flett, Gordon, PhD[5]; Hatcher, Simon, MD[6]; Khan, Mustaq, PhD[1]; Lapierre, Sylvie, PhD[7]; Links, Paul, MD[8]; Sarma, Sisira, PhD[1]; Stranges, Saverio, MD[1]; Streiner, David, PhD[8]

[1]Western University; [2]Colorado State University; [3]University of Regina; [4]Baycrest; University of Toronto; [5]York University; [6]University of Ottawa; Ottawa Health Research Institute; [7]Universite du Quebec a Trois-Rivieres; [8]McMaster University

Introduction: Shneidman coined the term "psychache" to refer to the experience of psychological pain that he posited drives suicide ideation (SI). A recent review article identified over 200 studies of the psychache construct (Cheng et al., 2021). Validated psychache scales have been developed (Holden et al., 2001; Pachkowski et al., 2019), including a 6-item Visual Analogue Scale (Alacreu-Crespo et al., 2024); however, single-item tools are lacking. The aim of the present study was thus to initially assess the psychometric properties of a single-item psychache Visual Analogue Scale (VAS) with male Veterans and First-Responders (VFR).

Methods: Male VFR, 50 years and older, were recruited into an ongoing online randomized trial of Meaning-Centered Men's Groups (Heisel et al., 2018) for VFR facing career transition. Participants completed an online eligibility assessment of demographic and

clinical factors; eligible participants were later invited to complete pre-group assessments of suicide risk and resiliency factors. A novel 5-item VAS pain scale that we developed was administered at eligibility and pre-group assessments, rating current physical, emotional, psychological, existential/spiritual, and overall pain, from 0 ("no pain at all") to 100 ("the worst pain imaginable"). Test-retest reliability of the psychological pain item was assessed between eligibility and pre-group assessments, and its validity investigated at pre-group by way of zero-order correlations with the risk and resiliency factors.

Expected Results: Participants to date included 41 male VFR (M=57.3 years, SD=4.8); 9 (22%) scored above a cut-point for moderate SI at eligibility, and 7 reported a history of suicide behaviour. VAS psychache scores ranged from 0-85 at eligibility (M=23.7, SD=26.6) and 0-75 at pre-group assessments (M=17.4, SD=20.7), and revealed acceptable skewness and kurtosis (<3). The psychache item evidenced strong test-retest reliability from eligibility to pre-group timepoints (M=106 days, SD=94.5; r=.74, ICC=.84). Psychache ratings at pre-group were positively associated with VAS items assessing current emotional (r=.89) and overall pain (r=.75), and with validated measures of SI (r=.52), depression (r=.69), hopelessness (r=.43), loneliness (r=.49), anxiety (r=.75), and loss of self (r=.55), and negatively with reasons for living (r=-.32), perceived support (r=-.34), and life satisfaction (r=-.54). Regression findings revealed unique associations between psychache and SI, controlling for physical and spiritual pain.

Conclusion: A new VAS psychache item demonstrated consistency over time and significant association with SI and suicide risk and resiliency factors. Despite limitations of single-item assessment, sample size, and self-reported SI, these findings suggest value in very brief measures of psychache for use in research and practice.

6D05: Evaluating the 5-item Geriatric Suicide Ideation Scale-Screen with Male Veterans and First-Responders

Heisel, Marnin, PhD[1]; Canetto, Silvia, PhD[2]; Carleton, R. Nicholas, PhD[3]; Conn, David, MB[4]; Flett, Gordon, PhD[5]; Hatcher, Simon, MD[6]; Khan, Mustaq, PhD[1]; Lapierre, Sylvie, PhD[7]; Links, Paul, MD[8]; Sarma, Sisira, PhD[1]; Stranges, Saverio, MD[1]; Streiner, David, PhD[8]

[1]Western University; [2]Colorado State University; [3]University of Regina; [4]University of Toronto; [5]York University; [6]University of Ottawa; [7]Universite du Quebec a Trois-Rivieres; [8]McMaster University

Introduction: Suicide is a leading cause of preventable morbidity and mortality for middle-aged and older men, a group that typically employs highly lethal means of self-injury. Suicide risk may be exacerbated in those working in stressful occupations with high risk of exposure to potentially traumatizing events, including Veterans and First Responders (VFR). These concerns do not simply abate with release or retirement; difficulty accommodating to changes in routine, identity, and relationships accompanying career transition can contribute to psychological difficulties. Suicide rates are elevated during this transition, necessitating effective detection of suicide risk with validated tools. This study aimed to initially assess the psychometric properties of the Geriatric Suicide Ideation Scale-Screen (GSIS-Screen; Heisel & Flett, 2022) with male VFR.

Methods: Male VFR, 50 and older, were recruited into an ongoing online trial of Meaning-Centered Men's Groups (Heisel et al., 2018) for those facing career transition. Participants completed an online eligibility assessment of demographic and clinical factors; eligible participants were later invited to complete pre-group assessments of suicide risk and resiliency factors. The 5-item GSIS-Screen was administered at study eligibility. Associations between the GSIS-Screen and measures of psychological risk and resiliency factors were investigated with zero-order correlations.

Expected Results: Participants to date included 41 male VFR (M=57.3 years, SD=4.8). Participants generally scored at low levels of SI on the GSIS-Screen (M=7.4, SD=2.2); 9 (22%) scored above 10, a cut-point for moderate SI at eligibility, and 7 reported a history of suicide behaviour. Overall internal consistency was in the low range (alpha = .49), due in part to all participants denying current SI. GSIS-Screen scores were significantly positively associated with lifetime history of suicidal behaviour (r=.75) and functional limitations (r=.61), and negatively associated with self-rated mental health (r = -.45), reasons for living (r = -.38), and life satisfaction (r = -.61). Individual GSIS-Screen items assessing perceived meaning in life (r=.66) and the wish to die (r = -.36) were significantly associated with a multidimensional Meaning in Life scale.

Conclusion: Findings supported the validity of the 5-item GSIS-Screen for use with middle-aged and older male VFR. Limitations in internal consistency were likely due to the small number of items on the GSIS-Screen, non-endorsement of current SI, and the initial development of the GSIS with older adults. Further research is needed testing this, and other measures of SI, with VFR facing key transitions.

P163: A support group for veterans with an operational stress injury seeking meaning after being released from the Canadian Armed Forces

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[1]Université Laval; [2]Clinique pour traumatismes liés au stress opérationnel de Québec; [3]Valcartier Military Family Resource Center

Program/Intervention Description: Veterans often struggle to adapt to civilian life after leaving the military, especially when they have an operational stress injury (OSI). When left untreated, OSIs increase the risk of psychosocial problems such as homelessness, relationship difficulties, substance abuse, and suicide. Overall, veterans report lower life satisfaction than the Canadian population. Mental health symptoms are associated with a decreased sense of meaning in life, which exacerbates distress symptoms such as insomnia, anxiety, depression, stress, and suicidal thoughts, impairing veterans' social functioning and well-being.

Despite these challenges, few mental health practices specifically target meaning in life or life projects. To address this gap, an intervention was designed for veterans with an OSI who are seeking meaning in life after leaving the Canadian Armed Forces, regardless of gender or age. Five male participants joined an eight-week support group using a strengths-based approach.

Evaluation Methods: Their levels of meaning in life were assessed pre- and post-intervention using the Meaning in Life Questionnaire (MLQ). Throughout the process, self-evaluation tools also measured progress in areas such as life stories, social roles, values, strengths, priority areas for life projects, and significant activities (specific objectives). Group dynamics were also assessed to determine how the group contributed to achieving these objectives.

Results: Among the four participants who completed the program, the general objectives were met. MLQ results showed minor improvements in the search for meaning in life for three participants and a major improvement for one participant. More importantly, qualitative analysis indicated that the group had a considerable-to-major positive impact. The intervention proved beneficial, particularly in encouraging veterans to take action, developing and strengthening protective factors, enhancing empowerment, and fostering a more optimistic view of the future. Additionally, it addressed key psychosocial needs such as social connectedness and identity exploration, positively contributing to their social functioning and well-being.

Conclusion: Findings suggest that treating PTSD or trauma symptoms alone is insufficient to improve veterans' well-being. Addressing psychosocial needs and fostering a sense of meaning in life are highly effective strategies for promoting recovery. This study contributes to the literature on meaning-making for veterans in a mental health context and provides insights into social work practices that can better respond to their needs. Group interventions in social work are cost-effective and help reduce waiting lists, making them a valuable approach for supporting veterans. These findings highlight the importance of incorporating meaning-centered interventions in mental health care.

P165: Accessibility of Multi-Modal Motion-Assisted Memory Desensitization and Reconsolidation

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Introduction: Military members and Veterans are at increased risk of experiencing mental and physical health challenges. This can include post-traumatic stress disorder (PTSD) and challenges with mobility. Multi-Modal Motion Assisted Memory Desensitization and Reconsolidation (3MDR), a virtual-reality supported exposure-based psychotherapy for PTSD, is demonstrating promise for treating treatment-resistant PTSD and moral injury among military and Veteran populations.3MDR eligibility has been limited to individuals who can ambulate for 60 minutes, excluding those using wheelchairs, prosthetics, or mobility aids. Occupational therapists are ideal clinicians to address the accessibility of mental health interventions through their holistic lens. This project aimed to investigate perspectives on, and barriers and facilitators to, adapting 3MDR to increase accessibility for more physically diverse populations.

Methods: This exploratory mixed methods study included a prospective case study and thematic analysis of interviews with four participants (n=4) to capture client, therapist, and system perspectives.

Results: The case study showed symptom reduction even with adaptations to 3MDR for prosthetic use. Participants agreed that 3MDR had potential to be adapted for individuals who experience mobility differences. Three themes included: (1) 3MDR as a treatment that can be personalized; (2) adaptation of 3MDR necessitates communication and collaboration regarding treatment

planning, decision-making and safety management; and (3) the importance of forward motion and maintained physiological activation through physical movement.

Conclusion: Maximizing the accessibility of 3MDR may allow for recovery and healing of individuals affected by a broad spectrum of physical and mental health challenges including military members, Veterans, and other trauma affected populations.

P166: Dissociation in the Context of 3MDR Therapy

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Introduction: This is the second paper in the symposium "The effectiveness of 3MDR psychotherapy in treating trauma related issues".

Individuals serving in the military, public safety, or frontline healthcare roles are frequently exposed to operational trauma, placing them at higher risk for developing post-traumatic stress disorder (PTSD). Alongside core PTSD symptoms, many also struggle with difficulties in emotional regulation and dissociation, which can contribute to treatment resistance and impact day-to-day functioning. Multi-modal Motion-assisted Memory Desensitization and Reconsolidation (3MDR) is an emerging intervention that was initially developed to address combat-related PTSD in military members. By integrating virtual reality (VR) in addition to bilateral simulation, walking, and therapist-guided exposure 3MDR aims to facilitate trauma processing while reducing dissociative barriers and maintaining emotional engagement, limiting overwhelm. Its application has since expanded to include public safety personnel and healthcare professionals, offering a promising approach for those affected by the complex psychological consequences of thigh-stress, trauma-exposed environments.

Methods: The Peritraumatic Dissociative Experiences Questionnaire (PDE-Q) was collected before and after Multi-modal Motion-assisted Memory Desensitization and Reconsolidation (3MDR) therapy in n=46 participants with PTSD. Participants included 25 women and 21 men, age 25-72. One participant was an active Canadian military member, and 12 were Canadian military veterans. They served in the regular forces (n=4) or the reserves (n=2) or both (n=7). Eight deployed domestically, and 12 deployed internationally. 23 served in a public safety role (police, fire fighter, paramedic, correctional officer, etc.), and 20 served as healthcare workers. (Some had multiple roles.)

Results: Mean PDE-Q scores were 29.4±1.4 (standard error of the mean) before 3MDR and 31.8±1.6 after 3MDR therapy. The small increase in PDE-Q scores was marginally statistically significant (p=0.05, n=46 participants, permutation test with 100,000 iterations).

Conclusion: These results suggest that 3MDR might not consistently reduce dissociation for everyone. Some participants might even experience a temporary increase in dissociative symptoms, possibly due to the emotionally intense nature of 3MDR. Our research group previously observed a large decrease in dissociation scores pre- to post-3MDR in a sample of 11 participants. Further research is needed to understand why some individuals respond differently, factors such as trauma type, readiness for trauma processing, or baseline dissociation levels may play a role.

P167: Breaking The Cycle of multi-generational mental health injuries within Veteran families overcoming an Operational Stress Injury

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[1]Can Praxis; [2]University of Calgary; [3]SickKids; [4]University of Regina; [5]Monash University; [6]Lived Experience

Introduction: The Breaking the Cycle family program consists of a 2-day intervention for Veterans living with an OSI, their spouse, and their (child)ren. The intervention involved classroom learning and equine-assisted activities. Within each program, typically 2-4 families participated (depending on the size of families).

Program evaluation consisted of psychometrically-sound measures to assess mental and physical health symptoms, family functioning and parenting responses, as well as indices of program acceptability and feasibility. This enables us to analyze and examine the effectiveness of the program in improving well-being of *all* Veteran family members.

