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## Acceptability of a Mindfulness App and Smartwatch Amongst U.S. Veterans with PTSD

Dr Lorcan O'byrne<sup>1</sup>, Professor Rumi Kato Price<sup>2</sup>

<sup>1</sup> University College Dublin

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### Aim

Several barriers (stigma, financial concerns, geographic constraints and medication concerns) discourage U.S. Veterans from seeking effective posttraumatic stress disorder (PTSD) treatment. Thus, despite the availability of evidence-based treatments, rates of PTSD remain high in this population, highlighting a need for innovative management tools. Previous studies have shown mobile applications to be efficacious in treating PTSD symptoms. Mindset is a similar application, designed to help users manage their mental health symptoms; however, it is novel as it utilizes heart rate-related data via a smartwatch to monitor user's stress level and deploy app e-therapies.

### Method

This pilot study evaluates the effectiveness and acceptability of Mindset and the applications capacity in managing PTSD symptoms. Twenty-four community-residing Veterans meeting inclusion criteria completed both baseline and follow-up interviews. Following baseline interview, participants used the Mindset app and related heart rate watch continuously for approximately one month until their follow-up interview. Interview assessments included pre- and post-deployment experiences, standardized screeners for PTSD (PCL-M), anxiety (GAD-7), depression (PHQ-9), alcohol use problems (AUDIT-10), and user experience with Mindset, among others.

### Results

A significant decrease ( $p < 0.05$ ) was found in PCL-M, PHQ-9 and AUDIT-10 between baseline and follow-up interviews. Respondents reported moderate to high acceptance and satisfaction with Mindset features. Mindset use may be associated with decreasing symptoms of PTSD and alcohol abuse in this sample of U.S. Veterans.

### Conclusion

This study highlights a Mindfulness app, such as Mindset, as a useful tool to augment existing therapies for PTSD in war veterans.

### Biography:

Lorcan is a junior doctor from Ireland, currently working as a Resident Medical Officer in Perth, Australia. This research was completed while on Scholarship at the Department of Psychiatry at Washington University in St Louis, United States

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## ADF Military Medicine: Starting With 'Who'

Dr Neil Westphalen<sup>1</sup>

<sup>1</sup> Royal Australian Navy

When we think about the health services we provide, we generally start with:

- What we do...
- and how we do it...
- ... but not so much about why, beyond phrases like 'saving lives' or 'improving people's health', usually as ends unto themselves.

This approach comes naturally, because it starts with something concrete, and progresses to things that are more abstract.

This presentation offers some thoughts as to how we currently think about what the ADF health services do, based on a derivation of Simon Sinek's 'Golden Circle', and ask if it needs to change.

### Biography:

Dr Neil Westphalen graduated from the University of Adelaide in 1985, joined the permanent Royal Australian Navy in 1987 and transferred to the Reserve in 2016. During this time, he accumulated 2 1/2 years afloat in the Red Sea, southeast Asia, southwest Pacific, and southern Indian Ocean, while undertaking multiple clinical and staff roles ashore in NSW, VIC and WA. His postgrad qualifications include a MPH, a DipAvMed, and Fellowships of the RACGP, ACAsM and AFOEM. He was accepted as a history PhD candidate at UNSW Canberra in March 2020; his topic "Medical Support for RAN Operations 1901-1976".

## ClearDrum: the World's First Prosthetic Device for the Repair of Tympanic Membrane

Dr Filippo Valente<sup>1</sup>, Professor Marcus Atlas,  
Mr Philip Canner

<sup>1</sup> ClearDrum Pty Ltd

<sup>2</sup> Ear Science Institute Australia

Blast-related ear injuries are a concern during deployment because they can compromise a service member's situational awareness and adversely affect operational readiness. Tympanic membrane ruptures are among the most common ear injuries diagnosed.

ClearDrum® is the world's first customized treatment solution for sufferers of tympanic membrane perforation, which is also caused by chronic diseases of the middle ear and represents a major cause of disability for children and adults globally. Current treatments are unsuitable resulting in revision surgery, hearing loss and ongoing disability. The ClearDrum® device, provides an off-the-shelf, fit-for-purpose implant to resolve these difficulties in a single, straightforward surgical procedure. The project has run for 10 years, to develop a novel product based on a silk fibroin biomaterial. The project has now completed the preclinical phase of development, which include a working prototype, a strong international IP position, a US contracted manufacturer, an established supply chain, collaborations with a series of specialist Australian companies, international surgeons and consultants and a dedicated company to for its commercialisation

### Biography:

*Dr Filippo Valente is a biomedical scientist with a background in biomaterials research and commercialization. This includes the development of nanomaterials for drug delivery and polymer scaffold for ENT surgical implantation. Dr Valente led the product development of the ClearDrum® medical device for tympanic membrane repair at Ear Science Institute, and created a dedicated company to commercialise this innovation, ClearDrum Pty Ltd.*

