A Cure for Phantom Limb Pain?

Dr Kylie Hall

A new surgical management of the nerves now prevents neuroma formation and prevents severe pain PLP.

Phantom limb pain (PLP) arises from the absence of distal neural connections at the severed nerve, representing a form of neural "rewiring" after amputation. Nearly everyone who undergoes amputation will experience PLP, and for most, the pain is severe. While various strategies have been attempted to ease its intensity, success has generally been limited. The pain typically persists for several months—sometimes longer—and may recur, especially during periods of stress.

When a nerve is transected, neuroma formation is a natural part of the healing process. Unfortunately, these neuromas often become painful, making it difficult for individuals to wear prostheses and limiting their activities due to discomfort or fear of pain.

Encouragingly, a new surgical approach to nerve management now offers the promise of preventing neuroma formation and the development of severe PLP, representing a significant advance in post-amputation care. The surgery can be performed at the time of amputation, or many years after, with good results.

A Medical Perspective of the VETS Act: Changes, Challenges, and Chances

Dr Fletcher Davies[1]

1 Department of Veterans' Affairs, Melbourne, Australia

Biography:

Dr Fletcher Davies completed his medical degree at the University of Adelaide and spent the next 15 years working in acute hospital medical throughout South Australia and Victoria. After completing Masters Degrees in both Public Health and Healthcare Management, he joined the Department of Veterans' Affairs (DVA) in 2013.

While at DVA, he has contributed to the design of the current claims processing IT system, rationalisation of provider-facing paperwork, the development of a governance framework for clinical advisers, and the implementation of an assertive case management program for vulnerable veterans. He has been in the role of Principal Medical Adviser, Compensation since 2019.

The Veterans' Entitlements, Treatment, and Support (VETS) Act was passed in February 2025 and will be fully implemented on 1 July 2026. From this date, all new claims will be considered under an improved MRCA. The move to a single Act provides a chance to simplify and speed up claims processing. Significant changes include the introduction of provisional liability, coverage for all 'on-duty' injuries, simplified date of effect determination, expanded gold-card eligibility, and a streamlined review pathway. Challenges exist in managing 'grandfathered' and transitional arrangements, conversion of historic DRCA assessments, and optimising service periods for presumptive acceptance.

This presentation will discuss the impact of these changes on both veterans and their healthcare providers, and implementation strategies to manage the challenge of transition to a single Act. It will highlight the opportunities that these changes will create to reframe the Compensation process as one which better promotes recovery, good health, and overall wellbeing, rather than focussing on illness.

A Transferable Framework for Moral Injury: An Interdisciplinary Psychology and Chaplaincy Model from Emergency Services

Mr Jesse Winter[1]

1 Fire Rescue Victoria, Melbourne, Australia

Biography:

Jesse Winter is a Chaplain with Fire Rescue Victoria and a registered provisional psychologist. As an Emergency Services Foundation scholarship recipient (2024), he is researched how chaplaincy and psychology can address moral injury within emergency services. Jesse's post-graduate studies in theology and psychology and professional expertise in Chaplaincy & Mental health lays a foundation to his research and reports on interventions for populations experiencing potentially morally injurious events.

Background

While Moral Injury (MI) is commonly understood as occurring in military personnel and is often associated with discrete, high-stakes deployment events, this presentation argues that moral injury can occur beyond these settings, such as Public Health and Disaster responses. Significant and analogous challenges exist for Australian First Responders. Australian emergency services personnel face unique, career-long, and cumulative

exposure to Potentially Morally Injurious Events (PMIEs). Critically, MI in this cohort is not only incurred by operational events alone, but also by organisational betrayal, a critical issue of Human Factors, leading to a workplace moral injury which is often experienced through profound embitterment and externalising guilt. This context may provide a valuable understanding of moral injury sustained by military members, outside of PMIEs, during routine garrison duties, and can impact long-term Veterans' health and wellbeing.

Approach
This presentation introduces an enhanced framework for understanding moral injury, positing that injury occurs not just from exposure to a Potentially Morally Injurious Event (PMIE), but from a failure to psychologically and spiritually integrate the event into one's existing moral schema—a process heavily influenced by an individual's spiritual and moral maturity. Left unaddressed, this can lead to "Moral Drift": an insidious erosion of character where the injured individual's ideals shrink and they even perpetuate moral injury. The consequences directly impact operational effectiveness by compromising team cohesion, impairing integrity, morals, ethical decision-making, and increasing psycho-social risks to health and safety.

The presentation will explore key clinical considerations, including the challenge of addressing the inappropriate yet intractable guilt that can manifest in both internalising and externalising presentations. Ultimately, it argues that fostering an individual's spiritual health is foundational to developing the moral maturity required for moral resilience. This serves as a powerful mechanism for both preventing moral injury and as intervention supporting recovery. This is achieved through a psycho-spiritual, values-developmental approach that, while aware of the cognitive impacts of trauma, offers a more holistic alternative to purely cognitive models often used in PTSD Treatment.

Model Components
The proposed model offers a human-centric, interdisciplinary approach that structurally integrates two professional disciplines, moving beyond physical health or skills training to provide truly holistic care.

- Psychological Support: Psychologists provide essential clinical governance, offering risk assessment for suicidality, diagnosis and treatment of co-morbid conditions like PTSD, and evidence-based modalities for trauma processing.
- Chaplaincy Support: Chaplains address the vital bio-psycho-social-spiritual dimensions, facilitating meaning-making, fostering spiritual health and moral maturity and development for moral resilience, and guiding healing processes like forgiveness that are essential for resolving the inappropriate guilt and betrayal inherent to MI.

Interventions & Implications for Military
This framework translates into practical, tiered interventions, including adapting evidence-based group programs and establishing peer-led moral distress sessions. By addressing the multifaceted nature of MI, this model offers a transferable strategy that transcends conventional boundaries. It provides a robust framework for fostering career-long moral resilience, supporting overall medical fitness, preventing moral drift, and cultivating an ethical environment for all uniformed personnel who serve with moral integrity.

Accelerated Healing: Preliminary Outcomes from a 4-Day Intensive Trauma Treatment Centre (ITTC) Program for Veterans Using EMDR 2.0 and Prolonged Imaginal Exposure

Dr Michelle Parker-tomlin[1,2], Dr Grant Blake[1]

1 *Intensive Trauma Treatment Center, Brisbane, Australia,*

2 *Griffith University, Gold Coast, Australia*

Biography:

Dr Michelle Parker-Tomlin is a Clinical Psychologist and Head of Clinical at the Intensive Trauma Treatment Centre, where she supports the development and delivery of a high-impact, intensive evidence-based trauma intervention program. With over a decade of clinical experience, she has worked across diverse settings including public hospitals, university, primary health networks, community mental health, private practice, and intensive treatment programs. Her work spans both frontline clinical delivery and clinical research, with a strong focus on innovative models of care.

As a military veteran herself, she brings a unique, lived understanding of service-related trauma to her practice. Her personal and professional experiences drive a deep passion for advancing accessible, effective, and compassionate care for all people affected by trauma. She has a particular interest in intensive therapies and their potential to reduce

barriers to care, increase treatment engagement, and accelerate recovery.

She is also a Clinical Supervisor and communication skills facilitator, affiliated with Griffith University, where she supervises Clinical Psychology interns enrolled in Master's and PhD courses and medical students. Her current clinical work focuses on implementing EMDR and Prolonged Imaginal Exposure within immersive treatment formats. She continues to contribute to clinical innovation, training, and research to improve trauma care.

Dr Grant Blake is a Clinical Psychologist and cofounder of the Intensive Trauma Treatment Centre (ITTC), where he serves as Clinical Director and lead therapist. Since 2018, he has delivered intensive trauma-focused treatments using various models, including EMDR-only protocols and blended approaches, tailored to individuals with complex trauma. He maintains a private practice on the Sunshine Coast (Qld) and provides independent medicolegal reports across criminal, family law, and personal injury matters—often involving trauma-related conditions and symptom validity assessment. He is an Accredited Medical Practitioner for WorkSafe Tasmania, evaluating psychiatric injuries and permanent impairment.

Dr Blake's research background spans fitness to stand trial, malingering detection, and violent extremism, and he currently holds adjunct research positions at Swinburne University's Centre for Forensic Behavioural Science and the Forensic Child and Youth Mental Health Service (Qld). He has served as an expert witness in multiple jurisdictions including the Federal Circuit Court and Supreme Courts of QLD and TAS. His core clinical and research interests include forensic assessment, PTSD, violence risk, and deception detection. He is lead author of the ANZ Evaluation of Fitness to Stand Trial – Revised.

Psychological trauma remains pervasive among military veterans, often resulting in chronic post-traumatic stress disorder (PTSD), depression, and anxiety. While traditional weekly psychological therapy formats can be effective, they are often prolonged and subject to logistical barriers such as accessibility, stigma, and dropout. To address these limitations, ITTC implemented an innovative, intensive 4-day trauma treatment program that integrates Prolonged Imaginary Exposure (PE) and Eye Movement Desensitization and Reprocessing (EMDR 2.0), offering a concentrated and therapeutically rich alternative for those desiring rapid intervention and symptom relief.

The intensive program consists of 16 alternating 90-minute therapy sessions conducted over four consecutive days, delivered in a structured, immersive format. PE emphasises detailed narrative engagement with trauma memories to ensure clients are adequately prepared for deeper processing work. This approach reduces avoidance behaviors and helps desensitise clients to distressing memories, which can significantly lower emotional reactivity. EMDR 2.0 builds on the classical EMDR protocol by incorporating optimised working memory taxation, flexible bilateral stimulation, and an adaptive pacing strategy to enhance desensitisation and memory processing efficiency.

To date, the ITTC intervention has been delivered to a pilot sample of veteran and non-veteran clients. While early clinical impressions are promising, showing noticeable significant reductions in PTSD and often comorbid mental health symptoms post-treatment, the small sample size limits definitive conclusions. To support interpretation of these early outcomes, we reference comparable data from the Psytrec model (Voorendonk et al., 2020), which similarly employed an intensive, multi-modal trauma therapy format over a condensed time frame. In their study involving 308 patients diagnosed with PTSD, Psytrec reported symptoms of both PTSD and CPTSD significantly decreased from pre- to post-treatment resulting in a significant loss of International Trauma Questionnaire (ITQ)-based PTSD and CPTSD diagnoses (85.0% and 87.7%, respectively). No adverse events occurred in terms of suicides, suicide attempts, or hospital admissions. These findings, and others like it, provide a meaningful benchmark for interpreting our preliminary data and reinforce the potential efficacy of intensive trauma treatment models.Participants in our pilot cohort reported high satisfaction with the format, particularly citing the value of immersive engagement, continuity of care, and the perceived acceleration of symptom relief. The dual-modality approach appears to capitalise on the strengths of both techniques: PE builds emotional tolerance to trauma memories. EMDR 2.0 facilitates rapid desensitisation and processing of trauma memories. Furthermore, for the ITTC, no adverse events or dropouts have been recorded, highlighting the feasibility and tolerability of the program, even among those with complex trauma histories.

This intervention model offers significant implications for healthcare systems, where timely, effective, and scalable mental health interventions are critically needed. Intensive therapy formats, once considered unorthodox, are increasingly supported by empirical evidence and offer an important avenue for reliable fast interventions, reducing waitlists, enhancing access, and improving engagement among hard-to-reach or 'treatment resistant' populations.

ITTC future research will expand these findings by evaluating the real-world effectiveness of intensive trauma therapy compared to traditional long-term psychological treatments for Veterans and non-veterans with PTSD. Using a prospective cohort study with long-term follow-up data of up to 24 months. Our early evidence suggests that a 4-day intensive model integrating EMDR 2.0 and PE is not only feasible but potentially transformative in treating trauma. Furthermore, no adverse events or dropouts were recorded, highlighting the feasibility and tolerability of the program, even among those with complex trauma histories.

Reference

- Eline M. Voorendonk, Ad De Jongh, Linda Rozendaal & Agnes Van Minnen (2020) Trauma-focused treatment outcome for complex PTSD patients: results of an intensive treatment programme, European Journal of Psychotraumatology, 11:1, 1783955, DOI: 10.1080/20008198.2020.1783955Author Bio (200 words): Dr Michelle Parker-Tomlin

An Exploration of the Role of Military Advanced Practitioners and Their Potential Employability in the Deployed Pre-Hospital Environment: A Mixed-Methods Study

Dr Elizabeth Paxman[1]

1 RAAF, Australia

Biography:

Bio: Sqn Ldr Paxman ARRC PhD, MSc, BSc, Dip HE RN

Squadron Leader Elizabeth Paxman Nursing Officer specialising in Emergency (EM) and Pre-Hospital Care. She served 16 years in the UK Royal Air Force (RAF) before transferring to the Royal Australian Air Force (RAAF). Posted to 3 Aeromedical Evacuation Squadron.

After completing a Diploma in Adult Nursing, she worked in the NHS before commissioning into the Princess Mary's Royal Air Force Nursing Service, graduating from RAF Cranwell in 2008. During her RAF career, she undertook multiple operational deployments, including with the Medical Emergency Response Team (MERT) in Afghanistan and the British Army Training Unit Kenya.

Between deployments, she completed an MSc in Advanced Practice, qualifying as an Advanced Clinical Practitioner, and was the RAF Specialist Nurse Advisor for Advanced Practice and Defence Pre-Hospital Nursing. She completed her PhD at the University of Southampton, which focused on the role and employability of Advanced Practitioners in deployed military healthcare.

Introduction

International research and clinical experience suggest that the Advanced Practitioner (AP) role could significantly benefit Defence by enhancing the delivery of pre-hospital emergency care (PHEC) in operational environments. Defence forces worldwide have trained a small number of APs, yet there remains a lack of research defining their operational role and their specific contribution to deployed pre-hospital care. This study, based on UK PhD research, explores the potential role of military APs and their employability in deployed PHEC settings, with findings applicable to Defence healthcare systems, including Australia's Defence Force.

Methods & Results

This research employed a two-phase, mixed-methods approach to determine the necessary skills for APs in deployed PHEC roles. The first phase used a Delphi study to identify essential clinical skills. Findings indicated that APs should be proficient in sedation, independent blood administration, ultrasound, and advanced airway management. However, consensus was not reached on all procedures, with intubation and chest drain insertion remaining contested.

The second phase utilised qualitative methods to examine the experiences of military APs and the perceptions of healthcare professionals working alongside them. Three major themes emerged:

1. Current Experiences & Training – Participants reported variability in training pathways and a lack of formalised career progression for military APs.
2. Support & Working Relationships – Trust, role clarity, and professional hierarchies influenced APs' integration within multi-professional teams. The absence of a structured employment strategy created uncertainty in working relationships.
3. Future Role & Employability – Participants universally recognised the potential value of military APs but identified challenges regarding role definition, governance, and operational integration.

Conclusion

Both existing literature and civilian healthcare experience demonstrate that AP roles offer valuable

opportunities in emergency and operational settings. Within Defence, APs could enhance PHEC and retrieval capabilities by bridging the skills gap between paramedics, nurses, and PHEC doctors. While the AP role in military operations remains undefined, findings suggest that formalising their employment strategy could improve workforce capability, patient care, and career progression for military healthcare professionals. The insights from this research provide a foundation for Defence forces, including Australia's, to consider the strategic integration of APs into deployed healthcare models.

An Update on Drone Warfare & Ukraine – Rapidly Evolving Challenges in Military Medicine

GPCAPT Jeff Stephenson[1]

1 Royal Australian Air Force, RAAF Richmond, Australia

Biography:

GPCAPT Stephenson has thirty-eight years' experience working within Defence Health.

He has deployed to East Timor, Banda Aceh Sumatra and the Middle East. He has performed aeromedical evacuations from most countries in our Pacific arc, including Bali, as well as from the Middle East and Europe.

He was awarded an Order of Australian in 2008 for Meritorious Service in the fields of Operational and Garrison Health.

He is currently the:

- *Chair of the ADF Medical Officer Professional & Continuing Development Committee;*
- *The Clinical Director of Primary Health Care for Air Force Health Reserves;*
- *A Regional Senior Aviation Medical Officer for the Institute of Aviation Medicine; and,*
- *The Senior Medical Advisor to RAAF Richmond.*

He is a graduate of the Australian War College Thinking Strategically course and an observer member of the NATO Interallied Confederation of Reserve Medical Officers.

GPCAPT Stephenson has a Master's degree in Aerospace Medicine, a diploma in Aeromedical Retrieval and Transport and is an inaugural Fellow of the College of Aerospace Medicine. He also has a medical degree from the University of Sydney.

GPCAPT Stephenson's current focus is on shaping Defence Health to align with the current geopolitical environment. He is vitally interested in the strategic and tactical implications of drone warfare.

Drone warfare has become the new philosophy of warfare. Drones, AI, machine learning and cybersecurity are exponentially changing the battlefield. New iterations of drone technology and counter measures are occurring on a two-monthly cycle. Kill zones now have a 50 km bandwidth, with drones the primary strike tool inflicting 70 per cent of personnel injuries and 75 per cent of equipment and vehicle damage. Perfidious warfare ensues, with maiming and disabling preferred over killing. Health personnel and evacuation systems are deliberately targeted, with Role 1 and 2 health facilities regularly overwhelmed.

At ICCM 2024, GPCAPT Stephenson spoke of Drones being "A Paradigm Change in Military Medicine". Much has changed in the last twelve months. The future is now here. This new philosophy of warfare must be assimilated into our tactics, techniques and procedures. GPCAPT Stephenson provides an update on the myriad lessons learnt from drone warfare and details the most contemporary clinical takeaways from the Ukraine conflict and how it impacts the Australian Defence Force.

Beyond Force Protection: Environmental Health and the Operational Advantage in Complex Battlespaces

Dr Andrew Mathieson[1]

1 Australian National University, Canberra, Australia

Biography:

Dr Andrew Mathieson is a highly experienced UK trained, Environmental Health Officer with over 40 years of service in civilian, academic, and operational contexts . He brings a unique dual perspective, having also served for more than 30 years in the UK Reserve Army, including multiple deployments and training missions in complex and high-risk environments. Andrew has dedicated his career to promoting the critical role of environmental health in maintaining operational capability, public health resilience, and mission success.

Throughout his career, Andrew has championed the importance of early intervention, prevention, and timely technical support in both military and civilian settings. His expertise spans water and sanitation safety, food hygiene, environmental protection, risk communication, and disaster preparedness. As a senior academic, he has mentored the next generation

of public health and defence health professionals, embedding field-based insights into environmental health education and training programs.

Andrew's work has taken him across diverse global settings, including support to civillian, UN and Defence missions in Africa, Asia, Pacific and the Middle East. His longstanding commitment to service, education, and evidence-based practice underlines his belief that environmental health is not only a support function—but a strategic asset in both peace and conflict.

Environmental health (EH) capabilities have long been understood as essential to force protection, reducing disease non-battle injuries (DNBI), and enabling sustained operations. However, in future high-intensity, multilateral missions—characterised by contested logistics, degraded infrastructure, and multinational coalitions—EH plays a more strategic and dynamic role. This presentation explores how environmental health provides operational advantage in complex battlespaces by enhancing interoperability, maintaining combat effectiveness, and supporting mission resilience across joint and coalition forces.

Modern military operations are increasingly taking place in congested, degraded, and austere environments, (consider the Indo-Pacific and other littoral zones) where climate, geography, and infrastructure pose severe health and operational risks. Environmental hazards—including contaminated water, inadequate waste disposal, vector-borne diseases, and industrial pollutants—can quickly degrade the health of deployed personnel if not rapidly assessed and mitigated. EH personnel are uniquely trained to provide early risk identification, rapid response, and scalable mitigation, which are critical in forward operating environments. Their contributions range from water testing and field sanitation to managing public health outbreaks and environmental intelligence gathering.

In multilateral operations, where interoperability is a decisive factor, EH professionals also function as enablers of harmonised standards, practices, and risk communication across allied forces. Shared environmental health protocols—such as water potability thresholds, vector control methods, and hygiene standards—are essential for integrated logistics, force sustainment, and trust across nations. When environmental health capabilities are embedded early in planning and operations, they facilitate a unified approach to health surveillance, reduce operational friction, and enable coalition partners to operate from shared infrastructure with confidence.

Moreover, EH plays a significant role in shaping the "information advantage" in operational theatres. Environmental data collection and analysis—such as air, water, and soil sampling—can provide early warning of threats not visible through conventional intelligence, particularly in grey zone or hybrid conflict scenarios. This data-driven capacity contributes not only to health protection but to situational awareness and strategic decision-making.

The paper draws on lessons from recent exercises and deployments, including multinational engagements in the Indo-Pacific, to highlight both the enablers and limitations of current EH force elements. It argues for the elevation of EH within the broader health and logistics planning cycle, investment in interoperable technologies and training, and the establishment of shared doctrine to align allied capabilities. Environmental health must be reframed not as a support function but as a critical enabler of readiness, resilience, and multinational cohesion in modern warfighting.

As global strategic competition intensifies and climate-driven instability increases the likelihood of complex humanitarian and kinetic missions, militaries that integrate environmental health as a core operational capability will be better positioned to project and sustain force across domains. Future battlefields will reward not only lethality and mobility but adaptability, integration, and survivability—domains where environmental health delivers tangible and enduring effect.

Beyond Insomnia: A New Era of Sleep Health Screening in the NZDF

FLTLT Amy Davis[1]

1 New Zealand Defence Force

Biography:

FLTLT Amy Davis (MSc) is a Registered Psychologist with the NZDF, currently serving in the Directorate of Psychology. She began her career in the intellectual disability sector, where her research examined attributional bias in employment barriers for people with intellectual disabilities. In 2020, she joined the RNZAF to apply her skills in a military setting.

Amy has contributed to a wide range of Defence research, including training design for EOD operators, the predictive validity of CBAT scores, the selection of mental skills inventories for coaching, and culturally authentic leadership for Māori personnel. One of her proudest contributions has been to research on gender equity in Defence, exploring the experiences of NZDF

women and the organisational impacts of mandated gender representation on senior boards.

She is passionate about applying psychology to real world military problems, especially those that fall through the cracks of traditional medical or performance models. Her current research and advisory work aims to equip Defence leaders with data driven strategies to build sustainable, high performing teams.

Amy has recently completed further study in sleep and circadian science for health practitioners and is currently upskilling in psychological medicine, with a focus on perinatal psychology, through the University of Otago.

The New Zealand Defence Force (NZDF) is modernising its approach to deployment screening by shifting from a deficit based sleep model to a strengths based framework. Historically, the Insomnia Severity Index (ISI) has been used to screen for sleep concerns. "While the ISI is clinically valid for identifying insomnia, it provides a limited perspective, as insomnia represents only one of more than 80 recognised sleep disorders and does not reflect the broader role of sleep in supporting overall health and operational performance.

To address this, the NZDF is introducing the RU SATED model into deployment questionnaires. RU SATED is a brief, validated, multidimensional tool that assesses six core dimensions of sleep health: Regularity, Satisfaction, Alertness, Timing, Efficiency, and Duration.

While it is not a diagnostic tool, it provides a structured indication of when further assessment may be required. This shift supports a more holistic understanding of sleep in the military context, recognising not only the risks of poor sleep but also the protective value of good sleep patterns across the force.

This presentation will outline the rationale behind the change, the limitations of disorder-based screening, and the implementation process currently underway. It will also highlight the broader strategic opportunity RU SATED presents for enhancing readiness, guiding future research, and embedding sleep health as a pillar of sustained performance in Defence.

Building Expeditionary Health Readiness through Bush Dentistry

FLTLT Alexis Dieu[1]

1 RAAF, Darwin, Australia

Biography:

FLTLT Alexis Dieu completed a Bachelor of Biotechnology (Honours) in Drug Design and Development in 2008. She spent seven years working in ISO17025-accredited laboratories, contributing to preclinical drug development and pain research. Motivated by a desire for more direct clinical impact, she transitioned from academia to dentistry, completing her dental training in 2018. Over the past four years, while posted in Darwin, she has worked closely with the Northern Territory Government to deliver oral health services to remote Indigenous communities across the NT. In 2023, she spearheaded the development of a remote clinical placement program to strengthen dental teams' expeditionary readiness and clinical capability in austere, resource-limited environments. This initiative significantly enhanced her operational preparedness and played a key role in the successful delivery of oral health services during Exercise Kummundoo 2024 in Kununurra, remote Western Australia.

Bush dentistry is a colloquial term referring to the delivery of oral health services in remote Indigenous communities of the Northern Territory (NT), Australia. In addition to the typical challenges associated with remote healthcare, such as security concerns, logistical limitations, and constrained access to resources, health professionals must also navigate language and cultural barriers unique to each region.

Depending on the size of the community, local health centres often provide capabilities comparable to Role 1 enhanced military health support, including aeromedical evacuation. I have led teams comprising myself and a dental assistant to multiple austere locations across the NT, delivering dental care and engaging with communities on behalf of both the Northern Territory Government and the Royal Australian Air Force (RAAF).