Methods: Prior to participation in the family program, consenting participants (Veterans, spouses, children) completed baseline assessments, demographic information, and military demographic information for the Veteran.

Veterans and spouses completed the following: The

Hospital Anxiety and Depression Scale, DSM-5 Symptoms of PTSD, Adverse Childhood Experiences questionnaire, and a Pain Questionnaire. Youth under 18 years old completed the Revised Children's Anxiety and Depression Scale, Child PTSD Symptom Scale for DSM-5, Adverse Childhood Experiences Questionnaire, and a Pain Questionnaire. **Post-intervention.** After the program was completed, participants completed a Can Praxis program evaluation.

Expected Results:

1. Is the Can Praxis Breaking the Cycle Family Program acceptable and feasible?;

2. Does engagement in the Can Praxis program lead to meaningful changes in pain, mental health, family functioning, and stoicism in Canadian Veterans/Serving Members and their families (including spouses & children).

Conclusion: Overall, Veterans reported being motivated to learn the skills provided in the Can Praxis program (7.9/10, SD = 2.9), understanding the purpose of the program (8.1/10, SD = 2.6), and being able to connect with the instructor (9.2/10, SD = 0.9). On average, veterans rated having a positive reaction to the program (4.8/5, SD = 0.4).

Spouses suggested greater motivation to learn skills in the program (9.5/10, SD = 1.0), understanding of the purpose of the program (9.2/10, SD = 1.1), and ability to connect with the instructor (9.6/10, SD = 0.7). On average spouses rated similar positive reactions to the program (4.73/5, SD = 0.5).

Youth and young adults reported being motivated to learn skills during the program (7.8/10, SD = 1.0), they understood the purpose of the program (8.6/10, SD = 2.1), and the ability to connect with instructors (7.5/10, SD = 2.1). Overall, youth and young adults had a high positive reaction to the program (4.8/5, SD = 0.6).

P169: Resilience in older Veterans in Canada: Results from the Canadian Longitudinal Study on Aging

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[1]McGill University

Introduction: Studies on US Veterans have suggested that Veterans coped better with the challenges of the pandemic than their Non-Veteran peers. Such coping has been described as resilience, defined by the American Psychological Association as the process and outcome of adapting successfully to challenging experiences. The Canadian Longitudinal Study on Aging (CLSA), a national study where over 4,000 out of 51,338 total participants self-identified as Veterans, provides an opportunity to investigate resilience in older Veterans in Canada. This analysis explores whether older Veterans are more resilient than Non-Veterans within the CLSA and whether resiliency changes over time.

Methods: This study examines resilience in older Veterans at CLSA baseline (2011–2015) and Follow-Up 1 (FUP1, 2015-2018), as well as during a COVID-19 Questionnaire Study conducted in 2020 during the pandemic. In the absence of a specific measure of resilience in the CLSA, resilience was operationalized as self-rated general health, self-rated mental health, and self-rated healthy aging as Excellent, Very Good, or Good. Age- and sex-adjusted prevalence estimates (with 95% confidence intervals) of resilience at each data collection wave were calculated for Veterans and Non-Veterans using logistic regression.

Expected Results: Using the sample of 2302 Veterans who participated in all three data collection waves at CLSA baseline, the age and sex-adjusted prevalence of resilience suggest similar findings in Veterans as compared with Non-Veterans, with estimates of 85.1% (81.2%,89.1%) and 87.0% (86.1,87.9%), respectively. There was a slight increase over time in both groups, with the prevalence of resilience during the COVID-19 pandemic of 87.0% (82.6%, 91.4%) and 88.4% (87.4%, 89.4%) for Veterans and Non-Veterans, respectively.

Conclusion: These preliminary findings suggest that there is little difference in the prevalence of resilience as defined above between Veterans and Non-Veteran participants in the CLSA. In subsequent analyses, we will examine subgroups of the Veterans (i.e. Canadian Veterans as compared to Veterans of other Armed Forces) and, within the Veterans, examine the role of years of service, time since release and branch of service. The observation of a slight increase in resilience during the pandemic will also be further explored.

P170: From Silence to Stigma: Preliminary Findings from Veterans' Experiences Accessing Support Post-MST

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[1]MacDonald Franklin OSI Research Centre; [2]Western University; [3]McMaster University; [4]St. Joseph's Healthcare London

Introduction: Despite recent institutional efforts to ad-

dress military sexual trauma (MST) within the Canadian Armed Forces (CAF), survivors continue to encounter significant barriers when seeking mental health care. This study aims to identify these barriers and facilitators from the perspectives of CAF Veterans who have experienced MST, utilizing a trauma-informed, gender-sensitive lens.

Methods: This ongoing qualitative study explores treatment experiences related to MST. Semi-structured virtual interviews were conducted with CAF Veterans (N = 9) who self-identified as having experienced military sexual misconduct and/or MST. Thematic analysis was employed to extract key themes related to access, organizational culture, treatment experiences, and perceived gaps in support. A parallel set of interviews with mental health professionals from Operational Stress Injury (OSI) clinics is forthcoming and not included in this analysis.

Expected Results: Veterans reported experiences indicative of institutional betrayal and retaliation. Common accounts included being compelled to report incidents to immediate superiors—who were sometimes the perpetrators—due to chain-of-command policies; facing professional repercussions such as demotion, loss of duties, or denial of promotions after filing complaints; and enduring physical assaults by individuals entrusted with their safety. Certain bases were described as having reputations for sexual violence, perpetuating a culture of impunity. Additionally, some survivors highlighted the role of unsupportive female leaders who dismissed their experiences with attitudes like, "I went through it too, so you can deal with it." These narratives underscore structural and interpersonal factors that deterred Veterans from seeking help and compounded psychological distress.

Conclusion: Findings emphasize the urgent need to reform reporting structures within the CAF to prevent retraumatization and power-based silencing. Organizational culture remains a significant barrier, particularly where hierarchical and gendered dynamics serve to invalidate survivors' experiences. Implementing trauma-informed, survivor-centered interventions—alongside increased training and accountability—is essential for rebuilding trust and enhancing engagement with mental health services. These preliminary findings, along with findings from clinician interviews will inform and guide future recommendations for CAF mental health services, with particular attention to power dynamics, gender considerations, and institutional responsibility.

P173: Precision Medicine for Veterans: Protocol and Early Insights from a Collaborative Longitudinal Pharmacogenetics Implementation Study

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Introduction: Pharmacogenetics (PGx), or the study of how genes affect response to medications, offer promise for personalizing psychiatric care, with emerging research showing improved outcomes and fewer medication changes. This ongoing study examines PGx-guided treatment for Veterans at an Operational Stress Injury (OSI) clinic, evaluating its potential to reduce trial-and-error prescribing, minimize side effects, while capturing both patient and provider attitudes.

Methods: This multi-year mixed-methods study involves 10 healthcare providers and 145 Veterans. Quantitative and qualitative data are collected, including surveys on demographics, attitudes toward PGx, and mental health outcomes. Participants may elect to undergo PGx testing, with results shared with healthcare providers to guide treatment decisions. Mental health symptoms and side effects will be tracked over 24 weeks using standardized assessments. Optional end-of-study interviews will capture insights on participant and provider experiences.

Expected Results: Data collection is ongoing, with several implementation challenges identified, including logistical delays, recruitment and retention barriers, and the need to align with clinical workflows. Integrating the study into routine care highlighted the importance of planning around clinical staff availability and maintaining flexible participation options. Strong collaboration between industry, research, and clinical teams continues to support successful implementation. Upcoming findings will offer insights into the clinical value and perceived utility of pharmacogenetics in enhancing mental health treatment for Veterans

Conclusion: This study offers insight into the potential of PGx to enhance mental health care for Veterans and support provider decision-making. While key challenges highlight the need for a dynamic and coordinated approach, the collaborative nature of this project offers a valuable model for future PGx implementation in Veteran care.

P179: A narrative review exploring the benefits of military Service from the perspectives of ex-Service personnel

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[1]King's College London; [2]Rand Europe

Introduction: Ex-Service personnel (Veterans) generally transition out of the Armed Forces (AF) well, yet research about in- and post-Service experiences mostly focuses on poor physical and mental health outcomes, and challenges with transition into employment and civilian communities. Less is known about the benefits of Service and impact on post-Service life, which can be useful for public perceptions, supporting transition, recruitment and retention in AF. This review asked the questions, what are the benefits of Serving in the AF and how do Veterans perceive the value of their Service on their post-Service lives?

Methods: A narrative literature review using PRISMA guidelines was undertaken. Five databases (Medline, EMBASE, PsycINFO, Web of Science and PubMed) were searched and free-text searches were conducted using relevant criterion for international research (quantitative, quantitative and mixed methods) published post-conscription. A search strategy incorporating two concepts (and similar key words) relating to Veteran and positive outcomes of Service was utilized. Papers were excluded if not published in English language and did not report any positive outcomes or benefits of military Service. Assessment of study quality was undertaken using Critical Appraisal Skills Programme checklists and a thematic analysis was carried out.A second reviewer was involved in title and abstract screening, full-text review and quality appraisal to enhance rigor.

Results: Following removal of duplicates, 15,765 articles were screened, 247 underwent full-text review and 31 met criteria for inclusion. Veterans' experiences were conceptualized as a pre-Service, mid-Service and post-Service cycle. The early Service journey (theme-one) demonstrated the bridging effects of Service, including the empowering opportunities Service had to offer and levelling of the playing field through social mobility. The in-service journey (theme-two) emphasized the importance of connecting to others through military camaraderie, having a higher purpose and a structured environment to thrive in. The onward benefits were reflected on in the post-service journey (theme-three), where Veterans gained a different perspective about their new non-military life experiences, were able to repurpose their military toolbox (consisting of various hard/soft skills) and exhibited personal growth through maintaining high standards.

Conclusion: Adopting a strengths-based perspective to understand the value of military Service on post-Service life can be useful to bridge the military-civilian gap, translating these insights for employers and civilian communities and supporting those leaving the AF. Given current geopolitical context, it is important to provide a balanced narrative of in- and post-Service experiences, indicating a need for further research to explore the benefits of Service.

P183: ECHO - Exploring Access to Psychedelics Among Canadian Veterans: Pathways, Barriers, and Experiences

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Introduction: Psychedelic-assisted therapies have recently gained attention as potential novel treatments for various mental health conditions. In Canada, there has been particular interest from the veteran communities regarding the potential therapeutic impact of psychedelics. However, legal access remains limited in Canada, leading some veterans to explore alternative pathways. This study examines how Canadian military veterans learn about and access psychedelics for mental health treatment.

Methods: The survey collected demographic data, military history, prior treatments, and how participants learned about and accessed psychedelics. Recruitment was done via HHC's networks using social media and word of mouth. Veterans self-selected through an online consent and screening process, using de-linked Service Numbers to ensure anonymity. The survey included multiple-choice, Likert-scale, and yes/no questions. A total of 30 Canadian Armed Forces veterans participated.

Expected Results: Some veterans accessed psychedelics through legal pathways, most sought them underground options, including self-directed and guided experiences. Veterans primarily relied on peers and media for information rather than healthcare providers. Those who avoided discussions with their healthcare providers cited concerns about stigma, while those who did consult healthcare providers often found them to lack knowledge on psychedelic treatments.

90% had a diagnosed mental health condition, most

commonly PTSD (57%), chronic pain (50%), and depression (47%). Nearly all participants (93%) believed their conditions were related to military service. While 66.7% had a physician and 83% had a healthcare provider involved in their care, only 53% discussed psychedelics with them. Of those, 69% rated their provider not very knowledgeable. Fears of stigma and legal concerns were cited by those who avoided such discussions. Most participants (83.3%) actively researched psychedelics, relying mainly on peers (73%) and media, not clinicians. Though 83.3% had pursued psychedelics, access was primarily through underground means, with 64% reporting non-guided use. Only 5 participants accessed ketamine legally; none accessed psilocybin or MDMA through Canada's SAP. Despite safety being reported in underground settings, 77% agreed their experience would have benefited from healthcare practitioner involvement.

Conclusion: These findings highlight gaps in access, and education surrounding psychedelic therapies for veterans. We propose that addressing these barriers through improved clinician training and education, policy reform, and safer legal pathways is essential to ensuring informed and effective care for those seeking alternative mental health treatments, such as psychedelics. Moreover, these efforts will contribute to broader harm reduction strategies by equipping clinicians with the knowledge and tools to support individuals who may continue to access these substances outside legal frameworks.

P184: Masculine Risk Depression Across Genders: Insights from Veterans Transition Network Participants

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[1]Veterans Transition Network

Program/Intervention Description: The Veterans Transition Network (VTN) has been offering group-based skills training and therapeutic interventions for veterans in transition since 1998, serving a diverse group of active military service members, veterans and public safety personnel across Canada in both official languages. VTN programs are highly valued by participants due to the cultural competency of VTN clinicians, inclusion of veteran peer support, high levels of social cohesion, and integration of cognitive, emotional, and behavioural therapeutic interventions. The aim of this evaluation was to measure impact of programming on group participants.