## Comparison of the Scope of Practice of ADF Non Commissioned Health Care Providers Versus Civilian Australian Paramedics

Dr Felix Ho<sup>1,2,3,4,5</sup>, Mr Alexander Johnston<sup>2,6,7</sup>

<sup>1</sup> Department of Health

<sup>2</sup> St John Ambulance Australia

<sup>3</sup> Flinders University

<sup>4</sup> Charles Darwin University

<sup>5</sup> Royal Australian Air Force

<sup>6</sup> Royal Australian Navy

<sup>7</sup> University of Tasmania

Australian Defence Force (ADF) medical technicians (medics) and sub-medical health providers (eg. patrol medics, combat first aiders, ship's medical emergency team members) operate as non commissioned health care providers within all three services as frontline health care providers on operations in austere environments, for garrison health support and on civilian placements. Medics have been trained for registration as an Endorsed Enrolled Nurse through a Diploma of Nursing, and previously in pre-hospital care with a Diploma of Paramedical Science (now obsolete); while other providers have in-house endorsement.

Many aspects of their roles are similar to of civilian Australian paramedics especially during airfield or garrison support, or on operations. However, the scope of prehospital health care providers and scope varies between services and locations.

This poster aims to review the current scope of practices of ADF non commissioned officer health care providers and compare these against that of civilian paramedic scope of practices.

### Biography:

*AB Johnston recently transitioned out of the RAN in August 2020 after joining in January 2015. He has been deployed on OP Manitou, Resolute and Augury on multiple naval platforms. He holds a Bachelor of Paramedic Practice and currently completing a Masters of Advanced Paramedicine. He is employed as an on road paramedic in Darwin.*

*Felix Ho is a medical practitioner and paramedic in Darwin and a RAAF Reservist. He holds appointments as a lecturer with Flinders University and adjunct appointment with Charles Darwin University*

### Complementary and Integrative Medicine Prevalence and Utilisation in International Military and Veteran Settings and Communities: A Systematic Review

Dr Jessica Bayes<sup>1</sup>, Mr John Palencia<sup>1</sup>, Prof Jon Wardle<sup>1</sup>

*1 Southern Cross University*

**Background:** Active-duty military personnel and veterans have unique and complex health needs, with the high demands of military life often leading to chronic physical and mental health conditions. Complementary and integrative medicine (CIM) could be a possible solution to this problem. Some military health systems (MHS), have started integrating CIM into health care delivery. However, there has been no systematic evaluation of the prevalence and utilisation of CIM in military and veteran populations globally.

**Methods:** A systematic literature review of original research which assessed the prevalence and utilisation of CIM among active serving military or veterans was conducted. CINAHL, Medline, Scopus and AMED databases were searched up to the 3rd of February 2023.

**Results:** A total of 27 studies met the inclusion criteria and were included in this review. The overall quality of evidence was high with a low risk of bias. Utilisation of CIM therapies varied. The lowest utilisation demonstrated that only 1.9% of services delivered by MHS were CIM. The majority of studies found utilisation rates between 30-80%, with some studies reporting use as high as 90%. The most commonly used therapies included chiropractic care, massage, mindfulness/meditation and acupuncture. Utilisation of CIM products was high and ranged from 32% to 87%. The most frequently used products were dietary supplements, particularly multivitamins and minerals and protein supplements/amino acids. Use of herbal medicines was high among veterans ranging from 10% to 79%.

**Conclusion:** The high demand for CIM treatments by military personnel and veterans has important implications for policy, funding allocation, and integration of these services into clinical practise, particularly by countries not currently doing so. Further research is needed assessing the implementation of CIM therapies into real-world settings to explore barriers and facilitators for their use in clinical practise, and by extension, their integration into the wider healthcare system.

### Biography:

*Dr Bayes is a postdoctoral research fellow at Southern Cross University. Her background is in nutrition, dietetics and integrative medicine. Her research focus is in the field of nutritional psychiatry which explores the role of nutrients, foods and dietary pattern in mental health conditions.*

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### FORTRES: Prospects and Opportunities of a Dedicated Therapeutic Milieu for Veterans

Dr Marie Boulianne<sup>1</sup>, Dr Richard Magtengaard, Mrs Cathy Thomas, Dr Richard Bostwick, Dr Michael Leocadio

*1 Bethesda Clinic*

*2 Australian College of Mental Health Nurses*

Veterans have higher rates of both mental and physical health problems than the general population (Gibbs et al., 2020). They experience a host of psychiatric conditions including PTSD, anxiety, depression chronic pain, substance misuse and other comorbidities (Terhaag et al., (2022) at a rate of up to 40% (Trivedi et al., 2015). Stigma around mental health reportedly prevents up to 60% of them in accessing assistance (Sharp et al., 2015). To our knowledge, no mental health facility in Australia has a specifically dedicated veterans' ward. Veterans' mental health for in-hospital care have traditionally been delivered within mixed cohort wards with civilians. Therapy sessions and overall care are delivered from a generalist perspective to suit the majority. Because of the nonspecific care delivery other issues facing these veterans including loss, role and relationship adjustments, alienation, fighting and withdrawal, and the intricacies around trust are ineffectively addressed.