This form of service delivery closely parallels Humanitarian Assistance and Disaster Relief (HADR) operations, exposing dental personnel to complex case management outside the typical Defence demographic. It also serves as a valuable training opportunity, fostering core expeditionary competencies such as resilience, adaptability, task and time management, clinical confidence, decision-making, teamwork, interoperability, and effective communication.

In this presentation, I will highlight the unique advantages and challenges of operating in remote health clinics, and discuss how these experiences cultivate critical thinking and problem-solving skills—key attributes for developing agile, effective leaders in both military and civilian health contexts.

Developing a Platform Agnostic HADR Capability in the RAN

CMDR Scott Squires[1]

1 RAN, Sydney, Australia

Biography:

CMDR Scott Squires is an Emergency Physician with the Australian Defence Force (ADF) Medical Specialist Program. Scott is posted to the Maritime Operational Health Unit, HMAS Penguin as the Director of Clinical Services. Scott originally entered the ADF as part of the Graduate Medical Scheme. Over the past 27 years of service, he has deployed extensively overseas in remote and austere environments, throughout the Middle East and Asia-Pacific regions.

Over the past 25 years the ADF has deployed extensively in support of international and domestic HADR operations.

In the RAN, our amphibious platforms have been the mainstay of such support and this has been one of the roles of the LHD class ships, since their commissioning.

Our experience in support of HADR operations in non-LHD platforms identified that there was a shortfall in capability in such platforms, for HADR taskings.

This presentation will describe our experience in recent HADR operations that lead to the development of a MOHU HADR equipment cache.

This cache, has equipment, medication and consumables to support HADR taskings that is light, rapidly deployable and platform agnostic.

Embedding Cultural Change through a Systems-Based Alcohol Management Framework in the Australian Defence Force

Mr Lucas Liew[1], Ms Kylie Druett[1]

1 Australian Defence Force, Sydney, Australia

Biography:

MAJ Lucas Liew is a Psychology Officer who commissioned into the ADF in 2019. As a Psychologist, MAJ Liew has posted to JHC-SQ MHPS and later in 2021 1 PSYCH UNIT in Townsville where he deployed to OP ACCORDION. In 2022, MAJ Liew posted to 4 HB and was involved in developing a new psychological capability in support of 3 BDE training and supported the DWEP – NQ team. Specifically, the Diversity Leadership Camp, building familiarity to psychological practice to young Australians and First Nation people applying to the Defence. In 2023 he was the OIC of the AHTT at ASH, instructing on mental health subjects throughout the school whilst conducting, maintaining, and improving AAPSYCH courses. Currently, MAJ Liew is the SO2 at the MH&W Initiatives Directorate within DPG, within the Alcohol Tobacco and Other Drugs portfolio. Beyond work, MAJ Liew has an interest towards the computer science, medical literature, and dungeons and dragons.

Kylie Druett is a psychologist and acting/Director of the Mental Health and Wellbeing Initiatives Directorate at Defence. She is responsible for the development and implementation of initiatives that empower personnel and the organisation to improve the mental health and wellbeing. Kylie led the development of the Defence Alcohol Management Framework . Her career spans non-government and state health services in the sectors of domestic violence, child protection, suicide prevention, sexual assault, mental health and AToD. Outside work she advocates for systemic reform in support offered to families bereaved by domestic violence homicide.

The Defence Alcohol Management Framework (DAMF) represents a significant evolution in Defence's approach to alcohol-related harm. Informed by extensive consultation with stakeholders across health, command, policy, and military police domains, the Framework offers a systems-based, ecological model to review and guide policy, leadership, and behavioural change.

The DAMF builds upon previous strategies, including the original Alcohol Management Strategy (ADFAMS), and aligns with the Mental Health and Wellbeing Strategy, Suicide Prevention Action Plans,

and the Defence Cultural Blueprint. It acknowledges the complex cultural, environmental, and individual drivers of alcohol use and introduces a structured approach to prevention, early intervention, and recovery.

The Framework is organised around five core principles – SAFER:

- Strengthen prevention and recovery
- Align organisational policies, protocols, and standards
- Facilitate a low-risk drinking culture
- Evaluation of evidence and effectiveness
- Reinforce positive leadership practices.

These principles are operationalised across three interconnected levels: Enterprise, Team/Group, and Individual, creating a unified direction for policy, training, culture, and health integration.

Through this multi-level approach, the Framework supports proactive alcohol management, promotes informed low-risk drinking behaviours, reduces stigma around help-seeking, and integrates family and broader wellbeing considerations. The accompanying 'blueprint for action' nested within the Framework, ensures accountabilities, implementation pathways, and evaluation mechanisms are embedded into Defence's future alcohol management efforts.

This presentation will provide an overview of the Framework's structure, conceptual underpinnings, consultation process, and its alignment with Defence's wider strategic wellbeing agenda. It will also share insights into leadership engagement, cultural considerations, and implementation opportunities across diverse workplace settings.

Ethical Relevance of the Geneva Conventions and International Humanitarian Law in Medical Operations: Case Studies from Ukraine and Gaza

LTCOL Erin Shelley[1]

1 Australian Army, Adelaide, Australia

Biography:

LTCOL Erin Shelley commissioned in 2009 and was has undertaken a wide range of appointments throughout her career, which have included postings at the Tactical Electronic Warfare Fleet – Land Program Office, the 9th and 10th Force Support Battalions and secondment to the Australian Intelligence Corps.

In 2016, LTCOL Shelley transferred to the Royal Australian Army Medical Corps and has been the Adjutant, Army School of Health, Staff Officer Grade Two of the Military Employment Classification Review Board, Officer Commanding/Health Centre Manager of the Robertson Health Centre and the Military Assistant to Head of the Defence Taskforce supporting the Royal Commission into Defence and Veteran Suicide. LTCOL Shelley's current appointment is as the Senior Health Officer, 10 Brigade.

LTCOL Shelley has an extensive academic background and her operational service has predominately in the Middle East. LTCOL Shelley has Bachelors' of Applied Social Science (Management) and Arts (International Aid and Development), as well as Masters' in Management Studies (Human Resource Management), Strategy and Security and Defence and Military Studies. LTCOL Shelley has served on Operation MAZURKA, Operation ACCORDION and Operation SLIPPER.

Ethical Relevance of the Geneva Conventions and International Humanitarian Law in Medical Operations: Case Studies from Ukraine and Gaza

The Geneva Conventions and broader international humanitarian law (IHL) form the foundation of legal and ethical conduct in armed conflict, particularly in the protection of medical personnel, medical facilities and the wounded. This abstract explores the ongoing relevance and ethical imperatives of these legal frameworks by examining medical operations during two modern conflicts: the war in Ukraine and the conflict in Gaza. The following case studies reveal persistent violations of medical neutrality, a principle enshrined in the Geneva Conventions, and underscore the urgent need for reinforced adherence to IHL in modern warfare.

Ukraine's healthcare infrastructure has faced unprecedented levels of violence since Russia's full-scale invasion in February 2022. The World Health Organization (WHO) has reported over 1,900 attacks on Ukrainian healthcare facilities: the most recorded in any single humanitarian crisis. Hospitals, ambulances and medical workers have been consistently targeted by missile strikes, often through so-called 'double tap' attacks that harm both the injured and their rescuers. One notable case involved a Russian drone strike on the Panteleimon Hospital in Sumy that resulted in numerous civilian casualties, including medical personnel. These attacks contravene the core IHL mandate to protect the wounded and those offering care without discrimination or delay. Despite these risks, Ukraine's medical response remains active, with paramedics and humanitarian organisations

such as the Red Cross striving to maintain services under fire. The legal and ethical relevance of IHL here is demonstrated by its consistent invocation in war crimes documentation and international advocacy aimed at protecting health services.

Similarly, the ongoing conflict in Gaza, particularly since October 2023, has seen significant breaches of IHL with catastrophic implications for the civilian population. Israeli military operations, combined with a blockade and large-scale population displacement, have led to the collapse of Gaza's healthcare system. The WHO and the United Nations Office of the High Commissioner for Human Rights (OHCHR) have reported over 670 attacks on medical facilities, including deliberate strikes on hospitals and ambulances. These attacks have resulted in hundreds of deaths among medical personnel, patients and civilians seeking refuge in healthcare facilities. The Israel Defense Forces (IDF) have argued that some hospitals were used for military purposes by Hamas, yet the principle of proportionality and precaution under IHL remains paramount. Even when medical facilities are allegedly misused by combatants, they retain a high threshold for loss of protection under IHL. Furthermore, ethical standards dictate that humanitarian corridors and the neutrality of medical care must be respected at all times.

Both conflicts exemplify how medical neutrality is not merely a legal abstraction but a humanitarian necessity. Violations in Ukraine and Gaza have led to immense suffering and have prompted widespread condemnation by international bodies. The WHO, ICRC, and other human rights organisations have all underscored the ethical imperative of respecting medical operations in conflict zones. These cases illustrate that while IHL is often flouted, it continues to serve as a vital framework for holding perpetrators accountable and guiding ethical conduct in war.

The Geneva Conventions' protections for medical missions remain ethically indispensable in modern conflicts. They reflect a collective moral understanding that care for the wounded, whether combatant or civilian, must transcend the hostilities of war. The persistent violations observed in Ukraine and Gaza highlight the need for renewed commitment to these principles. Upholding IHL in medical operations is not only a legal imperative but an essential affirmation of shared humanity amid the devastation of war.

Far-Forward Oxygen Delivery in Tactical Combat Casualty Care: A New Approach Using Rugged Chemical Oxygen Generation

Mr Alex Charlesworth[1]

1 Owen International Pty Ltd, Artarmon, Australia

Biography:

Alex is a Program Manager at Owen International, with over 20 years of experience in the Australian Defence sector. Originally from the United Kingdom, he holds an Honours degree in Chemistry with Pharmaceutical Chemistry from Heriot-Watt University in Edinburgh. After relocating to Australia, Alex has built a career supporting the delivery of advanced Defence capabilities, transitioning from a background in technical sales to senior program management.

At Owen International, Alex plays a leading role in the delivery of complex systems across major Defence platforms. His recent work includes capability delivery for the Hunter Class Frigates and LHDs, as well as managing ongoing system upgrades across multiple ADF platforms. His experience spans program delivery, stakeholder engagement, and systems integration in high-stakes operational environments.

Alex has deep expertise in life-support technologies, particularly Chemical Oxygen Generators from Molecular Products, where he has supported system specification, compliance, and deployment for military use. His blend of technical acumen and program leadership enables him to navigate the evolving needs of Defence programs with precision and foresight.

He remains focused on enhancing ADF operational capability through innovation and robust delivery frameworks, especially within the SME landscape.

Background

In Tactical Combat Casualty Care (TCCC), the ability to deliver oxygen at the point of injury (POI) is critical to reducing mortality and morbidity. Early oxygen therapy mitigates hypoxaemia—one of the key contributors to preventable battlefield deaths. This is particularly relevant in polytrauma, blast injury, thoracic trauma, and for the up to 80% of Chemical, Biological, Radiological, and Nuclear (CBRN) casualties who benefit from immediate oxygen therapy. Despite this, oxygen delivery in far-forward or austere environments remains limited due to the weight, fragility, and explosive risk of traditional compressed gas cylinders.

Challenge of Conventional Systems
Compressed oxygen cylinders are heavy, require regular inspection and maintenance, and pose logistical challenges in air transport and field resupply. More critically, they are vulnerable to ballistic impact, creating safety risks for medics and patients alike. These limitations have historically precluded their use at the POI, leaving a critical gap in care capability for frontline medics.

Emerging Evidence on Oxygen Therapy
Recent trials and guidelines, including the TRAUMOX2 trial (2023) and updated TCCC Guidelines (2024), reinforce that early, titrated oxygen therapy can significantly improve trauma outcomes. A growing body of evidence advocates for controlled, low-flow oxygen (<6 L/min), which reduces the risk of hyperoxia while conserving limited oxygen supplies—especially relevant in dismounted or prolonged field care scenarios. The emphasis is shifting from high-flow blanket administration to targeted, judicious use based on SpO_2 and clinical status.

The Rugged Oxygen Generator (ROG)
In response to this capability gap, the Rugged Oxygen Generator (ROG) has been developed—a novel, portable, chemical oxygen generator engineered specifically for use in austere and combat environments. Originally adapted from proven naval technology used in submarines and mine rescue chambers, the ROG is designed to provide safe, immediate, and reliable oxygen at the POI.

Each ROG unit delivers ≥96% oxygen at a consistent flow rate of 6 L/min for 15 minutes—enough to bridge critical transport delays or sustain a casualty until advanced care is reached. It is activated by a simple mechanical mechanism, requires no batteries or electronics, and has an extended shelf life with zero maintenance. Critically, unlike pressurised cylinders, the ROG cannot explode or combust when exposed to ballistic or explosive threats.

The ROG has been independently tested to MIL-STD-810G/H standards for environmental and mechanical durability. It remains functional after exposure to shock, vibration, temperature extremes, and projectile impact, making it suitable for carriage in combat medic packs or vehicle IFAKs. At just over 2 kg, it is lightweight and compact enough for dismounted operations.

Operational Advantages
The ROG presents a step-change in oxygen availability in tactical environments, offering:

- Safe storage and use in proximity to munitions or fire
- Shelf-stable and logistically simple deployment
- Compatibility with CBRN protocols and enclosed environments
- No risk of overpressure injuries or equipment failure due to impact

Conclusion
In the golden hour of trauma care, the ability to deliver oxygen safely, immediately, and effectively at the point of injury is now achievable. With the increasing emphasis on conservative, controlled oxygen therapy and the operational demands of expeditionary and peer-threat environments, the ROG provides a practical and scalable solution. By removing the logistical and safety barriers of compressed gas, the ROG empowers medics to deliver life-saving oxygen in places previously thought impossible—whether under fire, in tunnels, or within contaminated zones.

References

- Kirkman et al. (2024) Portable Oxygen Systems in Austere Environments
- The TRAUMOX2 Trial (2023)
- Committee on TCCC Guidelines (2024 Update)

Female Veterans' Perspectives on the Impact of Chronic Pain and Challenges to Obtaining Optimal Health Care.

Dr Rebecca Mellor[1], Ms Kelly Brown[1]

1 Gallipoli Medical Research, Greenslopes, Australia

Biography:

Dr Rebecca Mellor is a Principal Research Fellow at Gallipoli Medical Research, working within the Healthy Veterans Research Program. Her research focuses on improving the health and wellbeing of veterans by identifying and addressing key contributors to disease burden. With a background as a musculoskeletal physiotherapist and a clinician scientist, Dr Mellor brings a strong translational focus to her work. She has previously conducted research at the University of Queensland and the Centre for Military and Veterans Health, and has published over 40 peer-reviewed papers and two book chapters. Her

work is driven by a commitment to promoting holistic, evidence-based approaches to enhance veterans' quality of life.

Since 2011, the number of females in the Australian Defence Force (ADF) has grown substantially. By 2021, women comprised 21.2% of the Regular ADF. Female service members experience a higher rate of injuries than males. Contributing factors include physiological and biomechanical differences, use of equipment tailored to male physiques, heavy load carriage, and female-specific health concerns. Additionally, women in the military face elevated rates of post-traumatic stress disorder (PTSD) and military sexual trauma (MST), associated with more severe pain symptoms. As more women transition into civilian life, a growing cohort will require support for a range of complex, service-related health issues. However, civilian health care providers may not fully understand military culture or specific needs of female veterans. This gap in understanding can lead to suboptimal management of health conditions. Furthermore, both healthcare providers and veterans often lack awareness of the full scope of entitlements available through the Department of Veterans' Affairs (DVA).

This qualitative study explored female veterans' experiences of chronic pain and the challenges they face accessing appropriate care. Conducted through six online and in-person focus groups, the study involved 23 ex-serving female ADF members with chronic pain (mean age 52 years). Participants had served in the Navy (30%), Army (44%), or Air Force (26%) for an average of 6.6 years. Chronic pain duration ranged from 4 to 60 years. Data were thematically analysed using an inductive approach, resulting in four overarching themes: 1) The pain journey, 2) barriers to optimal care, 3) experiences with DVA, and 4) facilitators for better care.

Under Theme 1, participants described how pain can stem from basic training injuries or overuse strain. Causes included using poorly-fitted gear, enduring physically demanding tasks e.g. rucksack marches, and meeting high physical training standards. Many described the profound biopsychosocial impacts of pain, particularly on daily functioning, mental health, and quality of life. Pain interfered with work and day-to-day activities. Comorbidity was highlighted, with several women discussing a vicious cycle in which chronic pain worsened mental health, in turn exacerbating pain. Military culture and perceived societal stigmas also shaped how participants managed their pain. The ingrained "push through" mindset discouraged and stigmatized help-seeking, often delaying diagnosis and intervention.

Theme 2 explores how, when seeking care, many veterans encountered systemic barriers, such as difficulty navigating healthcare systems, difficulty accessing services, and health professionals' lack of understanding of military life and DVA processes. Many were unaware of available DVA-funded treatments and entitlements, as were some providers. Other factors included financial outlay, location, timing factors, poor social support, and the burden of self-advocacy.

Theme 3 describes experiences with DVA. While some shared positive experiences, navigating the DVA system was described as a slow and stressful process. Frustrations arose with time delays, challenges accessing supporting evidence, fighting for condition acceptance and gender bias in policies. Risk of misuse of the system was acknowledged.

Despite these obstacles, participants identified helpful management strategies, and offered suggestions for improving healthcare delivery for female veterans (Theme 4). These included training clinicians in military cultural awareness including female specific risk factors, providing holistic and trauma-informed care, facilitating continuity of care, and increasing awareness of available services.

This study highlights the complex interplay between chronic pain, military service, and gender, and underscores the need for targeted, veteran-informed healthcare approaches. Findings reinforce the importance of improving education for primary care providers, fostering military cultural competence, and addressing systemic barriers to better support the health and wellbeing of female ADF veterans. Recommendations for the development of education materials are presented.

Force Health Protection Health Superiority as a Battlefield Multiplier

WO Lee Matthews[1]

1 *Australian Defence Force School Of Health, Latchford Barracks, Australia*

Biography:

Warrant Officer Class 1 Lee "Snowy" Matthews has served 29 years in the Australian Regular Army. He began as a rifleman with the 5th/7th Battalion, Royal Australian Regiment before transferring to the Royal Australian Army Medical Corps as a Preventive Medicine Technician - motivated by his own experience contracting malaria during a deployment to East Timor.

Throughout his career, WO1 Matthews has delivered force health protection across multiple domestic and international operations. Now posted to the ADF School of Health as the Preventive Medicine Manager, he focuses on developing training that is practical, relevant, and grounded in lived operational experience. His goal is simple: steady, meaningful improvements that keep soldiers safe, healthy, and in the fight.

Imagine a war where the soldiers didn't get sick or injure themselves… In Large Scale Combat Operations (LSCO), where adversaries contest every domain, sustaining combat power demands not only superior trauma care but also rigorous prevention of Disease and Non Battle Injuries (DNBI). The "River Story" parable illustrates the imperative of shifting effort upstream to prevent losses rather than solely downstream rescue. It explores asymmetric healthcare in war—using preventive health as a force multiplier, and examines why commanders often default to treatment emphasis. Key health capabilities for littoral LSCO are identified, with guidance on allocating resources in a preventive-to-reactive care ratio. A hypothetical model quantifies combat effectiveness improvements as DNBI rates drop from the accepted 60% to 30%, detailing potential operational scenarios. The brief concludes by outlining how commanders can harness health protection to give them a competitive edge in achievement of battlefield supremacy.

From Past to Present: How Pre-Service Trauma and Current Cognitive and Behavioural Processes Shape PTSD Risk in Military Personnel

Prof Jennifer Wild[1,2,3], Dr Katrina Moss[1,4], Dr Zoe Jenkins[1], A/Prof Lisa Dell[2]

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2 *Phoenix Australia Posttraumatic Centre for Mental Health, Department of Psychiatry, University of Melbourne, Melbourne, Australia*

3 *Department of Experimental Psychology, University of Oxford, Oxford, United Kingdom, Oxford, United Kingdom*

4 *Australian Women and Girl's Health Research Centre, University of Queensland, Brisbane, Australia*

Biography:

Jennifer Wild is Professor of Military Mental Health at Phoenix Australia, University of Melbourne, the Australian Defence Force, and Visiting Professor of Experimental Psychology at the University of Oxford. Her area of expertise is in developing interventions to prevent the onset and persistence of PTSD and major depression in high risk occupations at risk of trauma, such as military members, and in developing and evaluating evidence-based interventions for anxiety and stress disorders. She is dedicated to improving treatments so they are more precise and effective and reach the people who need them most. She has written over 100 publications and two books, including a recently published popular science book on resilience, Be Extraordinary: 7 Key Skills to Transform Your Life. from Ordinary to Extraordinary. Professor Wild regularly appears in the media giving advice rooted in science for preventing the onset and persistence of trauma-related mental health problems.

Background

Individuals who enter high-risk professions, such as military service, often report histories of trauma exposure, including exposure to childhood trauma. These early traumatic events are associated with increased vulnerability to post-traumatic stress disorder (PTSD) when faced with additional trauma. It is unclear which psychological processes may protect against or increase the risk of developing PTSD when service members encounter new potentially traumatic events. Our study examined how cognitive and behavioural processes, particularly rumination, social support and coping strategies, influence PTSD risk in military recruits with varying levels of pre-service trauma exposure.

Method

Participants were Australian Defence Force (ADF) members recruited between November 2009 and 2016 who were followed for five years as part of the Longitudinal ADF Study Analysing Resilience. 2,456 participants completed questionnaires assessing trauma exposure, PTSD symptoms, rumination, social support, and coping strategies at four time points: after training, and at three annual follow-ups. Pre-service PTEs were categorised as low (0-3 PTEs), high (4+ PTEs), and childhood abuse. We used random-effects logistic regression with predictors entered in sequential steps, beginning with demographics (gender, rank, service), followed by pre-service PTEs, during service PTEs, cognitive-behavioural factors (social support, coping strategies), and finally, cognitive processes (rumination). The study was approved by the Australian Defence Human Research Ethics Committee (protocol number: 556-09).

Results

The model showed the largest improvements in fit with the addition of social support and coping

strategies, and again with the addition of rumination. Exposure to potentially traumatic events during service significantly increased PTSD risk across all pre-service trauma categories. Risk was highest amongst those with pre-service childhood abuse (OR=1.79, 95% CI [1.25, 2.58], p=0.002) and those with 4+ pre-service PTEs (OR=1.51, 95% CI [1.1 7, 1.95], p=0.001). Low to moderate levels of positive social support were associated with significantly increased risk. Risk was also significantly elevated among those who employed few coping strategies or who used avoidance-based coping. Each one-point increase in rumination was associated with 32% higher odds of developing PTSD symptoms. Regarding trauma exposure patterns, service-related traumatic events increased PTSD risk regardless of pre-service trauma history. However, individuals with 4+ pre-service traumatic events showed elevated PTSD risk only when exposed to additional service-related trauma. Those with childhood abuse histories showed elevated PTSD risk even without exposure to trauma during their early years of service. When exposed to traumatic events during service, their risk level was comparable to individuals with high pre-service trauma exposure.

Discussion

The findings suggest three potential vulnerability pathways to probable PTSD symptoms: childhood abuse creates an enduring vulnerability even without additional trauma exposure; multiple pre-service traumas create vulnerability that is activated by service-related trauma; and trauma during service can create risk regardless of pre-service trauma history. Importantly, the substantial improvements in model fit when adding cognitive and behavioural processes suggest that social support, coping strategies and rumination play a significant role in determining PTSD symptom outcomes. Interventions targeting modifiable cognitive and behavioural processes may help to reduce PTSD risk across all groups.

Note: The opinions expressed in this abstract are that of the authors/presenters, and not of the Department of Defence.

Gender Differences in Reintegration and Adjustment to Civilian Life Among Ex-Serving ADF Members

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1 *Gallipoli Medical Research, Greenslope, Australia*

2 *School of Medicine, The University of Queensland, Brisbane, Australia*

3 *School of Public Health and Social Work, Queensland University of Technology, Queensland, Australia*

Biography:

Dr Jie Hu is a Research Fellow at the Gallipoli Medical Research and an Honorary Research Fellow at the University of Queensland. Dr Hu has over 15 years of experience in public health and health services research across academic, community, and government settings in Australia, New Zealand, and China.

Her expertise spans mixed-methods research, systematic reviews, data linkage, statistical and health economic analysis, and program evaluation. She has led and contributed to projects focusing on veteran health, Indigenous health, mental illness, and primary care services, with a strong emphasis on collaborative, culturally sensitive approaches. Dr Hu has authored multiple peer-reviewed publications and regularly presents research findings at academic and community forums. Committed to evidence-informed health policy and practice, Dr Hu's research aims to improve health outcomes for vulnerable populations through rigorous data analysis, stakeholder engagement, and strategic knowledge translation.