Evaluation Methods: Program outcomes were evaluated using the Masculine Depression Risk Scale (MDRS-22), a screening instrument designed to identify risk of depression in men who adhere to traditional male norms. The scale measures externalizing and internalizing symptoms such as emotional suppression, substance use, anger and risk-takingthat are commonly associated with depression in males. The scale was administered to both male and female participants, as research suggests that female military service members may feel pressure to conform to masculine gender roles in their military service. Participants (n= 343) were invited to complete the MDRS-22 as part of an online survey prior to and post group, as well as at 3- and 6-month follow-up time points.

Results: Participants reported high levels of male-specific depression symptoms (M = 43.6 SD = 22.6), with 70% of participants scoring in the elevated to high masculine risk range. There were no gender differences in the total score, emotional suppression, or substance use subscales across all time points. Males scored significantly higher on the anger and aggression subscale and females scored significantly higher on the somatic subscale at baseline. Scores trended downward between pre and post group, with participants reporting significantly lower masculine risk depression symptoms at 3-month (p < .001, d = .48) and 6-month (p <.001 d = .66) follow-up time points.

Conclusion: No gender differences were found in total scores or on the emotional suppression subscale of the MDRS across time points, suggesting that both men and women may experience similar depressive symptoms, likely influenced by the hypermasculine norms of military culture. Statistically significant improvements at follow-up indicate that VTN's psychoeducational and trauma-informed interventions may help reduce masculine risk depression and emotional suppression in military members, first responders, and veterans. Future research should explore gendered expressions of depression in military populations and investigate how female veterans may adopt traditionally male-coded symptoms due to prolonged exposure to military culture.

P187: Navigating trauma and self-image: The relationship between service-related sexual trauma and body appreciation in female Veterans

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Introduction: In the military, service-related sexual trauma (SRST) is borne disproportionately by women

(Watkins et al., 2017) and can seriously impact mental health and well-being (Galovski et al., 2022). The impact of SRST on women Veterans' body perceptions has not yet been investigated, but studies with non-military/paramilitary populations have shown that sexual trauma can negatively affect perceptions of one's body (e.g., Harnad, 2006). We also know that negative perceptions, such as low body appreciation, can be associated with higher symptoms of depression and anxiety (e.g., Linardo et al., 2022). Body appreciation extends beyond simply valuing one's body but also its functionality, which may be affected after experiencing sexual trauma. The purpose of this study was to assess the association between SRST and body appreciation in a sample of women Veterans of the Canadian Armed Forces (CAF) and Royal Canadian Mounted Police (RCMP). It was expected that higher SRST scores would be significantly associated with lower body appreciation.

Methods: Participants for this study were *N* = 128 female Veterans of the CAF and RCMP (*M*age = 54.39) from a larger study on health and well-being in women Veterans that is still in field. Participants were recruited through snowball and convenience sampling (posters, social media posts, email). The DRRI K-2 (Vogt et al., 2003) was used to assess SRST and body appreciation was measured using the Body Appreciation Scale (Avalos et al., 2005).

Expected Results: Preliminary analyses using linear regression revealed SRST to significantly predict body appreciation (b = -.11, p < .001) where an increase in SRST was associated with a decrease in body appreciation scores. Furthermore, t-tests identified statistically significant differences between CAF and RCMP members on SRST (t = 2.07, p = .040) and body appreciation (t = -2.80, p = .006).

Additional analyses will be conducted once recruitment closes (expected *N* = 300), including assessing if body appreciation and SRST differ based on socio-demographic variables such as rank, income, ethnicity, etc.

Conclusion: The preliminary results indicate that experiencing SRST can lead women Veterans to have negative perceptions about their body. This supports findings from research in civilian populations and highlights the far-reaching effects of SRST. Further exploration into this association is needed to better understand the mechanisms underlying including elucidating differences between the CAF and RCMP experiences of SRST.

P188: A Review of the Implementation of a Measurement-Based Care System in a Guardians Trauma and Concurrent Treatment Program

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[1]Homewood Health Inc.

Program/Intervention Description: Measurement-Based Care (MBC) is the routine and systematic use of measurement throughout care to help guide clinical decision making. MBC has been shown to significantly improve outcomes (i.e. clinical improvement, absence of illness/symptoms) for clients receiving psychotherapy and/or pharmacotherapy for depression, anxiety, and other conditions. The Guardians program at Homewood Health Centre is a 9-week inpatient program for first responders, military personnel, and veterans living with mental health, trauma, and/or concurrent disorders. MBC utilization and clinical outcomes from treatment settings is needed to evaluate the use and feasibility of MBC systems.

Objective: To describe the current state of MBC in a Guardians Trauma and Concurrent program using outcomes and benchmarks from an online MBC system.

Evaluation Methods: A routine self-reported assessment battery is completed via an online MBC system at intake, midpoint, and discharge by clients in the Guardians Program. Measures for depression, anxiety, trauma, and therapeutic alliance are included in the assessment battery. MBC client engagement indicators are also tracked. Reliable improvement for these outcomes and comparisons to national benchmarks are provided by the MBC platform to monitor program-wide performance. Program satisfaction outcomes are monitored via a Client Satisfaction Questionnaire.

Results: 90% of clients in the Guardians program have participated in MBC (completed 3+ measures); the average therapeutic alliance is 85%; and there is a 66% reliable improvement on the PHQ-9, 66% on the GAD-7, and 79% on the PCL-5 (first assessment to most recent). Compared to benchmark data across all Canadian and US organizations using the same MBC platform, the Guardians program's MBC outcomes exceed the Canadian and US median benchmarks. 94% of clients reported that the program met their needs; 89% would recommend the program; 96% were satisfied with treatment quality.

Conclusion: MBC is a useful program evaluation and therapeutic tool that should be incorporated into standard policies for health systems, especially within

mental health and addictions settings. MBC allows client progress to be monitored on an individual and program-level, empowering both clients and clinicians by providing them with actionable information about treatment progress while enhancing the therapeutic alliance.

P190: Effect of complementary and integrative health interventions on Posttraumatic Stress Disorder in Veterans and Veteran family members: a rapid systematic review and meta-analysis

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Introduction: Despite increasing interest in complementary and integrative health (CIH) interventions for treating Veterans with post-traumatic stress disorder (PTSD), comprehensive evidence is lacking. This rapid review aimed to synthesize evidence regarding benefits of CIH interventions for improving mental health and quality of life among Veterans with PTSD in Five Eyes countries (Canada, US, UK, Australia, and New Zealand).

Methods: We searched MEDLINE, PsycINFO, and AMED for studies that enrolled Veterans with PTSD and their families from Five Eyes countries between 2013 to December 2023, evaluated CIH interventions, and assessed changes in mental health outcomes using validated scales or evaluated cost-effectiveness. Randomized controlled trials (RCTs) with at least 10 participants in each arm, and comparative and one-arm observational studies with at least 30 participants, were included. The search strategy was defined and pilot tested with support from established search language and descriptions of CIH by the National Center For Complementary and Alternative Medicine. Screening took place in duplicate; data extraction and risk of bias (Cochrane RoB 2; ROBINS-I) were assessed by one reviewer and verified by a second reviewer. We pooled estimates of efficacy and effectiveness, and assessed certainty of evidence using the GRADE approach.

Results: Twenty-six RCTs and 14 observational studies with 3,321 participants (84.4% male, median age 51.4 years) were included. Twenty-three (88%) of the RCTs and all 14 (100%) observational studies were assessed as high risk of bias. Only one study involving service animals reported cost outcomes. Moderate-quality evidence suggests meditation (WMD: -10.66, 95% CI: -15.00 to -6.32), Emotional Freedom Technique (EFT) (MD: -27.00, 95% CI: -32.09 to -21.91), and Sudarshan Kriya Yoga (SKY) (MD: -20.50, 95% CI: -28.81 -12.19) reduce PTSD symptoms greater than the minimal important difference (MID). Meditation and EFT improve depression and anxiety, and SKY improves depression greater than one MID. While SKY and EFT result in clinically meaningful improvements in PTSD and other mental health outcomes, the evidence base is limited. High to moderate-quality evidence for mantram repetition and moderate-quality evidence for mindfulness-based stress reduction suggest reduced PTSD and depression symptoms by less than one MID, and improved quality of life.

Conclusion: Meditation may result in clinically meaningful reductions in PTSD, depression and anxiety for Veterans, but limited evidence exists assessing effects in families of Veterans with PTSD or cost-effectiveness. Further research is warranted to better understand effectiveness of these, and other CIH interventions for Veterans with PTSD.

P191: Metalwork for Mental Health: Supporting Transition Through Artistic Blacksmithing for Canadian Military, Veteran, and Public Safety Personnel

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[1]University of Toronto; [2]Forging Ahead Inc.

Program/Intervention Description: Post-Traumatic Stress Disorder (PTSD) and Operational Stress Injuries (OSI) are persistent challenges faced by many Canadian military members, Veterans, and public safety personnel (PSP). While conventional therapies like cognitive behavioral therapy, EMDR, and pharmacology have shown benefits, the potential of artistic blacksmithing as a therapeutic modality remains underexplored. Forging Ahead Inc., Canada's first veteran-run blacksmithing charity, offers structured classes, peer-led instruction, and tailored programming to provide a potential therapeutic pathway for defence and public safety members living with PTSD and OSI. The program aims to merge art, physicality, and meaning-making to address the invisible wounds of service.

Evaluation Methods: The evaluation to date is based on testimonials from participants. These testimonials provide qualitative insights into the program's impact on symptom reduction, participant satisfaction, and improvements in social and occupational functioning. The benefits and need for ongoing support and research for this program is evident through participant feedback. Positive changes in mental health and

wellbeing have been identified through self-report. Program sustainability is being monitored through ongoing participant engagement. Standardization of classes is ensured through set lesson plans geared toward varied skills of participants who are taught and supported by certified instructors. Cultural relevance is addressed by tailoring interventions to the specific needs of participants who are serving members, Veterans, and/or PSP.

Results: Preliminary testimonials indicate reductions in PTSD and OSI symptoms among participants. They also report improved emotional regulation, reduced symptoms, and enhanced social connection through blacksmithing. Participant satisfaction is high, with many noting the benefits of physical exertion combined with creative expression experiences during metal work. Feedback highlights the importance of peer support and the empowering experience of physicality and creativity.

Conclusion: Artistic blacksmithing demonstrates positive impact on the mental health and social functioning of members, Veterans, and PSP, suggesting it is a viable intervention for this population. The results underscore the need for continued support and expansion of such programs to reach more people. Implications for policy include advocating for increased funding and integration of artistic blacksmithing into support systems. Further research should explore long-term outcomes and potential scalability of the program.

P192: Exploring the experiences of 2SLGBTQIA+ Service Members and Veterans who have experienced Military Sexual Trauma in the Canadian Armed Forces

Tam-Seto, Linna, PhD[1]; Biskupski-Munjanovic, Sandra, PhD[1]; Fox, Morgan, BA[1]; Orchard-Young, Shannon, MSc[1]; McKinnon, Margaret, PhD[2]

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Introduction: Military Sexual Trauma (MST) in the Canadian Armed Forces has been well documented, as well as discrimination against members of the Two-spirited, lesbian, gay, bisexual, transgender, queer, questioning, intersex, and asexual (2SLGBTQIA+) community before, during, and after the LGBT Purge . Despite such knowledge, there is a lack of understanding concerning how MST specifically affects Canadian 2SLGBTQIA+ servicemembers and Veterans. To prevent and address MST, and develop tailored programs, services, and policies to address the unique experiences of this community, we used an intersectional lens to conduct a qualitative study with Canadian 2SLGBTQIA+ servicemembers and Veterans who reflected on their experiences during and after service.

Methods: Four semi-structured 90-minute interviews were conducted with 2SLGBTQIA+ Veterans with the aim of understanding the impact of MST on participants' daily lives, relationships, roles, identity, access to supports, and understanding of military culture. One participant provided a written response. A phenomenological approach, which allows for deep exploration, was applied throughout the interview analysis to understand participants' lived experiences.

Expected Results: Participants shared many challenges pertaining to the impact of MST, including its significant toll on their mental health (such as anxiety, depression, PTSD), moral injury stemming from inadequate institutional responses, career repercussions, and personal repercussions (including strain on intimate and family relationships and inability to participate in leisure activities). Participants also described the role of underlying homophobia and transphobia in the CAF in relation to not only their woen experiences of MST but also in associated institutional responses.

Conclusion: Consistent with existing literature, our study confirmed that the risk of MST is heightened for 2SLGBTQIA+ servicemembers and Veterans, resulting in numerous negative health and well-bring outcomes. Many of the additional challenges 2SLGBTQIA+ servicemembers and Veterans face are rooted in homophobia and transphobia. This information can be used to guide ongoing CAF culture change initiatives that must work to eliminate underlying biases that contribute to MST among this at-risk population.