Bethesda Clinic was established in response to a growing demand from consumers for mental health care services that meet individualised needs. After feasibility studies and consumer engagement, a 75-bed mental health facility was constructed in Western Australia to serve the region and beyond. Of these, 25 beds were specifically dedicated to Veterans and First Responders. A group of health professionals, information, technology, and engineering specialists collaborated designed a holistic, trauma-informed, and recovery-focused service. Characteristics of the model included: central triage, inpatient therapy programme, Wellness and Recovery Centre and discharge planning by a dedicated GP Liaison/ Discharge Coordinator. Doctors and consumers have

access to portals outside of the clinic. The ward uses the FORTRES framework to provide personalised care to veterans and first responders.

**Fellowship** – Fellowship is an important factor in veterans' mental health as it improves their social connection, self-esteem, confidence, and coping skills. The power of socialising with other veterans, particularly evident in group therapy, ward activities, mealtimes, and exercise groups enhance the therapeutic outcomes.

**Open Access** – Provision of psychoeducation, resources, and opportunities to address veterans' individualised needs, including allied health team, enhance psychosocial interventions to address housing, education, pastoral/spiritual needs, and substance misuse. Knowledge articles and worksheets are accessible for veterans to strengthen their skills and enriched by nurses on the ward.

**Recovery-focused** – Discharge planning starts from admission with the formulation of crisis management, transition-to-home care, and safety plan. This involves establishing hope, optimism, strengths, and abilities for a meaningful and purposeful existence. Progress is monitored throughout the admission, quantified through a technology known as Mentegram and through a follow-up post discharge.

**Trauma-informed care** – Staff education includes close collaboration with specialised organisations providing additional military depth and context. To prevent re-traumatisation, the clinic features Safewards as its care model, sensory-modulated therapeutic environment, and trauma-trained and therapeutic clinical staff.

**Empowerment** - various encounters (e.g., group therapy, one-on-one sessions, specialised allied health provider) centre on empowerment, mood, anxiety, mindfulness, values, resilience, shame, guilt, and grief processing groups, and healthy ageing. Family meetings are encouraged and extend the care to veterans' meaningful others. Community meetings are held every week for each veteran to find their voice and provide feedback to help shape their experience and continue to improve the quality of the service.

**Synergy** - Individualised goal setting and care planning based on four therapeutic quadrants (i.e., physical, psychological, social, spiritual) are created and implemented with the veteran. Transdisciplinary involvement of external providers (pain specialists, advocates, AOD specialists) to combine their expertise in addressing multiple and complex issues.

Future directions for the clinic include the development of a Trauma Recovery Day Program,

a hospital-at-home program, and the impact assessment of the FORTRES framework in shaping and advancing the mental healthcare of veterans.

### Biography:

*Marie works at Bethesda Clinic as the Clinical Nurse Manager providing specialised mental health care to Veterans and First Responders. Her working experience includes a mixture of community mental health nursing, private practice, and academic positions in undergraduate and postgraduate nursing.*

*She is a Credentialed Mental Health Nurse with the Australian College of Mental Health Nurses where she also holds the position of Chair for the Western Australian Branch.*

Marie completed her PhD at the University of Notre Dame researching the role played by humour in the development of resilience and wellbeing in nursing

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## How to Deploy a Molecular Diagnostic Laboratory at 72 hours' Notice to Move

LTCOL Timothy Inglis<sup>1,2,3</sup>, Mr Teagan Paton<sup>1,2</sup>,  
LTCOL Joanne Briggs<sup>4</sup>

1 University of Western Australia

2 Health Department of Western Australia

3 RAAMC

4 RAANC

### Background

Following notification of a suspected quarantine breach in 2020 affecting potential Defence personnel in the north of Western Australia, a decision was made to deploy a mobile laboratory team out of Perth. No proprietary point of care SARS-CoV-2 molecular tests methods had been validated for regional use in WA by that stage. However, a compact molecular diagnostic SARS-CoV-2 test capability had been developed by the state pathology service as an emergency contingency through resource industry and philanthropic funding.

### Method

The air portable COVID laboratory was deployed with three staff in a one day, fly-in/fly-out operation to Broome and back to Perth. A forward sample collection point was established by arrangement with local administration. COVID-19 swabs were transferred under continuous cold chain to the nearest regional pathology laboratory where the portable molecular laboratory was set up in optimal



conditions. All PCR assays and control serials were completed before packing up and departing in time for the evening return flight. On arrival back in Perth, samples were offloaded at the reference laboratory, and run using reference methods the following day.