Background

A significant number of women have served in the Australian Defence Force (ADF) and transitioned to civilian life, comprising approximately 14% of the total veteran population. While the transition presents challenges for all ex-serving members, female and male veterans may encounter distinct psychosocial and health-related stressors. These differences may stem from variations in military experiences, occupational roles, and broader social expectations. Understanding gender-specific reintegration factors is essential for informing targeted support strategies and enhancing outcomes. This study explores gender differences in reintegration and adjustment among ex-serving ADF members, focusing on psychosocial, physical and mental health challenges.

Methods
This study utilised data from a sample of 724 ex-serving ADF members who completed an online questionnaire capturing demographic and military service details, along with reintegration and transition experiences. Psychosocial adjustment and cultural reintegration challenges were measured using the 21-item Military-Civilian Adjustment and Reintegration Measure (M-CARM), which assesses difficulties across five psychosocial areas: purpose and connection, help seeking, beliefs about civilians, resentment and regret, and regimentation. Physical and mental health were assessed using a range of validated instruments, such as the 21-item Depression Anxiety Stress Scale (DASS-21), the Walter reed functional impairment scale (WRFIS), the World Health Organization Disability Assessment Scale (WHODAS), and the Nightmare Distress Questionnaire (NDQ). Gender differences were analysed using independent t-tests for continuous variables and Chi-squared tests for categorical variables. Multiple logistic regression models were employed to identify associating factors for self-reported reintegration for female and male veterans separately.

Results
Female participants comprised 21.4% of the sample (155 out of 724). Compared to male participants, they were younger (42.4 vs 45.2 years; $p < 0.05$), less likely to be in a marital or de facto relationship (67.7% vs 82.8%; $p < 0.001$) or have children (61.9% vs 79.8%, $p < 0.001$). They also reported shorter service duration (12.5 vs 16.5 years; $p < 0.001$), although time since discharge was similar. Women were less likely to have served in combat roles (51.6% vs 67.8%; $p < 0.001$) and more likely to be medically discharged (43.9% vs 33.2%; $p < 0.05$). Additionally, fewer female veterans served in the Army (47.1% vs 65.2%; $p <0.001$), while more had served in the Navy (32.3% vs 19.7%; $p = 0.001$).

Female participants reported a lower prevalence of sustained injuries and PTSD diagnoses. However, no significant difference was observed in findings from other health and functioning measures. Rates of self-reported successful reintegration rates and perceived difficulty of transition were also similar. Nevertheless, female veterans reported significantly higher total M-CARM scores (mean = 66.8, SD = 17.9) than male veterans (mean = 63.4, SD = 16.5; $p < 0.05$), indicating fewer psychosocial challenges. A smaller proportion of female participants reported difficulties in the beliefs about civilian domain (72.3% vs 81.7%, $p = 0.013$) and the regimentation domain (56.8% vs 69.1%, $p = 0.005$), compared to their male counterparts.

Among both women and men, reintegration were significantly associated with unemployment, a reduced sense of purpose and connection, and challenges related to problematic regimentation behaviours. For women, having been medically discharged was also significantly associated with reintegration challenges. For men, negative beliefs about civilian life and a longer duration since discharge were significantly linked to greater challenges.

Conclusions
This study identified substantial gender differences in demographic characteristics, service experiences, psychosocial challenges during reintegration. While female and male veterans may report similar reintegration success overall, their experiences are shaped by differing factors. These findings underscore the importance of gender-sensitive transition services and support strategies that are tailored to the distinct needs of ex-serving ADF members.

Governance is Not a Dirty Word

LTCOL Tara Miller[1]

1 Department Of Defence, Australia

Biography:

Lieutenant Colonel Tara Miller commissioned into the Royal Australian Army Medical Corps in 2006 as a Pharmaceutical Officer. She has held diverse leadership roles across health, logistics, and operations, including deployments on Operations ACCORDIAN and OKRA. Promoted to Major during her first deployment, she later commanded the 3rd Health Support Company, driving cultural change and leadership development. She has supported major domestic operations including Op BUSHFIRE ASSIST and Op COVID ASSIST, and currently serves in Defence People Group on SERVOP C.

Lieutenant Colonel Miller holds degrees in Pharmacy and Organisational Leadership and is a registered Consultant Pharmacist. Her civilian experience spans logistics, finance, and governance. Promoted to Lieutenant Colonel in 2023, she completed Australian Command and Staff College – Remote the same year.

She is married to Stephen, with whom she shares four children and a lively household of pets. Outside of work, she enjoys reading, dancing, and community engagement, including running a successful non-fiction book club.

Governance is Not a Dirty Word: Enabling Enterprise Mental Health and Wellbeing Through Balance, Communication, and Leadership

In Defence, the promotion of mental health and wellbeing is increasingly recognised as foundational to capability, resilience, and operational readiness. Yet, the governance of wellbeing programs is often misunderstood—seen as bureaucratic overhead rather than a strategic enabler. This presentation reframes governance as a vital tool for delivering enterprise-wide wellbeing initiatives that are effective, inclusive, and aligned to strategic intent.

Governance, in this context, is how we make decisions, stay accountable, and ensure that wellbeing efforts are meaningful, measurable, and people-centred. When done well, governance provides clarity of purpose, supports leadership, and fosters trust across the organisation. It will support the achievement of a wellbeing program that is not just well-intentioned, but well-executed—delivering value for money, confidence in delivery, and outcomes that matter.

We begin by exploring the cost of poor governance in programs and projects. We will present several examples to illustrates how unclear roles, fragmented oversight, and lack of stakeholder engagement led to duplication, disengagement, and missed opportunities to support people – these examples are the Volkswagon emissions scandal and the UK NHS Mid Staffordshire Trust. Without clarity, ownership, and feedback loops, even the most promising initiatives can falter.

Reimagining this scenario with effective governance reveals a different outcome: clear responsibilities, inclusive design, and open communication channels. Adaptive risk management and collaborative leadership transform the initiative into a responsive, trusted program that supports both individual wellbeing and organisational goals. This contrast highlights governance as a mechanism for strategic alignment, transparency, and continuous improvement.

We then explore how governance can act as an enabler—not a blocker—of wellbeing promotion. Good governance connects stakeholders across project, clinical, command, and support domains. It fosters understanding, opens space for innovation, and supports wellbeing initiatives that reflect both strategic priorities and the lived experience of Defence personnel. A case study will demonstrate how governance supports rapid adaptation, morale preservation, change adoption and continuity of support.

Governance also strengthens change management. Models like ADKAR and Kotter gain traction when supported by structured governance. By embedding communication, stakeholder engagement, and people-centred design into governance processes, resistance is reduced and ownership is increased. This is especially critical during wellbeing reforms, capability transitions, or the rollout of new enterprise programs.

However, governance must be proportionate. Over-governance leads to bureaucratic drag, decision paralysis, and disengagement—often referred to as "death by working group." Under-governance results in unclear authority, inconsistent messaging, and risk exposure. Mis-governance—where processes exist only to tick boxes—erodes trust and wastes resources. An example of excessive governance illustrates how well-intentioned oversight became a barrier to meaningful action, adding complexity without value.

We introduce the concept of the "Goldilocks Zone"—governance that is just right. Fit-for-purpose, agile, and accountable governance supports wellbeing promotion, psychological safety, and mission outcomes. It is deliberately designed, continuously improved, and tailored to the environment. Whether at the project or program level, proportionate governance ensures value for money, responsible use of public funds, and alignment with strategic goals. The example we will use of good governance is the Norwegian oil fund.

We conclude with a call to action: challenge the narrative. Governance isn't a dirty word—it's your tool for delivering excellent wellbeing outcomes in an uncertain world. In Defence, where wellbeing underpins capability, governance provides the confidence, clarity, and connection needed to lead effectively and care responsibly.

Implications for Australia of the 2025 Update to NATO STANAG 2939 Minimum Requirements for Blood, Blood Donors and Associated Equipment

Brigadier Michael Reade[1], Mr Paul Naveau[1]

1 Joint Health Command, Canberra, Australia

Biography:

BRIG Michael Reade

Brigadier Reade is an intensive care physician, anaesthetist and clinician scientist, appointed in 2011

as the inaugural Professor of Military Medicine and Surgery at Joint Health Command. From 2015-2018 he was additionally the Director of Clinical Services of the 2nd General Health Battalion, and from 2019-2022 he was Director General Health Reserve - Army. Since 2022 he has been Head of the Greater Brisbane Clinical School of the University of Queensland, overseeing teaching at UQ's 10 Brisbane teaching hospitals, >200 general practices and the university campus. He remains an advisor to Joint Health Command on research and education, represents Australia on the NATO Blood Panel, and Chairs the Five Eyes Science & Technology Collaboration Military Medicine Panel. His research programs cover trauma systems design, blood and fluid resuscitation in trauma, and traumatic brain injury.

Mr Paul Naveau

Paul Naveau is the Director of Health Materiel, Logistics and Pharmacy for Joint Health Command. In that role, held since 2012, he is charged with the delivery and management of health materiel across Defence and is responsible for the engagement with key government agencies and organisations for the delivery of health materiel products and services into Defence.

On 26 February 2025, the North Atlantic Treaty Organisation (NATO) Blood Panel approved the final draft of an update to the 2018 Standardisation Agreement (STANAG) 2939 Minimum Requirements for Blood, Blood Donors and Associated Equipment. Australia, one of five NATO Partner Interoperability Advocacy Group (PIAG) nations, contributed to this update, ensuring congruence with Australian civilian and military requirements. New elements of the updated 2025 STANAG and its Standard Related Document that are particularly relevant to Australia include:

- Definition of three categories of blood for transfusion: Category 1 (obtained from regulated blood suppliers in NATO and PIAG nations); Category 2 (obtained by NATO / PIAG forces in the Area of Operations, using NATO-mandated protocols), and Category 3 (sourced from a host nation, outside the control of a NATO / PIAG military force). Category 3 blood was added to match the new transfusion policy of the Australian National Trauma and Critical Care Response Centre.
- Agreement that if Category 1 blood and blood components are acceptable within the regulatory framework of the supplying nation and the STANAG, they would be acceptable for use by NATO. This overcomes a major barrier to interoperability.
- Requirement to test Category 1 blood for pathogens that match Australian standard practice (i.e. HIV 1/2, Hep B, Hep C), with additional optional testing according to prevalence of disease in specific populations (e.g. addition of West Nile virus, malaria).
- Retention of cryopreserved blood components, with guidance for planners on when these would be preferred to other alternatives, such as the distributed maritime or deployed contingency operations of particular relevance to Australia.
- Definition of Emergency Blood Collection and Contingency Blood Collection within Category 2 blood, with considerations for the establishment and use of an Emergency Donor Pool. Along with these definitions, retirement of the term "walking blood bank".
- Endorsement of technical considerations for testing Category 2 universal donor whole blood, including threshold anti-A and anti-B levels, nature and timing of testing for infection, and use of RhD-positive red cells in females of child-bearing age. Acceptance that Category 2 blood need not be subjected to Nucleic Acid Testing prior to transfusion, which matches current Australian deployed capability.
- Requirements for informed consent from both donor and (where possible) recipient that match civilian Australian criteria.
- Adoption of three types of donor screening questionnaire, to be used in three distinct circumstances: a. Category 1 blood, and establishment of an Emergency Donor Pool in the nation of origin: to use whatever questionnaire is used by national civilian blood services. In many nations, including Australia, these questionnaires have become less risk-averse, e.g. allowing donations from males who have sex with men. The NATO policy endorses these changes in the context of the high-sensitivity testing for transfusion transmitted infection available in the national support base, avoiding the potential problem of military policy conflicting with domestic civilian policy. b. from pre-screened donors immediately prior to donation in the operational environment. This questionnaire asks about current health, and about risks that might have been introduced subsequent to high-sensitivity testing. The additional risk questions (e.g. regarding sexual activity, recent tattoos) are designed to exclude a larger proportion of potential donors, due to the lower sensitivity of deployed testing methods. c. From donors who have not been prescreened.

This questionnaire asks about current health and about lifetime risks that would increase the probability of a potential transfusion-transmitted infection, again noting the lower sensitivity of deployed testing methods.

- A minimum standard training curriculum for personnel collecting, processing and transfusing Category 2 and 3 blood.

The ADF will no doubt wish to consider these policies when revising its own Transfusion Manual.

Invictus: Recovery, Rehabilitation, and Reintegration for Current and Former Serving Personnel through the ADF's Adaptive Sports Program

Mr Brian Heilbronn[1,2]

1 James Cook University, Townsville, Australia,

2 Australian Army, Townsville, Australia

Biography:

Brian Heilbronn is currently the Head of Strength and Conditioning for the Australian Defence Force's Adaptive Sports Program (ASP), a role he has assumed since February 2024 where he has overseen the preparation for the 2024 Warrior Games and 2025 Invictus Games. Brian is also a Lecturer in Exercise and Sport Science and Exercise Physiology at James Cook University and leads JCU's Veterans' Sports Performance Program. With nearly 20 years of service in the Australian Army, Brian has transitioned from a full-time infantry soldier to an active reservist in a specialist officer role, focusing on human performance optimisation. Brian is undertaking a PhD, examining the physiological demands of occupational training in infantry soldiers, in collaboration with the Australian Army. Brian is an accredited ASCA Professional Level 2 coach and TSAC Level 1 trainer, with experience across weightlifting, powerlifting, athletics, NRL match officials, and general, adaptive, and tactical/occupational strength and conditioning, and has delivered presentations at numerous ASCA Coach Accreditation courses both in Australia and internationally.

The Australian Defence Force (ADF) Adaptive Sports Program (ASP) is a multi-sport initiative for wounded, injured, or ill current and former ADF personnel. It features both domestic and international events, with teams for the Invictus Games and Warrior Games selected from ASP participants. The ASP supports recovery, rehabilitation, and reintegration, while promoting lifelong involvement in sport.

Previously the Powerlifting coach for the ASP at the 2017 and 2018 Invictus Games, Brian Heilbronn returned in 2024 as the Head of Strength and Conditioning - A newly created role in the ASP for the 2024 Warrior Games and 2025 Invictus Games campaigns. Drawing on firsthand experience, Brian has witnessed the profound, life-changing impact the ASP has had on athletes he has worked with within the program.

This session will explore the unique challenges faced by the ASP staff in managing highly diverse teams of adaptive athletes, including varying fitness levels and training backgrounds, multiple sport demands, and chronic injuries. Brian will outline how the strategic use of technology, data, athlete education and a multidisciplinary approach created an environment that supported sustainable physical preparation, recovery, and performance. These strategies not only enhanced athletes' health and fitness but also fostered long-term engagement in physical training and healthy lifestyle habits.

By sharing insights from his experiences, Brian will illustrate the powerful role the ASP can play in the recovery, rehabilitation and reintegration of current, transitioning, and former ADF personnel. This presentation is suited for those interested in working with, or participating in, adaptive sports or those seeking to understand how programs like the ASP contribute meaningfully to the broader continuum of care for wounded, injured or ill ADF personnel and veterans.

Leading Minds Left Behind: Why the Mental Health of Leaders Can't be an Afterthought

Dr Kylie Tuppin[1]

1 Private Practice & Australian Army, Australia

Biography:

Kylie Tuppin is a clinical psychologist with a background in military psychology, working in mental health and occupational psychology roles and in capability management. She holds a PhD in Organisational Psychology, and Masters degrees in Clinical Psychology and War Psychiatry. She is the Managing Director of KT Psychology and Consulting, where she works with people managing a wide range of psychological concerns, and consults in psychological selection and personnel management, including leadership and high-performance development. She also holds a strong interest in individual and organisational wellbeing practices. Kylie has served

for more than 25 years in the Australian Army as a psychology officer, and throughout her career has gained expertise in strategic personnel and health policy, recruitment and selection, clinical assessment and counselling, and service delivery management. She has deployed several times in support of military operations to war zones, peacekeeping and disaster responses.

Effective organisational leadership plays a pivotal role in shaping the mental health and wellbeing of individuals and teams, influencing not only psychological outcomes but also performance, cohesion and retention. Leaders set the tone for organisational culture, psychological safety, and the prioritisation (or neglect) of wellbeing initiatives. In high-demand and reactive contexts like the military, where psychological strain is often normalised and operational readiness is paramount, leadership is especially critical. Numerous studies have demonstrated that supportive command environments correlate with reduced incidences of mental illness such as PTSD, increased help-seeking, and stronger unit functioning. Yet, paradoxically, the mental health of leaders themselves is frequently overlooked, despite their central role in both managing the wellbeing of others and ensuring mission success.

This presentation explores the unique psychological demands that can heighten the vulnerability of leadership to mental health challenges, and the impact of these challenges upon their individual performance and the performance of their team. It focuses on the impact of uncontrollable external events on leaders' wellbeing and functioning, even when it does not result in mental illness, through three key parts:

1) Identification of leadership-specific wellbeing factors, spanning organisational demands (such as decisiveness, emotional control, and constant availability) and individual traits (such as environmental mastery), considered within frameworks of resilience and wellbeing from an individual and organisational (military) perspective. The use of performance as a measure of wellbeing is also examined.
2) Presentation of data from a PhD study examining the long-term career trajectories and wellbeing of 1,393 Australian Army officers. The study assessed how operational deployment experiences influenced future promotion recommendation outcomes, with a particular focus on how negative events may impact mental health and in turn their longer-term performance. While overall deployment experience temporarily affected career intentions but not progression, exposure to potentially traumatic events was linked to short-term negative impacts on promotion board outcomes, even in the absence of reported distress at the time of the deployment. This suggests that such events can place a significant amount of pressure on leaders that potentially affects outcomes, even when they maintain positive wellbeing behaviours.
3) A broader discussion of these findings in light of organisational wellbeing frameworks and current mental health policy practices, with implications for how military institutions understand, support and sustain the mental health of their leaders. This is also considered against broader organisational factors such as unit performance. Thus, leader wellbeing is not just an individual consideration, it is a lever for collective good health and high-performing organisational culture. This presentation argues for deeper insight into resilience and coping among leaders, and stronger organisational measures to protect their psychological wellbeing.

Maximising Military Healthcare Capability: Evolving Perioperative Nursing Roles for a Dynamic Future.

LCDR Jen Evans[1], LEUT Cassandra Felsher

1 Navy Health Services, , Australia

Biography:

LCDR Jen Evans; Nursing Officer, RAN. Perioperative Nurse Surgeons Assistant (PNSA) and Perioperative CNS – Cardiothoracics.

**27 years experience perioperative nursing. Main focus is Cardiothoracic Surgery, special interest in Adult Congenital Heart Surgery.*

**2013 qualified PNSA and works as an assistant in Cardiothoracic surgery.*

**2003 joined the RAN as a specialist Nursing Officer. Deployed with the ADF. Most recently deployed to Iraq and involved with the NEO evacuation of Afghanistan. Previously deployed to Afghanistan and Banda Aceh*

**Currently SO2 Nursing (Periop/Medical/Mental Health) NHS SERCAT3-5 command structure.*

Since 2002 volunteered with Open Heart International, completing 36+ trips providing paediatric cardiac surgery to children in Rwanda, PNG, Fiji, Tonga, Vanuatu, Tanzania, Bolivia. A love of working

in austere environments with limited resources, including clinical teaching to non-English speaking health professionals.

LEUT Cassie Felsher RAN - Perioperative Nurse Specialist, Nursing Officer, Perioperative Nurse Surgical Assistant

**10 years experience perioperative nursing, Main focus on General Surgery.*

**2024 qualified PNSA and works as an assistant in General Surgery.*

**2020 joined the RAN full time as a Specialist Nursing Officer and has deployed with the ADF. Most recent deployment to PNG and IPE, HMAS Adelaide. Currently completing consolidation year to develop her as a surgical assistant.*

Background
The aim of this presentation is to explore how the Perioperative Nurse Surgical Assistant (PNSA) role is evolving as an integral role in the civilian setting, and discuss how it will maximise military healthcare capability to meet the increasingly dynamic healthcare demands of the future. In military healthcare, where teams often operate with limited resources in austere and unpredictable conditions, the integration of PNSAs offers a significant opportunity to build a more adaptable and resilient perioperative workforce. Historically, PNSA's have played a role in the military environment during conflicts including World War I & II, Vietnam and Korea. However, due to an extended period of peacetime there has been a loss of institutionalised memory and capability decay of this nursing role.

Context
In the perioperative setting, every team member contributes to the safe and effective delivery of surgical care. Integrating PNSAs who are highly skilled, advanced practice nurses into the operating team provides the opportunity for optimising performance and flexibility. The PNSA has developed specialist skills and expertise proven to provide quality surgical care equivocal to a medical surgical assistant, with the advantage of insights and expertise into the perioperative nurse role. The PNSA has the flexibility to optimise staff workload and resource utilisation as their scope spans the perioperative continuum, including pre-operative assessment, intraoperative surgical assistance, and post-operative wound care.

Impact
The future of military healthcare is dynamic, requiring innovative approaches to maximise existing resources and enhance capability in challenging and continuously evolving environments. Nurses are essential to the functioning of healthcare systems globally, and in the military, they play an equally pivotal role. To meet the demands of this dynamic setting, military nurses must be supported to work at the top of their scope of practice. This will facilitate strengthening and extending the capability and capacity of healthcare delivery in the military environment. PNSAs have demonstrated their ability to enhance operating capability in civilian settings by performing surgical assistant roles traditionally carried out by medical doctors.

Outcome/Significance
Empowering military nurses to adopt advanced practice roles such as the PNSA can directly enhance surgical readiness, support operational effectiveness, and strengthen the overall capability of military health services. Finally, increasing awareness of PNSAs may facilitate the realisation of the benefits associated with their integration into military healthcare capability.

MCAT, MERT, JECC? Developing Platform Agnostic Critical Care Retrieval Training in the ADF

CMDR Scott Squires[1], GCAPT Adam Storey, WCDR Allan Turner

1 RAN, Sydney, Australia

Biography:

CMDR Squires is the DCS of MOHU. He is an Emergency Physician and has deployed extensively to the Middle East and Asia Pacific Region.

GCAPT Storey is the DCS of HSW. He has extensive experience in aviation, hyperbaric and operational medicine. GCAPT Storey is one of the senior instructors on the RAAF MCAT course.

WCDR Turner is presently posted to the RAAF HOCU. He is an Emergency Physician with extensive operational experience and is a senior MCAT instructor

Timely evacuation of casualties is one of key components of battlefield medicine and one of the most challenging, especially in non permissive environments.

In critically unwell patients, damage control resuscitation should occur as far forward as possible and there needs to be a means to be retrieve these casualties to a higher echelon of care.

For such casualties, Retrieval teams should be appropriately trained in both critical care and austere medicine.

At present in the ADF, the RAAF MCAT (Military Critical Care Aeromedical Evacuation Team) Course is the only course which trains and certifies team members to be able to provide a critical care retrieval capability (fixed wing). This is largely for Strategic AE.

There is no equivalent training for Forward or Tactical rotary wing or land based retrieval.

A small number of ADF Medical Officers and Nursing Officers have undertaken Rotary Wing Critical Care training by completing the UK MERT (Medical Emergency Response Team) course and the US JECC (Joint En-route Care Course). There is no ADF certification process for these courses that then leads to a cadre of personnel, unlike MCAT.

This presentation aims to review the requirement for critical care Retrieval in the ADF and explores whether a MCAT model could be applied to rotary wing and land based retrieval training and certification. It further explores the feasibility of such training compared to other models such as MERT and JECC and whether there could be a platform agnostic training model for critical care retrieval in the ADF.

Medical Decision Making in LSCO – Are We Prepared? An Overview of Modern Medical Ethics through a Clausewitzian Lens

MAJ Thomas Patterson[1]

1 ADF, Sydney, Australia

Biography:

MAJ Patterson is a medical officer in the ADF.

The provision of medical care in Large Scale Combat Operations presents myriad ethical dilemmas for both clinicians and commanders, many of which seem to be enduring features of war. At the crux of many of these dilemmas is an inherent friction between the conventional clinician-patient relationship and the overarching military objective. It is therefore an interesting philosophical primer to consider the medical ethical dilemmas inherent in large-scale warfare through the eyes of Clausewitz. This presentation seeks to articulate several enduring ethical dilemmas inherent to large scale combat operations and explores competing ethical scaffolds that may provide guidance to both clinicians and commanders in the future.

Mindfulness-Based Trauma Recovery and Prevention (MB-tr): A Community-Centred Adaptation of MBSR for Veteran Populations

Ms Lisa Brown[1]

1 Frontline Yoga, Coffs Harbour, Australia

Biography:

Lisa is a Registered Psychologist, Senior Yoga Teacher (Yoga Aust), Certified Mindfulness-based Stress Reduction Teacher (Brown University, USA), Insight Dharma Teacher (IMI) and Mindful Self-Compassion facilitator.

