



MACDONALD
FRANKLIN
OSI RESEARCH
CENTRE

LAWSON HEALTH RESEARCH INSTITUTE

Progress Report

First 3 Years of Operations 2018-2021



*Through mental health research,
we are committed to improving the
well-being of Veterans and their families.*

A COMMITMENT TO CANADA'S HEROES

Mrs. Kyle MacDonald and Mr. John Franklin grew up in proud Canadian military families. Inspired by their fathers who bravely served our country, Kyle and John have honoured these decorated men – their heroes – by making a commitment to the ongoing care of Canada's Veterans and members of the Canadian Armed Forces.

Their gift of \$1 million will support both the unique needs of Veterans who make their home at Parkwood Institute and fund research critical to advancing treatments for men and women who have experienced operational stress injuries, such as post-traumatic stress disorder, as a result of their military service.

Kyle and John's generosity will touch the lives of those heroes who serve Canada, and their families, supporting their wellness and recovery.

*In recognition of their gift, St. Joseph's has proudly named this space the **MacDonald/Franklin Operational Stress Injury Research Centre.***



CAPTAIN SAMUEL A. MACDONALD

Captain Samuel A. MacDonald began his military service in London, Ontario. He was a Captain in the local Royal Canadian Regiment and served Canada in the Korean War.



COLONEL WILLIAM J. FRANKLIN

Colonel William J. Franklin's military career spanned 45 years, including service in both World War I and II. From 1945-1960 he was the Sergeant-in-Arms of the House of Commons and also served as Honorary Colonel of his Regiment.

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List of Abbreviations

APA	American Psychological Association	PTSD	posttraumatic stress disorder
ARCN	Academic, Research, and Clinical Network	R2MR	Road to Mental Readiness
CAF	Canadian Armed Forces	RCMP	Royal Canadian Mounted Police
CBD	cannabidiol	Retd	retired
Col	Colonel	VRWM	Virtual Reality Wellbeing and Mastery
DND	Department of National Defence	CAFVMHS	Canadian Armed Forces Members and Veterans Mental Health Follow-up Survey
FTE	full-time equivalent	CIFAR	Canadian Institute for Advanced Research
FY	fiscal year	CIMVHR	Canadian Institute for Military and Veteran Health Research
Gen	General	CIPSRT	Canadian Institute for Public Safety Research and Treatment
Maj	Major	COVID-19	coronavirus disease
MEG	magnetoencephalography	DCIEM	Defence & Civil Institute of Environmental Medicine
OSI	operational stress injury	IDEaS	Innovation for Defence Excellence and Security
PET	positron emission tomography	NSERC	Natural Sciences and Engineering Research Council of Canada
ROI	return on investment	OSISS	Operational Stress Injury Social Support
RTG	Research Task Group	HiMARC	Heroes in Mind, Advocacy and Research Consortium
Sgt	Sergeant	REDCap	Research Electronic Data Capture
VAC	Veterans Affairs Canada	UN-CN	United Nations Committee on Narcotic Drugs
ASCN	Australasian Services Care Network	USARIEM	US Army Research Institute of Environmental Medicine
CAMH	Centre for Addiction and Mental Health	VECTOR	Veterans Cannabis Therapy Outcomes Registry
CIHR	Canadian Institutes of Health Research		
CMHA	Canadian Mental Health Association		
DRDC	Defence Research and Development Canada		
FAAH	fatty acid amide hydrolase		
fMRI	functional magnetic resonance imaging		
HCWs	health care workers		
iCBT	internet-based cognitive behavioural therapy		
IMHR	Institute for Mental Health Research		
LCol	Lieutenant Colonel		
NATO	North Atlantic Treaty Organization		
NIDA	National Institute on Drug Abuse		

Welcome

MacDonald Franklin OSI Research Centre

VISION

Our vision is to be a national and global leader and enabler that bridges research and clinical excellence to promote recovery from operational stress injuries (OSIs) in Veterans and their families.

MISSION

Our mission is to conduct innovative research in a collaborative environment and translate this knowledge to clinical practice to improve the mental health and well-being of Veterans and their families.

CORE ACTIVITIES

We embrace our strategic priorities as foundational to advancing research and innovation capabilities within the Veteran and military mental health interdisciplinary community. To advance each of the strategic priorities and increase its impact, we will operate through three fundamental activities: 1) Research and Innovation Excellence, 2) Education, and 3) Knowledge Mobilization.

Director's Statement

From its inception three years ago, the vision of the MacDonald Franklin Operational Stress Injury (OSI) Research Centre is to be a national and international leader in research on military and veteran mental health. We have maintained a focus to enhance collaboration among clinicians and researchers and our commitment to engage with those with lived experience - our Veterans and their families. We created a dynamic and successful Advisory Council to engage our stakeholders in academia, government, industry and Veterans.

The past three years have been truly remarkable. We grew from a small team of 3 to a team of 25 researchers and trainees consisting of 12 full-time and 2 part-time staff and students; 3 medical students, 2 visiting scholars, 6 volunteers and undergraduate trainees, and 1 graduate student. During the COVID pandemic, we successfully migrated to a completely virtual research centre while continuing to expand our research capacity. We maintained our vision to be a national and international leader in research on military and veteran mental health. We established the Canadian Veterans Well-Being Study, a national longitudinal study to understand the impact of the COVID pandemic on veterans and their spouses.

We successfully created strategic partnerships with the Canadian Centre of Excellence for PTSD to enhance our capacity to research Veteran mental health on both a national and international scale. This partnership has helped foster research in the area of moral injury. With our national and international partnerships, we have taken the lead in better understanding moral injury in Veterans and in health-care workers who are crucial to providing support and treatment to our Veterans.



Our research and knowledge-sharing activities are making an impact and getting national and international recognition. We have published over 40 manuscripts and book chapters. We maintained our contribution to the Five Eyes Collaboration, an international mental health alliance between Canada, United States, United Kingdom, Australia and New Zealand. Our Research Centre is leading an initiative to establish an international dataset that will include representation from the United Kingdom, Northern Ireland, Canada and Australia. Through partnerships and securing regional and national research grants we have also continued with our goal to secure our long-term sustainability plan as a research centre.

I am truly grateful for the generous support from Kyle MacDonald and John Franklin through the St. Joseph's Health Care Foundation. Their initial gift to the St. Joseph's Health Care Foundation has allowed us to create a world-class research centre dedicated to Veteran mental health. Their gift has made a difference and will continue to do so for years to come.

Sincerely,

A handwritten signature in black ink that reads "J Don Richardson MD, FRCPC". The signature is written in a cursive, flowing style.

J Don Richardson, MD, FRCPC
Scientific Director of the MacDonald Franklin OSI Research Centre

Research Portfolio



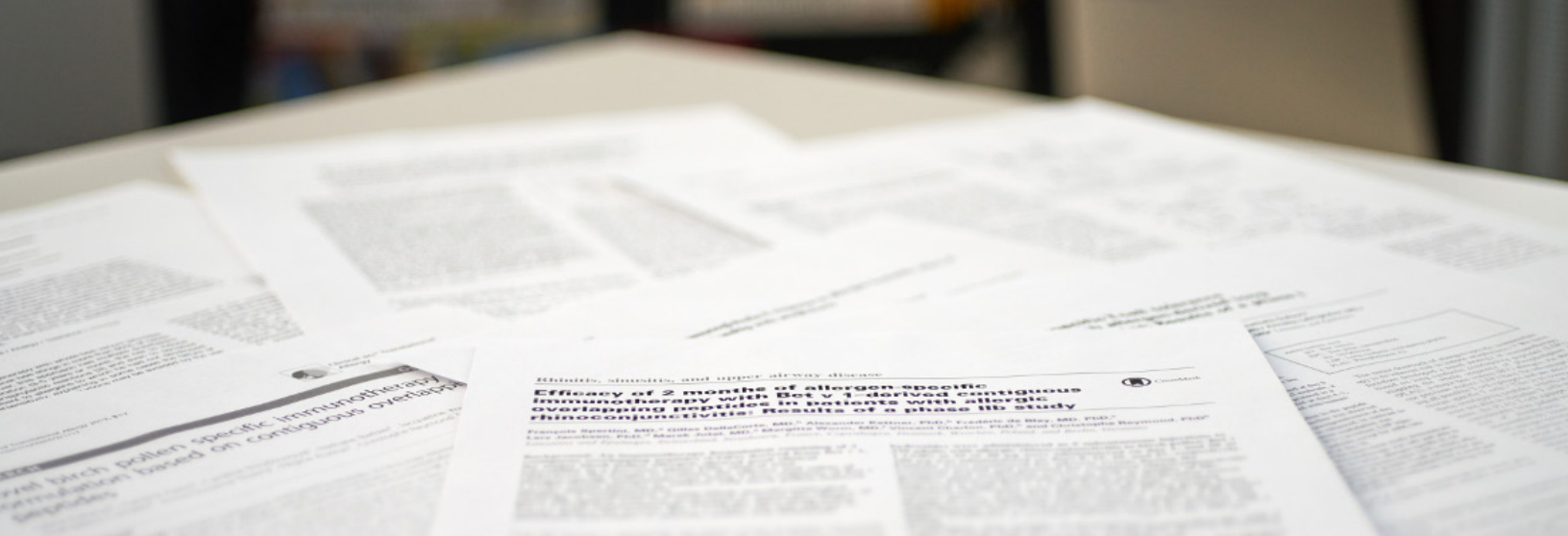
Project	Problem to Solve	Intended Outcome
Personalized pharmacotherapy using pharmacogenetics in Veterans seeking treatment for mental health	Examine how an individual's genes will affect the body's response to different medications including those used in PTSD.	Improve the treatment outcomes of CAF members and Veterans with symptoms of PTSD using a multidisciplinary approach with pharmacogenetics treatment, clinical assessments, and biomarker analysis to determine treatment pathways.
Effects of cannabidiol on PTSD	Currently, the evidence is poor on whether cannabidiol (CBD) (active ingredient in cannabis) can reduce symptoms of PTSD (and associated anxiety and depression) in Veterans with PTSD.	A clinical trial will be conducted to test whether CBD is effective at reducing symptoms of PTSD in Veterans diagnosed with PTSD.
Improving the Road to Mental Readiness (R2MR) program in operational contexts	Currently, little is known about CAF members' perceptions of and satisfaction with mental health and resilience training.	Findings from our analysis will identify key themes and areas of enhancement for the R2MR program, as perceived from the perspective of a CAF member. This will allow the CAF to further tailor its resilience program to strive towards optimizing intended outcomes and improving trainee satisfaction.
Prescribing patterns of OSI psychiatrists	Currently, the overall prescribing patterns of psychiatrists treating PTSD at OSI clinics are unknown.	This will provide information on common and unique patterns of prescriptions intended to treat PTSD across OSI Clinics in Canada. This will facilitate the adoption of standardized practices and further consensus-building among psychiatrists treating CAF Veterans.
Standards of reporting in PTSD psychotherapy clinical trials	Clinical trials where a medication is investigated for PTSD typically have comprehensive details about their methodology. Clinical trials where psychotherapy is investigated may not uphold the same degree of detail in their published methodology. This makes it challenging to understand whether the effectiveness or ineffectiveness is due to the intervention or due to the methodology employed.	This systematic review will report on how well all previously published psychotherapy clinical trials for PTSD describe their methodology. This will have implications on how much confidence we should have in previously published findings and will provide recommendations for future trials.
Understanding moral injury using Statistics Canada datasets	We do not know how common and severe moral injury is in active and released CAF personnel. The risk and protective factors for moral injury are largely unknown.	Understand how common moral injury is on a population level that is generalizable to the entire CAF. Understand risk factors, protective factors, and capture the magnitude of other adverse mental health outcomes following moral injury.

Project	Problem to Solve	Intended Outcome
Understanding predictors: Recovery from military-related PTSD from both an individual and family perspective using qualitative and quantitative analysis	Current conceptions of recovery from military-related PTSD rely on quantitative tools or clinician surveys, often categorizing PTSD diagnoses as present or not. There is a need to more comprehensively define recovery from PTSD in a manner that provides realistic expectations for treatment trajectory and prognosis.	A deeper, more nuanced definition of recovery from military-related PTSD.
Understanding recovery: An examination of functional and health-related quality of life in military-related PTSD in recovery	There is a need for an objective definition of recovery based on client's treatment stage, with input from a social support sources in recovery.	Understand the progression of PTSD throughout the treatment process. Its physiological, affective, behavioural, and cognitive manifestations will serve to benefit the development of treatment plans. Critically, it will provide an informed theoretical basis regarding the difficult decisions surrounding the move from active treatment to maintenance and from maintenance to discharge.
Moral Injury Outcome Scale Development	Existing assessments that measure moral injury have been poorly designed. This makes it challenging to measure the presence and severity of moral injury accurately.	Development of a scale that can be used in research and clinical settings that accurately measures moral injury.
Meta-analysis comparing pharmacotherapy and psychotherapy for military-related PTSD	It is currently challenging to identify the right treatment for an individual with PTSD. Additionally, outcomes of different types of treatment (e.g., pharmacotherapy, psychotherapy) on PTSD outcomes have not been systematically synthesized and analyzed over the past decade.	Identify relative efficacy of pharmacotherapy and psychotherapy approaches to military-related PTSD. Also identify factors that may related to either increased or decreased efficacy.
The roles of personality and resiliency in Veteran mental health	It is unknown whether personality differences may be predictive of the severity of PTSD, depression, and anxiety in Veterans with an OSI.	Predicting that adaptive or "positive" personality traits will result in higher levels of resiliency, which will in turn lead to reduced symptoms of depression, anxiety, and PTSD. We will test whether the exposure to combat experiences will lead to increased PTSD, but only for those who are higher in maladaptive traits and lower in adaptive traits.