P193: Neurofeedback for the treatment of psychiatric disorders: A systematic review of the use of cognitive strategies

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[1]Western University; [2]McMaster University; [3]University of Ottawa; [4]Atlas Institute for Veterans and Families

Introduction: Neurofeedback (NFB) is a non-invasive technology that allows for the regulation of brain activity through real-time feedback. This approach is an emerging treatment for post-traumatic stress disorder (PTSD) and other neuropsychiatric conditions that disproportionately affect military members and veterans. Many NFB studies report clinical improvement, making it a promising intervention. However, there is currently

uncertainty surrounding the efficacy of various cognitive regulation strategies during treatment and whether instructing participants to use particular strategies is beneficial. Indeed, no systematic research has investigated the effectiveness of cognitive strategies for achieving successful NFB regulation. The purpose of this systematic review was to probe existing literature on NFB in psychiatric populations to examine whether i) investigators provided strategy instruction and ii) if participant strategy use was evaluated and if so, which were most effective.

Methods: We conducted a search of 4 databases (PsycInfo, PubMed, EMBASE, Web of Science) and included 139 articles after exclusions based on predetermined criteria using Covidence. Results were extracted using a standardized data extraction form (Microsoft Excel) and synthesized to include information regarding the use of cognitive strategies.

Expected Results: Preliminary findings showed sample sizes from 3 to 178 (M = 32.10, SD = 25.30) including neuropsychiatric populations of depression (25%), PTSD (14%), substance abuse disorder (14%), schizophrenia (10%), anxiety (9%), alcohol use disorder (9%), insomnia (6%), and other disorders (13%). NFB modalities included EEG (53%), fMRI (43%), or a combination of these with other methods (4%). Here, 28% of studies provided one or more strategies to participants, while 72% did not. Among these, 47% instructed participants to recall happy memories, 21% instructed the use of cognitive reappraisal, 18% instructed the use of positive mental imagery, and 13% instructed participants to use reflection-based strategies. Only a few studies reported on participant strategy use (18%), while the majority did not (82%). Additionally, 25% of studies evaluated psychosocial factors (e.g. perceived control over NFB signal, overall NFB experience, and perceived strategy success). Critically, of the studies that reported on strategies, only 3% included strategy use or psychosocial factors in their statistical analysis, although none evaluated strategy success.

Conclusion: While NFB holds promise for treating various neuropsychiatric disorders, our understanding of how cognitive strategies influence NFB outcomes remains limited without rigorous statistical evaluation. Future research should systematically examine whether specific strategies contribute to successful NFB regulation and improved clinical outcomes. Such insights are essential for optimizing NFB paradigms and enhancing their effectiveness in addressing these debilitating conditions.

PRIMARILY PHYSICAL HEALTH AND WELL-BEING

Podium Presentations

3B02: Experiences of female reproductive health in and out of service among United Kingdom women veterans

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Introduction: Services and support for UK veterans are underutilised by women, and little research or understanding exists about their physical health, healthcare needs and support preferences, including their reproductive health.

As part of a wider mixed-methods study of women veterans' physical health and healthcare experience in the UK, we explored experiences of female reproductive health in and out of service.

Methods: We carried out forty(40) semi-structured interviews with women veterans across the UK. Participants represented each military service branch; Royal Navy, Royal Air Force and British Army, ranged in age between 30 and 79 (90% <60yrs) and had left military service between 1962 and 2024 (60% post-2000). As part of the interview, participants were asked about current or past female-specific physical/reproductive health needs, experiences and support, both in and out of service. Thematic analysis was undertaken to determine key issues, ideas and impacts emerging.

Results: Participants discussed female related health conditions in and out of service, specifically menstruation, contraception, infertility, pregnancy, gynaecological conditions, menopause and pregnancy/baby loss.

While most highlighted positive experiences of women's healthcare post-service, their experience often aligned with civilian women in terms of negative attitudes and understanding of women's health broadly. Some of the distinct differences for women veterans included; lack of understanding of military service and its impacts; exacerbation of women's health related symptoms by military associated mental ill-health/PTSD; and negative experiences in-service, which acted as a barrier to accessing support post-service.

In-service experiences were mixed; a few indicating excellent support and/or appropriate onward referral. The majority however highlighted significant challenges around; limited knowledge of women's health and

dismissive attitudes; failures in diagnosis and timely treatment, leaving a legacy post-service; lack of informed choices; and breaches in confidence related to their women's health. For many, the additional challenges around pregnancy/having children meant they prematurely left military service.

Being a military partner posed additional challenges with women's health related care and support both in and out of service.

Conclusion: The study findings raise awareness of the experiences of women who have served in the UK Armed Forces relating to in and out of service female reproductive health, highlighting many of the additional challenges faced by this group. The findings offer valuable insight for those commissioning and providing women's sexual and reproductive health services and support, both in and out of service. Furthermore, they indicate much needed future research investment to address the deficits in knowledge in this area.

4B03: Military Hearing Conservation Practices and Veteran Compensation for Hearing Conditions Across the Five Eyes Countries

Hall, Amy, PhD[1]

[1]Veterans Affairs Canada

Introduction: Occupational noise exposure above accepted work exposure standards is common during military service, and is associated with acute and chronic impacts on hearing health. In 2024, a Working Group (WG) led by (Veterans Affairs) Canada with representatives from veteran and defence administrations across the Five Eyes countries (Australia, Canada, New Zealand, United Kingdom, United States of America) summarized military noise management programs, burden of service-related hearing conditions, veteran compensation, and research needs across their respective jurisdictions. The aim was to summarize the current state of knowledge on these topics and future research and collaboration opportunities, with the overarching goal of improving hearing health outcomes for current and former military personnel.

Methods: WG members representing defence administrations provided information on their respective hearing conservation programs, including characteristics of noise measurement approaches, noise abatement programs, and health surveillance activities. WG members representing veterans' administrations summarized the scope of hearing conditions in veterans, benefits administered, and establishing connections to military service (e.g., presumptive conditions). Across military and veteran contexts, knowledge gaps and opportunities for future research were identified. Findings were collated and descriptively summarized, along with recommendations for next steps.

Expected Results: Five Eyes defence forces apply various standardized approaches to assess noise in general and operational environments; this typically includes individual noise measurements combined with environmental noise assessment and ototoxicant monitoring. Audiometric and exposure measurement data collected across defence forces varied in terms of searchability and extractability. Reported noise exposure control strategies included engineering, administrative, and personal protective equipment methods. Definitions of hearing changes were inconsistent across the Five Eyes countries, with no single standard audiometric definition used. In currently serving members, reported rates of hearing shifts and hearing loss varied across factors such as sex and service component. In veterans, hearing conditions were commonly reported, with high rates of compensation claims and annual costs related to benefits administration. Jurisdictional procedures and decision making models for establishing a connection with military service to adjudicate benefits/compensation claims, including presumptive (or streamlined) decision making practices, varied substantially across countries.

Conclusion: Military noise exposures and associated hearing related impairments carry significant personal and economic burdens. A unified research agenda across nations is recommended to identify and mitigate causes of hazardous noise and ototoxic exposures (with consideration of sex and gender differences), establish consistency in definitions used to identify impairment, and maximize data systems and technologies to reduce the impacts of noise on hearing health in military and Veteran populations.

6B04: Comparative Prevalence of Hip Replacement, Knee Replacement and Spinal Surgery between women and men veterans in Scotland: A Population-Based Analysis

McHardy, Alethea, PhD (Student)[1]

[1]University of Glasgow

Introduction: Musculoskeletal Injury is the leading cause of medical downgrade and subsequent discharge in the UK Armed Forces, accounting for around

60% and most likely due to osteoarthritis.

In 2016, the UK Armed Forces approved the recruitment of women into all roles across the military, including close combat. The Government report at the time suggested this would bring diversity and equality between men and women but acknowledged that women were known to be at higher risk of musculoskeletal injury due to their physiology which would undoubtedly be exacerbated by these more physically demanding roles.

Women veterans are a consistently understudied group. The aim of this study is to begin to assess the impact of service on their musculoskeletal health when they leave. Particularly focusing on their requirement for hip replacement, knee replacement and spinal surgery in comparison to their male counterparts and a matched general non-veteran population.

Methods: This is a retrospective cohort analysis of all Scottish military veterans. Electronic data will be available through the NHS National Safe Haven from 1981-2023, over 40 years data, providing a comprehensive, longitudinal overview of health outcomes in this population. All data will be pseudo-anonymised. Based on previous studies estimates are I will have a cohort of 10, 000 female military veterans and 90, 000 male veterans. This will be compared against data from the non–veteran population matched for age, sex and socioeconomic demographic in a ratio of 3 (non-veteran population):1 (military veteran).

Expected Results: This research is currently in progress, no results are available currently. It is anticipated that the findings to be presented will include a comparison between men and women veterans, women veterans and a matched non-veteran population as well as looking at trends over the years (between birth cohorts) as the role of women became more physically arduous in the military.

Conclusion: Our women veterans are an important part of our veteran population, and the UK Government has set an optimistic target of 30% of all in-service personnel being women by 2030 so this population will continue to expand. This research will offer strategic insights into musculoskeletal health outcomes that can inform policy and guide the required support services for this group on leaving military service. It aims to identify areas of need within this group and where services can be directed to support their unique circumstances post service.

6B05: Bone-anchored prostheses for transtibial amputation: A systematic review of outcomes, complications, patient experiences, and cost-effectiveness

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[1]University of Alberta; [2]Centre intégré universitaire de santé et de services sociaux du Centre-Sud-de-l'Île-de-Montréal; [3]Université de Montréal; [4]Glenrose Rehabilitation Hospital

Introduction: Transtibial osseointegration is a surgical procedure to connect a prosthetic limb directly to the tibia using a titanium implant, offering an alternative to traditional socket-based prostheses for individuals with below-knee amputations. While transfemoral osseointegration has been reviewed extensively, there is a notable lack of synthesis of outcomes at the transtibial level. Evaluating the clinical outcomes and complications of transtibial osseointegration is crucial to understanding its relevance for military personnel with limb loss, particularly its potential to enhance functional and health outcomes and support return-to-duty considerations. This project aimed to synthesize existing evidence on outcomes of transtibial osseointegration.

Methods: A systematic search was conducted in MEDLINE, Embase, APA PsycInfo, CINAHL, Cochrane Library, PEDro, and NHS Economic Evaluation Database from inception until April 30, 2024, for literature on adults with transtibial amputation that compared outcomes pre- and post-implantation of a bone-anchored prosthesis for any length of follow-up. The comparator was socket or no prostheses. Type of outcomes reported or study designs were not limited. Screening for inclusion and quality assessment was conducted by two reviewers using instruments appropriate to the study type.

Results: Twelve studies met the inclusion criteria, comparing clinical outcomes before and after surgery. Only one study addressed cost-effectiveness. Most studies were based on press-fit fixation and short follow-up (1–3 years) on small sample sizes. Transtibial osseointegration was associated with improvements in health-related quality of life (HRQoL; increase in the SF-36 PCS or the Q-TFA Global Score), mobility (improvements in K-levels, 6-MWT, TUG, and daily steps), prosthesis use (increases in prosthesis wear time and the Q-TFA Prosthetic Use score), and decrease in disability (measured by WHODAS 2.0). The most common complication was superficial infection treated with oral antibiotics; serious complications such as implant loosening, fractures, or failure were rare. No qualitative studies explored patient experiences. While one study reported cost-effec-

tiveness, it relied on estimated utilities and only prosthetic care costs while excluding surgical and medical costs, limiting broader economic conclusions.

Conclusion: The available literature suggests that transtibial osseointegration is a promising alternative for individuals with below-knee amputation who face complications or discomfort with socket-based systems, potentially improving HRQoL, mobility, and prosthesis use. Further research on long-term outcomes and cost-effectiveness is needed. Qualitative studies would also help contextualize reported benefits and clarify the impact on daily living. Additionally, the application of this technique in military populations warrants specific investigation to assess its potential to enhance recovery, quality of life, and operational readiness.

Poster Presentations

P164: The Veteran Amputee – Combat or Disease?

Bergman, Beverly, PhD[1]; Mackay, Daniel, PhD[1]; Pell, Jill, MD[1]

[1]University of Glasgow

Introduction: Amputation of a limb is one of the most visible consequences of combat-related trauma, becoming known as one of the "signature injuries" of recent conflicts. There has been much public interest in provision of support for veterans who have lost limbs in conflict, but other reasons for limb loss include disease, affecting both veteran and non-veteran communities. The number of UK veterans who lose limbs to disease is unknown, although as cardiovascular disease (CVD) is a major risk factor for lower limb vascular compromise, and the risk of CVD is known to be increased in veterans, an increased risk of later amputation was postulated. The Scottish Veterans Health Study is a data linkage study utilising Scotland's routinely-collected electronic health records to examine the health outcomes of post-National Service veterans up to 50 years after they left the Armed Forces, in comparison with never-serving members of the wider population. This study provided an opportunity to explore the causes and risks of post-Service lower limb amputation in veterans compared with non-veterans.