She teaches meditation and yoga regularly at Insight Meditation Retreats and as an Adjunct Lecturer at Charles Sturt University taught mindfulness and intensive retreats for post-graduate students.

Since 2008, Lisa has been facilitating Mindfulness-based Stress Reduction (MBSR) programs, the ground-breaking work of Jon Kabat-Zinn and colleagues at the University of Massachusetts Medical School.

In 2020 Lisa and her friend and colleague Kate Duncan adapted MBSR for trauma recovery and prevention for frontline workers (MB-tr) and continue to collaborate with Frontline Yoga delivering grant funded programs in Australia and overseas.

With a strong interest in the conjunction of western science, yoga, buddhadharma and earth-based wisdom traditions in health, prevention, healing and trauma recovery, Lisa has been practising meditation and yoga for more than 25 years.

Lisa also works in private practice in Coffs Harbour NSW and also provides clinical supervision and mentoring.

Originally developed by Professor Jon Kabat-Zinn at the University of Massachusetts Medical School in 1979, Mindfulness-Based Stress Reduction (MBSR) is widely recognised as the gold standard in mindfulness-based interventions. With over four decades of empirical research, MBSR has demonstrated significant benefits in reducing anxiety, stress, and emotional exhaustion, while improving overall wellbeing, self-agency, and quality of life.

Recent years have seen the emergence of trauma-sensitive adaptations of MBSR that respond to the unique needs of populations affected by trauma. Two notable programs developed from this evidence base include:

i) Openground's Mindfulness-Based Stress Reduction–trauma (MBSR-t)

ii) Frontline Yoga's Mindfulness-Based Trauma Recovery and Prevention (MB-tr)

This presentation focuses on MB-tr, a program co-developed in 2020 by Psychologist Lisa Brown and Firefighter Paramedic Kate Duncan, in collaboration with Frontline Yoga. Drawing on both clinical expertise and lived frontline experience, MB-tr integrates the foundational structure of MBSR with key trauma-sensitive adaptations. These include somatic-based yoga, guided relaxation, breathwork, self-compassion practices, and a three-day in-person immersive retreat.

Delivered over eight weeks via Zoom, MB-tr has been supported by government funding and has shown promising outcomes in pilot studies.

Independent research has highlighted statistically significant reductions in mental health symptomology, with average decreases of approximately 40% in both depression and PTSD symptoms. Participants also reported a 38% average increase in overall psychological wellbeing, with self-compassion, mindfulness, and interoceptive awareness all demonstrating substantial gains. Body listening improved by 115%, and trust in bodily signals increased by 77%.

Qualitative feedback reinforces these outcomes, with many participants reporting a transformation from hopelessness and chronic distress to renewed hope and personal agency. MB-tr offers a scalable, community-based intervention for improving mental health among veteran populations.

Future studies are recommended to validate these results with larger sample sizes and longitudinal follow-up.

Monitoring Low Level Blast Exposure to Personnel in Australian Defence Force Training

Dr Kurt Mudie[1], Dr Zoe Jenkins[2], Dr Antony Sutherland[3], WO1 Michael Kitcher[3], LTCOL Jessica Palling[3]

1 *Department Of Defence, Defence Science And Technology Group, Australia*

2 *Australian Department of Defence, Joint Health Command, Defence People Group*

3 *Australian Department of Defence, Australian Army*

Biography:

MAJ Anthony Sutherland MBBS, FRACP (Neurology)

Dr Antony Sutherland is a Cognitive and General Neurologist and Senior Medical Officer in the Australian Army. He works across both civilian and Defence healthcare, with a particular focus on traumatic brain injury, concussion, and the neurological impacts of repetitive low-level blast exposure in military personnel.

Clinically, Dr Sutherland is based in Melbourne, where he manages patients with complex cognitive, behavioural, and neurodegenerative conditions. He is also undertaking a part-time PhD at Monash University investigating the effects of low-level blast overpressure on brain health in Australian Defence Force members.

His research program combines exposure monitoring, neurocognitive assessment, and biomarker analysis, aiming to inform Defence health policy and improve monitoring, prevention, and management strategies for brain injury. This work directly aligns with recommendations from the Royal Commission into Defence and Veteran Suicide, supporting the development of a more comprehensive approach to brain health across the ADF.

Dr Sutherland has published widely in neurology and dementia, and regularly presents at national and international conferences. At AMMA 2025, he will present findings from Phase 1 of the blast overpressure study, the first systematic prospective study of its kind in Australia.

Background

The evidence for long-term health effects associated with repeated low-level blast exposure is emerging but further work is required to enable more definitive findings and recommendations. The magnitude and frequency of low-level blast exposure encountered by ADF personnel during training activities has not been systematically measured and quantified. The aim of this study was to establish an assessment protocol to measure low level blast overpressure exposure in Australian Defence Force (ADF) members during training, and monitor balance, neurocognitive function and acute mental health symptoms.

Methods

20 active duty Australian Defence Force members volunteered to participate over a 12-month training period during which they completed two weapons courses. Subjective blast exposure history was quantified as the Generalised Blast Exposure Value (GBEV) using the Blast Exposure Threshold Survey and in-training blast overpressure exposure

was assessed with BlackBox Biometrics (B3) Blast gauges (BlackBox Biometrics, USA). B3 Blast Gauges were issued to participants to wear on their combat ensemble for the duration of the trial to quantify peak blast overpressure (psi) and positive impulse (psi.ms) for each recorded exposure during training. Blast gauges were in sets of three, worn on the rear of the helmet, top of the shoulder strap of the body armour and front of the body armour. Balance, neurocognitive function, and self-report symptoms (Neurobehavioural Symptom Inventory (NSI), mental health symptoms of depression (Patient Health Questionnaire-9; PHQ-9), anxiety (General Anxiety Disorder Symptoms; GAD-7) and sleep (Pittsburgh Sleep Quality Index)) were collected at baseline, and repeated immediately after the completion of a heavy weapons course and advanced weapons course. A repeated measures ANOVA was used to compare differences in assessments across the three time points. Significance was set a priori at $p < 0.05$ for all statistical analyses.

Results

Subjective blast exposure history was 109,883.55 ± 264,835.49 (range 3658 - 1,186,600) GBEVs. Over the 12-month training period, the majority (93.86%) of peak blast overpressure exposures were below four psi. Over the two day heavy weapons course, trainees were exposed to an average of 4.5 (range 3 - 6) low level blast exposures, with an average peak blast overpressure of 6.55 ± 1.57 (range 1.99 - 13.45) psi, and a total daily positive impulse of 14.25 ± 9.27 (range 5.94 - 45.54) psi.ms. Over the 52 day advanced weapons course, participants were exposed to an average of 88.5 (range 33 - 159) low level blast exposures, with an average peak overpressure of 1.19 ± 1.14 (range 0.43 - 14.86) psi, and a total daily positive impulse of 5.09 ± 6.68 (range 0.14 - 41.19) psi.ms. The trainees demonstrated no change in balance, neurocognitive function or self-report symptoms of mental health over the three time points.

Discussion

Blast exposure was successfully recorded in trainees over a 12-month period. Participants commenced training with a range of cumulative blast exposure history and there was a range of within-trainee exposure to low level blast during training. There were no differences observed in balance, neurocognitive function or self-report mental health symptoms between baseline and post-heavy weapons or advanced weapons training. However, further longitudinal monitoring is necessary to determine cumulative exposures over extended training cycles and to understand any delayed onset of health effects. Larger sample sizes and additional dependent variables such as visual/vestibular assessments and blood and imagining biomarkers are required to investigate potential individual differences from blast exposure.

Moral Injury Skills Training (MIST): Past, Present and Future Dynamics for Addressing the Recommendations of the Royal Commission into Defence and Veteran Suicide

Chaplain (WGCDR) Assoc. Professor Lindsay B. Carey, CSM[1,2], Chaplain (WGCDR) Timothy Hodgson[3,4], WGCDR (Professor) Matthew Bambling[1,4], Dr. Nikki Jamieson[1], Dr. Melissa Bakhurst[4,5], Professor Harold G. Koenig[6]

1 *ADF Mental Health and Well-Being Branch, Canberaa, Australia*

2 *School of Psychology and Public Health, La Trobe University, Melbourne, Australia*

3 *Royal Australain Air Force, Edninburgh, Australia*

4 *University of Queensland, Brisbane, Australia*

5 *Education Directorate, ACT Government, Canberra, Australian*

6 *Department of Psychiatry and Behavioral Sciences, Duke University Health Systems, Durham, USA*

Biography:

Chaplain (WGCDR) Assoc. Professor Lindsay B. Carey, CSM, is Deputy Director of Research with the Directorate of Spiritual Health and Meaning (DSHM) within the ADF Mental Health and Wellbeing Branch. After 30 years of tertiary research and teaching, he is concurrently Associate Professor (Adjunct) with the Palliative Care Unit, La Trobe University, as well as the Institute of Ethics and Society, University of Notre Dame, Sydney, and the School of Sport, Health and Engineering, Victoria University, Melbourne. In 2018, 2019 and 2022, he was recognised as an Australian research 'Field Leader in Humanities' and co-awarded [with CHAP [WGCDR) Dr. Timothy Hodgson], the AMMA 'Weary Dunlop Award' (2019) for research into moral injury. He has served as a reservist chaplain at RAAF Williams, East Sale, Wagga Wagga and was a chaplain on Operation Sumatra Assist at Butterworth, Malaysia. In 2024 he was awarded the Conspicuous Service Medal (2024) for moral injury research and education. He has over 200 publications (articles, chapters and edited books) and is co-founder of the Speech Pathology Australia Palliative Care

Special Interest Group, as well as Senior Education Consultant with Cancer Education, Peter Mac Cancer Centre, Melbourne, Australia.

There is increasing evidence of moral injury and other moral problems being linked with suicidal behaviour (Jamieson et al, 2023; Khan et al, 2023). The Australian Royal Commission into Defence and Veteran Suicide also emphasised the importance of addressing moral injury, making a distinct recommendation for the Australian Defence Force and the Department of Veteran Affairs to "Prevent, minimise and treat Moral Injury" (Recommendation 78; RCDVS, 2024a, 2024b). The Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR] has been amended to include 'Moral Problems' comprising a spectrum of 'moral dilemmas', 'moral distress' and 'moral injury', in order to account for morally injurious experiences affecting veterans that may be relevant for the treatment of moral injury (APA, 2025).

This paper will present some of the key developments regarding moral injury and moral injury research. It will also detail two evaluations of the Moral Injury Skills Training program (MIST), which incorporated the Pastoral Narrative Disclosure (PND) strategy (Hodgson & Carey; 2024; Carey & Hodgson, 2018); both program and strategy were designed to educate, train and support those caring for military personnel and veterans suffering the impact of a moral injurious experience. The MIST program, developed by the ADF Directorate of Spiritual Health and Meaning (DSHM), has now been expanded to include training for community personnel who are likely to engage with veterans. 'Additionally, a number of British military personnel have also participated in the MIST program, which has also recently been presented to the NATO Science and Technology Human Factors and Medicine Program. Two evaluations have been conducted to assess MIST and PND from both military and civilian perspectives (Carey et al., 2023, 2025). The findings highlight the program's value in supporting military and veteran communities, reinforcing the importance of continuing MIST and PND within the ADF, and thus fulfilling the RCDVS recommendations.

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- RCDVS (2024b). 'Moral Injury' (Chapter 21). Health Care for Serving and Ex-Serving Members. Final Report Volume 4 (Part 5). Canberra: Royal Commission into Defence and Veteran Suicide, p. 357-379.

Moral Injury: Addressing Recommendation 78 of the Royal Commission into Defence and Veteran Suicide

Chaplain (COL) Charles Vesely[1] Chaplain (WGCDR) Lindsay B. Carey, WGCDR (Professor) Matthew Bambling, Senior Chaplain Andrew Watters, Dr. Melissa Bakhurst

1 Australian Defence Force, Canberra, Australia

Biography:

Chaplain (Colonel) Charles Vesely, BTh, MMin, Dip PS, Dip IOC, MAIES, MSCA, is the Director of the Directorate of Spiritual Health and Meaning, Mental Health and Wellbeing Branch, Australian Defence Force. CHAP Vesely has over three decades of service in operational pastoral care with fire and emergency services. He has served for 20 years as an Army Chaplain and completed tours of duty in Timor-Leste, Afghanistan, Middle East and Indo-Pacific. CHAP Vesely is a passionate adult educator having held a number of instructional postings, including the Chief Instructor/Commanding Officer of the Australian Defence Force Chaplains College. Prior to pastoral ministry, CHAP Vesely came from a law enforcement background. CHAP Vesely is a minister of the Uniting Church in Australia and a Level 4 (Strategic Leadership) Certified Member of Spiritual Care Australia.

The Royal Commission into Defence and Veteran Suicide (2024a, 2024b) gave clear recommendations to both the Australian Department of Defence and the Department of Veteran's Affairs with regard to Moral Injury: "Prevent, minimise and treat moral injury" (RCDVS, 2024a, RCDVS, 2024b; Recommendation 78). Recommendation 78 was divided into three parts, namely:

(a) implementing education, training and support programs with the explicit objectives of preventing, minimising and treating moral injury

(b) consider using the Moral Injury Outcome Scale [MIOS] or other tools, as the evidence base evolves, to support the early identification and treatment of moral injury.

(c) conducting or commissioning further research to better understand moral injury in the Australian military population.

This paper will present the work of the Directorate of Spiritual Health and Meaning (DSHM; ADF Mental Health and Wellbeing Branch), with regard to the already completed and ongoing strategies for addressing each component of Recommendation 78 as directed by the RCDVS. Overall, the current evidence affirms that the DSHM has been proactive in addressing moral injury within a constantly dynamic environment. Current and future DSHM approaches will be presented to strategically maintain (given appropriate resourcing) all three RCDVS moral injury objectives in collaboration with mental health and allied health practitioners.

Key References

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Operationalising Telemedicine in High-Risk Environments: Lessons from Aspen Medical's Deployments

Ms Laura Malceski[1], Dr Katrina Sanders[2]

1 Aspen Medical, Brisbane, Australia

2 Aspen Medical, Deakin, Australia

Biography:

Dr Katrina Sanders is the Group Chief Medical Officer at Aspen Medical, where she leads strategy, health system management, and governance across global operations. Her career spans the military, government, and private sectors, with expertise in clinical governance, system design, and the delivery of healthcare in challenging environments.

Dr Sanders is a Fellow of the Royal Australian College of General Practitioners and holds a Master of Public Health. She is also a Graduate of the Australian Institute of Company Directors and a Fellow of the Security and Health Executive Leadership Institute.

Her previous roles include Chief Medical Officer for the Australian Federal Police, with responsibility for national and international health services, and Senior Medical Officer in the Australian Army, where she gained extensive experience in military medicine, occupational health, and deployed operations.

Her current work focuses on the integration of virtual models of care into health system design. She contributes to the development of frameworks that support safe, effective, and sustainable healthcare delivery, and serves as Chair and Director on several boards.

Laura Malceski is the Director of Virtual Health at Aspen Medical, where she leads strategic transformation and operational excellence in digital healthcare delivery globally. With over 14 years of healthcare experience, she combines clinical expertise with advanced leadership capabilities to drive innovation in virtual healthcare services.

Ms. Malceski holds a Bachelor of Nursing from the University of Tasmania and is currently completing her Graduate studies in Leadership and Development through the Australian College of Nursing.

In her role, Ms. Malceski drives a virtual-first capability across all programs and business units, ensuring organisational uplift in digital health readiness. She oversees services for key national virtual workforce government infrastructure and has led the stand-up of virtual health services for clients. Her strategic leadership encompasses the integration of digital health platforms, stakeholder engagement with government partners, and maintaining high standards of clinical governance and compliance across virtual services.

Dr. Sanders is renewed for her expertise in strategic healthcare management, particularly in challenging and dynamic environments. She is a Fellow of the Royal Australian College of General Practitioners, has a master's degree in public health and is the recipient of two Australia Day Achievement Medallions in recognition of her contribution to healthcare.

The use of telemedicine has accelerated globally, offering new pathways to deliver care in challenging environments. However, the application of virtual health solutions in high-risk settings presents a unique operational and clinical challenge. This presentation draws upon evidence and lessons learnt from Aspen Medical's deployment of telemedicine in complex and high-risk environments.

Through case study analysis and reflection on operational models, the session explores the practical realities of implementing telemedicine in austere conditions. Unlike traditional in-person clinical deployments, virtual care in these environments requires deliberate planning, robust infrastructure, and tailored governance. The presentation will outline a structured framework for deploying virtual care models in high-risk contexts, highlighting enablers and barriers experienced across multiple deployments.

Key topics include:

- Human Factors and Workforce Readiness: Psychological screening, selection, and training of telehealth personnel, with an emphasis on telephony etiquette, cultural competency, and cognitive load management during prolonged virtual care delivery.
- Safety, Supervision, and Governance: Integration of telemedicine standards, including those outlined by the Australian Digital Health Agency and RACGP, and their adaptation for time-critical, high-risk operational contexts.
- Security and Privacy: Managing cybersecurity risks and protecting sensitive patient data in non-secure environments.
- Clinical Governance Innovations: Use of virtual debriefs, remote team huddles, mandatory check-ins, and wellbeing monitoring to ensure clinical safety, workforce sustainability, and quality assurance.

Evidence will be drawn from Aspen Medical's internal evaluations, clinical outcome data, and aligned literature, including WHO frameworks for digital health in emergencies.

Participants will learn:

- Practical considerations for the safe and effective use of telemedicine in high-risk environments.
- Key governance, workforce, and operational adaptations required to scale virtual care in austere or rapidly changing contexts.
- How national telemedicine standards can be flexibly applied to crisis-response settings.
- A structured approach to planning virtual care deployments that ensures clinical quality, data security, and workforce wellbeing.

This session contributes to the growing evidence base for virtual health in military and humanitarian settings and aims to inform policymakers, clinical leaders, and operational planners tasked with designing rapid, scalable health responses. By examining the interplay between standards, technology, governance, and human factors, this presentation advocates for a more nuanced and evidence-informed approach to telemedicine in high-risk settings.

Optimizing ADF Medical Officer Capability by Reducing Time to Fellowship - An Overview of Progress since Implementation of the PGY3 Year for RACGP Registrars

Dr Andrew Ramage[1]

1 RACGP, Brisbane, Australia

2 RACGP, Brisbane, Australia

Biography:

Dr Andrew Ramage is a GP working in Everton Park, Brisbane. He commenced working full time in civilian General Practice after retiring from the ADF as a Lieutenant Colonel having commenced his career as an infantryman and training as a General Service Officer before being sponsored through the Graduate Medical Scheme. He participated in Army's efforts to improve the progression of ADF Medical Officers through GP Fellowship. He is now supporting ADF GP training through the Royal Australian College of General Practitioners as a Senior Medical Educator in QLD.

General Practice training provides a broad training and experience base from which ADF Medical Officers can launch their careers in support of their respective Services. Fellowship in General Practice is an important milestone for ADF MO career progression and is a mechanism by which Joint Health Command and the Services (Navy, Army and Air Force) can be assured of a consistent, externally validated standard of education and training that provides a consistent baseline of competence and capability within the MO workforce. It also provides a curriculum against which Services and MOs can assess gaps in training for the specific military tasks the MO may need to be employed to perform, such as additional training in trauma and methods of casualty evacuation. Some of these gaps can be reduced in the later stages of Fellowship to RACGP through extended skills placements.

Historically, ADF GP Registrars have experienced delays in training completion due to the competition for time between their Service commitments and the GP training program. It was not unusual for an ADF MO to have training delayed for several years due to Service requirements taking precedence over College training requirements. This often resulted in frustration and disenchantment of ADF MOs and contributed to workforce attrition on completion of Return of Service Obligations (ROSO).

The Australian General Practice training system changed substantially in 2023 with transition from regional training providers to the Colleges (RACGP and ACRRM). Simultaneously, RACGP introduced a new requirement that all ADF Registrars must complete 12 months of civilian General Practice prior to progressing to GP Terms 3 and 4. Around the same time as these changes, there was a revision of ADF MO pay and conditions to modernize the ADF MO pay structure and make it more competitive with civilian remuneration opportunities. One element that changed as part of this review was the approval of a PGY3 clinical development year, allowing 12 months civilian General Placement to be achieved before ADF MOs were required to complete their military training and Return of Service Obligation. The combination of the PGY3 year and 12 months civilian General Practice was expected to facilitate more rapid progression through Fellowship, increase confidence of MOs in the general medical knowledge and skills, and reduce the likelihood of ADF tasks impacting negatively on GP training due to the increased flexibility in placement requirements for GP Terms 3 and 4. Overall, it was thought that the combination of changes in the GP training system, RACGP training requirements and pivotal change in employment conditions would result in an improvement in ADF Medical Capability through better trained MOs and more rapid progression to Fellowship and unsupervised practice in a military context.

This presentation will outline the impact of the changes in RACGP training requirements and implementation of the PGY3 clinical placement year on the progression of ADF MOs through the RACGP Fellowship training program. There will be some commentary on the observations of time to RACGP Fellowship and exam pass rates before and after the constellation of changes that have affected ADF RACGP Registrar training in the past 3 years.

Personalised Virtual Reality Positive Mental Enhancement (VRPME™): An Innovative Solution for Psychological Resilience in Isolated and High-Stress Military Environments. Findings from the Mars Society Arctic Analog Mission

Dr Stephane Verhaeghe[1]

1 *Brain Vector, Sydney, Australia*

2 *University of Adelaide, Adelaide, Australia*

Biography:

Dr. Stephane Verhaeghe's career reflects a rare fusion of precision, innovation, and a deep commitment to solving complex neurological challenges. Beginning as a pilot in the Belgian Air Force, he developed mastery over high-stakes systems and rapid decision-making.

After a few years at the Air Force, he requalified as a medical doctor in Belgium, using his experience as pilot to be part of aeronautic and space medicine research at NASA and CNES. His passion in neuroscience brought him to France for a specialisation as neurologist, conducting pioneering research on Parkinson's disease. This work exposed him to the urgent, unmet needs in underserved populations and sharpened his focus on advancing brain health for those most in need.

In Australia, Dr. Verhaeghe held leadership roles in the pharmaceutical industry, serving as Medical Director for neurological and rare diseases. There, he gained deep expertise in regulatory affairs, clinical trials, and the pathway to market experience that now ensures Brain Vector's solutions are developed with scientific integrity and real-world applicability.

Dr Verhaeghe is just back from a Mars analog mission near the North Pole where he tested Brain Vector technology to analog astronauts exposed to mentally and physically challenging environmental conditions.

Military personnel deployed in extreme, isolated, or high-risk environments, including remote outposts, submarines, forward operating bases, and long-duration flight operations, face elevated risks of psychological stress, loneliness, cognitive fatigue, and compromised wellbeing. As defence operations increasingly require resilience under isolation and uncertainty, innovative, portable interventions are needed to maintain mental health and operational effectiveness.

This study reports on the deployment of the Virtual Reality Positive Mental Enhancement (VRPME™) system during the Mars Society's Arctic Analog Mission, a simulation of Mars exploration on Devon Island designed to study the intertwined biological, psychological, and technical determinants of mission success in extraterrestrial-like conditions. The mission's isolation, environmental harshness, and communication latency make it a powerful analogue for both deep spaceflight and critical military deployments.

VRPME™ is an advanced, lightweight virtual reality intervention built for intensive field use. Its distinguishing feature is deep personalisation: Prior to isolation, each participant helps select and shape the immersive VR content, anchored in their own positive autobiographical memories (e.g., family celebrations, home landscapes, achievements, or specific supportive relationships). The system then delivers these hyper-personal, 2–3-minute multisensory sessions twice daily, designed to rapidly evoke positive affects, counteract stress and rumination, and restore focus, allowing users to reset mentally, even when physically cut off in adverse or monotonous environments.

In a controlled Arctic field study, participants using VRPME™ reported reduced feelings of loneliness and stress, greater emotional stability, and better sleep and cognitive performance. Qualitative feedback highlighted the profound value of personalisation: Users reported a tangible sense of connection, improved morale, and enhanced readiness to meet mission demands, effects not typically observed with generic VR or entertainment media. These data will be compared to control conditions, as measured by validated psychological instruments, cognitive tests, and physiological parameters.

The implications across the defence spectrum are significant. VRPME's portability, minimal logistical footprint, and adaptability support operational integration for soldiers, submariners, aviators, and command staff, as well as clinical and reintegration applications for veterans. By tailoring content uniquely to each individual, VRPME™ offers a scalable, evidence-based platform to mitigate psychological risks wherever personnel are isolated, under pressure, or lacking access to traditional support.