Project	Problem to Solve	Intended Outcome
The mental health impact of exposure to child soldiers	The mental health impacts of encountering children recruited and used as soldiers are currently unknown. We do not know whether this type of deployment-related experience contributes to moral injury.	To understand the lived experiences of military personnel who experience this potentially morally injurious encounter by collecting qualitative data to illuminate people's lived experiences encountering child soldiers during military service, and the mental health effects of these experiences.
Link between deployment experiences, moral injury, PTSD, and depression	The association between deployment experiences and PTSD and depression is not always clear. We hypothesize that moral injury may mediate the relation between certain types of deployment exposures and PTSD/depression symptoms.	Confirm whether moral injury influences the relation between stressful deployment experiences and PTSD/depression.
Treatment Outcomes Dataset	Long-term symptom and functional outcomes in Veterans undergoing psychiatric care for PTSD are unknown.	Assess co-morbidity, symptom severity, and treatment outcomes using longitudinal clinical data that spans two years of treatment. This will contribute to our understanding of long-term outcomes and predictors of recovery in military-related PTSD.
Well-being scale validation	Positive mental health may be independent from mental illness (i.e., can have high positive mental health despite the presence of mental illness, and vice versa). However, a common scale that measures positive mental health has not been validated for use in Veterans. This means that there is a risk that this scale may not measure positive mental health in Veterans accurately.	Assess whether the Mental Health Continuum Short Form, a commonly used measure of positive mental health, is appropriate for use in the Veteran population
Moral distress and well-being in health care workers during the COVID-19 pandemic	The COVID-19 pandemic may have imparted significant moral injury and moral distress onto health care workers, particularly those who experienced moral-ethical challenges at work. The impact, long-term outcomes, and mechanisms of symptom trajectories related to moral injury and distress are currently unknown.	By understanding the impact and predictors of moral injury in health care workers, we may be able to better recognize, treat, and prevent moral injury across different occupations, including military personnel, health care workers, and first responders.

Project	Problem to Solve	Intended Outcome
Well-being of Veterans and Veteran spouses during the COVID-19 pandemic	It is currently unknown how the COVID-19 pandemic has impacted the well-being of Veterans and their families.	Elucidate the psychological effects of the pandemic on Veterans and their spouses. Results can be used to ensure Veterans and their spouses are well-supported during this difficult time to best prepare for similar emergencies should they occur in the future.
VECTOR Project	To track and monitor the outcome of Veteran's use of therapeutic cannabis.	This study is a 3-phase approach that will inform the development and implementation of the Veterans Cannabis Therapy Outcomes Registry (VECTOR).
The impact of loneliness and moral injury on suicide in treatment-seeking Veterans	It is possible that Veterans who experience moral injury are more at risk of experiencing loneliness and suicide than Veterans without moral injury. However, the link is still unclear.	Provide evidence as to whether loneliness and suicide are exacerbated in those who have moral injuries. May have implications for early interventions and treatment.
Expert consensus building for psychiatric treatment of treatment-resistant PTSD	Prescribing patterns for treatment-resistant PTSD are currently unknown. There is a lack of standard practice and consensus on the treatment provisions for treatment-resistant PTSD.	Clinicians will have prescribing guidelines for most effective pharmacotherapies for treating treatment-resistant PTSD.
Internet-based CBT: Systematic review & meta-analysis	Virtual psychotherapy, including internet-based cognitive behavioural therapy (iCBT) is an emerging model of treatment delivery; however, evidence for the effectiveness and efficacy of such treatment is weak.	Provide a review of iCBT for Veteran and military populations, with particular emphasis on PTSD.
Beliefs about confidentiality and attitudes toward disclosure of moral injuries	Veteran's beliefs about confidentiality in mental health treatment settings and their tendencies to disclose moral injury are currently unknown. Given evidence that many military members and Veterans do not seek mental health treatment when it is needed, it is important to identify the extent to which confidentiality beliefs serve as barriers to treatment-seeking.	Experimental and observational studies will identify and characterize CAF Veterans' beliefs about confidentiality within a mental health treatment context. Findings will elucidate the extent to which perceived confidentiality may influence decisions on whether to seek mental health treatment, and on whether to disclose traumatic details of perceived moral transgressions to mental health professionals.
Using advanced analytics to identify features of suicide ideation, moral injury, patterns of comorbidity, and predictors of treatment outcomes	Clinician notes hold rich data on patient status and treatment outcomes, however, manually reviewing clinician notes for nuanced patterns of data is labour intensive and challenging.	Determine if machine learning can be used to identify suicidal ideation, moral injury, patterns of comorbidity, and predict treatment trajectories amongst a cohort of treatment-seeking CAF members and Veterans.

Research Excellence. Project Highlights





Veteran Pandemic Study

The COVID-19 pandemic has resulted in widespread changes to family, social, and work domains, as well as the receipt of health care services (e.g., migration to virtual care). These disruptions may be particularly distressing for Veterans and their spouses, who are more likely to have pre-existing mental health conditions or heightened distress than the general Canadian population. This study aims to longitudinally assess the impact of the pandemic on Canadian Veterans' and spouses of Canadian Veterans' well-being, perceptions of social support and loneliness, and to explore perceptions of and satisfaction with changes in health care treatments. Participants complete an online survey every three months for a total of 18 months pertaining to their mental health and well-being, social support, lifestyle changes and concerns relating to the pandemic, and experiences and satisfaction with health care treatments during the pandemic.

More than 1000 Veterans and 250 spouses of Veterans have completed the baseline survey, which is now complete. Data collection is now underway for the 3-month and 6-month time-points, and data collection will continue until all participants have received their final 18-month follow-up survey. Baseline data is being analyzed to explore cross-sectional predictors of psychological well-being and perceptions of social support, and to explore perceptions of and satisfaction with health care changes.

Preliminary findings were presented at the Joint Mental Health Research and Innovation day. Manuscripts will be prepared to understand (1) the cross-sectional predictors of psychological distress, loneliness, and perceptions of social support and family functioning, and (2) the experiences, perceptions, and satisfaction with changes to health care during the pandemic. As longitudinal data becomes available, more nuanced and comprehensive predictions can be made regarding the relations between pandemic stressors and well-being over time.



Confidentiality related to Moral Injury

Moral injury is characterized by the psychological distress developed after performing, witnessing or failing to prevent acts that conflict with deeply held moral standards. Due to the perceived ethical ambiguities of some events that may induce moral injuries, it is possible that military personnel with moral injuries may be more likely to withhold details of their trauma or avoid seeking help due to worries about confidentiality. To date, this is the only study that has sought to explore Veterans' and military members' beliefs about confidentiality in mental health care and whether those beliefs serve as barriers to help-seeking and disclosure. In addition, this is the first empirical study to evaluate whether morally distressing events and subsequent moral injury may be more challenging to disclose than other types of stressful events.

Data collection is complete for the first phase of this study, for which over 300 individuals with Canadian Armed Forces (CAF) experience completed an online survey on confidentiality, mental health help-seeking, and disclosure. Preliminary findings from this study were presented at the Joint Mental Health Research and Innovation day, and a manuscript is currently in preparation. In the second phase of this study, CAF members and Veterans will be interviewed to further explore beliefs about confidentiality, their influence on help-seeking and disclosure, and how these beliefs may differentially impact help-seeking and disclosure related to moral injury.

Moral Distress and Well-Being of Health Care Workers During the COVID-19 Pandemic

The COVID-19 pandemic is imparting unprecedented circumstances onto health care workers (HCWs) that may lead to significant psychological and moral distress. The surge of patients requiring intensive care, the high infection transmissibility, and the lack of effective medical resources are compounded with exposure to difficult moral-ethical dilemmas (e.g., attending to patients without sufficient protective equipment). This study uses a prospective, longitudinal panel design to examine the moral distress and well-being of HCWs during the pandemic. Participants will complete online surveys administered every three months for a total of 18 months including questions pertaining to their role in health care, workplace pandemic responses, encounters with moral-ethical dilemmas at work, psychological distress, and experiences with providing care. Baseline data collection is complete, and over 1300 HCWs across Canada have provided valid responses. Longitudinal data collection is ongoing, with participants now completing follow-up surveys for month 3 and month 6. Quantitative analyses are in progress for baseline data to explore common moral dilemmas and their associated distress levels, as well as the predictors and psychological consequences related to moral distress. Simultaneously, qualitative data obtained through open-ended questions pertaining to the types of moral dilemmas experienced at work are being coded for emerging themes. Once coding is complete, these themes will be considered alongside other dilemmas reported through quantitative surveys to comprehensively represent the moral dilemmas experienced among Canadian HCWs.



Epidemiological Analysis of the Mental Health of Canadian Armed Forces Members and Veterans

The Canadian Armed Forces Members and Veterans Mental Health Follow-up Survey (CAFVMHS) is a nationwide initiative conducted by Statistics Canada to follow-up with respondents of the 2002 Canadian Community Health Survey: Canadian Forces Supplement on Mental Health. The purpose of the CAFVMHS is to examine the longitudinal mental health outcomes of Canadian Armed Forces members, some of which have since released. This is the first longitudinal survey of military and Veteran mental health in the world that uses gold standard epidemiological survey methodology. In collaboration with other researchers across Canada, we are leading analyses in two major research domains (see below).

Sleep and Suicide

The role of sleep disturbances on suicidal behaviours and mental illnesses is being investigated in a large nationally representative sample of CAF members and Veterans. We will be accessing this data to determine whether sleep disturbances impact the probability of suicidal behaviours, and whether this impact varies according to individual differences. We will also be investigating whether reported sleep disturbances on the 2002 survey may be a risk factor for experiencing mental illness in the future. Findings will inform us of the role that sleep disturbances may have on suicidal behaviours and mental illness. The results of this study can be used to understand the implications of sleep problems, and to determine which individuals may be most severely impacted by sleep problems. Our protocol has received approval from Statistics Canada and we have conducted onboarding of our staff and collaborators. We will be conducting analysis in 2021 to explore sleep and suicide/mental illness and reporting on the results. Data for this study is only accessible in-person through specific data centres. Due to the pandemic-related closures of these centres, much of the analyses have been delayed.

Moral Injury

Many military personnel are exposed to events where they or others transgress deeply held moral beliefs. The consequences of such experiences may include moral injury, a specific type of psychological injury encompassing shame, feelings of worthlessness, and potentially, a loss of meaning and altered self-concept. The 2018 CAFVMHS survey is the first national survey to include a well-validated measure of moral injury, and thus represents an ideal opportunity to explore its predictors, prevalence, and associated outcomes. Specifically, our team will be assessing the prevalence and severity of moral injury in active and released CAF personnel, the sociodemographic and military-related predictors of moral injury, and the impact of moral injury on adverse mental health outcomes and treatment-seeking. Results of this research will contribute to our understanding of the impact that moral injury has on mental health outcomes, and may guide the development of optimal treatment interventions for CAF personnel with moral injury. Our protocol has received approval from Statistics Canada and we have conducted onboarding of our staff and collaborators. Initial results have been analyzed and submitted for peer-reviewed publication.



Understanding Recovery from PTSD

The Research Centre has forged an ongoing commitment to understand the subjective experiences of recovery from military-related PTSD and to understand factors that are associated with recovery.

Understanding recovery from the Veteran and Support Person's Perspective: An Examination of Functional and Health-Related Quality of Life in Military-Related PTSD

The process of recovery from PTSD is generally captured by clinicians through scores on quantitative surveys or standardized clinical interviews. Although this approach is a useful metric for quickly categorizing patients as “recovered” or “not recovered”, the ways in which patients’ lives have changed throughout and following treatment are not captured, nor are there objective biological measures associated with PTSD recovery. In this two-part project, rich qualitative data, clinical assessments, and biomarker analysis will be combined to create a comprehensive and nuanced snapshot of the different stages of illness/recovery from military-related PTSD.

In the first part of this project, separate semi-structured interviews were completed with CAF serving personnel and Veterans and with their significant others to explore the experience of recovering from military-related PTSD. This qualitative data was combined with quantitative survey data on psychological and relationship variables, and has now

been written up in a manuscript which will soon be submitted for publication.

In the second part of this project, semi-structured interviews will be conducted with CAF serving personnel and Veterans at various stages in the treatment process, as well as their nominated support person to develop a rich, granular, understanding of what recovery and treatment means to Veterans and their support teams. Additionally, fMRI, and pharmacogenomic analysis will be included to determine the feasibility of classifying PTSD in recovery based on objective biological assessments.

Funding has been awarded by the Innovation for Defence Excellence and Security (IDEaS) program through the Department of National Defence. The first part of the project is complete, and interviews for the second part of this project are underway, as well as biomarker data collection. Ethics approval has been awarded, and results from the second part of the project will be written up for publication following data collection.



Loneliness and Moral Injury

We are exploring the mechanisms through which moral injury may contribute to adverse mental health outcomes, such as suicidal ideation. Moral injury may lead to loneliness through the known social withdrawal effects that can occur, particularly when individuals experience significant shame. We predict that moral injury will increase the odds of adverse outcomes due to elevated feelings of loneliness. Results from this study will represent the first examination of loneliness in Canadian Veterans, will illuminate potential pathways through which suicide prevention efforts may be directed, and will allow us to understand why and when moral injury may be particularly deleterious. Data has been collected and analysis is underway.

Improving the Road to Mental Readiness Program

Understanding the effectiveness of both preventative and interventional programs for maintaining the psychological well-being of military personnel and Veterans is a priority for the CAF. Leveraging our research expertise in military/Veteran mental health, resilience/readiness, and quantitative and qualitative analyses, we will execute a systematic process to synthesize existing data and provide actionable recommendations to Defence Research & Development Canada (DRDC) for determining whether emerging tech-

nologies can enhance the uptake and enactment of mental resilience skills present in the Road to Mental Readiness (R2MR) curriculum.

Quality of Life

Analyses were conducted to determine how quality of life is affected in CAF Veterans with co-occurring depression and PTSD. Clinical data was obtained from CAF Veterans seeking treatment at St. Joseph's Health Care OSI Clinic. It was found that although both PTSD and depression were associated with reduced quality of life, PTSD became less influential in individuals who also experienced severe depression symptoms. Findings revealed that depression symptoms strongly reduce quality of life in areas related to physical and psychological functioning. Further, findings suggested that treating depression symptoms among those with co-occurring PTSD and depression may have the most substantial impact on quality of life. We have prepared a manuscript describing our findings, which has now been published in the European Journal of Psychotraumatology.

Collaborations

International Dataset Initiative

The objective of this study is to create an international dataset incorporating mental health data on armed forces members and Veterans from Australia, Canada, England, Northern Ireland, and Wales. We plan to utilize this combined dataset to investigate with greater power: i) whether certain PTSD symptom clusters have a greater impact on well-being, ii) how common disorders cluster together in a treatment-seeking military sample, iii) to determine whether certain traumatic experiences are more related to adverse mental health conditions than others, and iv) whether there are gender differences in the aforementioned research priorities. Additionally, where possible, we plan to examine similarities and differences that exist across the different armed forces' datasets. Full ethics approval has been issued and we are awaiting completion of Data Sharing Agreements with all participating sites. We will then create a database framework in REDCap and have data from all sites uploaded to this instance.