Methods: The Scottish Veterans Health Study is a retrospective cohort study of all 78,000 veterans born between 1945 and 1995 who were living in Scotland both before and after service, and a 3:1 comparison group of 253,000 people with no record of service matched for age, sex and geographical location. The study uses survival analysis to compare health outcomes in veterans with people who have never served.

Results: A total of 38 veterans in Scotland who met the study criteria were identified as having a Service-related amputation. For post-Service lower limb amputation, there was no overall difference in risk, which was recorded in 145 (0.19%) veterans and 464 (0.18%) non-veterans, Cox proportional hazard ratio 1.00, 95% confidence intervals 0.82-1.20, p=0.961. Peripheral arterial disease was recorded in two-thirds of both veteran and non-veteran amputees, and type 2 diabetes in 41% of veterans and 33% of non-veterans, with a dual diagnosis in 32% of veterans and 26% of non-veterans. Post-service trauma was an infrequent cause of amputation.

Conclusion: Although in later life veterans are no more likely to lose a limb to disease than non-veterans, the number so affected greatly outweighs those who have lost limbs in conflict. Support for ageing veterans who have lost limbs due to disease requires planning with the same care as that afforded to the victims of conflict if inequalities are to be avoided.

P171: User-informed Task Design in Virtual Reality Platform for Multi-articulating Prosthesis Control Training

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[1]University of Alberta; [2]University of New Brunswick; [3]Glenrose Rehabilitation Hospital

Introduction: Arm amputation is among the most challenging injuries, especially for military personnel. Although multi-articulating prosthetic technology has advanced, allowing for complex limb movements and diverse grasping capabilities, many individuals with upper limb loss struggle to utilize these functions in part due to lack of sufficient training. Virtual reality (VR) has emerged as a promising method for offering immersive training experiences. Our aim is to advance our VR-based platform to provide task-focused training of military relevance to enhance control over multi-articulating myoelectric prostheses. The first part of our research gathered feedback from clinicians, persons with upper limb loss, and military personnel to inform the VR scene development and task design.

Methods: Our VR platform uses muscle signals to control the hand opening/closing and wrist rotation of a virtual prosthesis to perform functional tasks. Semi-structured interviews were conducted with clinicians, persons with limb loss, and military personnel to collect input on relevant tasks.

Expected Results: Thematic analysis of the interviews

revealed a range of tasks participants want implemented into the VR, many of which are relevant to military settings and daily activities. One such task involves a workshop scene, where users use tools requiring multiple grasp patterns. Based on this feedback, we are incorporating multi-grasp hand patterns and intricate environments into the VR platform. The new scenes will feature challenges that require complex arm motions. The input from clinicians and users has played a crucial role in refining these virtual tasks to ensure they simulate real-life challenges and offer realistic training scenarios.

Conclusion: This research highlights the critical role of incorporating feedback from end-users and clinicians when designing VR training environments for myoelectric prosthesis control. The VR platform aims to enhance prosthesis usability by offering military-specific tasks and multi-grasp training, addressing the unique needs of military personnel for improved prosthetic use in daily and occupational settings. The next phase of the study will validate the VR platform by piloting it with five individuals with upper limb loss to assess the platform's usability and effectiveness.

P181: Barriers, facilitators, needs, and preferences to participating in physical activity and exercise among Canadian Armed Forces Veterans living with chronic pain: A qualitative study.

Campbell Bromhead, Robin, PhD[1]; MacDermid, Joy, PhD[1]; Held, Nicholas, PhD[2,3]; Miller, Jordan, PhD[3]; Cramm, Heidi, PhD[3]; Killip, Shannon, PhD[1]; Attalla, Joline, PhD (Cand)[1]

[1]Western University; [2]McMaster University; [3]Queen's University

Introduction: Canadian Armed Forces (CAF) Veterans are twice as likely to experience chronic pain compared to the Canadian population. Evidence suggests that physical activity and exercise can help improve health for individuals living with pain, and previous work has aimed to understand the barriers and facilitators of engaging in physical activity for various populations. Exercise and training are often core values for military members, and the unique needs and complex health concerns of Veterans may make it more challenging to engage in physical activity. Given the higher prevalence of pain and unique military factors, Veterans may have specific needs that are different from the general public. Further, changing exercise-related expectations and behaviors when transitioning from military service to civilian life can be difficult. This study aimed to understand the barriers, facilitators, and preferences for physical activity and exercise for CAF Veterans living with chronic pain to provide specifications to inform best practice recommendations and a decision-aid support framework.

Methods: This study used a qualitative interpretive description design. A purposeful sample of CAF Veterans was recruited through email invitations and a social media campaign with the support of the Chronic Pain Centre of Excellence for Canadian Veterans network. The inclusion criteria were: 18+ years; can read, understand, and speak English or French; and CAF Veterans living with chronic pain (persistent or recurring pain lasting 3 or more months). Twenty-one semi-structured interviews were completed (17 English and 4 French) through Zoom. Eight women and thirteen men participated. The interviews were audio-recorded and transcribed. Transcripts were coded using thematic analysis.

Results: The results were categorized into barriers, facilitators, needs, and preferences. Barriers included mental health issues, pain severity and fluctuations, multiple sources of pain, fear of pain, navigating resources, and self-stigma. Facilitators were social support, existing knowledge of exercise benefits, exercise modifications, pain management, and helpful health professionals and exercise providers. Preferences included time of day, exercising alone, activities at home, activities that reduced pain, and using assistive devices. Veteran-specific needs included tailoring and individualized programs, exercise professionals' understanding of military culture and service-related pain, and avoiding military service-related physical activity.

Conclusion: This study's findings provide new knowledge on the barriers, facilitators, needs, and preferences for physical activity/exercise among CAF Veterans with chronic pain. The results will help inform best practice recommendations and considerations for a decision-aid tool for CAF Veterans to choose physical activity and exercise that aligns with their unique and specific needs.

P182: «It was all trial and error»: Exploring the chronic pain treatments and management experiences and preferences of Canadian Veterans

Killip, Shannon, PhD[1]; MacDermid, Joy, PhD[1]; Walton, David, PhD[1]; Lomotan, Margaret, BA[1]; Bobos, Pavlos, PhD[1]

[1]University of Western Ontario

Introduction: Service members and Veterans are at a high risk of developing chronic pain due to the nature of their work and cumulative injuries they sustain during their service. The purpose of this study was to explore the treatments and pain management experiences and preferences of Canadian service members

and Veterans living with chronic pain, their opinions of virtual chronic pain care interventions, and their suggestions for virtual chronic pain interventions.

Methods: Interpretive description methods were used. Twenty-six Canadian military service members and Veterans (11 women, 15 men) were interviewed, and the transcripts were inductively coded and thematically analysed.

Results: Participants identified many different interventions they tried or still used for their chronic pain, including medications, provider-led physical treatments, mental health treatments, exercise, and at-home pain management strategies. Although many of the treatments were helpful, the benefits were not sustained over time, and while medications were often needed, they were commonly associated with negative side. Participants recommended that a combination of many treatments and pain management strategies was best for managing their pain, as different treatments were beneficial in different contexts. Four themes were identified: 1. The vicious cycle of chronic pain symptoms impact Veterans' pain management abilities, 2. Veterans believed in the importance of a holistic and individualized approach to treatment for their chronic pain, 3. Identifying chronic pain treatments and management strategies required trial and error, 4. Virtual interventions for Veterans with chronic pain can be beneficial in accessing educational information and peer support.

Conclusion: With the wide variety of chronic pain treatments that exist, Veterans may require accessible resources and educational courses to explore different treatments and their benefits to decide which treatments are best suited for their needs. Veterans will likely require a coordinated approach to care as they use a combination of many different treatments to most successfully manage their chronic pain.

MIXED MENTAL AND PHYSICAL HEALTH AND WELL-BEING

Podium Presentations

1B01: Early Findings from a National Study on Canadian Women Veterans Experiencing Homelessness: What is the current experience?

Forchuk, Cheryl, PhD[1,2]; Booth, Richard, PhD[1,2]; Rudnick, Abraham, MD[3,4]; Nazarov, Anthony, PhD[1,2,5]; Richardson, Don, MD[1,2,5]; Serrato, Jonathan, MSc[2]

[1]Western University; [2]Lawson Research Institute; [3]Dalhousie University; [4]Nova Scotia Health Authority; [5]St. Joseph's Health Care London

Introduction: Conservative estimates suggest there are 2,400 Canadian Veterans experiencing homelessness with 30% identifying as women. Nationally coordinated point-in-time counts have previously indicated that women Veterans comprise 4.4% of the Canadian homeless community and 1.6% of emergency shelter users. A systematic review revealed only 52 studies focusing on Women Veteran homelessness, but all were conducted in the United States. The objective of this national study is to co-create solutions to homelessness among Canadian Armed Forces Veterans (CAF) and Royal Canadian Mounted Police (RCMP) Veterans, develop new policy and service guidelines, and address the knowledge gaps in the international literature base.

Methods: CAF and RCMP Veterans currently or previously experiencing homelessness are taking part in individual mixed-method interviews. The qualitative component has been gathering data regarding their lived experiences of homelessness, what they found useful/not useful, and what an ideal program would look like. Qualitative data has been analyzed using a thematic ethnographic analysis. Quantitative data collection includes housing history, quality of life, and background information including military career, physical and mental health, and services accessed. Descriptive statistics have been examined for quantitative data analyses.

Expected Results: Twenty women Veterans with current or past experience of homelessness have participated in mixed-method interviews. The mean age was 50 years old. Four participants identified as trans-women. The mean time served in the CAF and RCMP was 13 years. Early qualitative analysis has uncovered the following concepts: (1) transitional housing is often male-dominated; (2) there is a need for greater awareness of supportive Veteran services; (3) trauma and mental health challenges are widespread, requiring additional support; and, (4) community and Veteran-serving agencies have been helpful but shelters have been viewed as unhelpful and further employment and financial supports are greatly needed.

Conclusion: This study will contribute a significant step towards greater advocacy and awareness for CAF and RCMP Veterans experiencing homelessness in Canada. Gender and Veteran-specific models need to be developed. The data collected and analyses generated from this study will help fill some of the gaps in gender and Veteran research. It is also the aim of this study to apply these findings to policy and inform policymakers and service providers at municipal, provincial and federal levels.

1B04: Shaping the Future of Women Veterans' Research in Canada and Beyond: Developing a Strategic and Coordinated Women Veterans Research Plan

Bethke, Kim, BA[1]; Garland Baird, Lisa, PhD[1]; Muralitharan, Maiura, MPH[1]

[1]Veterans Affairs Canada

Brief Description: Canadian women Veterans (WV) have been under-researched for decades, leading to disparities in health and well-being and exclusions from research, policy and program development. Action is required to address this significant knowledge gap. Using an intersectional and GBA Plus approach, Veterans Affairs Canada (VAC) in collaboration with WVs, developed the Women Veterans Research Plan (WVRP). Moving forward, VAC proposes to collaborate with national and international partners to advance WV's research through strategic, coordinated planning and actions.

- Phase1: VAC hosted national consultations with WV to co-develop the WVRP. WV shaped research plan principles, evaluation criteria, research priorities, and knowledge translation practices through roundtables, Women Veterans Council presentation, online questionnaire, and Women Veterans' Forum workshops.

- Phase2: In response to the recommendations by the Standing Committee on Veterans Affairs (ACVA) "Invisible no more: the experiences of Canadian women veterans", VAC proposes to collaborate with research, government and organizational partners to map existing WV research efforts and establish national strategic priorities for WVs research.

- Phase3: VAC and national partners propose to engage in discussions with Five Eyes and other international researchers to better understand WV health and well-being issues and identify opportunities for transnational research collaborations.

Patient Population: "Veterans" includes those with service experience in the CAF and/or RCMP, including Regular Force, Reserve Force (A,B,C), COATS instructors, and/or Rangers. "Women," is inclusive of all people who identify as a woman or intersex, as well as those people who were identified as female at birth but do not identify as women (including Two-Spirit, trans, non-binary, genderfluid, and agender people).

Results: The development of the WVRP (phase 1) has demonstrated the critical role WV plays as co-developers to ensure that WV research is reflective of their health and well-being priorities. Moving forward, the WVRP (phase 2 & 3) will require inclusive, responsive, and coordinated partnerships with WV, government, organizations, and academic researchers to advance the WV research landscape nationally and internationally. These efforts demand attention to research, policy, and program gaps and an ongoing forum for sharing information, building consensus and coordinating research priorities to advance the health and well-being of WV.

Conclusion: Advancing a coordinated WVRP with national and international research partners will address under-researched and high-priority areas for WV in Canada and beyond. Intersectionality and GBA Plus approaches will ensure identification of research, policy, and program gaps inform and drive research initiatives for WV health and well-being outcomes now and into the future.

1C03: Student veterans experience: Ethics and the insider/outsider dilemma

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[1]University of New Brunswick

Introduction: The student veteran experience is as unique as military veterans themselves. Naomi Nichols suggested we, as researchers, have both an ethical and intellectual responsibility to produce knowledge that improves our shared and connected lives. Embodying multiple identities, veterans conducting research as students may now find themselves needing to reconcile their experiences alongside current academic interests. So, how can novice academics recognize and negotiate ethical tensions between their military experience and that of their participants?