The Mars Society Arctic Analog demonstrates that technologically-enabled, personalised psychological support can be effective, accepted by users, and logistically feasible in the most challenging operational scenarios. VRPME™ stands poised to revolutionise mental resilience strategies across defence, sustaining the human element in the harshest environments on Earth and beyond.

Platelet Transfusions in a Military Context: Current and Emerging Evidence

Dr Elissa Milford[1,2,3,4]

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2 Intensive Care Services, Royal Brisbane and Women's Hospital, Herston, Australia

3 University of Queensland, Brisbane, Australia

4 Monash University, Melbourne, Australia

Biography:

MAJ Milford is an early career clinician researcher. She is a practicing Intensivist, currently working at the Royal Brisbane and Women's Hospital, and is a full-time Intensive Care Specialist in the Australian Army as part of the Australian Defence Force's Medical Specialist Program. Her PhD was on the role of the endothelial glycocalyx in severe trauma, and she is now building a research program that spans the management of severe burns, trauma, blood transfusion, and endothelial dysfunction in critical illness. She also has a strong interest in the design of novel clinical trials and is currently completing a Master's in Biostatistics.

Platelet transfusions are commonly used in civilian practice. However, there are many evidence gaps and limitations of the available products. Currently available platelet products are challenging to supply in military settings.

Platelets intended for transfusion in Australia are currently donated via either apheresis or whole blood methods. The platelets are then suspended in a platelet additive solution, leucoreduced, and stored up to 7 days at 20-24C requiring constant agitation to prevent clumping and activation.

Platelets stored at room temperature have a longer post-transfusion circulating time than platelets stored at refrigerator temperatures (7-9 days vs 1-2 days). However, compared to cold stored (CS) platelets, this comes at the expense of reduced haemostatic function, shorter shelf-life, higher bacterial contamination risks, increased wastage, and reduced availability in rural, remote, and military settings. Room temperature (RT) stored platelets don't regain their full haemostatic function for approximately 24 hours post transfusion, whereas CS platelets have better haemostatic function immediately post transfusion. As the biggest users of platelet transfusions are the haematology and oncology population, and a longer circulating time is the priority for this population, RT platelets have been the sole product available for clinical use for the last ~50 years. There are several clinical trials underway to assess the clinical effectiveness of CS platelets and these may be available in the near future for clinical use.

Cryopreserved platelets can be stored at -80C for greater than 2 years, improving availability and enabling stockpiling. Small clinical trials in cardiac surgery and trauma suggest cryopreserved platelets are non-inferior to liquid-stored platelets, and these may also soon be available for clinical use. Lyophylised platelets offer even greater logistical advantages but are not yet ready for clinical use.

Other considerations include whether to use type-identical, type-compatible, or low-titer incompatible, washed or unwashed, pathogen reduced, and the choice of storage solutions.

The risks of platelet transfusions vary with the product and underlying pathophysiology. They include transfusion related lung injury, allergic and nonhaemolytic febrile reactions, infection from bacterial contamination, and immunologically mediated adverse effects.

The most relevant indications of platelet transfusions in a military context are in the general critically ill population and following traumatic injury.

Thrombocytopenia is common in ICU patients. Approximately 10% receive a platelet transfusion during their admission with the main indication being for prophylaxis, making ICU the second biggest user of platelet transfusions in civilian hospitals. However, observational studies and small clinical trials suggest that platelet transfusions are ineffective at preventing bleeding in this group when used prophylactically and are associated with an increased risk of poor outcomes including mortality, infections, and increased hospital length of stay, even after adjustment for potential confounders.

In trauma, the primary platelet abnormality is dysfunction, not thrombocytopaenia, with different phenotypes depending on the severity of the injury. Minor injuries result in an increased activation of platelets whereas severe injury results in reduced activation and aggregation. The effect of timing and dose of platelet transfusion in trauma is unclear but systematic reviews of trials of blood component ratios and observational studies suggest that there is a mortality benefit of high ratios (~0.6 to 1:1) of platelets to red blood cells, with a signal that the severer the injury, the greater the benefit, and harm in the less severely injured.

There are several recently finished, currently recruiting, and upcoming clinical trials that seek to address some of the evidence gaps in platelet

transfusion. These include the Threshold for Platelets trial, the Cryopreserved Versus Liquid Platelets, and trials of cold-stored platelets.

Preparedness and Resilience: Environmental Surveillance for Biosecurity and the Opportunities of Biomanufacturing

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1 *DST Group, Adelaide, Australia*

2 *SABRE Alliance, Adelaide, Australia*

Biography:

Currently, Craig is Director of SABRE at DST Group, this role involves engagement and the leveraging of capability in the Australian Biotechnology sector and the wider scientific research ecosystem to assist in meeting requirements of the Australia Defence Force. Craig's background is a combination of science and business, where he completed a PhD in biotechnology in 2003, a post-doctoral position in the Department of Clinical Pharmacology at the Flinders Medical Centre, and an MBA in Technology Management.

Craig's other roles at DST have included Director of Science Translation, Director of the Technology Partnerships Office and Program Lead for the Small Business Innovation Research for Defence (SBIRD) program under the Next Generation Technologies Fund.

In a time of unprecedented global challenges, there is a critical need for robust preparedness and resilience mechanisms across Australia's biosecurity ecosystem. This abstract explores the versatile domain of environmental surveillance for biosecurity and threat detection, while highlighting the enhanced capabilities and opportunities presented by biomanufacturing. The convergence of these fields underscores the importance of cross-sector collaboration and the dual-use applications that can drive innovation and Australian national security.

Environmental surveillance serves as a key tool in Australia's biosecurity defence, enabling the early detection of biological threats through a variety of different diagnostic technologies. This proactive approach is critical in identifying potential hazards, ranging from emerging infectious diseases, effects of climate change, or the accidental or intentional release of toxic or pathogenic agents. By implementing a combination of advanced technologies such as genomic sequencing, remote sensing, modelling and data analytics, surveillance systems can provide real-time insights into potential threats which can then lead to timely interventions and mitigation strategies, enabling preparedness and resilience in Australia's national security.

The emergence of biomanufacturing has transformed the landscape of preparedness and resilience. This field manipulates the use of biological systems to produce a wide array of products, including rapid vaccine development, pharmaceuticals, food products and biofuels. The agility and scalability of biomanufacturing processes enable the rapid development and deployment of medical therapeutics in response to emerging health crises. For instance, the rapid development of vaccines during the COVID-19 pandemic is an example of the potential of biomanufacturing to address urgent public health needs. Additionally, the production of biofuels through biomanufacturing offers a sustainable alternative to fossil fuels, or the production of food products contributing to environmental sustainability, and also de-coupling Australia from the vulnerability of reliance of international supply chains.

The coordination of environmental surveillance and biomanufacturing necessitates a collaborative approach that spans across traditional sectoral boundaries. Cross-sector collaboration involves the alignment of objectives and outcomes of government agencies, academic institutions, industry (public and private), and international organisations. This collaborative framework fosters the exchange of knowledge, resources, and expertise, enhancing the ecosystems capability and capacity to respond to opportunities and threats. Additionally, the dual-use nature of technologies in these fields underscores their versatility and potential for broader applications and scale. For example, genomic sequencing technologies used in environmental monitoring can also be applied in personalised medicine or forensics, while biomanufacturing platforms can be adapted for the production of diverse bioproducts.

The interplay between environmental surveillance for biosecurity and the opportunities created by biomanufacturing underscores the importance of preparedness and resilience in the face of evolving global challenges. By embracing cross-sector collaboration and leveraging dual-use applications, we can enhance our ability to detect, respond to, mitigate and exploit biological threats and opportunities. This holistic approach not only safeguards public health and national security but also drives innovation and sustainability, paving the way for a more secure and resilient future.

Prevalence of War-Related Abuses and Mental Health Symptoms in Ukraine Since the Start of the War

Dr Lynn Lieberman Lawry[1], Dr Jana Asher, Olena Nesterova[2], Dr Olga Gvozdetska[2], Kimberly Boua[1], Vivi Mani[3], Kateryna Lund[1], Dr Judy Bass[4], Dr Paul Bolton[4]

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Biography:

Dr Lieberman Lawry is a physician, epidemiologist, and biostatistician with more than three decades of experience in humanitarian aid, disaster response, development, and research. She spent 20 years as faculty at Brigham and Women's Hospital, Harvard Medical School, and concurrently held faculty appointments with the Department of International Health, Bloomberg School of Public Health, Johns Hopkins and Uniformed Services where she is currently a Professor of Preventive Medicine and Biostatistics. She has extensive experience in dozens of countries coordinating the provision of aid, facilitating development, and conducting population-based studies in conflict and post-conflict settings. Her studies elucidate the needs of populations regarding human rights, healthcare access, disease prevalence, mental health and conflict-related sexual violence (CRSV) among many other public health topics - utilizing these data to improve policy to address global health needs in conflict and to better understand community dynamics that lead to insecurity. She developed courses and teaches extensively at USUHS. In addition, she developed interactive courses for international militaries who serve as Peacekeepers about the prevention of sexual exploitation and abuse and CRSV and as global health engagements for security cooperation in the human security space. Her course has been used in 48 countries.

Disclosure
This effort was awarded through contract HU00012420110 and is funded by Combat Casualty Research Program in accordance with Congressional direction to establish medical partnering with Ukraine specified in Sec. 736 NDAA 2023 and Sec. 721 NDAA 2024. The views and conclusions contained herein are those of the author(s) and should not be interpreted as representing the official policies or endorsements, either expressed or implied, of the U.S. Government or The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc.

Background
Following the February 2022 full-scale invasion of Ukraine (UKR), and after more than a decade of war in Eastern Ukraine, reports of war-related abuses are reported by military members and civilians, although anecdotal. There are no prevalence studies to-date and much of the reporting of these abuses are only reported in "occupied territories", although it is well established that abuses increase in war. Without understanding the scope and the scale of the problem, it is impossible to plan for response, mental health support and rehabilitation for those who have suffered war-related abuses. As Ukraine grapples with the need for response and recovery, looking at human security indicators as part of Ukraine's National Action Plan will also lead to a better understanding of the strengths and gaps for post-war relief and recovery.

Objective
The goal of this 24-month study is to obtain nationally representative, population-based quantitative data to characterize the scope and scale of all forms of war-related abuses in Ukraine and mental health symptoms.

Methods
This cross-sectional study using structured interviews and questionnaires, conducted over a 8-week period in May-July 2025 is a complex, six-stage cluster sample of randomly selected household adults >18 years of age in 20 of 24 regions representing 33,000,000 persons in Ukraine. This study, administered by a local Ukrainian research organization, is a collaboration between the Center of Public Health of the Ministry of Health Ukraine and Uniformed Services University of the Health Sciences. Previously developed epidemiological instruments validated to assess war-related abuses were adapted for this study including the Mental Health Assessment Inventory; a Ukrainian validated inventory that includes a symptom assessment major depressive disorder, post-traumatic stress disorder, substance abuse, suicidal ideations and attempts, and traumatic head injury. Quantitative analysis is used to determine the rates and associations of war-related abuses, mental health symptoms and human security indicators.

Results
Of the 4228 respondents sampled, 58% were female with most living in urban and semi-urban settings. Nine percent of the respondents stated they were internally displaced. Respondents are mostly educated and married with 12% of the sample indicating they had military experience. More than seven million persons (22%) have a chronic health condition and 7% or 2.3 million persons reported a disability. More than 4 million persons (14%) have criteria for traumatic brain injury since the start of Russian aggression 2014 to present. Initial, unweighted data show a significant prevalence of mental health symptoms including depression (50%), anxiety (44%), post-traumatic stress disorder (4-8%), and substance abuse (47%). Nineteen percent of substance users stated it was due to war. Suicide attempts (2%) occurred among 660,000 persons in the sample. Agreement for human security indicators that map to the National Action Plan varied by sex. Conflict-related abuses were reported by respondents.

Conclusion
This is the first probability sampled and nationally representative study of mental health symptoms, conflict-related abuses and human security indicators in Ukraine. The knowledge gained from this assessment will provide not only valuable information to the Ukraine Ministry of Health (MoH) to improve the care for survivors of war-related abuses but also provide insights to inform current and future multi-domain medical operations for the U.S., NATO, and Ukraine.

Preventable Tropical Disease Threats in our Region

Dr Rebecca Suhr[1]

1 ADFMIDI, Arana Hills, Australia

Biography:

MAJ Rebecca Suhr is the current Research Medical Officer at the ADF Malaria and Infectious Disease Institute. Coming from a background of Close and General Health within Army, she is focused on communicating current research findings and disease surveillance information to actionable steps for clinicians and health planners.

Which infectious diseases have the potential to impact operational capability in deployed forces in SE Asia and the Pacific? Where are they found, how are they transmitted and what can we do as clinicians and health planners to protect our members and operational capability?

ADFMIDI clinicians will recap relevant preventable tropical disease threats to our forces. Historical example and current epidemiology will be discussed. Transmission routes and disease life cycles will be reviewed to highlight activities of risk and intervention means. Options and evidence for prevention, prophylaxis and/or eradication will discussed, with the aim to spread awareness of how to best protect our forces from these preventable diseases.

Process Evaluation of the University of South Australia's Invictus Pathways Program: The Early Years

Dr Dannielle Post[1], Professor Gaynor Parfitt[1]

1 University Of South Australia, Adelaide, Australia

Biography:

Dr Dannielle Post is an active researcher in the Veteran, First Responder, and Families space and an Executive Committee member of UniSA's Wellbeing for Australian Veterans, Emergency Services (WAVES) Program at UniSA. Experienced in the design, development, implementation, and evaluation of health promotion and behaviour change programs, Dr Post is also the Program Director of UniSA's Bachelor of Health Sciences (Public Health) program, and the Academic Program Coordinator of UniSA's Healthy Choices Community Program. Dr Post has a PhD in Population Health and is a Fellow of the Australian Mental Health Leaders Fellowship Program (2020 cohort).

Introduction
UniSA's Invictus Pathways Program (IPP), part of the Wellbeing for Australian Veterans and Emergency Services (WAVES) Program, is motivated by the spirit of the Invictus Games to mobilise the benefits of sport to aid physical, psychological, and social wellbeing. Originally developed to assist veterans to train for and participate in the Invictus Games in 2018, the scope of the IPP has expanded to support and improve wellbeing and facilitate post-traumatic growth and recovery among participants who are living with physical and mental health conditions.

The IPP component of WAVES is a student-delivered program, with supervised UniSA allied health placement students providing individually tailored, one-to-one training and support to participants.

Evaluation methods
Underpinned by a pragmatic approach, data related to participant and student involvement in the IPP, the number of participant training sessions, session attendance, program activities and events, and program fidelity were compiled from process documentation that had been collected between 2017 and 2020, inclusive.

Additionally, semi-structured interviews were conducted with participants of the IPP, as well as family members and university staff to understand operations of, and satisfaction with, the IPP. Interview data were analysed using reflexive thematic analysis. Coding and themes were developed through combined inductive and deductive analytical approaches.

Results
Between 2017 and 2020, 53 veterans had participated, or were still participating, in the IPP, and 63 allied health students had completed placements as student trainers. Fifty-three individual training sessions were delivered in 2017, increasing to 1,024 in 2020. There was high fidelity for the student-led exercise training aspects of IPP; however, data collection relevant to participants' psychological outcomes, and non-training IPP events and activities did not always occur as intended.

Thematic analysis of the seventy-one semi-structured interviews completed with IPP participants, family members and university staffs identified four higher order themes: Implementation and fidelity of the IPP, Satisfaction with IPP, Areas of IPP requiring improvement and suggestions for change, and Sustainability of the IPP. Satisfaction was generally high for the IPP, although there were factors that negatively impacted the experience for some participants and their family support network. Suggestions for improvement to program components and delivery aspects were made, including, transition approaches and structured ongoing program evaluation, and the precariousness of IPP funding and sustainability was raised as an ongoing concern.

Ongoing evaluation of the Program highlights the need to balance data collection requirements to reflect the impact of the program with the need to ensure limited burden on participants, and participants' reluctance to complete surveys, be involved in data collection, or give consent for use of their data.

Conclusion
The IPP has had a positive impact on the physical and psychological wellbeing of the veterans who participated in its initial stages. The process evaluation indicated that the IPP's physical activity training components were delivered with high fidelity and participant satisfaction, although there are areas that could be improved. Beyond this, there is an evident need to secure funding to support the sustainability of the IPP. Ongoing evaluation and program refinement continues as a means of supporting the wellbeing of veterans living with physical and mental health conditions, and their families; however, this is counterbalanced by the need to be mindful of participant burden and aversion to participate in data collection or provide consent to share data with evaluators.

Prolonged Forward Care - What Does This Mean and What Does It Look Like?

CDRE Anthony Holley[1]

1 Australian Defence Force, Brisbane, Australia

Biography:

Commodore Anthony Holley AM, RAN

BSc. MBBCh. DipPaeds. DipDHM. FACEM. FCICM, AFRACMA

Commodore Holley is a dual qualified Emergency Physician and Intensivist at the Royal Brisbane and Women's Hospital.

He is currently serving as the Principal Consultant Trauma to the SGADF.

CDRE Holley is an Associate Professor with the University of Queensland Medical School. He is a former ANZICS President (2019-22). During his tenure as President, he guided the critical care multidisciplinary professionals through the COVID-19 pandemic. He is a former examiner for the Fellowship of the College of Intensive Care Medicine of Australia and New Zealand. CDRE Holley has authored twelve book chapters, 58 peer reviewed publications. He is a senior Instructor for BASIC and an EMST course director. He is also a director of the Current Concepts in Critical Care course. CDRE Holley serves as a critical care representative for the Australian National Blood Authority in developing the Australian Patient Blood Management Guidelines. He has deployed on active service on multiple occasions, including two tours to Afghanistan, the Persian Gulf (HMAS Toowoomba), border protection, four tours to Iraq, Bushfire assist 2019/20 and as the Senior Medical Officer for the Operation COVID Assist Joint Task Group 629.3.

Prolonged Forward Care (PFC) incorporates best practices of traditional hospital-based management of serious casualties, designed to decrease both

mortality and morbidity in austere, prehospital operational settings, where ideal evacuation time is compromised. Military Medical Care Providers have a responsibility to plan, train and be prepared to modify the traditional paradigm.

In 2008, the US Secretary of Defence issued a directive that all military medical evacuation to forward surgical facilities must occur within a one-hour period. This initiative resulted in a reduction in time to surgery and was associated with a significant reduction in mortality. This strategy however, assumes evacuation within a short time frame is feasible. There are potentially multiple factors that may negatively influence the ability to effect an early evacuation – weather, distance and the combat environment. The operational situation, is changing and the multi-domain battlefield of the future, will not always offer optimal casualty care scenarios. There is a requirement to acknowledge that medical providers can no longer rely on the "Golden Hour" concept for presurgical care. The imperative may be to deliver care for days rather than hours, in a forward location. Long evacuation times to damage-control surgical capabilities will increase the need for medical personnel and en-route care providers to deliver prolonged advanced emergency medical care as close to the front as possible.

PFC is not intended as a replacement for a critical care or surgical teams, but rather as a model that enables medical care providers to deliver austere critical care far forward, to the best of their abilities, with inevitably limited resources.

The delivery of PFC mandates advanced training models to concentrate on the principle causes of preventable battlefield mortality- exsanguination, airway compromise and pneumothoraxes. While therapeutic approaches to these conditions are already in place, there is a requirement to drive the required skills to the lowest possible level- the notion of "top of scope of practice". PFC also mandates the early delivery of blood and blood component therapy and effective use of remote health expertise via strategies such as telehealth. While the traditional model of care delivery across the echelons of patient care remains the gold standard, there is a requirement to re-engineer the delivery of sophisticated care. The development, preparation and training of small footprint surgical teams designed to function in the forward environment for protracted periods becomes an imperative.

Research and development of knowledge and material solutions is required to close these capability gaps and assure command of the best possible care delivery for soldiers, sailors and aviators.

Psychedelic-Assisted Therapy for Veterans: A Novel Approach to Healing Trauma Through Structured Retreat Programs

Dr Aileen Alegado[1]

1 *Mindset Consulting Psychology, Sydney, Australia*

2 *Evolution Medicine Enhanced Therapy, Northern Beaches Hospital clinic, Frenchs Forest, 2086*

Biography:

Dr. Aileen Alegado is a clinical psychologist and Director of Mindset Consulting, a boutique private practice in Sydney CBD with over 15 years of experience specializing in mental health treatments and complex psychological presentations.

In her practice, she works with veterans as well as high achievers dealing with burnout, relationship issues, trauma, and stress. She also serves as a consultant clinician at Evolution Medicine Enhanced Therapy (MET) clinic at Northern Beaches Hospital, providing psychedelic-assisted therapy for PTSD and treatment-resistant Depression.

She is the founder of Envision Wellness Retreats, pioneering immersive therapeutic programs that integrate evidence-based psychological approaches with holistic practices in retreat settings. Dr Alegado combines expertise in Schema Therapy, CBT, and ACT with a neuroscience-informed approach to trauma healing. Her background in neuropsychological assessment enhances her understanding of trauma's impact on cognitive and emotional functioning. This year she's offering Australia's first 'overground' psilocybin-assisted wellness retreats in Portugal, focusing on creating meaningful and transformative experiences.Throughout her diverse professional endeavors, she maintains a commitment to ethical, evidence-based practice while embracing innovations that expand the possibilities for healing and human flourishing.

Her presentation draws from her specialized training, clinical experience, and innovative approach to retreat-based therapy programs designed specifically for trauma recovery

The global burden of mental health conditions among military veterans continues to present significant challenges to healthcare systems. Despite advances in conventional treatments, many veterans suffering from post-traumatic stress disorder (PTSD), depression, and substance use disorders experience limited relief. This presentation examines the emerging research on psychedelic-assisted therapy as a promising intervention for treatment-resistant

conditions in the veteran population, with a specific focus on developing safe, legal, and therapeutically sound retreat programs.

Psychedelic medicines, including psilocybin, MDMA, and ketamine, have a complex history in psychiatric treatment dating back to the 1950s. After decades of prohibition, rigorous contemporary research has demonstrated remarkable efficacy for these substances when administered in carefully controlled therapeutic settings. Phase 3 clinical trials of MDMA-assisted therapy have shown 67-88% response rates for chronic PTSD, while psilocybin has demonstrated significant anti-depressant effects with sustained benefits. Recent studies specifically focused on veterans have shown that psychedelic therapy can reduce suicidality, improve quality of life, and facilitate post-traumatic growth.

The presentation will review key findings from international research centres, including the ongoing work at Johns Hopkins, Imperial College London, and the Multidisciplinary Association for Psychedelic Studies (MAPS). Emphasis will be placed on the neurobiological mechanisms of these treatments, which appear to enhance neuroplasticity and facilitate the processing of traumatic memories through modulation of both the default mode network and emotional processing centers of the brain.

Building upon this foundation, the presentation proposes a comprehensive model for psychedelic therapy retreats that can be specifically designed for veterans. This model addresses the unique challenges of the Australian regulatory landscape while leveraging recent policy shifts that have created pathways for legal access to certain psychedelic medicines for treatment-resistant conditions.

The proposed retreat format integrates evidence-based protocols with holistic wellness approaches, including:

1. Careful medical and psychological screening to ensure safety and appropriateness
2. Preparation sessions focusing on intention setting and therapeutic rapport
3. Medically supervised psychedelic sessions with qualified mental health professionals
4. Structured integration sessions to process insights and experiences
5. Community-building elements that address the isolation often experienced by veterans
6. Long-term follow-up care and connection to ongoing resources

The presentation will detail practical considerations for implementation, including clinician training requirements, risk management strategies, and ethical frameworks to guide practice. Additionally, it will address potential concerns from the military medicine community and present strategies for building collaborative relationships with existing veteran support services.

As Australia moves toward regulated use of psychedelic medicines for mental health treatment, there exists a unique opportunity to develop specialized services for the veteran community. This presentation argues that retreat-based models offer advantages over traditional outpatient approaches by providing immersive healing environments, peer support, and comprehensive care integration - all factors that align with the specific needs of the veteran population.

The conclusion will emphasize the importance of rigorous evaluation of these novel treatment approaches, proposing metrics for measuring outcomes and mechanisms for continuous improvement of psychedelic therapy protocols for veterans. By combining cutting-edge neuroscience with compassionate, whole-person care, psychedelic-assisted therapy retreats represent a promising frontier in addressing the complex mental health needs of those who have served.