Using Machine Learning of MEG to Examine Brain Function in PTSD

Currently, no objective biological means of diagnosing PTSD exists, and diagnosis instead relies on lengthy clinical interviews that can act as barriers to timely prognosis and intervention. Moreover, there is significant heterogeneity in the presentation of PTSD, making diagnosis and treatment planning more complex and onerous. The ability to identify a brain-based biomarker is a critical step toward establishing precision treatments. This study aimed to identify a PTSD biomarker that will provide game-changing personalization in therapeutics. This project involves the continuation of a highly successful collaboration (over 15 publications) between the Hospital for Sick Children with the CAF, Defence Research and Development Canada (DRDC) and the Canadian Institute of Military and Veteran Health Research (CIMVHR) that identified novel brain signatures in a group of PTSD-sufferers. This fundamentally advanced our neurobiological understanding of PTSD, with neural signatures capturing characteristic alterations to brain function and communication – dubbed 'connectomics' – and providing empirical support for the 'neurocircuitry' model of the disorder. We will translate these empirical findings to

a fully-realized and useful clinical tool by investigating the utility of brain 'maps' in classifying individual cases, predicting outcome at follow-up and test their clinical validity in diagnosis. Specifically, our objectives were to leverage our longitudinal magnetoencephalography (MEG) and clinical data, acquired 2-3 years apart (Phase I in 2013, and Phase II in 2016), to determine (1) the efficacy of these biomarkers in PTSD diagnosis; and (2) their effectiveness in symptom resolution prediction. This was achieved through the utilization of cutting-edge multivariate statistics and machine learning. Data collection for this project has been completed and a manuscript is being prepared for publication. An updated protocol is in the process of being drafted for the newly funded component. Additionally, a manuscript focused on the use of machine learning to predict PTSD diagnosis is currently under review.

Endocannabinoid Metabolism in Individuals with PTSD, Examining [C-11]CURB

The project will identify the neurochemical basis of aberrant neural signalling in amygdala-related circuits in humans with PTSD and examine whether the endocannabinoid anandamide is involved. The primary objective of this study is to use positron emission tomography (PET) imaging of the novel ligand [C-11]CURB to provide the first direct measurement of fatty acid amide hydrolase (FAAH) in PTSD. Specifically, we are interested in comparing FAAH levels in individuals with PTSD compared to healthy matched controls to investigate whether FAAH levels contribute to the development and maintenance of PTSD. We are currently referring only.



Service and Research Improvement Projects

Electronic Data Capture Transformation

In 2019 we began exploring REDCap for data capture in our research studies. We are now exclusively using and promoting this platform for clinical research. Its functionality and utility have been instrumental in helping us set up complex research study surveys complete with complicated logic, mail mergers and email reminders. We are strong supporters of the efforts from the corporate side in enabling clinician researchers to use REDCap for clinical purposes.

Leveraging Social Media for Participant Recruitment

As the COVID-19 pandemic warranted an increased reliance on virtual services and technologies, we improved our online presence by setting up social media accounts for the Research Centre to connect broadly with the military, research, and general community. Our Twitter, Facebook and LinkedIn accounts were instrumental in helping us reach our recruitment goals for our longitudinal studies. A significant number of participants from those studies indicated their willingness to be contacted for future research study participation. We look forward to the outcome of our liaison with the Business Marketing group at Fanshawe College for improved participant recruitment in the future.

Path to Sustainability. Overview of Research Grants

(as of September 28, 2021)



Research Grants

Principal Investigator Role**Psychological Safety**

Literature Review and Scale Development on Psychological Safety in the Military. Funding Source: Canadian Institute for Military and Veteran Health Research (CIMVHR). Principal Investigator. **\$58,695.**

Pharmacogenetics

Personalized pharmacotherapy using pharmacogenetics in Veterans seeking treatment for mental illness. Funding Source: Department of Psychiatry Seed Fund, Western University. Principal Investigator. **\$24,835.**

Personality and Resilience

The roles of personality and resiliency in Veteran mental health. Funding Source: Veteran and Family Well-being Fund, Veterans Affairs Canada. Principal Investigator. **\$42,250.**

Improving Resilience Programs

Delivery of the Road to Mental Readiness Program - Recommendations on how to complement the current Road to Mental Readiness Program in operational contexts. Funding Source: Canadian Institute for Military and Veteran Health Research (CIMVHR). Principal Investigator. **\$102,260.**

Understanding Recovery: Part 2

Understanding recovery: An examination of functional and health-related quality of life in military-related PTSD in recovery. Funding Source: Innovation for Defence Excellence and Security (IDEaS) Program, Department of National Defence. Principal Investigator. **\$701,335.**

Understanding Recovery: Part 1

Understanding predictors: recovery of military-related PTSD from both an individual and family perspective using qualitative and quantitative analysis. Funding Source: IDEaS Program, Department of National Defence. Principal Investigator. **\$47,260.**

Confidentiality of Moral Injury

Beliefs about Confidentiality and Attitudes toward Disclosure of Moral Injuries. Funding Source: Veteran and Family Well-Being Fund, Veterans Affairs Canada. Principal Investigator. **\$59,104.**

Loneliness

The impact of loneliness and moral injury on suicide in treatment-seeking Veterans. Funding Source: Western University. Principal Investigator. **\$5,000.**

Value of Internet-based Psychotherapy

Evaluation of the suitability and acceptability of internet-delivered cognitive behaviour therapy for Canadian veterans with OSIs. Funding Source: St. Joseph's Health Care Foundation. Principal Investigator. **\$30,000.**

Artificial Intelligence and Clinical Data

Using advanced analytics to identify features of suicide ideation, moral injury, patterns of comorbidity, and predictors of treatment outcomes amongst treatment-seeking CAF members and Veterans. Funding Source: CIMVHR Advanced Analytics Initiative. Principal Investigator. **\$200,000.**

Co-Investigator Role**Child Soldiers and Moral Injury**

The Mental Health Impact of Exposure to Child Soldiers. Funding Source: Centre for Addiction and Mental Health (CAMH) Foundation. Co-Investigator. **\$67,620.**

Monitoring Outcomes of Cannabis Use

Veterans Cannabis Therapy Outcomes Registry (VECTOR). Funding Source: Veteran Affairs Canada. Co-Investigator. **\$188,616.**

Cannabis as Treatment for PTSD

Effects of Cannabidiol (CBD) on Post Traumatic Stress Disorder Among Veterans. Funding Source: Canadian Institutes of Health Research (CIHR) Catalyst Grant. Co-Investigator. **\$114,850.**

Cognitive Training for PTSD

A randomized control trial of a novel approach to cognitive training in public safety personnel with post traumatic stress injuries. Funding Source: CIHR. Co-Investigator. **\$990,000.**

Magnetoencephalography and PTSD

Utilizing magnetoencephalography (MEG) data to examining connectivity profile in PTSD. Funding Source: IDEaS Program, Department of National Defence. Co-Investigator. **\$850,000.**

Magnetoencephalography Follow-on Study

Utilizing magnetoencephalography to examine brain function in posttraumatic stress disorder. Funding Source: CIMVHR. Co-investigator. **\$131,900.**

Magnetoencephalography Pilot Study

Application of non-invasive magnetoencephalography for objective assessment of Posttraumatic Stress Disorder: A pilot study. Funding Source: IDEaS Program, Department of National Defence. Co-Investigator. **\$70,000.**

Yoga for PTSD

The SKIP study: Sudarshan Kriya Yoga In Posttraumatic stress injury, a Randomized Controlled Trial for Public Safety Personnel. Funding Source: CIHR. Co-investigator. **\$133,000.**

Reconsolidation Therapy

Comparing Standard Vs. Enhanced Reconsolidation Therapy for the Treatment of Psychological Trauma: A Randomized Controlled Trial. Funding Source: CIHR. Co-Investigator. **\$545,015.**

Virtual Reality

Virtual Reality Wellbeing and Mastery (VRWM) for Canadian Veterans and their Families. Funding Source: Veteran and Family Well-Being Fund, Veterans Affairs Canada. Co-Investigator. **\$63,000.**

Diagnostic Brain Imaging

Imaging the invisible: Teasing apart trauma using advanced neural imaging and artificial intelligence to differentially diagnose mental health challenges. Funding Source: IBM/CIMVHR. Co-investigator. **\$218,000.**

Meta-Analysis of Treatments

Management of posttraumatic stress disorder: a multiple treatment comparison meta-analysis of randomized controlled trials. Funding Source: Workers Compensation Board of Manitoba. Co-Investigator. **\$158,243.**

Group Cognitive Processing Therapy

Increasing Access to Evidence-Based Treatment for PTSD in Canadian Veterans and Soldiers: A Pilot Study of Group Cognitive Processing Therapy. Funding Source: St. Joseph's Health Care Foundation. Co-investigator. **\$10,000.**

Machine Learning

Enhancing the Management of Military PTSD using Machine Learning, Funding Source: The Interdisciplinary Research Fund. Co-Investigator. **\$25,000.**

Cannabinoid Metabolism

Endocannabinoid metabolism in PTSD neuroimaging studies with the novel fatty acid amide hydrolase probe. Funding Source: CIHR. Co-Investigator. **\$1,230,000.**

Neuroimaging of PTSD

Neural, cognitive and biological correlates of the dissociative subtype of PTSD among military members. Funding Source: CIHR. Co-Investigator. **\$608,000.**

Epidemiology of PTSD

Defining the longitudinal course, outcomes, and treatment needs of vulnerable Canadians with posttraumatic stress disorder. Creation of a longitudinal dataset with Statistics Canada. Funding Source: CIHR. Co-Investigator. **\$1,888,760.**

Sexual Misconduct in the Military

Impact of Military Sexual Trauma with Canadian female-identifying military members and Veterans. Funding Source: CIMVHR True Patriot Love Research Initiative. Co-Investigator. **\$100,000.**

Publications, Presentations, and Dissemination

Peer-Reviewed Journal Articles

Plouffe, RA., Liu, A., Richardson, JD., & Nazarov, A. (Submitted). **Validation of the Mental Health Continuum – Short Form Among Canadian Armed Forces Personnel.** *Health Reports*.

Litz, BT., Plouffe, RA., Nazarov, A., Murphy, D., Phelps, A., Houle-Johnson, S., Frankfurt, S., & Zerach, G. (Submitted). **A psychometric evaluation of the Moral Injury Outcome Scale.** *Psychological Assessment*.

Richardson, JD., St. Cyr, K., Forchuk, CA, Liu, J., Plouffe, RA., Le, T., Gargala, D., Deda, E., Soares, V., Hosseiny, F., Smith, P., Dupuis, G., Roth, M., Bridgen, A., Marlborough, M., Jetly, R., Heber, A., Lanius, R., & Nazarov, A. (submitted). **Well-being of Canadian Veterans during the COVID-19 pandemic: Cross-sectional results from the COVID-19 veteran well-being study.** *BMC Psychiatry*.

Plouffe, RA., Nazarov, A., Forchuk C.A., Gargala, D., Deda, E., Le, T., Bourret-Gheysen, J., Jackson, B., Soares, V., Hosseiny, F., Smith, P., Roth, M., MacDougall, AG., Marlborough, M., Jetly, R., Heber, A., Albuquerque, J., Lanius, R., Balderson, K., Dupuis, G., Mehta V., & Richardson JD. (forthcoming). **Impacts of morally distressing experiences on the mental health of Canadian health care workers during the COVID-19 pandemic.** *European Journal of Psychotraumatology*.

Brown, A., Millman, H., Easterbrook, B., Heber, A., Park, R., Lanius, R., Nazarov, A., Jetly, R., Stanley-Aikens, R., Sanderson, C., Hutchins, C., Darte, K., Hall, A., Bremault-Phillips, S., Byerlay, C., Smith-MacDonald, K., Meehan, M., Cameron, R., Doak, D., Oakley, T., Nicholson, A., Pichtikova, M., Smith, P., Mulligan, A., & McKinnon, M.C. (forthcoming). **Working together to address sexual misconduct in the Canadian Armed Forces.** *Journal of Military, Veteran and Family Health*.

Plouffe, RA., Easterbrook, B., Liu, A., McKinnon, MC., Richardson, JD., & Nazarov, A. (2021). **Psychometric evaluation of the Moral Injury Events Scale in two Canadian Armed Forces samples.** *Assessment*. 10.1177/10731911211044198.

Fikretoglu, D., Easterbrook, B., Nazarov, A. (2021). **Fidelity in workplace mental health intervention research: A narrative review.** *Work & Stress*, DOI: 10.1080/02678373.2021.1936286.

D'Agata, MT., Granek, JA., Holden, RR., Nazarov, A. (2021). **The relation between self-concealment and self-reported mental health symptoms in a sample of Canadian Armed Forces personnel.** *Military Behavioral Health*, 9, 190-197. 10.1080/21635781.2020.1838365.

Richardson, JD., Ketcheson, F., King, L., Forchuk, CA., Hunt, R., St. Cyr, K., Nazarov, A., Shnaider, P., McIntyre-Smith, A., & Elhai, J.D. (2020). **Sexual dysfunction in male Canadian armed forces members and veterans seeking mental health treatment.** *Military Medicine*, 185, 68-74.

Nazarov, A., Fikretoglu, D., Liu, A., Richardson, JD., & Thompson, M. (2020). **Help-seeking for mental health issues in deployed Canadian Armed Forces personnel at risk for moral injury.** *European Journal of Psychotraumatology*, 11, 10.1080/20008198.2020.1729032.

Forchuk, C., Nazarov, A., Hunt, R., Davis, B., St Cyr, K., & Richardson, JD. (2020). **The influence of depression-PTSD comorbidity on health-related quality of life in treatment-seeking veterans.** *European Journal of Psychotraumatology*, 11, 1748460. 10.1080/20008198.2020.1748460

Richardson, JD. (2020). **The diary of an operational stress injury clinic psychiatrist during the COVID-19 pandemic.** *Journal of Military, Veteran, and Family Health*, 6, 87-90. 10.3138/jmvfh-CO19-0002.

Zhang, J., Richardson, JD., & Dunkley, BT. (2020).