### Results

72hr notice to move proved challenging, with a 48hr laboratory payload preparation window including reagent and equipment checks, packing and delivery to civilian aviation services. The most difficult component was the 100mL volume of analytical grade ethanol required for specimen extraction, which required a special permit for carriage by air. Once in location, an offline label printer with data input avoided double entry of specimen identification details. Use of a civilian laboratory aided specimen processing workflow but was not essential. The PCR assay controls all performed as expected. 19 patient specimens were all SARS-CoV-2 negative in field and by reference assay. The cold chain was maintained throughout transit. As no positives were detected, the personnel were able to continue their training programme with minimal interruption, and follow up PCR assays later.

### Conclusion

The distances between specialist molecular diagnostic services and regional centres posed significant logistic problems for a civilian response to suspected COVID incidents in the early stages of the pandemic. Deployment of a rapid response team to regional WA delivered accurate results to WA public health and unit command, enabling timely decisions on further action. Rate limiting deployable laboratory components such as absolute ethanol could be pre-deployed in future. The flexible open format used on this occasion has wider application, including a variety of Defence field applications. Close to point of care molecular diagnostic methods were subsequently deployed to most WA regional laboratories to accelerate generation of actionable COVID results.

Reference. Paton TF, Marr I, O'Keefe Z, Inglis TJJ. Development, deployment and in-field demonstration of mobile coronavirus SARS-CoV-2 Nucleic acid amplification test. *J Med Microbiol.* 2021 Apr;70(4):001346.

### Biography:

*Dr Inglis works with the WA Country Health Service, PathWest and the University of Western Australia on the Country Health Infection programme (CHIP). During the COVID-19 pandemic he and colleagues developed a fully deployable SARS-CoV-2 laboratory*

*for use in regional and remote locations. He was SMO with the WA joint task group throughout the pandemic.*

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## Introduction of Virtual Care Options to Support Access to Mental Health Services for Defence Members

Dr Veronica Pitt<sup>1</sup>, Dr Amber Willink<sup>1</sup>, Lieutenant Colonel Dale Hopcraft<sup>2</sup>, Mr Jericho Banaticla<sup>2</sup>

*1 Bupa ADF Health Services*

*2 Joint Health Command*

### Background

Timely access to community-based psychologists and psychiatrists is challenged by a national shortage of health professionals and increased demand in the civilian population. The maldistribution of mental health professionals across Australia means access to care is particularly difficult in regional, rural and remote locations. In the last 18 months, Bupa and JHC have implemented the National Telepsychiatry and Telepsychology services to increase options for ADF members to access mental health professionals.

### Approach

The National Telepsychiatry Service was implemented in September 2021 and the National Telepsychology Service was initially implemented as a soft launch in NSW in October 2022 followed by national implementation in February 2023. To assess the impact of introducing these services, a pre-post study design was used to evaluate access to mental health services during a baseline period 12 months pre-implementation compared to the current 12-month period to account for seasonal fluctuations in utilisation. Primary outcome was the average wait time for initial referral requests. Secondary outcome measures for access included travel distance and incidence of failure to attend a booked appointment. The impact on members was evaluated based on patient experience scores for off-base psychiatry and psychology encounters.

### Findings

Since implementation in September 2021, 589 initial referrals have been raised for the National Telepsychiatry Service equating to 5% of the total volume of initial psychiatry referrals in the period ending 30 April 2023. Comparison of pre and post implementation periods showed a reduced average appointment wait time for psychiatry services by 1 day.

Since the soft launch of the National Telepsychology Service in October 2022, there have been 190 referrals for the service. This is 3% of the total volume of initial psychology referrals raised in the period up to 30 April 2023. Comparison of pre and post implementation periods shows a 5 day reduction to average appointment wait time for psychology services.

There was little change in secondary measures for access (travel distance, failure to attend) for both services. Patient experience scores improved for mental health encounters.

### Discussion

Video-enabled consultations allow members to gain access to a national network of mental health professionals and overcome local challenges in accessing providers or experiencing long wait times. In the context of national shortages of mental health professionals and increased wait times for civilians accessing services, the improvements in timely access to care for Defence members during this period is a meaningful difference. We note several challenges and enablers for implementation and uptake of national virtual mental health services. Challenges included the need for behaviour change in referral practices, differences between service delivery models for civilian and Defence populations (particularly psychiatric services), local application of decision support tools for referring to virtual services, and perceptions of telehealth as a mode for delivery.

Enablers for the uptake of virtual care services include provider engagement with on-base health professionals to align service delivery to meet Defence needs, supporting multiple communication channels to enable on-base health professionals to raise informed referral requests for external providers, and identifying a discrete population of high-volume referrers to champion local implementation of new services.

### Conclusion

Introduction of telehealth increases the options available to members to access care in a timely and convenient manner. There are further opportunities to explore telehealth options to improve access to care for members more broadly within the Defence Health System.