Psychosocial outcomes for Australian Defence Force veterans and family members during military to civilian transition: Insights from the *Families in Transition* study

Ms Amber B. Cohen[1,2], Dr Emina Prguda[2], Emeritus Professor Justin Kenardy[1,2], Professor Nicola T. Fear[1,3], Dr Andre Tan[1,2], Dr Michael Lam[2,4], Dr Camila Guindalini[1], Dr Mark Westby[1], & A/Professor Miranda Van Hooff[1]

1 *Gallipoli Medical Research, Brisbane, Queensland Australia*

2 *The University of Queensland, Brisbane Queensland, Australia*

3 *King's College London, London, United Kingdom*

4 *Queensland Centre for Mental Health Research, Brisbane Queensland, Australia*

Biography:

Ms Amber Cohen is a Research Coordinator with Gallipoli Medical Research's Department of Veteran Mental Health and an Adjunct Fellow with The University of Queensland's Faculty of Health, Medicine and Behavioural Sciences. With qualifications in psychological science and criminology, Ms Cohen is skilled in applied quantitative and qualitative research methodologies and has a keen interest in mental health. At Gallipoli Medical Research, Ms Cohen is involved in research investigating psychosocial outcomes during the military to civilian transition, the impacts of military service on family members' wellbeing, and trauma-related nightmare distress in veterans with posttraumatic stress. With lived experience as the family member of current and ex-serving Australian Defence Force personnel, Ms Cohen proudly contributes to high-impact research that delivers meaningful support to Australia's military and veteran community.

Background

Military to civilian transition involves various psychosocial changes, which can present challenges for Defence Force personnel reintegrating into civilian life. While emerging research acknowledges that transition-related challenges can extend to veterans' families, family members' unique perspectives remain underrepresented in research and service provision. Improving health and wellbeing outcomes for the entire family is crucial for developing supports that address dynamic needs during transition. We aim to explore key risk and protective factors for transitioning Australian Defence Force (ADF) families using preliminary data from the Families in Transition study.

Method

As of June 2025, a multi-perspective online survey was completed by 110 family members (27 parents [M_{age} = 63.07 years, SD = 6.25], 74 partners [M_{age} = 47.19 years, SD = 10.37], and nine adolescent children aged 12 to 18 years [M_{age} = 14.78 years, SD = 1.99]) of transitioning current and ex-serving ADF members as well as 82 veterans (M_{age} = 47.40 years, SD = 12.80) who transitioned within the last 10 years. Overall, 63.4% of veterans were male, while most parents (96.3%), partners (95.9%) and adolescents (77.8%) were female. 16.4% of family members reported on current serving and 83.6% reported on ex-serving ADF members. Veterans had an average service length of 20.16 years across the Navy (25.6%), Army (46.3%) and Air Force (32.9%). Participants completed measures of mental health (DASS-21/Y), family functioning (FAD-GF), and protective factors (PFRS).

Results

Veterans reported moderate to severe depression (37.8% scoring above DASS cut-offs), anxiety (41.5%), and stress (39.0%). Among family members, parents reported highest rates of moderate to severe depression (37.0%) and anxiety (25.9%), while more partners (24.3%) and adolescents (44.4%) reported stress in this range. Only stress differed significantly across cohorts (p = .001, η^2_p = .079), with veterans scoring significantly higher than parents (p = .036), and adolescents scoring significantly higher than parents (p = .003) and partners (p = .026). Unhealthy family functioning was reported by 54.9% of veterans and 43.6% of family members. Family functioning, irrespective of cohort (veteran or family member), was significantly related to mental health (p < .001, η^2_p = .099). Specifically, unhealthy family functioning was associated with higher depression (p < .001, η^2_p = .098), anxiety (p < .001, η^2_p = .057), and stress (p = .002, η^2_p = .051).

Protective factors for resilience were significantly associated with psychological wellbeing (p < .001, η^2_p = .322), specifically lower depression (p < .001, η^2_p = .321), anxiety (p < .001, η^2_p = .163), and stress (p < .001, η^2_p = .175). Stratified analyses by family member type (excluding adolescents due to sample size) identified cohort-specific protective factors. Personal resources were strongly associated with reduced psychological distress in veterans (p < .001, η^2_p = .313), including depression (p < .001, η^2_p = .299), anxiety (p = .004, η^2_p = .100), and stress (p = .006, η^2_p = .092). For parents, personal resources (p = .004, η^2_p = .463) and family resources (p = .020, η^2_p = .369) showed significant multivariate associations with mental health; however, only personal resources had a significant univariate relationship with anxiety (p = .024, η^2_p = .202) and stress (p = .004, η^2_p = .314). For partners, peer resources were significantly associated with mental health (p = .004, η^2_p = .175) specifically lower depression (p = .029, η^2_p = .066) and stress (p = .032, η^2_p = .064).

Conclusion

These findings support the need for tailored resources that holistically support transitioning families while leveraging each family member's unique strengths. There is potential to address unhealthy family functioning and strengthen personal and social protective factors to improve psychosocial outcomes during and post transition.

Rapid Extrication of Poly-Trauma Patients from Military Armored Vehicles: An Inter-Agency Trial of Lessons Learned

Mr Robert Curtis[1]

1 1 Health Battalion, GREENWOOD, Australia

Biography:

Rob Curtis joined the Royal Australian Army Reserve in 2021 as a Combat Paramedic, inspired by the Australian Defence Force's critical role during the 2019 bushfires and flood emergencies in North-Western Australia. In 2024, he received the CF Marks Award for "clinical and soldiering excellence, capability improvement initiatives, and outstanding contribution to the RAAMC."

He is currently employed as a Clinical Lead Paramedic with St John WA (SJA). Since joining SJA in 2015, Rob has held multiple leadership and instructional roles, including District Manager, Paramedic Training Officer, Station Manager, and on-road mentor for new Ambulance Officers and paramedicine students.

Rob holds a Bachelor of Science (Paramedicine) from Curtin University (2019). His professional interests extend beyond emergency pre-hospital care to include occupational health and safety, with a focus on manual handling and injury prevention. He later completed a Diploma in Occupational Health and Safety, specialising in musculoskeletal biomechanics. Rob has led several manual handling initiatives at St John WA and was instrumental in developing a training program aimed at reducing physical injuries during patient movement.

Outside of work, Rob is recently married to his wife Melissa and is a proud father to two young children—Jasmine (6) and James (4)

Background

Epidemiological data from modern conflict zones indicate that 87.3% of trauma-related fatalities occur prior to arrival at a facility capable of delivering damage control resuscitation (Eastridge et al., 2012). Of these deaths, over 25% are classified as potentially survivable (Furlan, Gulasingam & Craven., 2019; Shenoy & Kim, 2013), yet patients often fail to reach definitive surgical care due to delays in extrication and evacuation.

Despite the critical importance of timely access to surgical intervention, innovation in casualty extrication techniques—particularly in the pre-hospital tactical environment—remains limited. This study presents two novel methods for the rapid extrication of polytrauma casualties from Protected Mobility Vehicles – Medium (PMV-M) in scenarios involving inoperable rear door access, typically resulting from improvised explosive device (IED), mine strikes, or obstruction. The goal is to reduce pre-hospital time, improve clinical outcomes and reduce the incidence of musculoskeletal disorders (MSD) among rescue personnel to maintain capability and combat readiness.

We collaborated with Special Operations Paramedics from St John Ambulance WA to develop new armoured vehicle extrication methods, drawing on current best practice and a comprehensive literature review including the UK's EXIT Project. This project emphasised rapid extrication and transport of poly-trauma patients over strict C-spine immobilisation to reduce preventable deaths (Nutbeam et al., 2021; Nutbeam et al., 2022). Together, we developed and trialled techniques that balance speed, safe airway management, acceptable C-spine protection, and the safety of both casualties and rescuers (Nutbeam et al., 2022; Chatfield-Ball et al., 2015).

Methods

This study evaluated the feasibility and efficacy of adapting a civilian-derived technique that uses lightweight, low-cost "Rigging Straps"—referred to here as Patient Lifting Straps (PLS)—currently employed by Special Operations Paramedics and Firefighter Urban Search and Rescue teams. The technique facilitates rapid vertical casualty extraction through the gunner's hatch when rear vehicle access is compromised.

Australian Defence Force (ADF) pre-hospital clinicians—including Medical Technicians and Combat Paramedics—were timed while performing extrications using two methods: the standard Kendrick Extrication Device (KED) and the proposed PLS technique. The primary outcome measured was the time taken to complete the extrication—from the driver's seat to achieving full patient access on the vehicle roof.

The second method involved the removal of the ballistic windscreen to facilitate casualty egress in cases of confirmed neurological deficit. While more time-consuming, this approach enables complete spinal immobilisation and may be appropriate in select clinical scenarios.

Results

The PLS-based method demonstrated a consistent and statistically significant reduction in extrication time, with an average time saving exceeding 5 minutes per serial compared to the KED approach. In multi-casualty vehicle incidents, these efficiency gains

compound and offer a substantial reduction in time spent in the pre-hospital phase, and subsequently could reduce morbidity and mortality by expediting access to advanced surgical care.

Moreover, the PLS technique offered improved ergonomic conditions for rescuers, particularly during vertical extrication via the gunner's hatch, due to enhanced leverage, extended strap length, and optimised rescuer body mechanics.

The versatility of the PLS system would also allow seamless integration into the TCCC continuum, enhancing rapid patient movement while improving survivability and section lethality during tactical extractions.

Conclusion
Based on these findings and with the endorsement of the St John Ambulance WA Special Operations Division, we recommend establishing a formal, evidence-informed extrication project to explore adapting these methods across the ADF vehicle fleet.

By reducing pre-hospital time intervals, enhancing rescuer safety, and maintaining tactical effectiveness, the proposed approach offers a low-cost, high-impact solution to improve survivability in complex battlefield environments.

This project should incorporate modern civilian extrication methodologies and focus on armoured vehicle platforms currently in ADF service. This crucial collaboration with civilian SME's underscores the ADF's strategic goal of 'Shaping the Strategic Environment' and addressing 'Military Healthcare in a Dynamic Environment'.

Rapid Medical Supply Delivery

Dr Joni Sytsma[2], Professor Pauline Pounds[3], Mrs Amany Wahba[1]

1 *Saab Australia Pty Ltd, Mawson Lakes, Australia*
2 *Outer Loop Engineering, Brisbane, Australia*
3 *University of Queensland, Brisbane, Australia*

Biography:

Dr. Joni Sytsma is an experienced aerospace engineer and innovative leader who transitioned from the USA to become an Australian citizen in 2022. With a comprehensive academic background, holding a B.S., M.S., and Ph.D. in Aerospace Engineering from the University of Florida, she has dedicated over 18 years to advancing aerospace technologies.

Her career includes significant contributions at the United States Air Force Research Laboratory, where she developed early weaponized drone systems and worked on hypersonics.

In Australia, Joni has held key technology leadership roles at Gilmour Space Technologies, developing software for space rockets, and at the counter-drone company Department 13. Currently, as the Chief Executive Officer at Outer Loop Engineering, Joni leads the technological advancements for a range of drone projects set to take flight in the coming months. Her extensive experience in research, development, and commercialization of complex aerospace systems uniquely positions her to navigate the intersection of hardware, software, and physics to create impactful solutions.

Beyond her technical expertise, Joni is also a strong advocate for diversity in aerospace and the application of advanced manufacturing techniques.

The critical need for immediate access to lifesaving pharmaceuticals and blood products at the Point Of Injury (POI) in defence operations is a well-established challenge. Current reliance on the 'Cold Chain' logistics model, utilising portable refrigerators through transport, introduces significant time delays in delivering these essential resources. This often necessitates transporting casualties to established forward medical facilities, impacting survival rates, treatment efficacy, and recovery times. The staged deployment from Brigade Support Platoons to forward surgical teams, while necessary, further compounds these delays, particularly in reaching the isolated medic treating the initial trauma. While resupply to close health facilities is manageable, the timely delivery to the POI remains a bottleneck, often reliant on aircraft availability or small refrigerated units on ambulances. This highlights a crucial opportunity to minimise the time between injury and the delivery of critical medical interventions, potentially reducing the logistical footprint of forward elements and expanding their access to a wider array of treatments on demand.

Addressing this critical gap, dedicated researchers at the University of Queensland (UQ), in collaboration with Outer Loop Engineering (OLE) and defence prime and sovereign systems integrator Saab Australia, are developing a high-speed drone based on OLE's innovative electric missile technology. This project directly tackles the challenge of ultra-rapid delivery, aiming for a 72-second transit time to a POI located 5 km away. The core focus is the immediate delivery of temperature-sensitive medical supplies, with the ambitious goal of minimising or eliminating the need for traditional cold-chain management for these critical initial response windows. OLE is manufacturing the high-speed drone and working

closely with Saab Australia to ensure seamless integration of a temperature-managed payload bay and secure, rapid deployment mechanisms for blood and pharmaceutical delivery systems. Concurrently, UQ researchers are developing advanced flight control algorithms to guarantee the speed, accuracy, and reliability of these time-critical missions. Initial investigations are also exploring the feasibility and impact of extending the drone's operational range to 30 km and beyond, further amplifying its potential to revolutionise battlefield medical logistics. This novel tube-launched, high-speed drone delivery system offers a solution to the enduring challenge of timely medical resupply at the most critical point of need, promising to significantly enhance the survivability of personnel in high-threat environments.

Repeated Exposure to Low Level Blast: Review of the Current Understanding of Associated Neuropathology, Cognitive Effects, Strength of Evidence for Longer Term Health Effects and the Defence Approach to Management

Dr Catherine Kelaher[1], BRIG Damien McLachlan

1 Joint Health Command, Campbell Park, Australia

Biography:

Dr Cath Kelaher is the Senior Medical Advisor in Occupational Medicine at Joint Health Command. She is a consultant occupational and environmental physician with extensive experience advising Defence and government on risk management of occupational exposures and management of complex health issues.

Her recent work has focused on evaluating the evidence base for low level blast (LLB) exposure and its potential acute and long term health effects in military settings. Dr Kelaher brings a multidisciplinary lens to the emerging science around LLB, bridging clinical, regulatory, and systems-level perspectives.

Dr Kelaher is a member of the Australasian Faculty of Occupational and Environmental Medicine (AFOEM) and an advocate for evidence-based practice and precautionary health policy in Defence and the Australian New Zealand Society of Occupational Medicine (ANZSOM) and EnHealth.

Brigadier McLachlan joined the Army in 1992. He has a broad experience in command, engineering and staff appointment across Defence. Brigadier McLachlan has a Bachelor of Science with Honours from Monash University, a Bachelor of Engineering with Honours and a Masters of Systems Engineering from the University of New South Wales.

Brigadier McLachlan is the inaugural Director General Landworthiness. The remit of the Branch includes Work Health and Safety – Army, the Land Test and Evaluation Agency, the Directorate of Engineering – Army, Directorate of Landworthiness Support and the newly formed Land Accident Investigations Bureau.

In 2024, he was asked by Chief of Army to lead the response to the Royal Commission in Defence and Veterans Suicide 'recommendation 61 – establish a brain injury program'.

Blast injuries were considered the 'signature' injury of the Middle East Are of Operations. There has been extensive research into high level blast exposure and the associated health effects have been well characterised. Repeated exposure to lower level blast is increasingly being recognised as an occupational hazard of concern in military environments.

Unlike high level blast, where exposure is limited largely to the operational space, repeated exposure to low level blast (rLBB) is a very common exposure in training environments and may result from an array of training activities including breaching activities, small arms fire, or mortar and artillery emissions. Repeated exposure to low level blast has been found to cause transient cognitive changes that may affect safety and function and there is concern that exposure rLBB may contribute to longer term changes in cognition.

This issue was highlighted by the Royal Commission into Defence and Veterans Suicide and Recommendation 61 of the Final report recommended the establishment of a brain injury program in order to improve our understanding of rLBB exposure, of the potential associated health effects, and which also improves our ability to identify, assess and manage neurocognitive issues.

This presentation will introduce the topic and explore the current state of evidence regarding rLBB in terms of the underlying neuropathology, and the acute and long term health effects. It will highlight the current issues and gaps in the research. It will also discuss Defence activity to improve our understanding of rLBB exposure, manage risk and minimise exposure to best protect our members.

Resilient Healthcare – Minimum Viable Capability in Clinical Governance

AIRCDRE Andrew Johnson[1], GPCAPT Joleen Darby

1 *Joint Health Command, Canberra, Australia*

Biography:

Currently serving as a Director within the Office of the Deputy Surgeon General, Joint Health Command. GPCAPT Darby is involved in projects relating to clinical governance reform and the new Health Knowledge Management system (HKM). Previously, GPCAPT Darby held prominent roles including Chief of Aeromedical Evacuations, Commanding Officer of the Institute of Aviation Medicine (IAM).

AIRCDRE Johnson is currently serving (SERCAT5) in Joint Health Command as Principal Consultant to the Surgeon General of the ADF for Force Health Protection. He is leading the Review of Clinical Governance in the ADF – Project Best. Previously, AIRCDRE Johnson has served in senior roles in Queensland Health, NSW Health and the private hospital system. He is an Honorary Professor at Macquarie University, and formerly a full Professor at James Cook University. He is a Distinguished Fellow of the Royal Australasian College of Medical Administrators (RACMA) and has chaired or been a member of several statewide and national Boards and Committees. AIRCDRE Johnson has published several book chapters and peer reviewed articles and presented at dozens of national and international meetings and conferences.

Background/context

We live and work in an increasingly complex and dynamic global strategic environment, requiring greater agility and preparedness from Defence Forces. Ensuring that the Australian Defence Force has a high quality, effective, and resilient health system is essential to support Defence's mission in defending Australia and its national interests.

Objective/purpose

Clinical governance is central to providing the best outcomes for patients. It is the combination of culture, systems and processes that enables everyone in a health service to deliver care that is consistently high quality and improving.

It is the system by which boards, executives, clinical leaders and the workforce are accountable to patients and the community for providing high-quality care – care that is person-centred, safe, effective, accessible and integrated, in a health system that is equitable, efficient and sustainable. (Australian Commission on Safety and Quality in Healthcare 2025)

The Defence context for clinical governance is unique in that the process is both a mechanism to assure good clinical care for the individual and to assure minimum viable capability for Defence Health to be an effective enabler of delivery on the Defence mission.

Design/methodology/approach

The Surgeon General Australian Defence Force (SGADF) commissioned the Defence Health Clinical Governance Review to evaluate current clinical governance mechanisms and make recommendations as appropriate for improvement. SGADF's intent is to establish a contemporary, fit-for-purpose Clinical Governance Framework that articulates roles, responsibilities and mechanisms for clinical governance that provide assurance of Minimum Viable Capability for Defence Health as an enabler for the Defence mission, and safe and effective care for Defence members. The Review has been conducted with a series of site visits around Australia by a small Project team, to establish work-as-done at the clinical coalface. The team has considered contemporary practices, both within Australia and internationally to inform a framework for assurance of system resilience and a Restorative Just Learning Culture

The Review has been named "Project Best" (the Project) in recognition of the historic contribution of COL Kathleen Best to military medicine.

Findings:

The Project has identified that there are significant opportunities to enhance clinical governance in Defence Health. Extant mechanisms are at times inconsistent with contemporary and emergent evidence-informed practice. At times, governance work-as-done runs counter to the safe and effective delivery of care, for example, through encouragement of defensive clinical practices that offer potential for patient harm.

Limitations

Given the sensitive nature of the Defence security environment, the presentation will be limited to discussion at an unclassified level.

Research implications

Research implications are limited due to the difficulty in sharing sensitive information across jurisdictions due to security requirements.

Practical implications
Significant actions are recommended in the Project report to remove some of the barriers to effective governance and assurance, to align with contemporary safety science practices, and to advance towards a Restorative, Just and Learning Culture (RJLC). This will advance an environment of psychological safety, away from the perception of a "blame culture". Recommendations seek to reduce the prevalence of low-value governance activities, and to advance methodologies for "productive assurance", supporting effective service improvement, and "making the right thing easier to do."

Keywords
Resilient Healthcare, Defence Health, Clinical Governance

Responding to Moral Injury in a Dynamic Maritime Crisis

Senior Chaplain Daniel Hynes[1], Chaplain (WGCDR) Assoc. Professor Lindsay B. Carey, MAppSc, PhD, CSM, Rev. Dr Geoff Broughton, DipYthMin, MATheol, MA, ThM, PhD,

1 *Department Of Defence, Campbell, Australia*

Biography:

Senior Chaplain Dan Hynes has dedicated over 40 years to the Commonwealth Navy. Born in Ontario, Canada, he began his naval career in the Royal Canadian Navy, spending 14 years in various sea and shore roles before transferring to the Royal Australian Navy. He completed Principal Warfare Officer training and held key positions, including Executive Officer of HMAS STIRLING. Answering a call to ministry, Dan trained as a chaplain and was ordained in 2009. His chaplaincy assignments have taken him aboard multiple HMA Ships, and he later spent four years as Director of Spiritual Health and Wellbeing in the ADF Joint Health Command. Currently, he leads Joint Training Chaplaincy at the Australian Defence College. Dan and his wife, Mandy, recently celebrated 40 years of marriage and have two sons and two grandchildren.

The purpose of this paper is to examine the dynamic and traumatic environment which the Australian Government's 'deter and deny policy' (2001) created, with regard to the ill-fated refugee boat "SIEV 4". The paper will consider how this policy placed the health and wellbeing of crew members of HMAS Adelaide at risk of moral injury, particularly in light of the International Convention for the Safety of Life at Sea. The paper will initially provide a historical-political background to what became known as 'The Children Overboard Affair" (CHOA). It will then explore various theoretical perspectives for analysis, including the International Convention for Safety of Life at Sea, moral injury theory, the biopsychosocial-spiritual paradigm as well as pastoral theological viewpoints. A qualitative methodology will be used to examine CHOA public documents including both government and non-government sources. This will be conducted through the method of document analysis, using the specific techniques of critical analysis and thematic analysis to examine the collated data. The results of this paper will present both critical and thematical findings in relation to CHOA to explore the moral impact upon ADF members and their families and the potential role of chaplains in addressing the aftereffects of such traumatic experiences.

Reference

- Hynes, D. C., Carey, L. B., & Broughton, G. (2025). The Chaplain's Compass: Navigating Moral Injury and Companioning the Military Soul. Health and Social Care Chaplaincy. https://doi.org/10.1558/hscc.33582

Risk Factors for Progression and Chronicity in Suicidal Ideation and Behaviours in Contemporary Australian Defence Force (ADF) Personnel

BRIG Nicole Sadler[1]

1 *Australian Defence Force, Majura, Australia*

2 *Phoenix Australia - Centre for Posttraumatic Mental Health, Melbourne, Australia*

Biography:

Nicole Sadler is a Clinical Psychologist and the Director and Chief Executive Officer of Phoenix Australia – Centre for Posttraumatic Mental Health. She is also an Enterprise Professor within the Department of Psychiatry, University of Melbourne. For over three decades Nicole has worked with military members, veterans, emergency services workers, judiciary and frontline health care professionals, and communities impacted by disasters and large scale events. She is an expert in trauma-related mental health and wellbeing, suicide, and disaster mental health. She has led major mental health strategic reviews, research, and policy and training development projects for organisations across Australia and internationally. Prior to joining Phoenix Australia in 2017, she served in the full-time

Army for over 20 years and completed her career in the senior Army psychology position. She continues to serve in the Army Reserves at the rank of Brigadier as the Principal Consultant - Mental Health. Nicole has a strong record of accomplishment in setting and implementing strategic direction in mental health and personnel management within the Australian Defence Force, which was recognised with a Member of the Order of Australia in 2018 and a Conspicuous Service Cross in 2009.

Suicide risk is dynamic and multifactorial, making it difficult to predict who will or will not attempt suicide. This presentation outlines the key findings from a research project examining whether suicide prediction in an Australian military and veteran cohort could be improved by identifying factors associated with progression from reporting suicidal ideations only to reporting suicide-related behaviours (plans, attempts), and factors associated with chronicity of these thoughts and behaviours. Both progression and chronicity have been linked to heightened risk of subsequent suicide. The analysis built on the Defence 2010 Military Health Outcomes Program and the 2015 Defence and Department of Veterans' Affairs Transition and Wellbeing Research Programme. As the 2015 study included the follow-up of 2010 participants, data was matched across the two time points. Atheoretical approaches to data analysis were implemented through machine learning techniques, enabling multiple factors to be simultaneously and equally considered without assuming associations.

The findings of this exploratory research reveal that machine learning techniques can be used to predict, beyond chance, individuals who will report suicidal behaviours (with or without ideation), rather than suicidal ideation only at a single time point, as well as individuals who will report chronicity of suicidal ideations or suicide-related behaviours. The performance of the predictive models was comparable to, and in some cases superior to, traditional statistical techniques. The risk factors important in prediction are multi-factorial, spanning mental, physical and social health, as well as occupational and phenomenological domains. The analyses also highlight some distinctions between current serving personnel and those who have transitioned out of full-time service, indicating risk presentations may vary throughout different career stages. Active and passive suicide ideation are important predictors of suicide behaviours, alongside experiencing mental health symptoms and or physical health issues, particularly when they are perceived to negatively impact functioning. There is evidence of trauma and significant adverse life events, as well as military-related factors and attitudes, impacting escalation of risk and chronicity of suicidality. Importantly, many of the predictors are modifiable, or at least the severity of the impact could be modifiable, including potentially years earlier, and several are military specific.