Classifying post-traumatic stress disorder using the magnetoencephalographic connectome and machine learning. *Scientific Reports*, 10(1), 5937. 10.1038/s41598-020-62713-5.

Battaglia, A., Protopopescu, A., Boyd, JE., Lloyd, C., Jetly, R., O'Connor, C., Hood, HK., Nazarov, A., Rhind, SG., Lanius, RA., & McKinnon, MC. (2019). **The relation between adverse childhood experiences and moral injury in the Canadian Armed Forces.** *European Journal of Psychotraumatology*, 10, 10.1080/20008198.2018.1546084.

Fikretoglu, D., Liu, A., Nazarov, A., & Blackler, K. (2019). **A group randomized control trial to test the efficacy of the Road to Mental Readiness (R2MR) program among Canadian military recruits.** *BMC Psychiatry*, 19(1), 1-14. 10.1186/s12888-019-2287-0.

Forbes, D., Pedlar, D., Adler, AB., Bennett, C., Bryant, RA., Busuttil, W., Cooper, J., Creamer, MC., Fear, NT., Greenberg, N., Heber, A., Hinton, M., Hopwood, M., Jetly, R., Lawrence-Wood, E., McFarlane, AC., Metcalf, O., O'Donnell, ML., Phelps, A., Richardson, JD., Sadler, N., Schnurr, PP., Sharp, ML., Thompson, JM., Ursano, RJ., Van Hooff, M., Wade, D. & Wessely, S. (2019). **Treatment of military-related post-traumatic stress disorder: Challenges, innovations, and the way forward.** *International Review of Psychiatry*, 31(1), 95-110, 10.1080/09540261.2019.1595545.

Nicholson, AA., Densmore, M., McKinnon, MC., Neufeld, RWJ., Frewen, PA., Théberge, J., Jetly, R., Richardson, JD., & Lanius, RA. (2019). **Machine learning multivariate pattern analysis predicts classification of posttraumatic stress disorder and its dissociative subtype: a multimodal neuroimaging approach.** *Psychological medicine*, 49(12), 2049-2059. 10.1017/S0033291718002866.

Richardson JD., Thompson, A., King, L., Ketcheson, F., Shnaider, P., Armour, C., St. Cyr, K., Sareen, J., Elhai, JD., & Zamorski, MA. (2019). **Comorbidity patterns of psychiatric conditions in Canadian armed forces personnel.** *The Canadian Journal of Psychiatry*, 64(7), 501-510. 10.1177/0706743718816057.

Richardson, JD., Ketcheson, F., King, L., Forchuk, CA.,

Hunt, R., St. Cyr, K., Nazarov, A., Shnaider, P., McIntyre-Smith, A., & Elhai, JD. (2020). **Sexual Dysfunction in male Canadian Armed Forces Members and Veterans Seeking Mental Health Treatment.** *Military Medicine*, 185(102), 68-74. 10.1093/milmed/usz163.

Richardson, JD., King, L., St. Cyr, K., Shnaider, P., Roth, ML., Ketcheson, F., Balderson, K., & Elhai, JD. (2019). **Depression and the relationship between sleep disturbances, nightmares, and suicidal ideation in treatment-seeking Canadian Armed Forces members and veterans.** *BMC Psychiatry*, 18(1), 1-8. 10.1186/s12888-018-1782-z.

Rehman, Y., Sadeghirad, B., Guyatt, GH., McKinnon, MC., McCabe, RE., Lanius, RA., Richardson, JD., Couban, R., Sousa-Dias, H., Busse, JW. (2019). **Management of post-traumatic stress disorder: A protocol for a multiple treatment comparison meta-analysis of randomized controlled trials.** *Medicine*, 39, e17064.

Yeterian, J.D., Berke, D.S., Carney, J.R., McIntyre-Smith, A., St. Cyr, K., King, L., Kline, N.K., Phelps, A., Litz, B.T., & Members of the Moral Injury Outcomes Project Consortium. (2019). **Defining and Measuring Moral Injury: Rationale, Design, and Preliminary Findings From the Moral Injury Outcome Scale Consortium.** *Journal of Traumatic Stress*, 33(3), 363-372. 10.1002/jts.22380.

King, L., Ketcheson, F., St Cyr, K., Marlborough, M., & Richardson, JD. (2020). **Factor structure of deployment experiences and relations to mental health disorders among treatment-seeking Canadian Armed Forces personnel and veterans.** *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(4), 413. 10.1037/tra0000493.

Paul, MA., Love, RJ., Jetly, R., Richardson, JD., Lanius, RA., Miller, JC., MacDonald, M., & Rhind, SG. (2019). **Compromised sleep and blunted nocturnal salivary melatonin secretion profiles in military-related posttraumatic stress disorder.** *Frontiers in Psychiatry*, 10, 882. 10.3389/fpsy.2019.00882.

Davis, BD., Sedig, K., & Lizotte, DJ. (2019). **Archetype-Based Modeling and Search of Social Media.** *Big Data and Cognitive Computing*, 3(3), 44. 10.3390/bdcc3030044

Rehman, Y., Sadeghirad, B., Guyatt, GH., McKinnon, MC., McCabe, RE., Lanius, RA., Richardson, JD., Couban, R., Sousa-Dias, H., Busse, JW. (2019). **Management of post-traumatic stress disorder: A protocol for a multiple treatment comparison meta-analysis of randomized controlled trials.** *Medicine*, 98(39), e17064. 10.1097/MD.00000000000017064.

Ketcheson, F., Cyr St, K., King, L., & Richardson, J. D. (2018). **Influence of PTSD and MDD on somatic symptoms in treatment-seeking military members and Veterans.** *Journal of Military, Veteran and Family Health*, 4(2), 101-109.

Protocol Manuscripts

Liu, J.J.W., Nazarov, A., Easterbrook, B., Plouffe, R.A., Le, T., Forchuk, C., Brandwood, A., St. Cyr, K., Auger, E., Balderson, K., Bilodeau, M., Burhan, A.M., Enns, M.W. Smith, P., Hosseiny, F., Dupuis, G., Roth, M., Mota, N., Lavoie, V., & Richardson, J.D. (forthcoming). **Four decades of military posttraumatic stress: Protocol for a meta-analysis and systematic review of treatment approaches and efficacy.** *JMIR Research Protocols*. <http://dx.doi.org/10.2196/33151>

Liu, J. J. W., Nazarov, A., Plouffe, R.A., Forchuk, C.A., Deda, E., Gargala, D... & Richardson, J.D. (2021). **Exploring well-being of healthcare workers during the COVID-19 pandemic: A prospective longitudinal study protocol.** *JMIR Research Protocols*. <http://dx.doi.org/10.2196/32663>

Abstracts

Plouffe, RA., Nazarov, A., Forchuk, C. A., Soares, V., Le, T., Deda, E., MacDougall, A., Marlborough, M., Balderson, K., Hosseiny, F., Smith, P., & Richardson, JD. (2021, October). **The age of COVID-19: Impacts of moral distress on Canadian healthcare workers.** Poster to be presented at the Canadian Psychiatric Association's 71st Annual Conference, virtual.

Richardson, JD., St. Cyr, K., Forchuk, CA, Liu, J., Plouffe, RA., Le, T., Gargala, D., Deda, E., Soares, V., Hosseiny, F., Smith, P., Dupuis, G., Roth, M., Bridgen, A., Marlborough, M., Jetly, R., Heber, A., Lanius, R., & Nazarov, A. (2021, October). **Well-being of Canadian Veterans during the COVID-19 pandemic: Cross-sectional results from the COVID-19 Veteran well-being study.** Poster to be

presented at the Canadian Psychiatric Association's 71st Annual Conference, virtual.

Nazarov, A., Plouffe, R., Forchuk, C., Richardson, JD. (2021, October). **Beliefs about confidentiality and attitudes toward disclosure of moral injuries.** Paper presented at the Canadian Psychiatric Association's 71st Annual Conference, online.

Easterbrook, B., Plouffe, R.A., Houle, S., Liu, A., McKinnon, M., Ashbaugh, A., Richardson, JD., Nazarov, A. (2021, October). **Risk factors for the development of moral injury in Canadian Armed Forces personnel.** Paper to be presented at the Canadian Institute for Military and Veteran Health Research Virtual Forum.

Richardson, JD., St. Cyr, K., Forchuk, C. A, Liu, J., Plouffe, R, A., Le, T., Gargala, D., Deda, E., Soares, V., Hosseiny, F., Smith, P., Dupuis, G., Roth, M., Bridgen, A., Marlborough, M., Jetly, R., Heber, A., Lanius, R., & Nazarov, A. (2021, October). **Well-being of Canadian Veterans during the COVID-19 Pandemic: Cross-sectional results from the COVID-19 Veteran Well-Being Study.** Abstract to be presented at the Canadian Institute for Military and Veteran Health Research Virtual Forum.

Plouffe, RA., Nazarov, A., Forchuk, CA., Deda., E., Soares, V., Le, T., Gargala, D., MacDougall, AG., Marlborough, M., Balderson, K., Hosseiny, F., Smith, P., & Richardson, JD. (2021, October). **Impacts of morally distressing experiences on the mental health of Canadian health care workers during the COVID-19 pandemic.** Paper to be presented at the Canadian Institute for Military and Veteran Health Research Virtual Forum.

Liu, J., Nazarov, A., Plouffe, RA., Le, T., Forchuk, CA., Brandwood, A., Levy, Y., Auger, E., Balderson, K., Bilodeau, M., Burhan, A., Enns, M., & Richardson, JD. (2021, October). **The effectiveness of psychotherapy and pharmacotherapy for posttraumatic stress disorder in military populations: A meta-analysis & systematic review.** Paper to be presented at the Canadian Institute for Military and Veteran Health Research Virtual Forum.

Plouffe, RA., Nazarov, A., Houle, S., Phelps, A., Murphy, D., Dell, L., Hosseiny, F., & Litz, B. (2021, October). **Cross-national development and validation of the Moral Injury Outcome Scale.** Paper to be presented at the

Canadian Institute for Military and Veteran Health Research Virtual Forum.

St. Cyr, K., Liu, J., Cramm, H., Nazarov, A., Hunt, R., Forchuk, CA., Deda, E., & Richardson, JD. (2021, October). **A mixed methods approach to understanding recovery from military-related posttraumatic stress disorder: Veteran and family perspectives.** Abstract submitted for presentation at the Annual Forum of the Canadian Institute for Military and Veteran Health Research; October 5-7, 2021.

Nazarov, A., Plouffe, RA., Forchuk, C., Trahair, C., Richardson, JD. (2021, October). **Beliefs about Confidentiality and Attitudes toward Disclosure of Moral Injuries.** Paper to be presented at the Canadian Institute for Military and Veteran Health Research Virtual Forum.

Nazarov, A., Brandwood, A., Forchuk, C., Merchant, M., Fraser, B., Pavlovic, N., Richardson, JD., Granek, J. (2021, October). **Improving Mental Health and Resilience Training: Feedback from Canadian Armed Forces Personnel.** Paper to be presented at the Canadian Institute for Military and Veteran Health Research Virtual Forum.

Plouffe, RA., Easterbrook, B., Liu, A., McKinnon, MC., Richardson, JD., & Nazarov, A. (2021, November). **Psychometric evaluation of the Moral Injury Events Scale in two Canadian Armed Forces and Veteran samples.** Paper to be presented at the virtual International Society for Traumatic Stress Studies conference.

Plouffe, RA., Nazarov, A., Forchuk, CA., Soares, V., Le, T., Deda, E., MacDougall, A., Marlborough, M., Balderson, K., Hosseiny, F., Smith, P., & Richardson, JD. (2021, May). **The age of COVID-19: Impacts of moral distress on Canadian healthcare workers.** Paper presented at the virtual London Health Research Day, Lawson Health Research Institute conference.

Dickey, C., Richardson, JD. **Mental Health and Well-being While Facing COVID-19** (May 2020). Hosted by Talent, Learning and Engagement, Western Human Resources (virtual).

Richardson, JD., Teasell, R., Sharma, V. **Covid-19/ OCD/ Perinatal Psychiatric Disorders** (October 2020). Hosted by MHPA (virtual).

Nazarov, A. **Well-being of Veterans during the COVID-19 Pandemic: a Canadian Perspective.** (October 2020). Panel presentation at the Military Psychology Summit During COVID-19. Event hosted by APA Division 19: Society for Military Psychology (virtual).

Nazarov, A. **Moral Injury - an Overview.** (October 2020). Invited presentation at the CIMVHR 2020 Symposium Series. Event hosted by CIMVHR (virtual).

Richardson, JD., Forchuk, C., Plouffe, R., Le, T., Soares, V., Nazarov, A. **Well-Being of Veterans during the COVID-19 Pandemic.** (November 2020). Podium presentation at the 2020 London Joint Mental Health Research Day, London, ON (virtual).

Nazarov, A., Forchuk, C., Plouffe, R., Le, T., Soares, V., Richardson, JD. **Moral Distress and Well-Being in Health Care Workers during the COVID-19 Pandemic.** (November 2020). Podium presentation at the 2020 London Joint Mental Health Research Day, London, ON (virtual).

Forchuk, C. Nazarov, A., Plouffe, R., Trahair, C., Richardson, JD. **Beliefs about confidentiality and attitudes toward disclosure of moral injuries.** (November 2020). Poster presented at the 2020 London Joint Mental Health Research Day, London, ON (virtual).

Richardson, JD. **Well-being of Veterans and Veteran families during the COVID-19 Pandemic** (November 2020). Infographic presentation at the Five Eyes Mental Health Research Innovation Collaborative Virtual Meeting.

Vasudev, K., Alolayan, M., Ionson, E., Watt, C., Speechley, M., Richardson, D., Forchuk, C., Lanius, R., Vasudev, A. **Alternative Treatments for Post-Traumatic Stress Disorder – A Preliminary Analysis of An Ongoing Randomised Controlled Trial.** (November 2020) Poster presentation at the International Society for Traumatic Stress Studies (virtual).

Nazarov, A. **Unpacking moral injury: current understanding, gaps, and future directions** (December 2020). Invited presentation at the PIR-Mental Health: Research Imaginarium Series.

Boland, H., D'Agata, M., Granek, J., Nazarov, A. **A Reward-based Approach to Improve Workplace Well-being Awareness and Behaviours.** (October, 2019) Poster presented at the CIMVHR Forum 2019, Gatineau-

Publications

Ottawa, QC.