### Biography:

*Veronica Pitt is the Change and Transformation Partner for Bupa ADF Health Services where she leads a portfolio of improvement and innovation initiatives in partnership with Defence and stakeholders. She is*

*experienced in evidence-based clinical practice and policy with a PhD in Science and Master of Business Administration from The University of Melbourne.*

*Dr Amber Willink is the Head of Service Delivery Optimisation at Bupa ADF where she works in partnership with Defence to identify and implement service delivery improvements. Prior to joining Bupa, Amber was an Associate Professor at the University of Sydney and Johns Hopkins University. She has a PhD in Health Services Research and Policy from Johns Hopkins University.*

*Lieutenant Colonel Dale Hopcraft is a psychologist posted to Joint Health Command as the SO1 Mental Health in Garrison Health and has served in the Australian Army for over 22 years. In this time he has undertaken a range of clinical, organisational, instructional and operational and staff appointments, which has included postings to the Mental Health and Psychology Section – Kapooka, the 1st Intelligence Battalion, the 1st Psychology Unit and the Army School of Health, and he has deployed on Operations ASTUTE, VIC FIRES ASSIST, HANNAH, ACCORDION and OKRA.*

*Mr Jericho Banaticla is currently serving as the Deputy Director of Continuous Improvement and Innovation at Joint Health Command. He is an experienced Continuous Improvement Manager with qualifications in business management (MBA), process engineering and agile project management. He has led LEAN continuous improvement projects in the automotive and health care industries.*

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## Measuring Moral Injury in an inpatient psychiatric unit for Military and Service Related Trauma

Professor Zachary Steel<sup>1</sup>

*1 School of Psychiatry, University New South Wales*

Fear based models of PTSD have dominated research and clinical approaches to PTSD since the 1990s. Trauma-focused treatment approaches have emphasised interventions that facilitate habituation and fear extinction or the use of cognitive strategies to reduce exaggerated threat appraisal. There is growing recognition that these models and approaches do not address the full range of emotional injuries that can generate a traumatic stress response. Existing models of PTSD recognise that trauma exposure will often lead to a range of negative emotional appraisals. In particular threat appraisal associated with life threat and fear will often also be associated with feelings of , horror, shock, anger, guilt and shame responses.

In response to the growing recognition that military and first responder groups commonly experience traumatic loss and moral injury we introduced a standard assessment of feelings of moral injury as part of a multi-modal assessment package.

St John of God Richmond Hospital has a long history of providing care for Veterans and first responders presenting with psychological injury. The Xavier Ward is 30 bed inpatient unit for service-related PTSD. In 2020 we introduced a multimodal assessment that included the

Moral Injury Events Scale (MIES) that consists of 9 items measuring perceived transgressions by self and others and perceived betrayal by others. We present the findings of the MIES in this population and the relationship of MIES to Results are presented for 100 consecutive admissions with the majority of patients. The majority of patients identified with encountering high rates of exposure to moral injury most often at the hands of others but also to a significant degree due to perceived transgressions of their own. These experiences were strongly intercorrelated with other symptoms of PTSD, anger and anxiety.

### Biography:

*Trauma and Mental Health, a partnership between Richmond and Burwood Hospital in NSW and the School of Clinical Medicine UNSW. He has a 30 year history of work with populations affected by trauma, including veterans, emergency service workers, refugees, asylum seekers and those affected by mass conflict. He is the immediate past president of the Australasian Society for Traumatic Stress Studies (2019-2021) and Board member for the Service for the Treatment and Rehabilitation of Torture and Trauma Survivors (STARTTS) in NSW.*

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## Prolonged Field Care Guidelines for the Management of Military Casualties Requiring Extended Duration Limb Tourniquet Application

Dr Patrick Weinrauch<sup>1</sup>

<sup>1</sup> 2nd Health Battalion

Tourniquet application is a universally accepted lifesaving emergency intervention for the pre-hospital management of catastrophic limb haemorrhage. Application of arterial tourniquets for short durations of time is consistently safe in relation to local tissue ischaemia, limb salvage rates and the systemic metabolic impacts upon reperfusion.

Delivery of future ready medical care within the Australian Defence Force needs to consider operational environments where casualty evacuation is delayed for multiple reasons including contested evacuation asset manoeuvre, extended evacuation distances, resource limitations and tactical constraints. Prolonged Field Care (PFC) of a casualty with a limb tourniquet applied over an extended time duration for the management of life threatening catastrophic haemorrhage creates unique clinical management issues that impact upon all levels of health care delivery. Tourniquet time correlates with ischaemic limb injury and is therefore associated not only with decreasing rates of limb viability and functional recovery but also with increasing systemic and metabolic impacts upon tourniquet release and subsequent reperfusion. Extended duration tourniquet application therefore represents a concern across all levels of health care provision as it impacts upon pre-hospital and initial emergency care, decisions relating to surgical and anaesthesia management and post-surgical care including intensive care and pharmaceutical protocols.