Methods: Using Veteran Critical Theory to think about the idea of difference, I use reflective thematic analysis to consider research ethics within two cases: (1) as an insider exploring quality of life and learning within the military; and (2) as an insider/outsider considering military culture and identity development within basic training. It is these differences – insider and outsider – and what they mean for veteran's conducting ethical research within military spaces, that I bring into conversation with the concepts of Veteran Critical Theory.

Results: I argue that for student veterans conducting research within a military setting, this likely means both experiencing and confronting multiple lived iden-

tities and their associated tension. In the first case, I describe ethical issues that arise when one's experience closely resembles their participants. The second speaks to the challenges of bias and privilege when considering the experiences of participants who were and may be excluded based upon diverse identities and systemic inequities.

Conclusion: David Walker suggested veterans ought to put their insider-ness to work but noted that they must strive for critical analysis alongside existing knowledge. Glenn Phillips and Yvonna Lincoln's idea that veterans, and therefore their experiences, cannot be essentialized draws attention to how our own lived experience represents a bias that must considered. As veterans, what does it mean to return to these military spaces as a researcher? This presentation considers research ethics related to being an insider or an outsider. More specifically, I focus on how veteran experience is both an opportunity – shared but different experiences – but also a hurdle that must be considered.

2C01: Volunteerism among Veteran and military populations: A scoping review

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Introduction: Volunteering is associated with health and well-being benefits in civilian populations, in particular following civilian retirement. Engagement in volunteering may address feelings of isolation, disconnection from community, and create a sense of purpose among individuals entering the military-to-civilian transition. This study examined the literature on volunteering among military and Veteran populations to identify volunteering preferences, patterns, and potential impacts on Veteran well-being.

Methods: A scoping review was conducted following the JBI methodology. French and English articles (published between 2000-2024) examining volunteerism in military populations at any stage of service/post-service and type of service were reviewed. Peer-reviewed articles were retrieved from MEDLINE, CINAHL, Embase, and APA PsycInfo. Grey literature was retrieved from Google and government/not-for-profit agencies and organizations. Two reviewers screened abstracts, then relevant full-text articles. Data extracted included details about military service, volunteering, well-being, career stage, and article type and methodology. Descriptive statistics reported study characteristics. Veteran consultation feedback was integrated into the interpretation of findings and recommendations.

Results: Fourteen peer-reviewed studies met inclusion criteria. All studies focused on Veterans, not military members, and no studies included Canadian populations. No studies asked Veterans about their volunteer preferences. None of the studies focused specifically on the military-to-civilian transition. Most studies focused on Veterans already engaged in volunteering and evaluated specific Veteran-focused volunteer programs; several compared volunteer activities between Veterans and non-Veterans and four investigated factors associated with volunteering among Veterans. Overall, Veterans participating in volunteer programs reported benefits to their mental health, wellbeing, social isolation, loneliness, and their families. More Veterans reported volunteering relative to civilians. Veteran volunteers reported a sense of purpose and ability to continue serving their communities after service. Veteran engagement in volunteering varied by sociodemographic, employment, and military-specific factors and was often at a higher rate than civilians.

Conclusion: Evidence on the benefits of volunteering for Veterans is needed internationally to enhance the role of volunteering in the experiences of military-to-civilian transition. Organizations delivering structured Veteran volunteer opportunities require rigorous needs assessments and program evaluation to ensure volunteer opportunities align with Veterans' goals and values and do not cause harm. Canadian-specific research on volunteering among military populations is needed to guide local, provincial/territorial, or national volunteer programming and services and federal policy. By bridging the gap between military service and civilian life, volunteerism could redefine what it means to serve—and help Veterans find new ways to thrive.

2C02: Who Are the Canadian Armed Forces Veterans? Identifying At-Risk Profiles and Resilience Pathways in the Transition from Military to Civilian Life

Liu, Jenny (Jing Wen), PhD[1, 2]; Garland Baird, Lisa, PhD[3]; Gargala, Dominic[1]; Bodner, Jenine[3]; Boyer, Josée[3]; Richardson, J Don, MD[1, 2]

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Introduction: One in four Canadian Armed Forces (CAF) Veterans report a difficult transition to civilian

life—a period marked by disruptions in identity, purpose, and access to essential support systems. While many Veterans adapt and thrive, others face disproportionate barriers. Through the INSPIRE project, we sought to identify who these Veterans are, what risk factors heighten their vulnerability, and how community-based support systems can foster post-service resilience.

Methods: This multi-year initiative employed an integrated knowledge translation (iKT) model, co-led by researchers, Veterans, Veteran Affairs Canada (VAC), and equity-deserving stakeholder groups. An online needs assessment survey (N=320) was co-developed to map psychosocial, cultural, and structural barriers faced during transition, and to identify community supports that enhance resilience.

Results: Survey analysis revealed that social connectedness is the most critical determinant of Veterans' wellbeing—more than employment status, income, or number of deployments. Veterans lacking support from spouses, peers, or community institutions like the Legion experienced marked reductions in resilience across multiple domains (e.g., health, housing, life skills). Housing security also emerged as a key differentiator: Veterans experiencing unstable housing or homelessness (including those in temporary arrangements or shelters) reported some of the lowest levels of overall wellbeing and highest levels of difficulty transitioning. Moreover, housing vulnerability often co-occurred with lack of community support, lower income, and reduced access to services. Using a multi-factorial principal component analysis, we identified four distinct Veteran profiles, including two groups of thriving Veterans (38.5%, 30.7%), and two groups of at-risk Veterans (11.7%, 19%).

Conclusion: Findings underscore that vulnerability is not uniformly distributed among Veterans. A nuanced understanding of Canadian Veterans—and the contextual determinants of their post-service experience—is essential for tailoring early interventions. This research offers a framework to guide risk screening, policy prioritization, and resource allocation toward Veterans who are most at risk. Future work will deepen these insights through storytelling and community-based engagement, enabling Veterans to define and drive the narratives of their own resilience and growth.

2C03: Exploring links between adverse childhood experiences and military-to-civilian transition outcomes

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Introduction: Adverse childhood experiences (ACEs) are associated with negative outcomes in civilian, as well as military and Veteran, populations. Most research in this area has focused on health outcomes, with little attention placed on links between ACEs and military-to-civilian transition outcomes. The current study adds to the literature by examining associations between ACEs and post-release outcomes across the domains in Veterans Affairs Canada's well-being framework in a sample of Canadian Armed Forces (CAF) Veterans.

Methods: Secondary analyses were performed with a linked dataset, which captured information on ACEs from the Recruit Health Questionnaire (RHQ) administered during basic training, and data on post-release outcomes from the Life After Service Survey (LASS) administered to Regular Force Veterans in 2019. Linked data were available for 240 Veterans (38 women; 199 men; 3 missing gender). The current study is based on the sample of men given there was an insufficient number of women for the planned analyses. Men had an average age of 33 years; 63% were married or in common-law relationships. They had completed an average of 6 years of service and had left the military an average of 5 years before completing the LASS. Most reported experiencing at least one ACE (69%). Separate logistic regressions were conducted to identify associations between reporting any ACE and key indicators from the well-being framework. To provide additional detail, links were also explored between individual types of ACEs and these well-being indicators.

Expected Results: Analyses are ongoing, but preliminary results indicate that reporting any ACE was significantly associated with low community belonging and social support post-release. Multivariable logistic regressions with individual types of ACEs entered simultaneously as predictors showed significant associations between physical abuse and moderate to severe distress, low community belonging and difficult adjustment to civilian life overall.

Conclusion: Results help to characterize the long-term implications of ACEs for psychosocial well-being over the life course and may help to inform supports provided to CAF members during service, transition to civilian

life, and post-transition. The current research highlights the importance of providing trauma-informed support to military members and Veterans, particularly in building social connections. Future research with larger samples, including women Veterans, can explore these associations further, in combination with other predictors.

2C05: Stories that INSPIRE – A Film Premiere Showcasing Veteran Experiences of Transition, Isolation, and Resilience

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Introduction: The transition from military to civilian life can be marked by profound disruptions in identity, belonging, and access to support systems. Many Veterans experience loneliness and social isolation during this period, factors known to negatively impact mental health and resilience. As part of the CIHR-funded INSPIRE project (INcreasing veteranS' Pathways to Information, Resilience, and Empowerment), a national survey was conducted in 2023 to examine risk and resilience factors during this transition. Building on these findings, Stories that INSPIRE is a qualitative, arts-based knowledge mobilization initiative aimed at amplifying Veteran voices through storytelling.

Methods: Six Veterans who participated in the 2023 INSPIRE survey were recruited for in-depth, filmed interviews. A community-based participatory research (CBPR) and integrated knowledge translation (iKT) approach was employed, with ongoing input from a multidisciplinary advisory board comprising Veteran Affairs Canada stakeholders, Veterans with lived experience, and community partners. The film was produced in collaboration with a Veteran-owned and operated production company, ensuring authenticity, shared understanding, and a deep sensitivity to the subject matter.

Results: Guided by the Veteran Wellbeing Surveillance Framework, interviews explored themes of institutional trust, access to care, peer support, identity loss, and reintegration challenges. The interviews were transformed into a documentary film, showcasing common threads of struggle and resilience.

Conclusion: This project illustrates the power of storytelling —particularly when led and shaped by those with lived experience—as both a research method and a vehicle for meaningful knowledge mobilization. Stories that INSPIRE offers a compelling and human-centered perspective on Veterans' post-military experiences and invites viewers to reflect on broader systemic and cultural barriers to wellness. The film will serve as an educational and advocacy resource for service providers, policymakers, and Veteran communities. Its premiere at CIMVHR represents an opportunity to elevate Veteran-led narratives in national conversations on transition, recovery, and resilience.

4A06: Exploring the influence United Kingdom ex-servicewomen's militarised bodies has on their physical health behaviours and experiences of health support, co-presented with an expert-by-experience

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Introduction: Despite a welcome increase in research examining the needs of UK ex-servicewomen, there remains crucial gaps in the evidence regarding; the prevalence of different physical health conditions compared to both civilian women and ex-servicemen, the impact this has on them daily, and their experiences of accessing physical health support. To that end, a broader collaborative mixed-methods research project brought together analyses of existing quantitative datasets from NHS-England's Op Restore (veterans' physical healthcare service), the Defence Medical Welfare Service, the UK Biobank, alongside in-depth insight from qualitative interviews with ex-servicewomen, to gain an understanding of the physical healthcare needs of women veterans in the UK. Drawing from qualitative interview insights, this submission focuses on the way women veterans articulated the lasting influence of military service on their health behaviours and experiences with health support, framed within the concept of militarised bodies.

Methods: Qualitative interviews were conducted with forty UK ex-servicewomen who had a current physical health condition. Women were asked about how their physical health needs impacted their daily lives, their perceptions of and if accessed, experiences of support they had received for their physical health post-service. We worked with an expert-by-experience group to interpret these interview findings and co-designed recommendations for future practice. The abstract is co-designed, and the presentation will be co-delivered with a women veteran from our expert-by experience group.

Results: The age range of our sample was 30 to 79, with most participants aged between 40-60. Twenty-three identified themselves as disabled. Amongst this tri-service sample, the periods of service spanned between 1962 and 2024.

The interviews demonstrated several ways women's service impacted their health behaviours and experience of healthcare. Notably, we saw emerging, a narration of the militarised body, whereby factors associated with military service continued to have a lasting legacy post-service specifically; 1.) women's willingness to ask for help, 2.) continuation of 'pushing bodies to the limit' post-service, 3.) perceptions of worthiness in accessing support, 4.) confidence in questioning care post-service, and within each of these a specific undercurrent related to their gendered experience of military culture.

Conclusion: It is crucial for healthcare professionals to understand the impact of women veterans' militarised bodies on their healthcare needs and behaviours, as this will have important implications for how they best support this cohort.

4B02: Exploring United Kingdom's veterans physical and mental health needs using the Clinical Practice Research Datalink

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Introduction: There is limited evidence regarding the health outcomes and healthcare use of UK veterans, particularly within the primary care system. This represents a significant gap, as primary care is often the first point of contact for health concerns and provides a comprehensive view of an individual's health. This study assessed the feasibility and utility of the Clinical Practice Research Datalink (CPRD) for veteran health research and to characterise the physical and mental health profile of UK veterans compared to the general population.

Methods: CPRD is a representative, longitudinal dataset containing primary care electronic health records of approximately 60 million primary care patients across the UK. Veterans were identified across England, Wales, and Scotland if their records included codes indicating veteran status. For veterans in England, matched controls were selected based on age, gender, GP practice, and veteran status registration date to balance confounding factors. Additionally, the data was linked to a socio-economic deprivation index and to secondary care records to enable a more comprehensive understanding of context and healthcare utilisation. Regressions will be carried out to assess the extent to which covariates such as sociodemographic and lifestyle behaviours explain differences in health outcomes between veterans and controls.