Boland, H., D'Agata, M., Granek, J., Nazarov, A., Jaz, A. (2019). **A Reward-Based Approach to Improve Workplace Well-Being Awareness and Behaviours.** Paper presented at NATO-HFM-302 Symposium, Berlin, Germany. Unclassified.

Granek, J., Nazarov, A., D'Agata, M., Bae, J., Boland, H., Kiriollos, R., Guest, K., Bailey, S. (2019). **Leveraging Technologies to Complement the Road to Mental Readiness (R2MR) Training Program.** Paper presented at NATO-HFM-302 Symposium, Berlin, Germany. Unclassified.

Granek, J., Nazarov, A., Fraser, B., Boland, H. **Optimizing Mental Health and Resilience by Leveraging Technology in Training for Canadian Armed Forces Personnel.** (October, 2019) Poster presented at the CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Hunt, R., Forchuk, C., Cramm, H., Nazarov, A., Forchuk, C., St. Cyr, K., Ketcheson, F., Deda, E., Davis, B., Richardson, JD. **Understanding Functional Quality of Life in Veterans Diagnosed with Post Traumatic Stress Disorder in Recovery.** (October, 2019). Podium Presentation. CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Ketcheson, F., St Cyr, K., King, L., Richardson, JD. **Association between PTSD and MDD and severity of somatic symptoms in treatment-seeking Veterans.** (October, 2019). Poster presented at CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Oakley, T., King, L., Ketcheson, F., Richardson, JD. **Gender differences in clinical presentation among treatment-seeking veterans and Canadian Armed Forces (CAF) personnel.** (October, 2019) Podium Presentation CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Oakley, T., King, L., Ketcheson, F., Richardson, JD. **The relationship between deployment, gender and mental health in treatment-seeking veterans.** (October, 2019) Poster presented at CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Richardson, JD., Hunt, R., Nazarov, A., Davis, B., St. Cyr, K., King, L. **Suicidal Ideation in Treatment-seeking Canadian Armed Forces Veterans: The use of advanced analytics.** (October, 2019). Podium

Presentation. CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Richardson, JD., Ketcheson, F., King, L., Forchuk, C., Hunt, R., St. Cyr, K., Nazarov, A., Schneider, P., McIntyre-Smith, A., Elhai J. D. **Sexual Dysfunction in Male Treatment-Seeking Canadian Armed Forces Members and Veterans.** (April, 2019) Poster presented at London Health Research Day, London, ON.

Richardson, JD., Nazarov, A., Hunt, R., Forchuk, C. **Predictors of Recovery from Military-related Post-traumatic Stress Disorder in Treatment-seeking Veterans.** (October, 2019). Podium Presentation. CIMVHR Forum 2019, Gatineau-Ottawa, QC.

Richardson, JD., Nazarov, A., Hunt, R., Forchuk, C., King, L., St. Cyr, K. **Predictors of Recovery from Military-related Post-traumatic Stress Disorder in Treatment-seeking Veterans.** (November, 2019) Poster presented at the ISTSS Annual Meeting 2019, Boston, MA.

Richardson, JD., Nazarov, A., St. Cyr, K., Ketcheson, F., King, L., Hunt, R., Forchuk, C., Elhai, J. **PTSD and Associated Risk factors in Treatment-seeking Veterans & Canadian Armed Forces Veterans.** (September, 2019). Podium Presentation. Canadian Psychiatric Association, Quebec City, QC.

Statement of Priorities

The MacDonald Franklin OSI Research Centre was built on current ongoing partnerships, as well as the pursuit of new collaboration amongst relevant key stakeholders, including the health care sector, industry, government, and academia.



The Research Centre operates through three fundamental activities:

Research and Innovation Excellence

Promoting research excellence in the area of OSIs is central to the mission of the Research Centre. The research output of the Research Centre is reliant upon its ability to foster expertise within the field of OSIs, with an emphasis on PTSD. The Research Centre is positioned to have a pivotal role in advancing academic research and innovation to advance clinical care and client outcomes.

Knowledge Mobilization

To ensure knowledge is continuously shared both within our network and beyond, knowledge mobilization activities will be core to the Research Centre. The Research Centre will emphasize the dissemination of research findings at both the local and national network of clinics to improve patient outcomes and promote recovery.

Education

The creation of the Research Centre will continue a tradition of excellence in educating current and future clinicians and researchers. The Research Centre will engage in education initiatives by facilitating capacity building and training opportunities across a variety of disciplines, partners and stakeholders.

Progress on Priorities



Research and Innovation Excellence

The generous donation received to open the MacDonald Franklin OSI Research Centre three years ago brought the vision of the Research Centre into focus – to become a national and global leader that enables and bridges research and clinical excellence for Veterans. We are now the leading independent research centre in Canada that conducts research into military mental health.

The capability of the Research Centre to generate and disseminate high-quality research is directly related to the activity of research staff who, over the past year and a half, has more than doubled. By the end of its first year and a half of operations, the Research Centre consisted of the director, four full-time and two part-time staff, as well as visiting scholars, volunteers, and undergraduate trainees. Approaching the end of its third year, the Research Centre now has, in addition to the director, 12 full-time and two part-time staff, six visiting scholars and scientists, three graduate students, six undergraduate students, and a number of volunteers. This growth represents not only an increase in the scale of the research activities we can undertake but also an expanded representation and diversity of expertise among staff members. This growth has thus supported the Research Centre by increasing the amount and scope of research projects and tasks, resulting in broader coverage of research topics relevant to military mental health (e.g., ranging from treatment outcomes to moral injury, to personality and pharmacogenetics), with opportunities to facilitate research integrity and quality through specialized contributions (e.g., from data scientists and computer science students).

A culture of innovation is demonstrated at the Research Centre through the acquisition of competitive grants and the investigation of emergent research topics. We seek out funding opportunities that call for innovative thinking and solutions that are relevant, timely and will directly benefit the health and well-being of the Veteran population. As of 2021, we have successfully obtained funding as principal or co-investigators on 18 grants. In addition, the Research Centre maintains a number of internal projects on developing research areas such as moral injury, moral distress in health care workers, and the impact of the pandemic on Veterans and their families. In 2020, in the midst of rapid changes to the delivery of services and care, we were able to pivot to virtual platforms to ensure that recruitment remained active for our projects throughout the year.

First and foremost, the Research Centre places high value on conducting replicable and sound research; this is only possible through the prioritization and adoption of data management and analytics best practices. Over the past three years in operation, the volume of data collected and data that the research Centre has access to is substantial. As the volume and richness of data grow, it becomes ever more important to optimize the storage, cleaning, aggregation, and validity of raw data, and to ensure the application of appropriate analyses. Creating a data science team within the Research Centre, comprising multiple computer science students and a full-time data scientist, was a proactive step to ensure that these goals are met. For example, with the help of the data science team, the Research Centre is establishing a dynamic, secure databank to serve as a central database and dashboard, enabling the Research Centre researchers efficient access to aggregated datasets. This allows us to conduct more complex analyses, find more subtle patterns in data, and answer more difficult questions that remain in this field.

Education and Knowledge Sharing

Members of the Research Centre have participated in over 30 knowledge-sharing opportunities since 2018. These have ranged from local rounds and conferences to national presentations, international conferences and symposia. Staff have also been invited to deliver keynotes and oral and poster presentations. The Research Centre has initiated several opportunities to promote learning, sharing, and critical discussion of relevant research. In 2020 the Research Centre began a “Meeting of the Minds” for staff of the Research Centre, students, and staff of the OSI Clinic. In addition to allowing interested attendees to learn of timely research projects and methodology, the “Meeting of the Minds” has also been used as a venue for trainees to hone their presentation skills. Similarly, our virtual 2021 Research Consortium provided an opportunity for trainees to present their work to an international audience.

The Research Centre successfully attracted students through the Canada Summer Jobs, BioTalent and University co-op programs and ensured that all students received optimal value from their placements. We leveraged the varied skill set of visiting scholars and students by coordinating workshops on topics focusing on data science. We are building a foundation of resources that will be accessible to staff and students for professional development.

List of Events for Education and Knowledge Sharing

2021

May 11	Lawson Health Research Day	London, ON (virtual)
May 18	Ontario Personal Support Worker Association Wellness Town Hall	Toronto, ON (virtual)
May 27	Dallaire Foundation - Invited Talk	Virtual
May 31	Postdoctoral Research Week, Western University	London, ON (virtual)
June 15, 24	Open Door / ASCN International Webinar	Virtual
June 16	International Webinar series on Military, Veteran and Families Wellbeing	Virtual
June 17	Five Eyes Mental Health Research Innovation Collaborative Meeting	Virtual

2020

May 11	Mental Health and Well-being While Facing COVID-19 Webinar	London, ON (virtual)
October 14-16	APA: Military Psychology Summit During COVID-19	Washington, DC (virtual)
October 29	CIMVHR Virtual Symposium Series - Moral Injury	Kingston, ON (virtual)
November 4-14	International Society for Traumatic Stress Studies - 36th Meeting	Virtual
November 5	London Joint Mental Health Research & Innovation Day	London, ON (virtual)
November 24	Five Eyes Mental Health Research Innovation Collaborative Meeting	Virtual
November 26	Parkwood Institute Research - Open House	London, ON (virtual)
November 26	Department of Psychiatry Grand Rounds, Western University	London, ON (virtual)
December 15	Parkwood Institute Research: Imaginarium Series	London, ON (virtual)

2019

February 2	Depression in 2020: Biomarkers, Technologies and Novel Therapies	Toronto, ON
May 1	31st Annual McMaster Psychiatry Research Day	Hamilton, ON
May 23	Women Veteran Forum	Charlottetown, PEI
May 31-June 1	Innovations in the Science of Cannabis Conference	Hamilton, ON
August 29	Research Western Conference	London, ON
September 11-14	Canadian Psychiatric Association Annual Conference	Montreal, QC
October 8-10	NATO Meeting	London, UK
October 21-23	Canadian Institute for Military and Veteran Health Research,	Gatineau, QC
October 24	Mental Health Research & Innovation Day	London, ON
November 12-16	Five Eyes Mental Health Research Innovation Collaborative Meeting	Boston, MA
November 14-16	International Society for Traumatic Stress Studies - 35th Meeting	Boston, MA
November 28	Parkwood Institute Research - Open House	London, ON
December 5	Symposium: Exposure to Sexual Misconduct During Military Service	Guelph, ON
December 12	REDCap Convention	Toronto, ON

2018

September 17-20	UK Combat Stress Meeting	London, UK
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September 27-29	Canadian Psychiatric Association Meeting	Toronto, ON
October 15-17	Canadian Institute for Military and Veteran Health Research	Regina, SK
October 18-25	Centre for Posttraumatic Mental Health Meeting, Phoenix Australia	Melbourne, Australia
October 29-30	Veterans Affairs Canada Summit	Ottawa, ON
November 7-10	Five Eyes Mental Health Research Innovation Collaborative Meeting	Washington, DC
November 29-30	NATO Meeting	Washington, DC

Research Consortium Meetings

September 27, 2021	London, ON (virtual)
March 23, 2021	London, ON (virtual)
November 10, 2020	London, ON (virtual)
December 3, 2019	Guelph, ON
June 10, 2019	Toronto, ON
January 30, 2019	London, ON

Representation and Community Involvement

Dr. Richardson	Member, Five Eyes Centres of Excellence in Military and Veteran Mental Health Group Chair, CANIUK Collaborative Consortium Member, Mental Health Advisory Group, Veterans Affairs Canada Member, Academic, Research, and Clinical Network (ARCN) of the Canadian Institute for Public Safety Research and Treatment (CIPSRT)
Dr. Nazarov	Member, Health Sciences Research Ethics Board, Western University Co-Chair, Moral Injury Community of Practice, Centre of Excellence for PTSD Member, ARCN, CIPSRT

Media Appearances

- London Free Press
- CTV London
- CBC London, CBC Thunder Bay, CBC (Print)
- AM980 Global News
- Global News TV
- HuffPost Canada
- iheartradio
- country104

Successful Transition to Remote Working

In response to the COVID-19 pandemic, we have successfully transitioned to working remotely. We have embraced and leveraged various digital platforms and tools to support our team during this time. With such an agile team and a smooth transition, we have maintained our productivity and received positive feedback from our staff and students. We look forward to continuing to enhance our virtual work processes and support our staff working remotely in the future.

Sample feedback from our staff:

"Working remotely has allowed for me to form strong working relationships with my colleagues using virtual platforms"

"The change to working remotely made me realize the importance of being able to adapt to quickly changing circumstances I had no control over, but was able to own the moment by making mental and physical adjustments to remain productive and to carry on"

"Working remotely has allowed our team to leverage collaborative online tools and platforms to optimize our communication and teamwork."

Media Resources

A media marketing plan was created for the Research Centre. This plan delved into brand identification, identifying target groups, and developing an action plan. To prepare the Research Centre for a strong social media presence, LinkedIn, Twitter, and Facebook accounts were created and have proved to be strong tools for promoting the Research Centre. These social media avenues were especially helpful with the recruitment of participants for research studies. We took our marketing strategy one step further and connected with the Business Marketing program at Fanshawe College to engage in a working relationship that provided marketing students with real-life experience by delivering on stated expectations. The team provided us with recommendations on how we can continue to bolster leads for study participant recruitment, brand awareness, and improving engagement with the public.

Trainee Development

We continued to provide research opportunities to graduate and undergraduate students, and to medical residents. Partnering with the Department of Psychology and Department of Psychiatry at Western University provided access to top students who joined our team for partial fulfillment of their educational requirements. Two computer science students joined us for work terms through the Canada Summer Jobs Program and BioTalent Canada.

PhD Students	Bethany Easterbrook	McMaster University
Masters Students	Cassidy Trahair	Western University
Undergraduate Students	Jennifer Shatsky	Western University
	Tania Al-Jilawi	Western University
	Helen Schreyer	Western University
	Brittni Jackson	Western University
	Dominic Gargala	Western University
	Jesse Bourret-Gheysen	Western University
Medical Residents	Andrew Brigden	Western University
	Tricia Mohan	Western University
	Thomas Wasiuta	Western University

Strategic Partnerships

Building new strategic partnerships, while maintaining robust connections with our existing partners has been a high priority for the Research Centre. Our partnerships foster collaboration and innovative thinking - allowing us to deliver high-quality, multidisciplinary research findings to the Veteran community.