This paper delivers clinical management recommendations for PFC health care providers in the management of casualties where extended duration limb tourniquet application is necessary. The guidance statements have been developed by comprehensive literature review including collateral information drawn from multiple models that demonstrate pathophysiologic and clinical similarities in respect of limb ischemia, reperfusion injury and systemic metabolic consequence. Guidance statements are provided with Class of Recommendation Strength (COR) and Level of Evidence (LOE) stratification according to the American College of Cardiology (ACC)/ American Heart Association (AHA) clinical guidance recommendation system.

Recommendations discussed within this presentation are as follows:

1. Tourniquet application, reassessment, replacement and conversion techniques are to be conducted in accordance with TCCC guidelines (Recommendation Strength: 1; Level of Evidence: B-NR)
2. Tourniquet application less than 2 hours duration is considered optimal clinical management (Recommendation Strength: 1; Level of Evidence: B-NR).
3. Tourniquet application greater than 2 hours duration is associated with increased risk of permanent ischaemic injury (Recommendation Strength: 2A; Level of Evidence: C-LD).

4. Ischaemia starts at time of wounding and continues until successful revascularisation is achieved (Recommendation Strength: 1; Level of Evidence: C-EO).
5. Limb cryotherapy is protective of ischaemic injury (Recommendation Strength: 2B; Level of Evidence: B-NR).
6. PFC Tourniquet re-evaluation should be conducted if application time greater than 2 hours is anticipated (Recommendation Strength: 2A; Level of Evidence: C-LD).

This presentation is part one of a two part series. The accompanying second part presents recommended surgical facility guidelines for management of casualties after extended duration tourniquet application.

Biography:

*Orthopaedic Surgeon*

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### Supporting the Holistic Well-Being of Military Personnel: A Research Review and Results of a National Chaplaincy Survey

Rev. Mark Layson<sup>1</sup>, Assoc. Prof. Lindsay Carey<sup>2,3,4</sup>, Dr Megan Best<sup>3,5</sup>

*1 Charles Sturt University*

*2 School of Psychology and Public Health*

*3 Institute of Ethics and Society, University of Notre Dame*

*4 Directorate of Spiritual Health and Wellbeing*

*5 School of Medicine*

#### **Background**

The Royal Commission on Defence and Veteran Suicide has brought increased attention to the mental health and wellbeing of military personnel in the Australian context. Chaplains have historically been on the frontline of support for military personnel, having been deployed to every military campaign in the history of the ADF. Additionally, a research pilot, approved by the Australian Government, has recently commenced where chaplains will provide support to defence veterans following their discharge.

In accordance with the World Health Organization ICD-11-AM Spiritual Interventions, Chaplains provide assessments, support, counselling, guidance, education and various celebratory or memorial rituals for all defence members and their families — regardless of their faith or no-faith position. Chaplains are also trained with respect

to Moral Injury (MI), Pastoral Narrative Disclosure (PND), to provide psychological first aid, and suicide support in proactive and reactive ways.

However, with increasing secularity in Australia, there has been a call to reconsider the value and role of chaplains. It has been claimed that the faith-based nature of chaplains provides too large a barrier for nonreligious personnel to access chaplaincy support. Some extreme secularists have even recommended the complete removal of faith-based chaplaincy from the ADF.

#### **Objective**

This research project aimed to understand the barriers and facilitators, if any, to ADF chaplaincy services and secondly to explore the usage and satisfaction with chaplaincy services that are currently provided to assist the mental health and wellbeing of ADF members.

#### **Methods**

The first phase of the research involved an international literature-scoping review of the evidence base related to chaplaincy usage and access. Secondly, serving members of Army, Navy, and Air Force were invited to participate in a survey during 2021, to report on experiences around access, usage, and satisfaction of personnel with chaplaincy services.

#### **Results**

The literature review reported on 33 articles involving a total of 19,366 participants from around the world. The hypothesised barrier to accessing faith-based chaplaincy was largely not supported. Instead, other issues were noted by military personnel, including the poor integration of chaplaincy within medical and mental health services. Several enablers for chaplaincy access were reported in the literature along with the positive impact of chaplaincy services on staff wellbeing. Additionally, it was reported that because of high levels of trust in the current faith-based chaplaincy services, chaplains provided an important avenue into other health interventions provided by the military. Finally, results from a 2021 survey, involving 2,783 randomly recruited military personnel, reported high levels of satisfaction from those who had accessed chaplains. Chaplains were also the most preferred staff support service for combined tri-services. Additionally, over 67% agreed that chaplaincy was important or very important, while over 82% of chaplaincy users reported that the faith of the chaplain was not an important factor in their accessing support.



### Conclusion

Chaplains are well-placed, and highly utilised wellbeing professionals who have, for over a century, been trusted by many personnel to be an integral element of the holistic health and wellbeing services for military personnel. Suggestions on chaplaincy improvements and various methods for the better integration of chaplaincy with mental health care professionals are discussed.