The findings reinforce the necessity of early identification and comprehensive assessments for targeted treatment and interventions, not only for mental disorders, but also for individuals experiencing sub-syndromal problems, as well as physical health problems and or psychosocial stressors. This may prevent progression to more severe conditions and reduce the risk of subsequent death by suicide. The research implications extend beyond the healthcare system, to military, veteran, community service and support systems, particularly as there is a small but significant group of people at risk of suicide who do not interact with the healthcare system.

Strategic Aeromedical Evacuation as a Proxy for Medical Return to Australia Surveillance

SQNLDR Jordan Breed[1]

1 *Directorate Of Air Force Health, Canberra, Australia*

Biography:

SQNLDR Jordan Breed is a Public Health Physician and General Practitioner. He is currently posted to the Directorate of Air Force Health and is also supporting the establishment of the Joint Health Command Directorate of Force Health Protection. He has a strong interest in health surveillance and has extensive operational experience in Aeromedical Evacuation Operations.

Background

Medical return to Australia (MRTA) is the official term for medical repatriation of ill or injured personnel from ADF operations and exercises. Surveillance data on MRTA are critical to understanding how this affects the ADF population and capability. Strategic (STRAT) Aeromedical Evacuation (AE) is the primary means of achieving MRTA. Therefore, existing STRAT AE data provides a proxy for MRTA surveillance.

Aims

This analysis aimed to provide surveillance data on MRTA and STRAT AE to inform quality improvement for ADF health policy, practice and procedures relating to pre-deployment health screening, health support planning, and force health protection.

Methods
We conducted a descriptive analysis of the ADF STRAT AE database from 2012 to 2023 inclusive. We included all AE that were for ADF personnel on operations, exercises, or within the national support base (NSB). We manually coded free text entries for the diagnoses that resulted in AE into ICD-10-AM diagnostic categories. We then reported total numbers and proportions of these diagnostic categories and stratified these by service and activity type.

Results
2162 AEs were included in the analysis. Diagnostic categories could be coded for 93.8% of cases. The most common diagnostic categories resulting in AE were injury (31.0%), mental health disorders (25.7%), non-injury musculoskeletal disorders (11.7%), and digestive system disorders (7.9%). These were the top four diagnostic categories in all cases when stratifying for service across operations and exercises. However, there were some notable differences. Higher relative proportions of injury were observed on exercises (35.6%) compared to operations (30.0%) and for Army (38.0%) compared to Navy (29.3%) and Air Force (24.0%). Navy had the highest proportion of mental health AEs (25.8%) compared to Army (14.8%) and Air Force (21.8%). We provide hypotheses for these observations. NSB AEs were evaluated separately as they are not relevant to MRTA. Mental health was the most common reason for NSB AE (42.5%). This analysis was limited by the quality of pre-existing data and included variables and the lack of matched data on force size and composition.

Conclusions
STRAT AE provides useful MRTA surveillance data to inform force pre-deployment screening, health support planning, and force health protection. Injury, mental health, non-injury musculoskeletal disorders, and digestive disorders account for over three quarters of MRTA. Specific focus should be applied to optimise prevention, and early treatment of these conditions. A dedicated MRTA surveillance system should be developed to provide timely and comprehensive data to best inform policy, practice, and procedures.

Strategic and Operational Priorities for the Growth of Military Medicine

COL Tim Inglis[1], BRIG David Ward[1]

1 Directorate of Army Health, Brindabella Park , Australia

Biography:

COL Inglis is a professor at the School of Medicine, University of Western Australia and a Medical Microbiologist with the WA state pathology service. His operational service includes Op Solania and Op COVID-19 Assist. He is working with academic and ADF colleagues to develop a military medicine programme as a template for other Australian universities. His clinical interests include sepsis, antimicrobial resistance, deployable diagnostic methods, emerging infectious diseases and CBRN countermeasures.

Problem
The rapid deterioration of world order puts our Defence Force on notice, including our Health Reserve. Expansion of a relatively small Health Reserve has become a priority to support the increasing range and number of operational tasks. However, the civilian health workforce already competes for valuable medical, nursing and allied health professionals.

Solution
Recognising the need for a collaborative solution to recruitment and retention of the Health Reserve, and its training for a higher operational tempo, there is a good case for revisiting the role of universities and specialist colleges in building Health Reserve capacity. Lessons learned from previous local initiatives, and the impetus given by the two most recent strategic reviews have helped design a pilot university programme in military medicine.

Method
With resource pooling from Defence Force units and training institutions, and academic structure from universities, a civil-military programme is feasible at minimal cost to both sectors.

Progress
Preliminary stakeholder engagement accelerated course design process, with relevant educational milestones and professional incentives. The necessary underpinning will be provided by a further review of extant strategic policy, informed by best practice insights sourced from professional military medicine programmes overseas.

End state
Building up the Health Reserve beyond provision of health support to joint operations, to become a strategic asset in national defence, is an outcome worth striving for.

Stress, Resilience & Functioning: 8-Week Peer Led Program

Mr Colin Von Rechenberg[1]

1 Frontline Mental Health, Australia

Biography:

"Colin is a Navy Veteran with lived experience of mental health challenges and a strong commitment to supporting the wellbeing of those who serve. Since transitioning from the Military, Colin has worked in the Commercial Diving, Unexploded Ordnance Disposal and Mining industries around the world. He is now a Provisional Psychologist holding a Master of Professional Psychology, Honours and Bachelor Degrees of Psychological Science. He combines academic knowledge with lived experience. Colin has over 7 years' experience delivering group programs to Military personnel and First Responders, and he now serves as Lead Facilitator for the Stress, Resilience & Functioning program with Frontline Mental Health. Based in Tasmania but constantly on the move (often with his loyal companion, Lenny the Wonder Dog) Colin brings authenticity, insight, and dedication to his work.

Stress, Resilience & Functioning (SRF) is an eight-week, evidence-informed mental fitness program designed to build psychological resilience, promote emotional regulation, and improve functioning across the military, veteran, and first responder community. The program provides a practical, proactive framework for managing stress and enhancing performance in high-stress environments, and is informed by over a decade of research, clinical practice, and participant feedback.

The SRF program, developed by Associate Professor Jon Lane (Chief Psychiatrist, Department of Veterans' Affairs), originates from the STAIR model, which was first created as part of a PhD research project. This model later evolved into the GEARS program, which was formally evaluated during the Royal Commission into Defence and Veteran Suicide (2021–2023).

While SRF retains the foundational psychological principles, skills, and interventions of these earlier versions, it introduces significant refinements. Based on participant feedback and emerging research, the program has been streamlined from 12 weeks to 8 weeks to improve accessibility without compromising depth or outcomes.

A key addition is the Systematic Self-Reflection (SSR) model, which strengthens participants' capacity to engage with stressors in adaptive, longitudinally protective ways. SSR was tested on 226 Officer Cadets at the Royal Military College Duntroon (Crane et al., 2019) and has now been integrated into SRF to deepen the focus on emotion regulation and stress tolerance. Unlike earlier iterations, SRF targets resilience-building and functional adaptation, rather than recovery from psychological injury. This represents a shift from clinical, post-injury intervention models to a prevention and early intervention approach suitable for both current-serving personnel and veterans.

The eight-module curriculum covers:

1. Foundations of Stress and Resilience
2. Understanding Emotions
3. Understanding Values
4. Emotional Regulation
5. Service Culture & Conditioning
6. Psychosocial Supports
7. Interpersonal Relationships & Boundaries
8. Sustaining the Practice

Each module includes psychoeducation, applied strategies, and reflective exercises.

Delivery is supported by a custom-built Learning Management System (LMS), which offers weekly resources, video content, transcripts, and audio descriptions to support varied learning needs. The LMS also allows for asynchronous engagement and ongoing access to materials, making it ideal for operational environments with unpredictable schedules.

The SRF program has been delivered across a range of service settings. Open Arms (Tasmania) piloted a Train-the-Trainer model for peer and clinical staff, while current-serving Army personnel at the School of Military Engineering (SME) participated during their Initial Employment Training cycle. In both cases, the program was highly rated by participants and staff. Additionally, the program has been successfully delivered to Veterans through a number of organisations, including RSL NSW, demonstrating its relevance to both transitioning and post-service veterans. These implementations have shown that military and first responder groups, such as Police and Correctional Services, respond strongly to the

program due to shared service values and learning culture.

Key features of the SRF program include:

- Cultural specificity and a group-based format aligned with defence learning environments
- Evidence-based, approachable psychological tools for stress and distress management
- Lived experience facilitators working within a clinical governance framework
- A licensing and Train-the-Trainer model that enables organisations to build internal delivery capacity, supported by Frontline Mental Health

SRF represents a scalable, research-informed, and culturally aligned approach to mental fitness that moves beyond recovery to focus on sustaining adaptive functioning under pressure. This abstract will outline the evolution of the program, delivery outcomes, and next steps in evaluation, offering a practical model for preventative mental health intervention across the defence and veteran landscape.

Supporting High Psychological Threat Missions through the Use of the Hui Process

Mrs Kirsty Whitehead[1]

1 New Zealand Defence Force, Shannon, New Zealand

Biography:

CAPT Kirsty Whitehead, New Zealand Army

Kirsty Whitehead joined the New Zealand Defence Force in 2020, serving with the New Zealand Army. During her registration period she spent time as a camp psychologist in Linton, as well as supporting the NZ Army training schools. Upon completing registration with the New Zealand Psychology Board through the NZDF, Kirsty spent three years posted to Linton military camp, supporting a range of psychological activities including selection and assessment, coaching, providing guidance to command, and supporting operations. In 2024 Kirsty transitioned into her current role as the operational support psychologist, with a focus on providing psychological support and advice within a deployment context. This includes supporting high psychological threat missions, coordinating selection for key deployments and supporting the wider NZDF Psychology within the operational space.

The New Zealand Defence Force (NZDF) supports operational efforts around the world, with varying levels of associated psychological threat. For the NZDF missions may be categorized as 'high psychological threat' (HPT) due to the nature of the deployment, taking in to account factors such as the environment (including physical, social and geopolitical), the overall mission intent, workload, exposure to graphic material or the grotesque, and an increased likelihood of being exposed to potentially traumatic events or critical incidents.

The contribution the NZDF has to a range of HPT missions has resulted in a greater percentage of deployed personnel experiencing higher degrees of difficulty during reintegration to life back in New Zealand (e.g. relationship difficulties, divorce, exited the service) than those who deploy on non-high psych threat missions. As a result of the above, the NZDF has developed a bespoke framework to support those who deploy on HPT missions. This has resulted in the provision of a more intensive psychological support program than is typically delivered to standard missions. This program has included additional Pre Deployment training, bespoke support during the mission (that is tailored to the mission) and bespoke Post Deployment support and debriefing (dependent on the mission).

A key aspect of the support to HPT missions lies in the relationship building with those deploying, and for family members of those deploying. One framework that is useful/beneficial in building these relationships is the Te Ao Maori Hui process (Al-Busaidi et al., 2018; Lacet et al., 2011; Pitama et al., 2017). The Hui process embraces Te Ao Maori engagement strategies to provide a framework to structure interactions with clients, and is broken down in to four stages. First is a mihi (greeting) which involves introducing oneself and providing context for the client and explaining the role of the psychologist. Next comes whakawhanaungatange (building the relationship/connections).

The kaupapa (the work of the referral) is the third stage of the Hui process, and is focused on the purpose of the encounter. This may include gaining an initial appreciation for service persons well-being prior to deploying, wider whanau support, understanding individual strengths of the service person, or working with individuals virtually in theatre to provide brief psychological interventions.

Finally, the poroaki (closing the session), ensures that each encounter is closed appropriately and focuses on summarising the encounter with the individual and ensuring that it is clear to both parties on what happens next. With HPT support this would

occur at many times, from the initial interaction confirming what support in-theatre looks like, to each interaction during deployment confirming what the next touch point will look like to the return home and ensuring the returning to New Zealand support process is understood.

Overall the support provided to HPT missions is viewed favourably by those deploying on HPT missions, and has assisted individuals in reaching out for additional.

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The ANZAC Research Institute: Opportunities for Research Collaborations

Prof Victoria Cogger[1,2,3], Professor Tracy Smart[1,4], Dr Cameron Korb-Wells[2,3,5], Associate Professor Anthony Linton[2,3,6]

1 *Anzac Research Institute, Sydney, Australia*

2 *Concord RG Hospital- Sydney Local Health District, Sydney, Australia*

3 *University of Sydney, Sydney, Australia*

4 *The Australian National university, Acton, Australia*

5 *National Centre for Veterans Healthcare, Concord RG Hospital, Australia*

6 *Asbestos and Dust Diseases Research Institute, Concord RG Hospital, Australia*

Biography:

Professor Smart is a medical doctor, health leader, aerospace medicine specialist, and retired Royal Australian Air Force (RAAF) senior officer. During 35 years of service, Prof Smart served in tactical, operational and strategic roles; on overseas deployments to Rwanda, Timor Leste, the Middle East, and Lebanon; undertook exchange tours with the Royal Air Force and the United States Air Force; and served as Surgeon General of the ADF and Commander Joint Health from 2015 to 2019. She transferred to the RAAF Reserve in early 2020.

Prof Smart is currently Professor, Military and Aerospace Medicine at the Australian National University, working in the subject areas of space medicine, serving as a Mission Specialist (Space Medicine) at ANU InSpace, Defence health engagement, Health Security. She was ANU's COVID Public Health Lead until March 2022.

In addition to her ANU duties, Prof Smart undertakes numerous Board and Advisory group roles and has most recently been invited to be Chair of the ANZAC Research Institute Advisory Council.

The ANZAC Research Institute (ARI) was founded in 2000 to continue the legacy of health research and support to veterans at Concord Repatriation General Hospital, the tertiary teaching hospital on the site of the former 113th Australian General Hospital, established during the Second World War.

The vision established in the years leading to the founding of the ARI, was: "to provide leadership and excellence in health and medical research activities throughout Australia, focusing on lifestyle and ageing issues to improve the future health standards for the Australasian community. In doing so The Foundation plans to provide a lasting legacy to the veterans and war widows who have created the society we have today" .

More specifically, the Mission statement included the intent: "To undertake research to study and improve healthcare delivery and outcomes, including epidemiological studies, particularly among the Veteran and War Widow Community and children of Veterans" .

Over the last 25 years, much of ARI's focus and success has continued to be in research on lifestyle and ageing issues. Epidemiological research has also been a feature of ARI's work, including for many years the Australian Vietnam Veterans' Health Study (VVHS). This study, which began in the late 1980s, was housed at the Institute from the mid-2000s until 2011 and included research on War Widows and children of veterans .

In late 2025, the Institute commissioned a review of

Defence and Veteran research opportunities to better understand how it could meaningfully contribute to positive health outcomes for those who serve. Consultations with key stakeholders indicated a growing need to address not only the mental health concerns of veterans and serving members, but the physical outcomes. These include priorities such as management of battlefield casualties; prevention and treatment of traumatic brain injury; through life surveillance and monitoring of the health of serving members and veterans; prevention and management of musculoskeletal injuries; managing the unique occupational environment and the impact on their health; chronic pain; and the management of co-morbidities.

The ARI has both the legacy and expertise, including in diseases of ageing, to align with, and meaningfully contribute to, Defence and DVA health priorities by conducting 'bench to bedside and back again' research with Defence personnel and veterans at its centre. Examples of established programs includes:

- Longitudinal population studies including The Concord Healthy Ageing in Men Project (CHAMP), Concordance cardiovascular health database;
- Gene discovery in chronic illness (discovery of genetic causes of Charcot Marie Tooth);
- Discovering new medicines and treatments (Smart oral insulin, 3D printing of skin for burns injuries);
- Biomarker discovery for the early detection of disease, diagnosis or prediction of disease recurrence (Cardiovascular disease, vaccine induced thrombosis);
- Better management of chronic disease (Glucocorticoid impacts on osteoporosis, neuroinflammatory disease, secondary falls risk identification and prevention).

New partnerships with the National Centre for Veterans Healthcare, the Asbestos and Dust Diseases Research Institute have augmented extant embedded relationships with the Hospital and University of Sydney, creating the opportunity to recreate a pillar of research that is focused specifically on the health of serving Defence members and Veterans. The resultant health ecosystem will create a unique capability in Defence and Veteran health research and we invite new partners to join us in creating this unique biomedical research stream, focused on physical health and wellbeing.

The Hero's Journey: Narratives of Mental Health Recovery in NZDF Personnel

SQNLDR Carsten Grimm[1]

1 New Zealand Defence Force, Wellington, New Zealand

Biography:

SQNLDR Carsten Grimm joined the RNZAF in 1997 as a pilot and spent most of his flying career on 3 Squadron operating the Iroquois. He deployed to East Timor in 2001, again in 2002 and to the Solomon Islands in 2003 before graduating Flying Instructors Course in 2006 and posting to Pilot Training Squadron (now 14 Squadron) to teach ab initio flying training. In 2009 he deployed to Afghanistan as part of Op CRIB 13 on Kiwi Patrol One in the Yakawlang district of Bamiyan. In 2010 he became a Reservist while completing his Masters in Psychology and working for the Mental Health Foundation promoting wellbeing campaigns across New Zealand. In 2015 he returned to active service as a military psychologist and has served in various roles including Base Psychologist Woodbourne and the Flying Training Wing Psychologist. He recently completed his doctoral research in clinical psychology on NZDF members' experiences of accessing mental healthcare, which identified both success stories and lessons for how to better support the mental health of our service personnel. He is currently posted to Linton as the Camp clinical psychologist.

Research on military mental health recovery has tended to focus on therapy outcomes while backgrounding the role of diverse healing influences. The New Zealand Defence Force (NZDF) is a bicultural military integrated with Māori customs and cultural perspectives on holistic health and wellbeing. This study used narrative analysis to examine the semi-structured interviews of 21 active duty NZDF personnel who had accessed mental healthcare to understand what factors contributed to their return to wellness. Participants described their mental health recovery using a better-than-before narrative structure aligned with the hero's journey, which involved challenges crossing the help seeking threshold and concluded with positive personal transformation. Stories of holistic recovery adopted culturally available Māori well-being heuristics to narrate the interconnection of relationships and health behaviours that supported participant healing. Participant accounts of seeking support also reflected paradoxical narratives, as the NZDF mental health system both helped and hindered personnel during their period of distress. Many of the cultural aspects of the NZDF were described as strengths

but also as barriers that prevented personnel from connecting to care that was effective and meaningful to them. Findings are considered in terms of how wellbeing and recovery are conceptualized and promoted within militaries with diverse cultures. Discussion focuses on how narratives within military institutions can promote resilience and support service member recovery from mental distress

The Joint Medic Training Continuum: Supporting Medic Career Progression

Maj Sarah Patterson[1], Jacob Chambers, Grant White

1 *ADF School Of Health, Bonegilla, Australia*

Biography:

This presentation will be facilitated by members of the ADF School of Health, MAJ Sarah Patterson and LT Grant White, and ALTC Workforce and Training Group, CAPT Jacob Chambers.

MAJ Patterson is currently the Officer Commanding / Senior Instructor of the Medical Technician Wing at ADFSH and responsible for leading the JMED Training Continuum implementation.

LT White is the Officer in Charge of the Project Development Team at ADFSH. He is responsible for the course management of the JMAC, JMSC and JMMC, whilst concurrently working on continuous improvement across the develop, implement and evaluate stages of the SADL.

CAPT Chambers is currently SO3 Health Army Employment Category Management at Workforce and Training Group. He is responsible for the course analysis and design phases of the SADL, and has been actively engaged with the JMAC, JMSC and JMMC roll out since January 2024.

Part of the 2024 Defence Force Remuneration Tribunal (DFRT) submission to standardise the ADF Medic workforce was the establishment of a Joint Medic (JMED) Training Continuum. The intent of the continuum is to expand training for Medics to support career development noting there has been increased capability requirements through the years. Changes to Medic training commenced with the Joint Medic Course in 2019 and has expanded to include the Joint Medic Advanced Course (JMAC), the Joint Medic Supervisor Course (JMSC) and the Joint Medic Manager Course (JMMC). Implementation of the 2024 DFRT Determination is set to continue until 2029.

Using the Systems Approach to Defence Learning (SADL), Service specific requirements for Medics at each level were analyses with significant input from subject matter experts across Services. The SADL process culminated in the design of the JMAC, JMSC and JMMC Learning Management Packages (LMPs) which were handed over to the ADFSH Project Development Team. Development work has continued collaboratively between Workforce and Training Group, ADFSH and tri-Service Subject Matter Experts (SMEs) to develop the courses to ensure training outputs remain relevant to tri-Service attendees and achieve outcomes of the DFRT submission. Progressive implementation of the courses has occurred since 2024. As at conference date, JMAC and JMSC are now active courses with JMMC undergoing trial.

The initial structure for all three courses was an ADELE learning package, weekly Big Blue Button sessions, and number of summative assessments, all conducted over a five-month period. Trainees were expected to have all online learning, learning activities and summative assessments completed two weeks prior to course end, to allow for marking and reassessments.

During the course implementation phase, ADFSH staff have closely monitored trainee engagement and have observed the emerging trends. These trends have differed across the courses, owing to the learner profile. A key observation made during JMAC was that students were often unable to manage their own time effectively, resulting in significant additional effort from both ADFSH and unit staff in the final weeks of the course. This led to the implementation of some adaptations to the course structure to assist in reducing the burden on ADFSH and unit staff.

It is further surmised that the relative course infancy and lack of workforce understanding of the new Joint Medic career profile has resulted in an incongruence between workforce and ADFSH expectations of the courses. ADFSH is committed to the ongoing professional development of the Joint Medic. Going forward, greater collaboration and communication between ADFSH, units and the medic workforce will be essential for the successful implementation of the Joint Medic career profile directed by DRFT.

This presentation is aimed at facilitating a conversation; educating the wider ADF Health workforce, and enabling the feedback loop as part of the evaluation phase of the SADL.

The Proposed Garrison Health Rehabilitation Continuum: Optimising Musculoskeletal Rehabilitation Services in the Australian Defence Force

Mr Simon Olivotto[1]

1 *Department Of Defence, Sydney, Australia*

Biography:

Simon is a Specialist Musculoskeletal Physiotherapist and Fellow of the Australian college of Physiotherapists. He currently works as the Assistant Director Garrison Rehabilitation Services within Joint Health Command, Australian Defence Force (ADF).

Simon has well over 20 years experience providing rehabilitation for ADF members with musculoskeletal disorders. Simon is currently undertaking a PhD focussed on identifying prognostic factors to inform rehabilitation pathways and optimise outcomes for ADF personnel with musculoskeletal disorders.

Background

Musculoskeletal disorders are a leading cause of non-deployable restrictions and medical separations in the Australian Defence Force (ADF). There are opportunities to optimise recovery outcomes by adopting early intervention models and aligning best practice clinical care to minimise unnecessary medical escalation. This presentation aims to update the work being done to optimise Garrison Rehabilitation service delivery (clinical and occupational rehabilitation) across a continuum from proactive early intervention, rehabilitation and reintegration back into the workplace for ADF members with musculoskeletal disorders.

Aims

This presentation will:

1. Outline the current Garrison Rehabilitation service model, including secondary and tertiary prevention strategies for musculoskeletal disorders.
2. Examine the risks associated with guideline non-concordant care such as early escalation to imaging or invasive procedures prior to active rehabilitation.
3. Identify opportunities to enhance recovery through early intervention service-level initiatives.

Content overview

The presentation will describe how musculoskeletal rehabilitation is delivered within ADF Garrison Health, including the role of embedded and regional rehabilitation services. It will explore barriers and facilitators to best practice care including the risks and unintended consequences of early advanced imaging or medical procedures prior to exploring evidence-based first line care rehabilitation options. Case examples, evidence from contemporary musculoskeletal literature, and data from recent service evaluations will be used to illustrate system level patterns and opportunities for delivering optimal care. The Proposed Garrison Health Rehabilitation Continuum model will be presented and serve as framework to describe how Garrison Rehabilitation intersects with Force Health Protection and Single Services to provide proactive best practice care.

Key Messages

- There is a critical need to shift from reactive, tertiary care to proactive, preventive models.
- Enhancing guideline concordance and reducing low-value care can improve recovery and operational readiness.
- Service delivery efforts should prioritise early access, multidisciplinary integration, and early identification of individuals who are not recovering as expected.

Conclusion

Optimal musculoskeletal care in the ADF requires system-wide alignment with evidence based practice principles. Proactive rehabilitation pathways that support recovery in the workplace whilst minimising unnecessary medical escalation are vital to ensure healthcare efficiency, maximised return to work outcomes, and support the long-term health of serving members.