Partners and collaborators:

- Bellwood Health Services
- Boston University
- CAMH
- Canadian Institute for Military and Veteran Health Research (CIMVHR)
- Centre of Excellence for Chronic Pain
- Centre of Excellence on PTSD and Related Mental Health Conditions
- Combat Stress UK
- Dallaire Institute
- Defence Research & Development Canada
- Department of National Defence
- Heroes in Mind, Advocacy and Research Consortium (HiMARC)
- Homewood Health
- IBM Canada
- McMaster University
- Operational Stress Injury Social Support (OSISS) Program
- St. Joseph's Health Care OSI Clinic
- Phoenix Centre, Australian Centre for Posttraumatic Mental Health
- Queen's University
- Queen's University Belfast
- Ryerson University
- University of Toronto
- Veterans Affairs Canada
- Western University



Celebrating Success. Awards & Achievements



2021

Dr. J Don Richardson was promoted to **Full Professor** in the Department of Psychiatry, Western University.

Dr. Jenny Liu received the **CIHR Fellowship - INSPIRE: Increasing Students' Pathways to Information, Resilience, and Empowerment**. This program seeks to address the worsening mental health impacted by the pandemic by building resilience capacity in individuals and communities. It will be piloted with students and adapted for other populations, including Veterans, first responders, and front-line healthcare.

Dr. J Don Richardson was awarded the **Department of Psychiatry Research Award** at Western University.

Drs. Rachel Plouffe and **Jenny Liu** both received the **top 10** ranked distinction by popular vote during the 2021 **Postdoctoral Research Forum 3MR competition**.

Dr. Anthony Nazarov received the Defence Research & Development Canada (Department of Defence) **Teamwork Award**, as part of his contribution to the mental health research related to Operation LASER.

Dr. Rachel Plouffe was appointed to the **editorial board** of the journal **Personality and Individual Differences**.

Dr. Rachel Plouffe was selected as a **co-editor** of a special issue "**Exploring the dark side of personality beyond the Dark Triad**" in the journal Acta Psychologica.

Dr. Anthony Nazarov was selected as a **co-editor** of a special issue "**The Interplay Between Cognition and Emotion in PTSD**" in the journal Brain Sciences.

2020

Kate St. Cyr was awarded the **Wounded Warriors Doctoral Scholarship** in Military and Veteran Health Research. The area of study for this research is sex-specific differences in mental health services utilization amongst Canadian Armed Forces Veterans.

Dr. Anthony Nazarov was awarded **The Robert S. & Mary Gay, Donald, James and Helen (Taylor) Gay Endowed Research Fellowship in Veteran's Care** for a second year. This fellowship will support Dr. Nazarov's research on Veterans' attitudes towards disclosure of moral injury.

Dr. Anthony Nazarov was appointed as the **Co-Chair** of the Centre of Excellence for PTSD **Moral Injury Community of Practice**.

2019

Dr. J Don Richardson was recognized by the Lawson Health Research Institute for his research innovations related to Veterans with PTSD. Dr. Richardson was awarded the **Innovation Award** at the 2019 Lawson Impact Awards.

Dr. Anthony Nazarov was awarded **The Robert S. & Mary Gay, Donald, James and Helen (Taylor) Gay Endowed Research Fellowship in Veteran's Care**. This fellowship will support Dr. Nazarov's research on patients' attitudes towards disclosure of moral injury.

Katherine St. Cyr was awarded the **CIHR Frederick Banting and Charles Best Canada Graduate Scholarships Doctoral Award**. This award provides special recognition and support to students who are pursuing a doctoral degree in a health-related field in Canada.

2018

Dr. Anthony Nazarov received the Canadian Institute of Military and Veteran Health Research, **Editors' Choice Award** (Poster, Co-author) for the abstract *The Relation between Adverse Childhood Experiences and Moral Injury in the Canadian Armed Forces with PTSD*.

Moving Forward.

Roadmap for the Future

Improving awareness among Veteran community and public

A marketing plan was developed to guide our marketing strategy with the aim of promoting our research activities. The Lawson Health Research Institute Media and Communications Department's policies and procedures provided overarching guidance. To date we have successfully launched active social media platforms - a Facebook page, Twitter account and LinkedIn business account. A website was also launched under the Lawson Health Research Institute banner (<https://www.lawsonresearch.ca/osi>). We have partnered with the Business Marketing program at Fanshawe College and anticipate promising outcomes from the team of students that will work with us to augment our efforts.

Collaborations with OSI clinics and clinicians

We have identified the need to connect with clinicians interested in clinical research and continue to build the relationship with existing clinical researchers. Our *Research Digest* was launched in September 2020 with an initial circulation of 150 subscribers. It is a monthly email digest of research, which includes curated articles, activities, and current information related to Veteran and military well-being.

Increasing research capacity

The Research Centre saw significant growth in staffing for 2020. Our staff has grown to 12 research staff, 6 visiting scientists and scholars, and a number of graduate students, undergraduate students, and volunteers. We saw the departure of a postdoctoral associate and research assistant working on a specific project. The additional staff directly impacted our productivity despite the effects of the pandemic, which meant staff were set up to work remotely. Going forward, we will expand the staff roster with at least one postdoctoral associate, a research assistant, additional computer science students and volunteer medical students working on projects for the Research Centre. The addition of two computer science students in 2020 added a dimension of efficiency and enabled us to effectively track recruitment efforts through social media for our projects and most importantly, improve data integrity and research replicability.

Focus on output and knowledge translation

The Research Centre successfully adapted to COVID-related homestay orders by holding online research consortium and advisory council meetings for the first time. There was a strong representation of members and participants at each meeting. Remote access offered the opportunity to participate for those who may not have been able to do so for in-person meetings. We continued to build partnerships and have made a connection of significance with the Centre of Excellence for PTSD. This connection facilitates knowledge translation and mobilization activities related to our longitudinal research examining the impact of the COVID pandemic on Veterans. Our output for publications remained on track. Work with international collaborators continued in 2020, which afforded our team opportunities to more widely disseminate research findings through publications and conference presentations. The growth seen in our staff and research project portfolio promises an active year for scientific output in 2021.

The Research Team

(as of June 2021)



J Don Richardson, MD, FRCPC

Scientific Director

Dr. Richardson is the Scientific Director of the MacDonald Franklin OSI Research Centre and Medical Director of St. Joseph's OSI Clinic. He is a Full Professor in the Department of Psychiatry, Schulich School of Medicine and Dentistry at Western University and Assistant Clinical Professor (adjunct) in Psychiatry and Behavioural Neurosciences at McMaster University. He also holds the distinguished title of Research Fellow with the Canadian Institute for Military and Veteran Health Research (CIMVHR). Dr. Richardson is one of the foremost experts on military-related PTSD and has more than two decades of experience in the assessment and treatment of CAF members and Veterans with PTSD and other OSIs. Resulting in over 50 published peer-reviewed articles and book chapters, Dr. Richardson has conducted research in multiple areas of military and Veteran mental health, including risk factors for PTSD and suicidal ideation, health care utilization, treatment outcomes, and the impact of PTSD on quality of life.



Anthony Nazarov, PhD, PMP

Associate Scientific Director

Dr. Anthony Nazarov is a clinical neuroscientist with a research focus on PTSD, moral injury, and social cognition. Dr. Nazarov has extensive expertise in conducting military and Veteran mental health research, and has received funding from Veterans Affairs Canada, Department of National Defence, and CIHR. Prior to joining the Lawson Health Research Institute, Dr. Nazarov was a Defence Scientist at Defence Research and Development Canada, Department of National Defence, investigating psychological resilience and mental health in Canadian Armed Forces personnel. Dr. Nazarov is interested in using experimental and survey methodologies to explore the interplay between psychological trauma, moral transgressions, and well-being. Specifically, he is interested in understanding how we can better identify, treat, and prevent moral injury and related OSIs.



Luciana Brown, MBA

Research Coordinator

Luciana Brown joined the team in October 2019 as the Research Coordinator with Lawson Health Research Institute for the MacDonald Franklin OSI Research Centre. Luciana completed her executive MBA in 2015 and holds a post-baccalaureate diploma in Management, both from Athabasca University, Faculty of Business. She completed her Bachelor of Administrative Studies degree at York University in 2003. Luciana has many years of senior administrative and project management experience in Canada and the Middle East, and has worked in varied environments, including teaching and community hospitals, government organizations and research settings.



Rachel Plouffe, MSc, PhD

Postdoctoral Associate

Dr. Rachel Plouffe is currently a Postdoctoral Associate with the MacDonald Franklin OSI Research Centre and Western University. Rachel completed her Master of Science and PhD degrees at Western University in the Personality and Measurement Psychology program. Her PhD research examined the impact of personality traits and exposure to violence in childhood on partner and participant levels of physical and psychological intimate partner violence. As a Postdoctoral Associate at the MacDonald Franklin OSI Research Centre, Rachel is interested in developing valid and reliable psychometric measures to assess levels of moral injury in Veterans and military members, as well as identifying contributing factors and outcomes associated with moral injury.



Jenny Liu, PhD

Postdoctoral Associate

Dr. Jenny Liu is a Postdoctoral Associate with the MacDonald Franklin OSI Research Centre and Western University. Jenny completed both her Masters and PhD in psychology at Ryerson University. She also holds appointments with the Toronto Western Hospital-Krembil Research Institute and the Daphne Cockwell School of Nursing, Ryerson University. Jenny's background is in psychological science, and her scholarship activities bridge research in stress and resilience with community-based applications. In her work, Jenny explores the intersecting bio-physiological, psychological, and socio-cultural determinants of health and resilience using mixed methods approaches and quantitative modelling.



Kate St. Cyr, MSc, PhD Candidate

Research Associate

Kate St. Cyr has been with St. Joseph's OSI Clinic team since 2009, working as a researcher and program evaluation support officer. After completing a BA in Anthropology at McMaster University and an MSc in Public and Population Health in 2008 at Simon Fraser University, she relocated from BC to London, ON, where she found work with the Middlesex London Health Unit and, ultimately, the OSI Clinic at the Parkwood Institute. Once the MacDonald Franklin Research Centre was opened in 2018, Kate migrated from the OSI Clinic to begin her role as a research associate with the Research Centre. In her current role, Kate is involved in all stages of the research process, from the development of research studies to data analysis to writing and the dissemination of final products. Kate's research interests include treatment outcomes and determinants of health, particularly as they relate to military personnel and Veterans; and vicarious trauma.



Maede Nouri, MSc

Research Associate and Data Analyst

Maede Nouri is a data scientist holding two master's degrees in Statistics and Computer Science. She completed her MSc in Computer Science at Western University in 2020. Her research focused on employing machine learning techniques to identify the prevalence of different chronic diseases given varying patient characteristics and a pre-existing set of chronic conditions. After graduation, she worked as a research analyst at the Department of Civil and Environmental Engineering to downscale NetCDF data over Lake Winnipeg using general circulation model output. She is currently a research associate/data analyst at the MacDonald Franklin OSI Research Centre. In her work, she uses statistical and machine learning algorithms to preprocess, analyze, and make more sense of data about Veterans. Outside of work, she follows her passion in fitness and photography.



Callista Forchuk, MSc

Research Assistant

Callista Forchuk has been working at the MacDonald Franklin OSI Research Centre at Parkwood Institute since 2018. She holds a BA in psychology, and MSc in Personality and Measurement from Western University. Callista has published on the relation between PTSD and depression comorbidity with quality of life, and the relations between PTSD symptoms and sexual dysfunction. Currently, Callista is involved in research examining the longitudinal impact of the COVID-19 pandemic on Veteran and spouse well-being, and on moral distress in health care workers, as well as research examining the role of confidentiality in mental health help-seeking and disclosure of morally injurious events.



Tri Le

Research Assistant

Tri Le was a volunteer at the MacDonald Franklin OSI Research Centre at the Parkwood Institute in 2019 and in 2020, he joined the team as Research Assistant. He holds a BHSc in Health Sciences from Western University and a Post-Graduate Certificate in Gerontology from Fanshawe College. Tri has experience conducting various research projects in London, ON, for organizations, such as the McCormick Dementia Services – Day Program, Ontario Telemedicine Network, and Rise Asset Development. He is passionate about research concerning the mental health and well-being of the elderly. Currently, he is assisting the team with examining the longitudinal impact of the COVID-19 pandemic on Veteran and spouse well-being, and on moral distress in health care workers.

**Vanessa Soares, MD***Research Assistant*

Vanessa Soares joined the team in February 2020. She completed her HBSc in Biology at the University of Toronto and her Medical Degree from the Medical University of the Americas in the Caribbean. Vanessa has spent most of her clinical experience focused on psychiatry in various hospitals in both the US and Canada. She previously worked at McMaster University through the Offord Centre as a Research Assistant in pediatric psychiatry.

**Dominic Gargala***Research Assistant & Computer Science Intern*

Dominic Gargala joined the MacDonald Franklin OSI Research Centre in August 2021 as a computer science intern. He holds a BSc from Western University in Medical Science & Biology and is currently pursuing a BSc in Computer Science. Dominic has experience working in research as a web application developer through the Department of Biology at Western University. He is interested in utilizing computer technologies and tools to assist in the data collection, transformation and storage of various datasets for the Research Centre.

**Alec Brandwood***Research Assistant*

Alec joined the MacDonald Franklin OSI Research Centre in January 2021 as a research assistant. He holds a BHSc from Western University. For his final year thesis project, he conducted a systematic review on the effect modifiers for the relation between extreme ambient temperatures and human mortality. Alec also has research experience at the University Health Network, being involved in qualitative research regarding guidelines for the overall management of dementia. He is passionate about various research topics, ranging from environmental health to the mental health and well-being of elderly and Veteran populations.

**Kristine Tauschek***Administrative Assistant*

Kristine studied Health Care Administration at Fanshawe College and has over 20 years of experience working within health care and higher education sectors. In the role of Administrative Assistant, Kristine is the central contact for a range of MacDonald Franklin OSI Research Centre administrative functions.

**Jesse Bourret-Gheysen***Research Assistant & Computer Science Intern*

Jesse Bourret-Gheysen has been with Research Centre team since August 2020, working as a student researcher. After previously working in the biotechnology field, he is currently pursuing a BA in computer science at Western University. Jesse's role at the Research Centre has him performing data science-related tasks such as cleaning data sets, performing simple analysis, and generating internal reports. Jesse's interests include the intersection of data visualization with other scientific disciplines.