### Biography:

*Rev. Dr Layson's doctoral research developed a biopsychosocial-spiritual framework to prevent moral suffering in first responders. Mark Layson recently submitted doctoral research that developed a biopsychosocial-spiritual framework to prevent moral suffering in first responders. He has served 11 years as an ambulance chaplain to critical care paramedics and doctors. His lived experience of trauma work as a police-officer and firefighter, along with research interests in moral philosophy and moral psychology inform current research. His doctoral research explored the intersection of workplace safety, staff wellbeing, morality, and spirituality.*

*Dr Carey commenced tertiary teaching and research in 1989 with the Lincoln Institute of Health Sciences and then with La Trobe University in 1991. He has served as Research Fellow for the Caring for Caregivers Program, Research Fellow with the Royal Australian College of General Practitioners Evaluation Program, Chaplaincy Research Fellow at the Northern General Teaching Hospital Sheffield and the National Research Fellow with the Australian Health & Welfare Chaplains Association. He is the author of over 200 publications and is Editor-In-Chief of the international journal 'Health and Social Care Chaplaincy', and Editor-In-Chief of the 'Journal of Religion and Health'. He has twice been recognised as a National Field Research Leader and was co-awarded the 'Sir Edward Weary Dunlop Award' for research in veteran health.*

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## The Evacuation of Australian Visa Holders from Kabul: A Reflection on the Challenges and Lessons Learned

Mr Matt Ingram<sup>1</sup>

<sup>1</sup> Aspen Medical

In August of 2021, Aspen Medical through its office in the United Arab Emirates was contacted by the Australian Government's Department of Foreign Affairs and Trade (DFAT) in request of medical

support for the imminent arrival of Afghan evacuees. As part of this request, Aspen Medical was asked to deploy a medical capability through its UAE office with immediate effect. In response, and within 72 hours of receiving the request, Aspen Medical established a deployable clinic with observation rooms, consultation rooms, a resuscitation capability, pharmacy, temporary short stay admission, ambulance capability, and the provision of medical equipment and consumables. Whilst initial estimates indicated that 200-400 evacuees would arrive in country, within 14 days 2,800 evacuees had arrived and under the care of Aspen Medical. The evacuees would transit the United Arab Emirates (UAE) on route to their final destinations of Australia, New Zealand and the United States.

The operation would present numerous challenges to the joint repatriation effort. The importation and customs clearance of a deployable clinic constituted the first obstacle, requiring high-level intergovernmental engagement and coordination. The rapid nature of the evacuation meant that advanced warning of sick and injured evacuees was constrained. This extended to the provision of detailed manifests which was similarly encumbered by the complex conditions on the ground in Kabul. Planning and forward projection in such circumstances remained a key challenge.

Government and non-government medical officers were faced with daily decisions where patient fitness to travel needed to be carefully balanced with an imperative to quickly repatriate. As part of this deliberation, our medical officers needed to consider the extant availability of appropriate medical care versus the care available in the home country. Sub-optimal, high density living conditions and the risk of COVID-19 transmission further confounded the complexity of decision-making.

During peak evacuee numbers, identifying the presence of sick and injured evacuees remained difficult. For example, the identification of late term pregnancies and strokes were on occasion reported to have been discovered by chance, often when clinicians would transit between clinic locations. This challenge was due in part to a perceived fear that illness or injury could prevent repatriation, or risk being returned to Kabul.

Whilst many of the challenges were reasonably foreseeable, some were not. The arrival of minors without parents or guardians represented some of the social challenges experienced throughout this operation. The ability to care for children whilst parents underwent treatment or medical review required additional resourcing. Importantly, the value of non-clinical care and services proved to be a

significant factor in establishing trust and confidence in the clinical services.

During the peak 19-day period, Aspen Medical treated 715 patients, 15% of whom were 5 years of age or younger

### Biography:

*Sean Ryan started his career as an officer in the Australian Defence Force (ADF) serving as a military planner in Bosnia-Herzegovina and Afghanistan, as well throughout Australia and the Indo-Pacific for various national disasters and crisis responses. Since retiring from the military, Sean has also filled various project and program management positions across Aspen Medical including numerous COVID-19 health responses and Pacific health initiatives.*

*He has considerable experience in strategic planning, corporate management, inter-agency coordination, multi-national stakeholder engagement, organisational training, and program management. By combining these skills, Sean has developed experience in coordinating and planning to deliver innovative models of care that promote access to health care in austere environments for Governments and private sector companies.*

*Sean currently holds the position Chief of Staff for Aspen Medical Group.*

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## True Grit: Wearable Warning for the Weary Warrior

LTCOL Timothy Inglis<sup>1,2,3,4</sup>, Mr Benjamin McFadden<sup>1</sup>

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### Introduction

Declining use of rapid antigen tests (RAT), closure of drive-through PCR clinics and a declaration of the COVID-19 pandemic's end generated confusion about whether, when and how to test for SARS-CoV-2 infection. The impact on strenuous exercise and return to pre-infection workload remains uncertain, and is complicated by a lack of agreed triggers and warnings.