Treatment Preferences for PTSD among Australian Defence Force Members: Preferred Treatment, Predictors and Reasons for Choice

Prof Jennifer Wild[1,2,3], Dr Katrina Moss[1,4], A/Prof Jonathan Lane[1,5], Dr Zoe Jenkin[s1]

1 *Directorate of Health Research, Joint Health Command, Department of Defence, Canberra, Australia*

2 *Phoenix Australia Posttraumatic Centre for Mental Health, Department of Psychiatry, University of Melbourne, Melbourne, Australia*

3 *Department of Experimental Psychology, University of Oxford, Oxford, United Kingdom, Oxford, United Kingdom*

4 *Australian Women and Girl's Health Research Centre, University of Queensland, Brisbane, Australia*

5 *Department of Veterans' Affairs, Australia*

Biography:

Jennifer Wild is Professor of Military Mental Health at Phoenix Australia, University of Melbourne, the Australian Defence Force, and Visiting Professor of Experimental Psychology at the University of Oxford. Her area of expertise is in developing interventions to prevent the onset and persistence of PTSD and major depression in high risk occupations at risk of trauma, such as military members, and in developing and evaluating evidence-based interventions for anxiety and stress disorders. She is dedicated to improving treatments so they are more precise and effective and reach the people who

need them most. She has written over 100 publications and two books, including a recently published popular science book on resilience, Be Extraordinary: 7 Key Skills to Transform Your Life from Ordinary to Extraordinary. Professor Wild regularly appears in the media giving advice rooted in science for preventing the onset and persistence of trauma-related mental health problems.

Background

Although evidence-based treatments are recommended for PTSD and generally preferred by civilian populations, research suggests that military personnel are likely to prefer self-management strategies. This study examined PTSD treatment preferences among Australian Defence Force (ADF) members when provided with comprehensive information about evidence-based interventions and support options.

Methods

A total of 3,544 permanent and reserve ADF members completed a treatment preferences questionnaire developed for this study, which provided detailed information about common PTSD symptoms and eight treatment options presented in randomised order. Participants first indicated the threshold of impairment, if any, that would prompt them to seek treatment, then selected their preferred PTSD intervention. Those selecting evidence-based talking therapies were subsequently presented with expert-developed descriptions of four specific CBT therapies: prolonged exposure therapy (PE), cognitive therapy for PTSD (CT-PTSD), eye movement desensitisation and reprocessing therapy (EMDR), and cognitive processing therapy (CPT), and asked to indicate any preference among these options, again presented in randomised order. Following treatment selection, participants identified reasons for their choices and completed treatment-seeking appraisals including self-reliance, perceived barriers, and anticipated negative consequences of mental health treatment. Standardised instruments assessed fear of negative evaluation, PTSD, depression, and social anxiety symptom severity, while the endorsed and anticipated stigma inventory (EASI) measured beliefs about mental health treatment and perceived stigma. Preferences for treatment delivery, terminology and information sources for mental health were also assessed. The study was approved by the Australian Defence Human Research Ethics Committee (protocol number: 586-24).

Results

Contrary to previous research suggesting military preference for self-management of mental health symptoms, evidence-based talking therapy was overwhelmingly preferred, chosen by 45.1% of participants. This preference was 3.6 times higher than expected by chance ($\chi^2(7, N = 3{,}544) = 3516.00$, $p < .001$) and 4.7 times more frequent than preference for medication (9.6%). Among talking therapy options, CT-PTSD was the most frequently selected individual therapy (32%), while 45% selected 'any of the above' $\chi^2(4) = 973.56$, $p < .001$. PE, CPT, and EMDR were selected less frequently (10%, 6%, and 7% respectively). Preferences for treatment delivery included external healthcare providers (71.4%) and in-person treatment (76.9%). Treatment-seeking thresholds varied: 43.6% would seek treatment at severe symptom impact, 30.3% at moderate impact, 3.9% at mild impact, and 9.0% would never seek treatment. Information sources for mental health included Defence medical appointments (52.8%), external medical appointments (45.7%), and internet searches (38.1%). Most participants (67%) preferred the term 'mental health symptoms' over 'symptoms of a psychiatric disorder.' Concerns about Medical Employment Classification changes would deter 50.6% from seeking treatment.

Conclusions
When provided with comprehensive information about treatment options, ADF members strongly preferred evidence-based talking therapies over self-management approaches, challenging assumptions about military culture favouring self-management of symptoms. CT-PTSD was the preferred individual therapy by a third of participants, while almost half expressed no preference among evidence-based talking therapy options. Perceived importance of memory work was the most consistent predictor of preference for evidence-based talking therapy, suggesting that psychoeducation about how therapies work may influence treatment selection. The preference for in-person over guided digital approaches may reflect limited awareness that guided digital interventions often involve more frequent clinician contact than traditional therapies. These findings support prioritising trauma-focused therapies in military mental health services and highlight the need for availability of CT-PTSD alongside other evidence-based options.

Note: The opinions expressed in this abstract are that of the authors/presenters, and not of the Department of Defence.

Using Virtual Reality to Foster Deep Learning About Pain and Recovery: Safety, Acceptability and Feasibility in Veterans

Dr Dianne Wilson[1,2], Dr Millie Mardon[1,2,3], Dr Hayley Leake[1,2], Dr Daniel Harvie[1,2], Dr Andre Andrade[4], Dr K. Jane Chalmers[1,2], Aaron Bowes[5], Professor Lorimer Moseley[1,2]

1 *IIMPACT in Health, University of South Australia, Kaurna Country, Adelaide, Australia*
2 *The Pain Education Team Aspiring Learning (PETAL) Collaboration*
3 *NICM Health Research Institute, Western Sydney University, Sydney, Australia*
4 *Quality Use of Medicine Research Centre, The University of South Australia , Kaurna Country, Adelaide, Australia*
5 *IPAR Rehabilitation, Melbourne, Australia*

Biography:

Dianne has combined a clinical and academic career as a physiotherapist. Her clinical work sparked an interest, and then a passion, for the pain sciences and translation of them into clinical practice The promotion of evidence-based management of chronic pain into the community was complemented by Dianne's involvement in the Australian Physiotherapy Association where she held both state and national leadership roles, mainly in the chronic pain field. She was involved in the establishment of a National Pain Group which subsequently developed a specialisation pathway for pain physiotherapists through the Australian College of Physiotherapy.

Following the completion of her PhD investigating the role of the group in Pain Management programs, Dianne has continued to work part-time as a Research Associate in the Research Group, IIMPACT in Health, University of South Australia. She continues to promote the translation of pain science into clinical practice through Pain Revolution, an initiative of the University of South Australia which aims to change "how people understand pain in rural and regional communities in Australia".

Background
Many veterans live with chronic (persistent) pain. Chronic pain is one of the top reasons veterans are medically discharged. A psycho-educational approach to reducing chronic pain - called Explain Pain, or Pain Neuroscience Education (PNE) – emerged about 25 years ago and has been tested in over 90 clinical trials, with meta-analyses demonstrate good effects on pain and disability. However, shortcomings in PNE led to a new iteration called pain science education (PSE), which targets the understanding of specific learning objectives and their operationalisation towards recovery. This understanding has been shown to reduce both pain and depression in veterans. However, PSE is difficult and both clinicians and patients have been asking for more effective tools that can impart learning quickly, safely and with less need for clinicians to have advanced training in pain management and education. Using virtual reality (VR) has been transformative in the wider education field; using it to deliver pain education is a new idea. We tested in a cohort of veterans and clinicians who treat them, the safety, acceptability and utility of the Reality Health Pain Education platform.

Methods
We ran two workshops: one with 7 veterans with chronic pain, and one with 6 health professionals who care for them. Everyone completed 3 – 6 modules of the Reality Health VR-based pain education program. Afterward, they completed a survey about usability, acceptability, and usefulness of the VR platform and a short pain knowledge quiz; they then participated in a facilitated group discussion on their experience of the platform.

Analysis
We used simple statistics on the quantitative data, and a qualitative approach on group discussion data. We looked for patterns in the group discussions using an a-priori selected analytical framework designed for evaluating patient perspectives on new health interventions.

Results
Veterans and clinicians both felt that the VR pain education program was clear, helpful, and realistic to use in a clinical setting. Veterans' understanding of pain improved after using the program. Clinicians mentioned a few concerns (e.g., possible side effects from VR or difficulty using technology), but veterans did not report these as problems. Veterans actually felt confident using the VR system and wanted it to be available earlier in their training. They also recommended that clinicians take the course themselves.

Conclusion
The VR-based pain education program was well received and easy to use. There were no apparent adverse experiences. It helped veterans better understand their pain. Future studies should test how well it works over time and how it might be used more widely in veteran pain care.

Utilising the VETERANs Lens Consultation Tool to Optimise Veteran Health and Wellbeing

Dr Catherine Eltringham[1]

1 Medcast, Sydney, Australia

2 DVA, Canberra, Australia

Biography:

Dr Catherine Eltringham is a GP Medical Educator based in Geelong, Victoria. She has been working with Medcast on developing engaging, interactive CPD opportunities for General Practitioners, including the DVA project VETs-HeLP developing a series of resources to improve veteran's health and wellbeing post transition through improving GP understanding of the impacts of service on health.

Catherine is also involved in RACGP General Practice training, specialising in Medical Educator professional development and has just taken on a National Clinical Lead role in this area.

Working in General Practice education requires a balance between education roles and clinical work, Catherine consults in a private GP clinic in Highton, Victoria where she supports a small number of veteran patients in her patient cohort.

When at University Catherine worked as a musician in the Army Reserve, 4th/19th Prince of Wales Lighthorse, and now serves her community as a volunteer firefighter.

To improve the post transition general practice experience of Australian veterans DVA funded an education program. Medcast was contracted to develop a series of educational opportunities for General Practitioners, but which are also useful to other health professionals. One of the resources developed is a consultation tool titled the VETERANS lens.

The VETERANS lens was designed to guide and remind GPs of the importance of exploring additional aspects of the history when consulting with veteran patients and also where relevant with their family members.

This VETERANS lens was developed utilising the information traditionally covered by a Veteran Health Check (VHC) but can be easy to access when veterans are no longer eligible for a VHC. The lens reminds us to continue to explore and consider the veterans time of service even years after transition.

The VETERANS lens can be printed, saved on the desktop or an autofill pasted into the practice software to improve ease of access and use.

The educational activities were developed under review of a team of medical personnel working with DVA, to ensure accuracy of the portrayed patients and up to date information and resources.

This presentation is an opportunity for military doctors to see the type of education available to GP's and other health providers who may have limited understanding of the impact of service on a veteran's health. Knowing this education exists allows promotion to non-serving GPs for upskilling, context to GPs who work with veterans through times of transition and opportunity for serving members to talk to their GP on their own transition about seeking improved understanding.

Medcast would be honoured to share this information with your audience to promote this free access, on demand educational activity which can be downloaded or incorporated into practice software via an autofill.

Walking Blood Bank: Benefit in Contingency and Kinetic Operations

Prof Mansoor Khan[1], Dr Jonathan Kendrew[1]

1 Iqarus, United Arab Emirates

Biography:

Professor Mansoor Khan is a highly accomplished trauma surgeon, academic, and retired Surgeon Commander of the Royal Navy, where he served with distinction. With a career spanning military medicine, trauma care, and humanitarian operations, he has been at the forefront of emergency and disaster medicine in some of the most challenging environments worldwide.

After retiring from the Royal Navy, Professor Khan transitioned into global health and remote medical services, currently working with Iqarus, a leading provider of healthcare solutions in complex and high-risk settings. In this role, he applies his extensive expertise in trauma, emergency medicine, and crisis response to deliver life-saving care in conflict zones, natural disasters, and austere environments.

A respected educator and researcher, Professor Khan has contributed to advancements in trauma surgery and military medicine, mentoring future generations of surgeons. His dedication to improving medical systems under extreme conditions has made him a key figure in both military and humanitarian healthcare.

The implementation of a walking blood bank (WBB) offers significant advantages in both low and high-threat environments, particularly in settings where logistical constraints, financial limitations, or operational urgency hinder traditional blood banking. Transporting and storing refrigerated blood products in contingency operations, such as military deployments, humanitarian missions, or disaster response, requires specialized refrigeration, reliable power, and secure supply chains, all of which are vulnerable to disruption. A WBB mitigates these challenges by leveraging pre-screened, readily available donors to provide fresh whole blood (FWB) at the point of need, eliminating dependence on cold storage and long-distance transport. This approach not only reduces costs but also enhances operational flexibility in resource-limited or hostile environments.

FWB has demonstrated superior clinical benefits in major trauma resuscitation, particularly in military and austere medical settings. Unlike component therapy, which separates blood into red cells, plasma, and platelets, FWB preserves functional platelets, clotting factors, and plasma proteins in their natural ratios, promoting better haemostasis and reducing trauma-induced coagulopathy. Studies in combat casualty care have shown that early FWB transfusion improves survival in haemorrhagic shock, particularly when evacuation timelines are prolonged. In high-threat environments, such as forward-deployed military units or remote disaster zones, where resupply is unreliable, a WBB ensures immediate blood availability without logistical delays. Even in low-threat settings, maintaining a WBB as a contingency measure can reduce reliance on costly blood bank infrastructure while ensuring readiness for mass casualty events.

However, successful WBB programs require rigorous donor screening, rapid transfusion-transmissible infection testing, and standardized medical protocols to ensure safety and efficacy. Training medical personnel in donor mobilization and transfusion techniques is critical. When properly executed, a WBB enhances trauma survivability, optimizes resource efficiency, and provides a scalable solution for blood supply challenges across diverse operational environments.

Would You Let Him Fly? A Case Study of Possibility

SQNLDR Daniel Cehic[1]

1 RAAF, Edinburgh, Australia

Biography:

SQNLDR Daniel Cehic is Deputy Regional Director of Health Force Health Reserves SA/WA/NT. He is a cardiologist - electrophysiologist - and assists the Institute of Aviation Medicine at RAAF Edinburgh with aspects of aviation cardiology.

Medical Background

46-year-old rotary wing pilot with no other significant medical history.

In a routine medical he volunteered that on occasions he would notice his heart rate climbing to 160 bpm in circumstances where he was not exerting himself as detected by his Garmin smartwatch. He had no symptoms correlating to these events.

Because of occupational factors, he was referred to a cardiologist and subsequent evaluation of his heart was normal, and he went on to have an electrophysiological study (EPS).

The EPS detected that the cause of his periods of tachycardia was dual atrioventricular nodal physiology, and he was having periods of supraventricular tachycardia (AVNRT).

He went on to have a slow pathway ablation procedure, which was complicated by fast pathway injury and hence his AV node was compromised, and he was left with periods of AV block – ranging from Mobitz I second degree heart block to 2:1 second degree heart block. When he was in 2:1 heart block his minimum heart rate detected was 33 beats per minute.

The question was raised whether he needed a pacemaker and/or would he be safe to return to pilot duties.

Anatomy and Physiology of the AV node and His bundle

The conduction pathway from atria to ventricles consists of the AV node located at the base of the right atrium turning into the HIS bundle which penetrates the central fibrous body (separating the atria and ventricles and off which the mitral and tricuspid valves are based – effectively rendering electrical isolation top to bottom) and then turns into the bundle branches to supply the ventricles.

In people with dual AV nodal physiology there are two distinct anatomical pathways leading into the central AV node with different physiological properties. Because of their distinct physical locations they can be specifically targeted for destruction by radiofrequency ablation when needed to treat SVT that is caused by a reciprocating circuit involving both of these pathways.

The AV node has neurohormonal regulation and has more prevalent parasympathetic than sympathetic fibres. Parasympathetic activation leads to a slowing in AV nodal conduction, Wenckebach conduction block and reduces automaticity. Sympathetic stimulation results in the reverse.

It is important to note that the His bundle, which sits below the level of the AV node, has the property of automaticity which is commonly seen clinically as an escape rhythm when people go into complete heart block and usually result in stable rhythms of ~40 bpm.

Relevant Findings on Review

He was well with no symptoms and the only relevant feature on examination was a heart rate of 56 bpm with ECG showing sinus rhythm with Mobitz I second degree heart block.

Holter monitor during flying activities revealed no evidence of heart block with sinus tachycardia and 1:1 AV nodal conduction to a rate of 114 bpm (he presented as a very calm individual).

A repeat EPS was performed to assess the integrity of his conducting system below the level of the AV node (known to be injured) and it was noted that his His-Ventricular interval (HV) was normal thereby giving reassurance of integrity of the conducting system and therefore the automaticity and escape properties of the His bundle region.

Recommendations and Outcomes

Current guidelines do not recommend pacing for this type of heart block in the absence of symptoms, so he did not need a pacemaker. The insertion of a pacemaker would make return to flying more difficult, if not impossible.

Given the likelihood that the AV block would not be progressive, that even if it ever did because of further degeneration or parasympathetic stimulation it is likely he would have an adequate ventricular escape rhythm and the ability for him to continue to be operational with a "with or as co-pilot" restriction it was felt appropriate and safe enough to return him to operational flying duties.

Wounded and Without Rescue: Having to Provide Clinical Care to Multiple Casualties Whilst Also Being Wounded by an Improvised Explosive Device (IED). Clinical Decision Making and Leadership in Extremis

LCDR Travis Robinson[1]

1 Australian Defence Force, Canberra, Australia

Biography:

LCDR Robinson has had an extensive military career which has seen him deploy both in Australia and overseas. Originally entering service as an Infantry soldier, LCDR later commissioned into the RAANC. As an Army Nurse, he spent time at 11 Close Health Company, before moving to support the 6th Aviation Regt, during which time he received the Sikorksy Rescue Award for a lifesaving mission in a Blackhawk Helicopter. LCDR Robinson was then successful in being selected for a posting to SOCOMD and served 3 years in the 2nd Commando Regt where he served on the Tactical Assault Group - East as a clinician and also deployed with the Special Operations Task Group to Iraq as the Medical Supervisor. LCDR Robinson subsequently transferred to the RAN and led the aeromedical team and deployed to the bushfires in this capacity. Not long after Op Bushfire Assist,

LCDR Robinson deployed to Afghanistan to the Role 2 Hospital in Kabul. He was the first Navy Nursing Officer to be successful in being chosen for Op Paladin and deployed to Southern Lebanon in 2023 as an Unarmed United Nations Military Observer. He was Wounded In Action 30 March 24 and repatriated to Australia for treatment.

I was deployed on Operation Paladin in July of 2023 and assigned to Observer Group Lebanon (OGL) as an unarmed UN Military Observer (UNMO). This is the ADFs contribution to the United Nations Truce Supervision Organisation (UNSTO), where for the last 76 years UNMOs from Australia have been observing, monitoring and reporting on violations against the United Nations Security Council Resolution 1701.

On the 30 March 2024, five months after the Israel-Hamas-Hezbollah war started, I made a plan to conduct a patrol to observe an area on the Lebanon/Israel border. Due to the tensions and sensitivities I had spent a number of days planning and liaising with numerous UN organisations, Israeli Defence Force and local assets. My team and I were confident that we had exhausted every measure to ensure the safety of the patrol. At approximately 0845 on the 30 March 24, Team Victor, comprising of two armoured 4WDs, four UNMOs and an interpreter made our way to the designated area. Arriving at the area, the road was blocked due to damage caused by an airstrike, so we made the collective decision that we would exit the vehicles and proceed on foot the few hundred meters to the site. I was to lead the foot patrol, followed by an UNMO from Norway and Chile, with the Swiss UNMO staying with the vehicles.

Approximately 100m along the path, an an explosion occurred critically injuring the three of us. I was blown to the ground, having numerous large fragmentation impacts to my helmet and body armour as well as wounds to my face, shoulder, arm, flank and leg. Not to mention instantly rendered deaf in my left ear and disorientated. On the ground, I went through years of training... self aid... buddy aid... medic aid. Am I safe? Is the scene safe? are there other survivors? I checked myself for major haemorrhage, then found my radio and sent the “MAYDAY”. I could start to see my colleagues through the smoke and debris and unsteadily made my way to the UNMO from Norway. He was peppered with shrapnel and bleeding , also deaf and had a broken arm, but at first glance no life threatening injuries.

I then heard my other UNMO from Chile call my name. Through the smoke and debris, I saw she could not stand without falling. I moved toward her and saw her wounds and burns, my heart sank. I knew straight away she would need surgery. If we waited for a CASEVAC it would be over an hour just to get to us, I knew she needed urgent stabilisation and a helicopter to get her to Beirut for surgery. As the Team and Patrol Leader, I made the decision that even though injured, the team would have to conduct a self rescue and I would have to treat both my colleagues as best as I could on the move. While carrying my colleague to the vehicle I made a hasty movement plan and yelled it to the Swiss UNMO who was uninjured. I put my injured colleague on the backseat of the car, squeezed into the footwell between the front and rear seat on my knees so I could treat her. The injured UNMO from Norway, even though injured had to reverse 300m through a known minefield to a turn-around point before proceeding to our patrol base.

Within minutes I had exhausted the teams medical supplies and then became acutely aware of the shrapnel sticking out of me, as well as my other injuries. I continued to treat both casualties as best as I could given the confines and lack of supplies, as well as providing MIST updates over the VHF so the trauma team was ready for our arrival.

That morning, years of training were condensed into 40 minutes of terror.

A Longitudinal Investigation of Natural Killer Cell Cytotoxicity in Australian Veterans with Gulf War Illness

Miss Jessica Dwyer[1,2], Dr Natalie Eaton-Fitch[1], Professor Sonya Marshall-Gradisnik[1]

1 *National Centre for Neuroimmunology and Emerging Diseases, Griffith University, Gold Coast, Australia*

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Biography:

Jessica Dwyer is a Research Assistant, supporting laboratory research aimed at implementing diagnostic tests and discovering evidence-based treatments to improve health outcomes. She is also a member of the Clinical Trial Team.

Her Master's research focuses on investigating Natural Killer (NK) cell cytotoxicity dysfunction in Gulf War Illness, aiming to elucidate immune system alterations in affected Veterans.

Introduction

Affecting approximately one-third of veterans of the 1990-1991 Persian Gulf War, Gulf War Illness (GWI) is a complex, multifactorial disease characterised by a range of persistent symptoms including post-exertional fatigue, cognitive impairment, and musculoskeletal pain. The aetiology of GWI remains unknown, and no definitive biomarkers or diagnostic tests currently exist. However, GWI has been linked to significant alterations in immune function, with previous research documenting changes in cytokine signalling, the presence of autoantibodies, and, more recently, ion channel disturbances in natural killer (NK) cells of veterans with GWI compared with healthy controls (HCs). Despite these findings, research on the role of NK cells in GWI remains limited. Therefore, this research aims to investigate longitudinal NK cell cytotoxic function in Australian veterans with GWI compared to HCs using flow cytometry.

Methods

Participants included Australian Veterans meeting both the Centers for Disease Control and Prevention (CDC) case definition for GWI. Sex-matched HCs with no history of chronic disease were also recruited as a comparison cohort. Peripheral blood was collected, and NK cells were isolated using negative immunomagnetic selection with commercially available kits. Cytotoxic activity was determined by co-culturing the isolated NK cells with K562 target cells at varying effector-to-target ratios. Apoptotic and necrotic activity was measured using Annexin V and 7-Aminoactinomycin D (7-AAD) staining by flow cytometry. Baseline and 12-month follow-up data were collected and analysed. Statistical analyses were conducted using IBM SPSS and GraphPad Prism.

Results

Baseline analysis revealed a significant reduction in NK cell cytotoxicity in Australian veterans with GWI (n=21, mean 55 years ± 1.07) compared to HCs (n=18, mean 40 years ± 2.43) ($p<0.05$). Preliminary data of the 12-month follow up data also indicated a significant reduction in NK cell cytotoxicity between Australian veterans with GWI (n=10, mean 54 years ± 1.08) compared to HCs (n=10, mean 43 years ± 3.5) ($p<0.05$). However, there was no significant difference within groups between the baseline and 12-month follow up time points.

Conclusions

This research aims to characterise the underlying pathophysiology of GWI in comparison to HCs. The consistent findings of reduced NK cell cytotoxicity in Australian Gulf War veterans with GWI over time suggests that it is a key feature in immune dysregulation. Ongoing research will further investigate potential alterations in NK cell phenotypes, degranulation and production of lytic proteins.

A Pilot Study of the Feasibility and Acceptability of Using Virtual Reality for Anxiety and Stress Management with Inpatient Former Serving Australian Defence Force Members in a Mental Health Hospital

Mr Murray Nankivell[1]

1 *Military And Emergency Services Health Australia, Glenside, Australia*

Biography:

Murray is currently a Research Officer at Military and Emergency Services Health Australia and is a PhD candidate in the College of Education, Psychology, and Social Work at Flinders University. He has extensive experience working within trauma population research, leading the VR meditation program within an inpatient veteran hospital and has also been a member of the research team investigating the supports available to first responders and their families following the suicide of a first responder in Australia.