Alyssa Zhu

Research Assistant & Computer Science Intern

Alyssa is a third-year student at the University of Waterloo pursuing a BCS (Bachelor's of Computer Science). Joining the MacDonald Franklin OSI Research Centre in May 2021 as a Research Assistant, she is interested in contributing to the Research Centre's research efforts through data science.

Visiting Scholars and Scientists



Brent Davis, PhD

Visiting Scientist

Brent Davis has been working with the MacDonald Franklin OSI team since March 2019. He holds a BSc in the Biochemistry of Immunity and Infection from Western University. He is currently pursuing a PhD in Computer Science at Western University as a member of the Insight and Phi Labs. His research interests are in applying and integrating AI / Machine Learning systems to complex problem areas in health. His role at the Research Centre is akin to a Data Scientist – he works to clean, transform and analyze data that is relevant to the Research Centre. His current work with the Research Centre focuses on using advanced technology, such as Watson, to perform analytics on data that assists the research team.



Andrew Bridgen, MD

Psychiatry Resident and Visiting Scholar

Dr. Andrew Bridgen is a resident Psychiatrist with Schulich School of Medicine. He has a Health Science degree from Victoria University and completed his medical degree at University of Science, Arts & Technology. He has interest in working with first responders, Veterans, and Canadian forces members with PTSD and other OSIs. Dr. Bridgen has research interest in psychiatry, specifically functional outcomes, neuroimaging, and PTSD. He continues his training with Schulich Psychiatry program in Windsor.



Bethany Easterbrook, MSc, PhD Student

Clinical Psychology PhD Student and Visiting Scholar

Bethany Easterbrook is entering her second year as a Ph.D. student in the Psychology Research & Clinical Training at McMaster University, supervised by Drs. Margaret McKinnon and Anthony Nazarov. She obtained an undergraduate degree in Kinesiology from University of Toronto and a Master's degree in Health Research Methodology from McMaster University. She has previous research experience in a variety of settings, including military mental health, pediatric surgery, manual therapy, disability policy, and schizophrenia. Bethany's current research focuses on moral injury and PTSD in military, Veteran, and public safety personnel populations. Specifically, she is interested in examining which military experiences and mental health outcomes independently increase the risk of developing a moral injury within the military and Veteran population.



Deanna Walker, PhD Candidate

Psychology PhD Candidate and Visiting Scholar

Deanna Walker is a fourth-year doctoral candidate in Clinical Science and Psychopathology at Western University. She completed her Master of Arts degree at Carleton University in 2017. Her research interests at the MacDonald Franklin OSI Research Centre are focused on the intersection between psychological trauma and well-being, including factors impacting mental health outcomes associated with PTSD. In addition to her research interests, she has extensive experience in providing psychological services within trauma-focused populations, including working with first responders, Veterans, and trauma-related disorders.

Medical Residents

Thomas Wasiuta, MD

Psychiatry Resident and Visiting Scholar

Dr. Wasiuta is a resident psychiatrist with the Schulich School of Medicine. He has an undergraduate degree in neuroscience from the University of Toronto and completed his medical doctorate training at Western University. He has experience working with first responders, Veterans, and Canadian Armed Forces members with PTSD and other OSIs. Dr. Wasiuta has a research interest in studying novel therapeutic approaches to PTSD treatment. He continues his training with the Schulich Psychiatry program in London, Ontario.

Tricia Mohan, MD

Psychiatry Resident and Visiting Scholar

Dr. Tricia Mohan is a second-year resident in Psychiatry at Western University. She graduated with a Bachelor of Arts in French from Yale University. After taking a detour into legal studies and practicing as a lawyer for a few years, she completed her medical degree at Western University. She is interested in matters of education and assessment. She is also passionate about psychotherapy and qualitative research.

Graduate Students



Cassidy Trahair

MSc Student

Cassidy acquired her undergraduate degree in psychology in 2019 at Western University. She is currently obtaining her MSc at Western University and is completing her thesis at the MacDonald Franklin OSI Research Centre. Her thesis investigates beliefs about confidentiality and attitudes towards disclosure of moral injury in individuals with experience in the Canadian Armed Forces. Cassidy has previous research experience in the personality and developmental domain. Her research interests also include help-seeking behaviours and issues related to the underutilization of mental health care.

Volunteers and Undergraduate Trainees

Tania Al-jilawi	Suriya Ragu
Dakota Fisher	Samdarsh Saroya
Jay Ding	Ilyana Kocha
Eliza Khan	Brittini Jackson

Acknowledgments

We would like to acknowledge [Heather Tales \(Director of Veteran Care\)](#), and [Bev van der Heide \(Coordinator of London OSI Clinic\)](#), and [Omer Vandevyvere \(Coordinator of Greater Toronto Area OSI Satellite Clinic\)](#) for their support of research, and the ongoing commitment and contribution of OSI Clinic staff collaborators:

Lisa King	Michelle Marlborough
Felicia Ketcheson	Ken Balderson
Erisa Deda	Tania Oakley
Maya Roth	Jennifer Safadi
Craig Stewart	

Thank you to the many Veterans, Veteran family members, and other members of the public who have participated in our research initiatives. Your altruistic contribution is greatly appreciated.

Departures

We would like to acknowledge the contribution of the following team members and trainees who are no longer at the Research Centre. We wish you the best in your future research and clinical endeavours.

[Renee Hunt, MA, PhD](#)
Postdoctoral Fellow

[Cindy Nguyen](#)
Health Informatics Thesis Student

[Shyann Hang](#)
Research Assistant

[Helen Schreyer](#)
Psychology Thesis Student

[Jennifer Shatsky](#)
Volunteer

Board of Advisors

Current Members



Catherine Baillie Abidi, PhD

*Director of Research & Learning, Dallaire Institute
Adjunct Professor, Department of International Development Studies, Dalhousie University
Adjunct Professor, Department of International Development Studies, Saint Mary's University*

Dr. Catherine Baillie Abidi joined Dalhousie University's Dallaire Institute for Children, Peace and Security in 2018 and has extensive experience researching, publishing and teaching in the areas of peace and conflict, children affected by armed conflict, and international humanitarian law. As the Director of Research & Learning, Catherine oversees multiple research projects exploring the interconnections between peacekeeping, gender, child protection and moral injury, with the primary focus of protecting children affected by conflict and the security sector actors who engage with them. Catherine is also an Adjunct Professor in the Departments of International Development Studies at both Dalhousie and Saint Mary's University.



Ken Balderson, MD, CM, FRCPC

*Psychiatrist, St. Joseph's OSI Clinic, Greater Toronto Site
Adjunct Professor, Department of Psychiatry, Western University*

Dr. Ken Balderson is a psychiatrist working full-time at the Greater Toronto Site of St. Joseph's OSI Clinic, where he has worked since January 2018. Previously he worked at St. Michael's Hospital with an acute care focus, and was part of the leadership team in the Department of Psychiatry. He also has extensive experience in psychiatric outreach. His research involvement has included a role as co-investigator of studies exploring the risk of suicide after hospital discharge and looking at the impact of SARS on health care personnel.



Rod Balsom, PhD

Clinical Lead, St. Joseph's OSI Clinic

Dr. Balsom obtained his PhD in clinical psychology from Western University. He is registered with specialization in Adult Clinical, Behavioural Medicine and Forensic Psychology. Over his career, he has worked in the Crisis Intervention and Forensic area. Currently, he is Clinical Lead of the OSI Clinic at Parkwood Hospital site of St. Joseph's Health Centre in London, Ontario. As part of a multi-disciplinary team, he specializes in the treatment of individuals and their families suffering from PTSD and/or other difficulties arising from military service. Current research interests include the impact of moral injury on recovery from PTSD and the relationship between personality and the onset of, and recovery from, PTSD in military and first-responder populations.



Colette Currin, CCAC

National Director, Military, Veterans and First Responders for the Edgewood Health Network

Colette Currin is the National Director of Military, Veterans and First Responders for the Edgewood Health Network, Canada's largest provider of Mental Health, Addiction and Trauma treatment. Colette's focus is on building relations and facilitating dialogue regarding the specific challenges and treatment needs of these segments by working in partnership with healthcare professionals and referents to support clients struggling with mood, anxiety, trauma, addiction and concurrent disorders. Colette is also a Certified Mental Health and Addiction Counsellor working as a clinician at Bellwood Health Services in Toronto delivering inpatient, outpatient, family and online programs and counselling services. A determined advocate for change at the individual, family and social level, Colette believes that recovery is a return to the true potential inherent in each and every one of us. As a nature lover and outdoor enthusiast, Colette hopes to one day to complete the Bruce Trail together with her partner Bill and their dog Finn.



Mark Daley, PhD

*Vice-President, Research at the Canadian Institute for Advanced Research (CIFAR)
Faculty member, Vector Institute
Professor, Departments of Computer Science; Biology; Epidemiology & Biostatistics; Electrical & Computer Engineering; Mathematics; and Statistics & Actuarial Science, Western University*

Mark Daley is the Vice-President, Research at the Canadian Institute for Advanced Research (CIFAR) and a Professor in six departments at Western University (Computer Science; Biology; Epidemiology & Biostatistics; Electrical & Computer Engineering; Mathematics; and Statistics & Actuarial Science). He is also appointed as a faculty affiliate at The Vector Institute for Artificial Intelligence and an associate scientist at the Lawson Health Research Institute. Daley chairs the board of Compute Ontario and serves on the Ontario Research Fund Advisory Board and the board of directors of IC/ES. He is also co-founder of CanCOVID, an expert network of Canadian COVID-19 researchers, clinical collaborators, and health-care professionals. He was Associate Vice-President (Research) of Western University from 2015–2019 and in 2019 was appointed Western University's Special Advisor to the President on Data Strategy.



Marco Di Cola

Director, Harbour Grace Holdings Inc

With a passion for business, politics and history Marco is graduate of the University of Western Ontario and holds an Honours B.A. As someone who thrives on challenges, Marco has welcomed several career changes over the past 25 years that have pushed him outside of his comfort zone and challenged him to reinvent himself. Marco began his career in the banking sector and held multiple Sales and Service roles for Canada Trust and later TD Canada Trust (TSX:TD), where he was recognized with Top Performance awards. While working with TD Canada Trust, he coached and mentored dozens of professionals who have gone on to lead outstanding careers and have reached executive level positions. Marco's outstanding track record in banking opened the door in the mid-2000's to an exciting career in the technology industry. He enthusiastically accepted the challenge of working for Phoenix-Interactive Design Inc., a progressive software company in London, Ontario who was making a big push on a global scale in self-service software solutions for the banking industry. A few years after accepting a role as Sales & Account Manager for some of the world's leading banks, he was promoted to Vice President, Global Software Business Development. At Phoenix, who was later acquired by Diebold Nixdorf (NYSE: DBD), Marco was responsible for acquiring some of their largest bank clients and was recognized with Outstanding Achievement Awards. A few years after his mentor Kyle MacDonald sold Phoenix to Diebold Nixdorf, he accepted his greatest and most fulfilling challenge yet in her newest endeavour, Harbour Grace Holdings Inc. As Director of Programs & Partnerships, Marco works with the executive management team and has multiple responsibilities including IT services, charter yacht sales management, and pursuing the philanthropic goals of the corporation's owners which includes building partnerships with leading charitable organizations such as the David Foster Foundation, the St. Joseph's Foundation and academic institutions such as Ivey Business School.



LCol (Retd) Stéphane Grenier

Mental Health Innovator

When it comes to mental health, Stéphane Grenier walks the talk. He was recently appointed to the Order of Canada and awarded an honorary Doctor of Laws degree by the University of Guelph and Humber College for his contributions to the field of workplace mental health. Stéphane's riveting keynotes are not only thought-provoking, but also lead to tangible action and sustainable change for those leaders who are prepared to rethink how they support their people. His autobiography, *After the War: Surviving PTSD and Changing Mental Health Culture*, tells his story from the day he landed in the midst of the Rwandan genocide, through his journey of changing mental health culture in the Canadian military, developing national Guidelines for Peer Support with the Mental Health Commission of Canada, all the way to creating Mental Health Innovations (MHI); a consultancy that leads innovative and sustainable change in organizations to enhance the mental health of their people. Today, he and his business partners develop non-clinical mental health interventions as a complement to traditional clinical care for private and public sector organizations, as well as for provincial health care systems. Stéphane's vision is a world where people no longer face barriers to good mental health.



LCpl (Retd) Alexandra Heber, MD, FRCPC, CCPE

Chief Psychiatrist, Veterans Affairs Canada

She has over 30 years of experience in mental health, first as a nurse, then as a psychiatrist. After a decade in Toronto coordinating the Women's Program in the Clinic for HIV-Related Concerns at Mount Sinai Hospital, and working on an Assertive Community Treatment Team, Dr. Heber started working as a civilian psychiatrist for the Canadian Forces in 2003, then enrolled in the military in 2006. She deployed to Afghanistan as the Psychiatrist in Charge of the Canadian Forces Mental Health Services for Task Force Afghanistan in 2009. After retiring from the military, she accepted the position of inaugural Chief of Psychiatry for Veterans Affairs Canada (VAC), where she became the VAC lead author on the 2017 CAF-VAC Joint Suicide Prevention Strategy. She has published and presented nationally and internationally on PTSD in the military and veteran population, and has designed two online courses on PTSD for health care professionals. Her current research interests include: suicide prevention, the military-civilian transition experience, effects of cannabis on mental health, outcome measurement in mental health treatment, and the effects of military sexual trauma.



Col Rakesh Jetly, MD, FRCPC

Chief Psychiatrist, Canadian Armed Forces

Dr. Rakesh Jetly is the chief psychiatrist for the Canadian Armed Forces. He occupies various roles such as mental health advisor to the surgeon general and academic appointments at Dalhousie University (Halifax) and Ottawa. In addition, he has been selected as the inaugural chair in military mental health at the IMHR (Institute for Mental Health Research). He began his military career as a general duty medical officer and flight surgeon and deployed to the middle east and Rwanda. After his post graduate training at the University of Toronto in psychiatry he deployed twice to Kandahar, Afghanistan. Col Jetly has an interest in operational mental health with a focus on PTSD and has worked within Canada and with allies (NATO) to advance the field. Occupational and workplace mental health are also specific areas of interest. Research and academic interests are varied and include suicide prevention, nabilone as a treatment for PTSD-related nightmares, neurofeedback and pharmacogenomics. Current international collaborations include a lecture series on Morality and Mental Health as well as chairing Research Task Groups (RTG) Leveraging Technology in Mental Health and Personalized Medicine. An imminent study is one looking at the safety and efficacy of cannabis in the treatment of PTSD.