Expected Results: A total of 122,484 veterans in England, 5,072 in Wales, and 4,364 in Scotland were identified. For the English veteran sample, 244,573 matched controls were identified. The veteran cohort was predominantly comprised of men (80%), white (88%), and middle-aged (mean age: 53 years). Among the subset with Service branch information (32%), as expected, the majority were Army veterans (72%). The findings indicated that physical and mental conditions such as chronic obstructive pulmonary disease (2.87% vs 5.92%), hearing loss (3.08% vs 6.78%), lower back pain (6.53% vs 11.72%), osteoarthritis (4.67% vs 9.94%), alcohol misuse (15.11% vs 40.67%), depression (5.71% vs 10.78%), and PTSD (0.18% vs 3.06%) were more prevalent among veterans compared to controls.

Conclusion: This study demonstrates the feasibility and utility of the CPRD for exploring veteran health patterns across the adult life-course. Findings indicate higher morbidity among UK veterans compared to the general population, emphasising the need for tailored healthcare strategies for this group. However, these findings primarily reflect male health experiences and future research will examine gender-specific health patterns. Additionally, further analyses are ongoing to understand the health profiles of veterans in the devolved nations, and role of sociodemographic and behavioural risk factors in shaping these observed differences.

6B01: The intersection of chronic pain and transition experiences in shaping Veterans´ post- service needs: A mixed methods study

Collins, Erin, PhD[1,2]; Liu, Jenny JW, PhD[1,2]; Gargala, Dominic, BSc[1]; Richardson, Don, MD[1,2]

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Introduction: Veterans experience higher rates of chronic and severe pain than the general population, often alongside conditions such as post-traumatic stress disorder. Chronic pain can profoundly affect multiple domains of life, especially following the transition from military to civilian roles. In Canada, 39% of Veterans report a difficult transition, and 59% of this group also live with chronic pain. This added burden can further hinder adaptation, reinforcing existing stressors and barriers. This mixed methods study examines how chronic pain influences transition experi-

ences and post-release outcomes.

Methods: *Quantitative*— Data were analyzed from a 2023 survey of 237 Canadian Veterans, which captured demographics, health status, and quality of life. Transition experiences were assessed using the Transitioning to Civilian Life Scale (TCLS; α = .915). Veterans reporting moderate-to-severe pain-related impairments in daily activity were compared to those with none to mild impairments across satisfaction domains (health, purpose, finances, social integration, life skills, housing, and culture). Linear regression examined the association between pain status and transition scores, adjusting for pre-identified covariates. Qualitative—Semi-structured interviews were conducted with 10 Veterans with chronic pain, 10 family members, and 10 service providers. A combined deductive-inductive approach was used, applying the Veteran Well-being Surveillance Framework while allowing emergent themes to reflect lived experiences.

Expected Results: Most participants were male (73.6%; mean age = 51.2, SD = 12.7), served in the Regular Force (83.5%), and 43.3% were medically released. Two-thirds (66.7%) reported moderate-to-severe pain-related impairments; 55.5% of these were medically released, compared to 19.4% without impairments. Pain-affected Veterans scored significantly lower across all satisfaction domains ($p < .05$) and had significantly higher TCLS scores, indicating more difficult transitions (M = 48.04 vs. 36.48; t(231) = -6.90, $p < .001$; d = 0.97). Pain status remained strongly associated with transition difficulty after adjusting for age, sex, duty status, and years of service ($B = 11.25$, $p < .001$). In interviews, Veterans described the pervasive influence of pain across life domains and identified key barriers to improvement, including difficulty navigating services, stigma around symptom disclosure, limited transition preparation, and challenges in securing primary care. Voluntarily released Veterans reported more positive transitions and post-release outcomes.

Conclusion: Chronic pain was strongly linked to poorer transition outcomes and lower life satisfaction. Interviews reinforced these findings, highlighting the compounding impact of pain on mental health and overall well-being. Release type emerged as a key predictor of transition experiences. Findings highlight areas for system improvement before and after release.

6B03: Optimizing effectiveness and engagement in self-education for veterans managing chronic pain: A qualitative descriptive study

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Introduction: Veterans may have challenges accessing and engaging in pain management. While person-centered interdisciplinary pain treatments are the gold-standard for pain treatment, many have long waitlists and are located far from rural communities, making them inaccessible for many persons living with pain. Veterans also have unique biological (e.g., presence of multiple comorbidities) and psychological (e.g., military identity) characteristics that are sometimes overlooked in traditional pain management. Self-education is an accessible and active form of engagement that aligns with Veterans' military identity and has been found to improve pain outcomes. However, Veterans may experience barriers to self-education (e.g., navigating trustworthy resources). There is a need to explore Veterans' perception on self-education to support development of future programs. The aim of this study is to describe how Veterans engage with self-education for pain management.

Methods: This study uses a qualitative descriptive methodology and constructivist theoretical lens. Participants were recruited from the Chronic Pain Centre of Excellence for Canadian Veterans' network. Data was generated using semi-structured individual interviews. Results were analyzed using content analysis informed by the Template for Intervention Description and Replication checklist.

Results: A total of 16 Canadian Veterans (M=13, F=3) participated in this study. All Veterans in this study described self-education as a life-long necessary and flexible tool to help manage their pain and other health conditions. Veterans described engaging in self-education for one or more of the following reasons: (1) taking ownership over their health, (2) gaining access to services and tools, (3) self-advocate, or (4) because they felt that they had no other choice. Veterans recounted using trusted sources from patient organizations, universities, hospitals, podcasts, and other Veterans/social media. In most cases, participants believed that self-education should be done with support from a healthcare professional. Veterans also believed that self-education could not replace traditional treatments, but could help improve self-management and rapport with healthcare professionals. Further,

in some instances, Veterans' military identity was an asset to self-education, encouraging them to actively find solutions and attain goals. Conversely, that same identity may hinder self-education by creating difficulty seeking support or trusting resources. Regarding the development of future interventions, or tailoring of existing interventions, Veterans recommended inclusion of healthcare professionals, aspects of military identity, engage the entire family, and include strategies to identify credible resources.

Conclusion: This study summarizes Veterans' description of self-education and insights on how self-education strategies can be tailored for Veterans and their families.

6C02: Exploring the Health and Well-Being of Aging Veterans: Insights from the Veterans› Well-Being Community Health Needs Assessment

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[1]Veterans Affairs Canada

Introduction: The proportion of aging Veterans in Canada is increasing. By 2026, one third of Veterans will be over 70 years. Despite this, there is a dearth of literature focused on aging Veterans, with existing research clustering them into a broad age category of 65+. Using intersectionality/GBA Plus, the CHNA's included secondary analysis of the 2022 Canadian Veteran Health Survey, semi-structured interviews/focus groups, and survey that explored the needs of aging Veterans to address knowledge gaps on their health/well-being needs and outcomes.

Methods: This mixed-methods study included secondary analysis of 2021 Census and 2022 Canadian Veteran Health Survey data; an online survey (n=860) using a cross-sectional, exploratory design; and semi-structured interviews and focus groups with Veterans (n=75).

Results: Select results indicate 70% of Veterans 50-64 have at least one functional difficulty (i.e., communicating in own language, self-care, remembering/concentrating, walking/climbing steps, hearing, and difficulty seeing), which is double the rate of Veterans aged 35-49 (35%). Aging Veterans expressed concern about insufficient finances, potentially impacting their ability to address complex/evolving care needs; and financial ability to remain at home. Aging women Veterans reported gender discrimination during service had hindered achieving a higher rank or longer period of service, therefore negatively influencing their ability to afford retirement/care. Single, older women Veterans also experience a unique kind of social isolation, as they feel denied access to Veteran spaces and resources based on their gender (i.e., home care).

Conclusion: Given the increasing proportion of aging Veterans in Canada, these results demonstrate a critical need for timely and targeted research that explores the intersectionality of military service experiences (i.e., occupational exposures due to conflict zone deployments) and aging to understand how these potentially compounding factors may contribute to higher rates of functional difficulties for Veterans. Aging Veterans' financial ability to manage their functional difficulties while aging in place (if appropriate) warrants inquiry that also considers the impact of aging women Veterans' gendered experiences, including sexual discrimination while serving and decreased social and health support have on health and well-being outcomes. Policy and program development must include targeted interventions and mechanisms to support aging Veterans' intersectional health and well-being needs across the life course. Research design must focus on recruitment of aging Veterans 50 + to achieve viable sample sizes and disaggregate across multiple age ranges to capture explore between age groups.

Poster Presentations

P172: Spatial distribution of services for Veterans in Canada

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Introduction: Over recent years, particularly since the Covid pandemic, technologies that allow people to interact with one another while remaining physically distanced, have become an important part of everyday life. Despite the advancement of these technologies, there are times when in person interactions are vital. Canadian Veterans who developed medical conditions due to the nature of service they provided our country may need in person care to help manage these conditions. The physical distance that some Veterans must travel to access medical services or services offered at Veterans Affairs Canada (VAC) offices can be difficult, especially when they suffer from difficult physical and/or medical conditions such as chronic pain

Methods: Distances to VAC offices were generated using the tidygeocoder and geodist libraries for R. These distances were explored using quantiles and means. Clients were grouped by province/territory as well as by nearest office, which for some, was located outside their home province.

Expected Results: We determined the average distance a Veteran must travel to access VAC services was 52.86 km. The distance varies significantly by province. Newfoundland and Labrador had the largest with 91.26 km and Manitoba with 32.77 km had the shortest. The mean distance in the three territories was significantly higher than those in the provinces, ranging from 1008.78 km to 1991.92 km. This is due to the small number of Veterans found there and because there are no VAC offices located in the territories. Veterans located in the territories must travel to offices located in a neighbouring province to access in person services. When exploring the mean distance by office, it ranged from 14 km for the Trenton office to 313.28 km for the Prince George office.

Conclusion: Our analysis highlights significant geographic disparities in the distances Canadian Veterans must travel to access VAC's in-person services. While the average distance across the country is 52.86 km, variations by province and territory demonstrate the challenges faced by Veterans, particularly those who suffer from medical conditions or are in remote areas. The three territories, are confronted with extremely long travel distances, with no VAC offices located within their borders. These findings underscore the need for targeted policy considerations to address these travel barriers, ensuring that all Veterans, regardless of location, can access the care and support they deserve. Further investigation into potential solutions, such as mobile clinics or virtual care options, may be crucial in improving access for those in remote regions.

P175: À portée de clic : Essai randomisé contrôlé pragmatique d'un programme en ligne d'autogestion de la migraine pour les personnes vétéranes

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Introduction: La migraine, est plus fréquente chez les vétérans et vétéranes des Forces armées canadiennes. Cette maladie nuit à la qualité de vie et accroît les difficultés liées à la transition vers la vie civile, favorisant l'isolement et nuisant à la participation sociale. De plus, les céphalées chroniques sont le type de douleur ayant la plus grande incidence de tentative de suicide chez la population vétérane. Malgré l'efficacité de certains programmes d'autogestion (stratégies que la patientèle intègre dans son quotidien pour mieux vivre avec une maladie chronique) en ligne en anglais, aucune solution spécifique à la migraine et adaptée aux personnes vétéranes francophones n'est actuellement disponible. Le programme d'autogestion de Migraine Québec propose six ateliers virtuels animés par des professionnelles de la santé et a été adapté à la population vétérane. La présente étude vise à en évaluer l'efficacité en conditions réelles.

Méthodes: L'étude en cours de planification est un essai randomisé contrôlé pragmatique. Les personnes vétéranes participantes sont réparties aléatoirement en deux groupes : un groupe expérimental suivant le programme pendant 12 semaines et un groupe liste d'attente. Les données sont recueillies à l'aide de questionnaires standardisés ainsi qu'un calendrier de céphalées à trois temps de mesure (pré-intervention, post-intervention et 3 mois après la fin de l'intervention) totalisant 6 mois de suivi. Les mesures de résultats, évaluées grâce à des instruments de mesure validés, seront le sentiment d'auto-efficacité (mesure primaire), l'intensité et l'interférence de la douleur, l'impact fonctionnel de la migraine, la qualité de vie spécifique à la migraine, l'impression globale de changement , la charge interictale et la fréquence des céphalées. L'échantillon sera de 38 personnes (calculé en vue de détecter des différences cliniquement importantes sur la mesure primaire).

Résultats attendus: Il est attendu que les personnes participantes bénéficient d'une amélioration significative de leur état de santé. En effet, le programme est fondé sur des données probantes, les interventions d'autogestion en ligne ont démontré leur efficacité et le format de groupe en ligne est apprécié par la patientèle vétérane. Le programme a déjà été offert auprès de vétérans en clinique de gestion de la douleur, où il a suscité des retours positifs (données pilotes). Cette première mise en œuvre a permis d'ajuster le contenu selon les priorités exprimées par les vétérans, renforçant la pertinence et l'acceptabilité du programme proposé.

Conclusion: Ce programme d'autogestion en ligne, fondé sur les meilleures pratiques, vise à améliorer la qualité de vie des vétérans vivant avec la migraine.