Maj Gen (Retd) Glynne Hines

Former Director of Consultation, Command and Control, NATO, Brussels

OSI Special Section of the Royal Canadian Legion

Veteran co-chairman of the Minister of Veterans Affairs Mental Health Advisory Group

Glynne Hines enjoyed a 41-year career in the Canadian Armed Forces. He initially joined the Army Reserve in 1970 as a gunner in Brantford, Ontario. Upon transfer to the regular forces, he underwent training as naval officer, serving onboard destroyers, supply ships and submarines. In 1982, he transferred to the air force as a communications engineer, ultimately serving in Kingston Ontario, Anchorage Alaska, Winnipeg Manitoba, Baden Germany, Goose Bay Labrador, and of course, Ottawa. He deployed in the first Gulf War as communications commander, Canadian Air Task Group Middle East and to Sarajevo as Chief, Combined and Joint Communications for the NATO Stabilization Force. Prior to his retirement, his final posting was as the Director of Consultation, Command and Control at NATO Headquarters in Brussels. He remained in Brussels as the civilian director of NATO's battlefield intelligence sharing enterprise until 2014. Upon return to Canada, he joined other, like-minded Veterans, to try to help fellow-Veterans of his era and younger, and their families, particularly those suffering from mental health issues. He is a member of the founding executive of the OSIs Special Section of the Royal Canadian Legion and since 2016 has served as the Veteran co-chairman of the Minister of Veterans Affairs Mental Health Advisory Group.



Lisa King, MSc

Program Evaluation and Research Officer, St. Joseph's OSI Clinic, Parkwood Institute

Lisa King has worked as a Researcher/Program Evaluation and Support Officer (PESO) at St. Joseph's OSI Clinic since 2014. She holds a B.A. in Psychology and a MSc in Neuroscience from the University of Western Ontario. Her published research primarily examines how factors such as gender, sleep disturbance, social support, deployment experiences, and comorbidity relate to PTSD, depression, and anxiety among military personnel and Veterans. She's currently interested in better understanding the breadth of trauma experienced by non-deployed Veterans, and the effectiveness of novel group therapies for treating military-related mental health conditions.



Laryssa Lamrock

Family Peer Support Coordinator, Operational Stress Injury Social Support (OSISS) Program

Laryssa Lamrock is the Strategic Advisor, Families, for the Centre of Excellence on PTSD and also has extensive experience in the field of family peer support with OSIs, such as anxiety, PTSD and depression. She has had numerous speaking engagements involving mental health awareness specific to OSIs, peer support and her lived personal experiences. A few of the most noteworthy have been the National Conference on PTSD, an appearance before the House of Commons Standing Committee on Veterans Affairs and the Healing the Family Forum at the Canadian Embassy in Washington D.C. She has also participated on a number of Committees including the National DND-VAC-RCMP Mental Health Advisory Committee and the National OSI Family Ad Hoc working group. Laryssa strongly believes in the importance of education and support for families of military members, Veterans and first responders living with OSI. Along with her professional experiences, Laryssa is truly a military family member as she is the daughter, spouse and mother of formerly or currently serving Canadian Armed Forces members. Her personal experiences in supporting a loved one with OSI and her own journey with depression drives her passion for representing and advocating for families of those with OSI in hopes of helping make their journey a little easier.



Ruth Lanius, MD, PhD

*Professor, Western University
Harris-Woodman Chair in Mind-Body Medicine, Western University*

Ruth Lanius, MD, PhD, Professor of Psychiatry is the director of the PTSD research unit at the University of Western Ontario. She established the Traumatic Stress Service and the Traumatic Stress Service Workplace Program, services that specialized in the treatment and research of PTSD and related comorbid disorders. She currently holds the Harris-Woodman Chair in Mind-Body Medicine at the Schulich School of Medicine & Dentistry at the University of Western Ontario. Her research interests focus on studying the neurobiology of PTSD and treatment outcome research examining various pharmacological and psychotherapeutic methods. She has authored more than 150 published papers and chapters in the field of traumatic stress and is currently funded by several federal funding agencies. She regularly lectures on the topic of PTSD nationally and internationally. She has recently published a book 'Healing the traumatized self: consciousness, neuroscience, treatment' with Paul Frewen.



Polliann Maher

Family Peer Support Coordinator, Operational Stress Injury Social Support (OSISS) Program

Polliann Maher is a Family Peer Support Coordinator with OSISS. She started volunteering with the program in 2009 and was employed with the program since 2011. Polliann took part in the Vocational Rehabilitation program through Veterans Affairs Canada in 2009 and went back to school to successfully complete her Community Service worker diploma. She has been part of the development and facilitation of the Psycho-education workshops for Family members in collaboration with the OSI Clinic at Parkwood Hospital. The research from these workshops was presented in a poster presentation at CIMVHR in 2018 in collaboration with the staff from the OSI Clinic. Polliann is passionate about promoting Mental Well-being within the Military and Veteran community and was part of the Military Family Resource Centre Board of Directors for 6 years. Polliann is the spouse of a retired Veteran that was has been diagnosed with PTSD since 1999, mother to two adult sons and brings several years of lived experience as a caregiver, spouse, mother and peer support coordinator.



Margaret McKinnon, PhD, CPsych

*Associate Chair of Research, Psychiatry and Behavioural Neurosciences, McMaster University
Associate Professor, McMaster University
Senior Scientist, Homewood Research Institute*

Dr. Margaret McKinnon is a clinician-scientist who serves as the Homewood Chair in Mental Health and Trauma in the Department of Psychiatry and Behavioural Neurosciences at McMaster University. Work in Dr. McKinnon's laboratory focuses on identifying the neural and behavioural correlates of PTSD and trauma-related illnesses and on translating this knowledge to the development and testing of novel treatment interventions aimed at reducing the cognitive and affective sequelae of these conditions. Dr. McKinnon has a special interest in military, Veteran and first responder populations, and has worked with these groups clinically and in her research program.



Candice M. Monson, PhD

*Professor, Ryerson University
Director of Clinical Training at Ryerson University*

Candice M. Monson, Ph.D., is a Professor of Psychology at Ryerson University in Toronto, ON. Dr. Monson is one of the foremost experts on traumatic stress and the use of individual and conjoint therapies to treat PTSD. She has published extensively on the development, evaluation, and dissemination of PTSD treatments more generally. She has been funded by the U.S. Department of Veterans' Affairs, U.S. National Institute of Mental Health, U.S. Centers for Disease Control and Prevention, U.S. Department of Defense, and the Canadian Institutes of Health for her research on interpersonal factors in traumatization and individual- and conjoint-based interventions for PTSD. Recognizing her distinguished contributions as a clinical psychologist and educator, she is a Fellow of both the American and Canadian Psychological Associations, a Beck Institute Scholar, received the Canadian Psychological Association Trauma Psychologist of the Year Award in 2013, was named the Outstanding Mentor by the International Society of Traumatic Stress Studies in 2014, and was inducted into the Royal Society of Canada in 2016. She has co-authored 7 books, including *Cognitive Processing Therapy: A Comprehensive Manual* and *Cognitive-Behavioural Conjoint Therapy for PTSD*, and has published over 150 publications. Dr. Monson is well-known for her efforts in training clinicians in evidence-based assessments and interventions for PTSD.



LCdr (Retd) Ken Osborne

*Director, Licensing and Accreditation, Law Society of Ontario
Commissioner, Ontario Soldier's Aid Commission*

Kenneth Osborne served in the Canadian Forces for 24 years. Enrolling initially as a Training Development Officer, he was selected for the Military Legal Training Program in 1999. Attending Queen's University, Faculty of Law, Mr. Osborne articulated with the firms Cassels, Brock and Blackwell and Greenspan, White in Toronto. He was called to the Bar in Ontario in 2004. As a lawyer with the Office of the Judge Advocate General, his key posts included roles with NATO, the Canadian Forces Legal Advisor, the Strategic Joint Staff, and as a Deputy Judge Advocate at various bases across Canada. He is a Veteran of peacekeeping operations in Bosnia-Herzegovina and combat operations in Afghanistan. Deploying to Afghanistan on two occasions, he served as the lawyer to Canada's Special Operations Task Force, and subsequently deployed as a legal mentor in a rule of law capacity with the US Forces. For service as a legal mentor in Afghanistan, and notably in regard to his dedication in supporting rule of law capacity initiatives at the Dawood National Military Hospital in Kabul in 2010, he was awarded the United States Meritorious Service Medal. Released from the Canadian Forces in 2016, he is employed with the Law Society of Ontario as the Director, Licensing and Accreditation, responsible for the licensing and accreditation activities that support the legal professions in Ontario. In 2017, Mr. Osborne was appointed by the Lieutenant Governor of Ontario as a Commissioner in the province's Soldiers' Aid Commission. Mr. Osborne resides in Niagara Falls, Ontario with his spouse Alison.



David Pedlar, PhD

Scientific Director, Canadian Institute for Military and Veteran Health Research (CIMVHR)

Dr. David Pedlar is the scientific director of the Canadian Institute of Military and Veteran Health Research and professor in the School of Rehabilitation Therapy at Queens University. He has dedicated his career to advancing the care and well being of Canadian Armed Forces (CAF) Veterans. After working as a clinician, he spent fifteen years as the national director of research for Veterans Affairs Canada. He has held the positions of adjunct professor at the Faculty of Nursing at the University of Prince Edward Island and the Faculty of Medicine at Dalhousie University. In 2015, he received his second Fulbright Scholar Award as the visiting research chair in military social work at the University of Southern California where he continues as an international affiliated faculty at the Center for Innovation and Research on Veterans & Military Families. For his work in military and Veteran health, Dr. Pedlar has received a number of honours and awards. His research interests include improving military to civilian transition and enhancing Veteran well-being in the life after military service.



Shawn Rhind, PhD

*Defence Scientist, Defence Research and Development Canada (DRDC)
Associate Professor, University of Toronto*

Dr. Shawn Rhind earned his doctorate in Immunobiology from the University of Toronto. He completed an NSERC Postdoctoral Fellowship with the Defence & Civil Institute of Environmental Medicine (DCIEM) and US Army Research Institute of Environmental Medicine (USARIEM), examining bio-molecular interactions between neuro-endocrine-immune systems under severe physiological stress and environmental extremes and their impact on health and performance. Today, Dr. Rhind is a senior Defense Scientist in the military Operational Health Group at DRDC Toronto and an Associate Professor at the University of Toronto, where he leads an integrative – molecular to systemic – translational research team. His research spans basic laboratory science to human clinical trials, and is currently focused on elucidating the biological basis and therapeutic interventions for combat-related psychological and physical trauma, including PTSD and battlefield care after traumatic shock and brain injury.



Maya Roth, CPsych

*Psychologist, St. Joseph's OSI Clinic, Greater Toronto Site
Associate Member of the Yeates School of Graduate Studies, Ryerson University
Associate Scientist, Lawson Health Research Institute*

Dr. Maya Roth is a Clinical Psychologist at the St. Joseph's OSI Clinic – Greater Toronto Site. She is also an Associate Member of the Yeates School of Graduate Studies at Ryerson University, and an Associate Scientist with the Lawson Health Research Institute. Dr. Roth is a passionate advocate for evidence-based treatment of military-related PTSD and OSIs. She has presented and published in this area, and has also provided evidence-based treatment for PTSD workshops to clinicians.



Patrick Smith, PhD

CEO, Centre of Excellence on Post-Traumatic Stress Disorder and Related Mental Health Conditions

Dr. Patrick Smith began his tenure as CMHA's National CEO in April 2016. With a PhD in Clinical Psychology, he came to CMHA from Renascent – one of Canada's leading providers of abstinence-based, residential addictions treatment – where he was also CEO. Dr. Patrick Smith is the CEO for the Centre of Excellence on Post-Traumatic Stress Disorder and Related Mental Health Conditions in Ottawa, Canada. As its first CEO, Dr. Smith provides strategic leadership in the establishment and growth of the Centre of Excellence. Prior to joining the Centre of Excellence, Dr. Patrick Smith was the National CEO of the Canadian Mental Health Association (CMHA). With a PhD in Clinical Psychology, he came to CMHA from Renascent – one of Canada's leading providers of abstinence-based, residential addictions treatment – where he was also CEO. Prior to this, he was the Vice President, Research, Networks and Academic Development at the BC Mental Health and Addictions Services of the Provincial Health Services Authority in British Columbia from 2005 to 2010, and was founding Head of UBC's Addiction Psychiatry Program. From 1997 to 2005, Patrick was the Vice President of Clinical Programs at the Centre for Addiction and Mental Health (CAMH), and was Head of the Addiction Psychiatry Division at the University of Toronto. He received his PhD in 1991 from the University of Nebraska and did his internship and NIDA (National Institute on Drug Abuse) postdoctoral fellowship at the Yale University School of Medicine from 1990-1992. He was also a Fulbright Scholar at the University of Canterbury in Christchurch, New Zealand. In addition to his clinical and research background, Patrick's primary focus for much of his work has been mental health and addictions recovery and health systems planning and development. As a founding member of the Canadian Executive Council on Addictions, Patrick represented Canada as a delegate to the United Nations Committee on Narcotic Drugs (UN-CND) in both 2004 and 2009 and co-chaired the development of Canada's National Addictions Treatment Strategy.

Former Members

Christine Basnett, MSW, RSW	Clinical Social Worker, St. Joseph's OSI Clinic, Parkwood Institute
Jason Carr, PhD	Psychologist, St. Joseph's OSI Clinic, Parkwood Institute
Michelle Marlborough, MD, FRCPC	Psychiatrist, St. Joseph's OSI Clinic, Parkwood Institute
Sgt (Retd) Edith St-Jean, CD	Coordinator, OSI Social Support (OSISS) Program

Advisory Council Meetings

March 16, 2021	London, ON (virtual)
November 3, 2020	London, ON (virtual)
April 13, 2020	London, ON (virtual)
October 21, 2019	Ottawa, ON
June 3, 2019	London, ON

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