P177: An Examination of the Efficacy and Satisfaction with Pain Reprocessing Therapy in a Sample of Canadian Military, Veterans, and RCMP Members

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Introduction: The prevalence of chronic pain reported by Canadian military and police has been well established but understudied. Further, effective psychotherapeutic treatments for chronic pain are an identified need among Canadian military and police. The present study examined the effectiveness of Pain Reprocessing Therapy (PRT), a novel treatment emphasizing how the nervous system can learn pain. PRT aims to reduce or eliminate pain by helping patients reattribute causes of pain from their bodies to their brains and reduce the fearful avoidance of pain. In this way, chronic pain is viewed as neuroplastic and based on past experiences rather than structural damage. Maintenance of treatment gains was also examined to determine if the treatment in its current form led to long-term improvements.

Methods: A quasi-experimental study using pre– and post–treatment data acquired from the Operational Stress Injury Clinic in Winnipeg, Manitoba, was conducted with data from 17 Royal Canadian Mounted Police, Canadian Armed Forces members, and Veterans of those forces. Participants completed measures of pain intensity, pain-related disability, pain-related catastrophizing, fear of movement and reinjury, post-traumatic stress disorder, depression, and client satisfaction. Follow–up data were available from 14 participants. Repeated measures ANOVAs were utilized to assess reductions in pain and pain–related symptoms from pre- to post-treatment, as well as examining maintenance of treatment gains at follow-up. A measure of client satisfaction was also examined as a way to further understand participants' experience with the novel intervention.

Results: The results partially supported the hypothesis that there would be reductions in pain and pain–related symptoms after treatment. There were statistically significant reductions in pain symptoms and experiences, kinesiophobia, and catastrophizing from pre- to post-treatment, and large effect sizes indicated clinically meaningful improvement in these domains. Unfortunately, follow-up data demonstrated that gains generally were not maintained over one to three years. Client satisfaction was good to excellent, indicating participants enjoyed the treatment.

Conclusion: Results suggest that PRT is a promising treatment option for reducing chronic pain and related symptoms in military and veteran populations. Although the treatment was effective in the short-term, gains were largely not maintained at follow-up, suggesting that alterations such as the addition of booster sessions may improve long-term outcomes. Further research on PRT for the Canadian military, Veterans, and police to explore potential improvements to the program is warranted. Future research should include examination of the impacts of common comorbid mental health disorders, service type differences, and gender differences in treatment efficacy.

P178: Exploring Resources for Canadian Armed Forces Members Experiencing Persistent Pain: An Environmental Scan

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Introduction: Canadian Armed Forces (CAF) Veterans are nearly twice as likely to experience chronic pain compared to the Canadian population. Chronic pain has been recognized as the leading cause of short- and long-term disability among military personnel and is the most common complaint made by patients to their primary care providers. We conducted an environmental scan and gap analysis to determine available resources for Canadian Armed Forces members experiencing chronic/persistent pain. Identifying these resources will help to illuminate critical gaps in care and help create a roadmap of care for these members, including opportunities for when and how chronic pain care can be integrated. Data collection for this study is completed and analysis is underway, expected to be completed by summer 2025.

Methods: To address this research gap, we conducted an environmental scan to identify public facing resources for individuals experiencing chronic pain. The search method involved a structured web search followed by individual connection via phone/virtual/email. Search parameters were set to filter out irrelevant items, for example, through using Google Advanced search customization options. Individual websites were then searched for relevant resources. Resources were included if they focused on chronic

pain (e.g. pain that lasts greater than 3 months) and were freely available.

Expected Results: Multiple chronic pain management related resources were found. Formats included podcasts, videos, talks from pain experts (such as TEDTalks, conference presentations, webinars etc.), handouts, booklets, fact sheets, brochures, guidelines, online modules, workshops, courses, and several self-lead programs. Descriptive data was gathered for organization and analysis. Results were categorized into themes: 1) Education on what chronic pain is 2) Management through integrated care teams, and 3) Self-care/management recommendations. The goal of this project is to disseminate these findings to Canadian military members experiencing chronic pain and their care providers to provide freely available resources that can educate and support the management of chronic pain in military members.

Conclusion: Pain is a complex, biopsychosocial phenomenon that is highly comorbid with mental health problems among CAF Veterans (e.g. post-traumatic stress disorder, anxiety disorders, depression). Currently, very little work has been done to investigate or address chronic pain in active serving CAF members, and little is known about what resources are available to members to address their chronic pain. This project helps to determine what resources are freely available to those members who are experiencing chronic pain and analyze gaps and opportunities to address chronic pain while members are still serving.

P185: Mental Health-Related Barriers and Benefits to Physical Activity and Exercise in Canadian Military Veterans Living with Chronic Pain

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Introduction: Canadian Armed Forces Veterans are twice as likely to experience chronic pain as the general Canadian population. Pain is a complex, biopsychosocial phenomenon that is highly comorbid with mental health problems. Research shows that physical activity and exercise can improve physical and mental health in individuals with chronic pain. However, the complex health concerns and needs of Veterans create unique challenges. This study aimed to understand the experiences of Canadian Armed Forces Veterans living with chronic pain engaging in physical activity and exercise. Mental health barriers and benefits were significant findings.

Methods: This study used a qualitative interpretive description design. A purposeful sample of Canadian Armed Forces Veterans was recruited with the support of the Chronic Pain Centre of Excellence for Canadian Veterans network. The inclusion criteria were: 18 years of age and older; can read, understand, and speak English or French; and Canadian Armed Forces Veterans living with chronic pain (persistent or recurring pain lasting 3 or more months). Twenty-one semi-structured interviews were completed (17 English and 4 French) through Zoom. Eight women and thirteen men participated. The interviews were audio-recorded and transcribed. Transcripts were coded using thematic analysis.

Results: The results of this study showed the important intersection between mental health issues and pain as a significant barrier to engagement in physical activity and exercise for Canadian Armed Forces Veterans living with chronic pain due to various physical, psychological, and environmental factors related to mental health injuries from military service. Veterans also mentioned the mental health benefits of participating in physical activity and exercise, including stress relief, improved self-confidence, and a desire to find ways to engage in physical activity and exercise that helped their mental health.

Conclusion: These results reveal the complex interplay between pain and mental health symptoms that impact engagement in physical activity and exercise for Canadian Armed Forces Veterans. This information will assist in developing a decision aid framework and considerations to support Veterans with pain and mental health conditions through personalized plans to optimize their physical activity and engagement.

P186: The impact of exercise on posttraumatic stress disorder symptoms in adults experiencing operational stress injury: An integrative review

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Introduction: Military personnel, Veterans, and public safety personnel (PSP) are at risk of developing Operational Stress Injuries (OSI) including post-traumatic stress disorder (PTSD). Exercise has known benefits for physical and mental health, but there are unique challenges in implementing exercise in these populations. The goal of this study is to better understand the issues in exercise affecting military

personnel, Veteran and PSP who experience PTSD/OSI by synthesizing and integrating research studies that evaluated the effects of exercise in generic populations with PTSD/OSI with specific studies that described triggers of PTSD/OSI experience during exercise in military personnel, Veterans, PSP, and civilians.

Methods: Problem formulation defined the generic and specific studies to integrate. (2) Data collection: A search was conducted until November 13th, 2024 in Medline, CINAHL, PyscINFO and Embase for articles evaluating the impacts of exercise on OSI or PTSD symptoms. (3) Evaluation of data: extracted independently by two authors. (4) Data analysis: synthesis was completed in two major categories; triggers experiences during exercise and exercise program effect in relation to PTSD symptoms, and (5) interpretation: results were reviewed with experts and Veterans.

Expected Results: After duplicated were removed, 676 title/abstracts articles were screened, 441 articles went on to full text review, and 76 full texts were extracted. Forty-seven articles (30 RCTs) on exercise effects in OSI/PTSD included Military, PSP, and Veteran population, and 25 described the civilian population, with 4 articles describing a mixed population. Twenty-one articles described PTSD triggers during exercise; environmental, names of yoga poses, combat positions in self-defence classes, hands-on instruction or being touched, unclear view of entrances and exits, group setting, and the location of the exercise class. Exercise interventions of the remaining 64 articles included aerobic exercise, cycling, fly-fishing, yoga, surf-therapy, resistance training, high intensity training, archery, equine husbandry and adaptive horsemanship, self-defence training including Brazilian jiu jitsu, nature hiking, climbing, and Nordic walking.

Conclusion: Multiple research programs have suggested exercise is beneficial for OSI/PTSD, with the majority of RCTs conducted in civilians. Triggers were rarely formally measured or integrated in exercise prescription. In studies of Veterans and PSP, a wide array of exercise triggers were identified, which could act as barriers to exercise implementation. Tailored exercise prescription and decision support tools are needed that consider the complexity of adherence to exercise given preferences and adverse events during exercise for Veterans, military personnel, and PSP who experience high rates of OSI and chronic pain.

P194: Empirically validating the Veteran Affairs Canada's Well-being Surveillance Framework via longitudinal research

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Introduction: Despite comprehensive research on well-being, few studies have validated frameworks over time. Veteran Affairs Canada (VAC) provides one such model. This article assesses constituent domains of well-being within this framework and compares them between Veterans and non-Veterans participating in the Canadian Longitudinal Study on Aging (CLSA). Validating these indicators is crucial for designing effective programs and policies to support military personnel and their families. By evaluating the key indicators of well-being within the VAC Well-being Surveillance Framework, this study seeks to provide insights that can guide evidence-based interventions and support services, ultimately enhancing the well-being of Veterans.

Methods: Structural equation modelling (SEM) was extended through multi-group confirmatory factor analysis to assess life satisfaction and social integration among self-identified CLSA Veterans and non-Veterans via a cross-lagged panel model (CLPM). Well-being domains encompassing social integration and purpose were modelled to assess their predictive validity in relation to depression over an eight year period.

Results: Latent constructs modelled effectively across time. Interestingly, while this model applied invariantly between female and male Veterans, when Veterans were compared to their same-sex civilian counterparts, the model applied was significantly different, yet this difference was not uniformly negative or positive over time.

Conclusion: This study represents an initial step in empirically evaluating the VAC Well-being Surveillance Framework. Specifically, this study examined two of the seven domains proposed (purpose and social integration) relevant to the aging Veteran population in comparison to their same-sex civilian counterparts. We not only found that aging Veterans are impacted differently to civilians these domains, we also provide a template for researchers interested in assessing latent constructs over time to support in further validation of the VAC Well-being Surveillance Framework. The findings from this study can inform policies and pro-

grams tailored to enhance the well-being of Veterans, acknowledging the need to distinguish Veterans from non-Veterans in the application of intervention, especially so for both Male and Female Veterans regarding Social Integration, Subjective Well-being and Depression as they diverge from civilians.

OTHER

Podium Presentation

5E01: Psychometric validation of the Sexual and Gender Minority Moral Injury Scale in a Canadian adult sample

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Introduction: Sexual and gender minority (SGM) individuals experience disproportionately high rates of psychopathology, including posttraumatic stress disorder (PTSD) and trauma-related disorders, compared to cis-gender and heterosexual individuals. These disparities are often linked to chronic minority stress, including discrimination, harassment and victimization. Research suggests the relationship between minority stress and trauma symptoms is influenced by moral affect (Straub et al., 2018; Nicholson et al., 2025). Ongoing exposure to minority stress may lead SGM to perceive both their identity and others' reactions to it as a source of moral conflict, increasing vulnerability to moral injury and other adverse mental health outcomes (Nicholson et al., 2022). Despite this, moral injury remains largely underexplored in SGM. A recent mixed-methods study identified four themes of moral injury in this group: shame/internalized stigma, attachment injuries, guilt, and betrayal/loss of trust (Nicholson et al., 2025). However, there is currently no validated measure designed to assess moral injury in SGM. The present study addresses this gap by evaluating the psychometric properties of a novel scale developed to capture moral injury experiences in SGM.

Methods: This study explored the psychometric properties of the Sexual and Gender Minority Moral Injury Scale (SGM-MIS) in a Canadian sample of sexual and gender minority adults. Participants were recruited through Prolific, a crowdsourcing platform (N = 300). Participants completed the SGM-MIS, the Moral Injury Event Scale (MIES) and the Moral Injury Outcome Scale (MIOS), as well as measures of PTSD and trauma-related mental health symptoms, and minority stress exposure. Convergent validity, internal consistency, and construct validity were explored.

Expected Results: Anticipated results are as follows: Significant positive correlations will be found between the SGM-MIS and all related constructs including minority stress exposure, PTSD and trauma-related symptoms, and scores on the MIOS and MIES, supporting convergent validity. The overall scale will demonstrate good internal consistency, with a Cronbach's alpha >0.80. The anticipated 4-factor structure of the SGM-MIS will be supported using Confirmatory Factor Analysis, demonstrating construct validity. Measurement invariance will be observed for gender and age.

Conclusion: The findings will enhance our understanding of moral injury in this population and contribute to the development of a novel tool to assess moral injury. If the SGM-MIS demonstrates strong psychometric properties, it could serve as a valuable tool in both future research and clinical settings, offering a more nuanced understanding of the experiences of sexual and gender minority individuals, especially among those

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