### Case report

Notification of a potential family COVID-19 contact came immediately after completion of a civilian cross country run and assault course (True Grit, WA). A

positive RAT confirmed infection and resulted in mandatory leave from work. RATs were repeated daily until negative, then a point of care nucleic acid amplification test (TestIT, Lucira) was run, demonstrating persistent detectable SARS-CoV-2 signal. Smart watch physiological data from the RAT-positive period and the preceding month showed a fall of heart rate variability (HRV) into the abnormally low zone which persisted into the RAT-positive period. Discussion with endurance sport associates identified others with a similar HRV pattern during SARS-CoV-2 infection. The index case completed the True Grit course as a solo participant unaided apart from the rope climb and high vertical obstacles that required lower limb strength.

### Discussion

The HRV fall during acute infection is consistent with loss of autonomic regulatory function. Rest and gradual return to normal exercise load resulted in successful resumption of endurance running over the following two months.

### Conclusions

Smart watch trend data can provide early warning of the effects of subclinical COVID-19 and could be used as a trigger for diagnostic tests in otherwise healthy personnel. Wearable technology is likely to gain wider use in diagnostic and occupational safety applications.

### Biography:

*Dr Inglis was SMO to the WA joint task group throughout the COVID-19 pandemic, when he took up endurance running for physical and mental health maintenance. He has an interest in machine learning applications in health and supervises research in the field, including the early diagnosis and monitoring of COVID and other infections.*

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## Virtual Health Opportunities in Australia: Opportunity and Risk

Ms Laura Malceski<sup>1</sup>

<sup>1</sup> Aspen Medical

Virtual health has emerged as a transformative force in Australian healthcare and the medical landscape has undergone significant changes thanks to the emergence of virtual health opportunities.

Technologies such as telemedicine, remote monitoring, and digital health tools have gained prominence, offering numerous benefits and posing certain challenges.

### Advantages of Virtual Health in Australia

**Enhanced Healthcare Accessibility:** The Australian Digital Inclusion Index for 2023 reported digital inclusion at the national level continues to steadily improve. Recent years have seen an increase in Australia's average Index score from 67.5 (2020), to 71.1 (2021), to 73.2 (2023).

**Improved Convenience:** Data from Australian Digital Health Agency from August 2022 shows between 13 March 2020 and 31 July 2022, 118.2 million telehealth services have been delivered to 18 million patients, and more than 95,000 practitioners have now used telehealth services.

**Cost Savings:** The Australian Healthcare and Hospitals Association reported that telehealth services can result in cost savings of up to \$96 per patient per consultation. The reduction in travel costs for both patients and healthcare providers is a significant contributor to these savings.

**Enhanced Management of Chronic Diseases:** The Commonwealth Fund's 2020 International Health Policy Survey revealed that 43% of Australians with chronic health conditions have availed themselves of telehealth services. Virtual health tools facilitate continuous monitoring and effective management of chronic diseases.

**Increased Access to Specialist Care:** A study published in the Medical Journal of Australia (MJA) found that telemedicine has expanded access to specialist care by an impressive 44% in remote regions. Virtual health services bridge geographical gaps, allowing patients in remote areas to consult with specialists located anywhere in the country.

### Disadvantages of Virtual Health in Australia

**Limited Digital Literacy:** The Australian Digital Inclusion Index for 2023 reported major issues in digital ability. Some groups saw declines in Digital Ability scores over the past three years, including people in the lowest income quintile and Australians aged over 75 years old.

**Privacy and Security Concerns:** The Office of the Australian Information Commissioner received 63 data breach notifications in the healthcare sector between January and June 2023. Ensuring the security and privacy of patient data remains a significant challenge in the realm of virtual healthcare.

**Technological Barriers:** The Australian Digital Inclusion Index for 2023 reported that approximately 9.4% of Australians are 'highly excluded' when it comes to internet access. Also 10.5% of Australians are connected via mobile phone only. Limited

connectivity and access to technology can hinder the adoption of virtual healthcare in rural regions.

**Diagnostic Limitations:** Virtual consultations may be less effective for certain medical conditions that necessitate physical examination. In some cases, the accuracy of diagnosis and treatment may be compromised.

**Regulatory and Licensing Challenges:** The Health Practitioner Regulation National Law (National Law) underwent amendments in response to the COVID-19 pandemic to facilitate telehealth services. In 2020, at the start of the COVID-19 lockdowns, the Australian Government introduced whole-of-population access to telehealth under Medicare.

### Conclusion

Virtual health opportunities in Australia offer numerous advantages, including improved accessibility, convenience, and cost savings. Nonetheless, it is crucial to address challenges associated with digital literacy, data privacy, and technological infrastructure to ensure equitable access and safeguard patient information. Australian Government entities should continue to support the expansion of virtual healthcare whilst actively working to mitigate associated drawbacks. For further information and tailored recommendations, consultation with relevant healthcare authorities and experts in the field is recommended.

### Biography:

*Laura started her career as a Registered Nurse in Pre and Post Operative Care and later progressed to supporting Specialist Practice. During her time at Aspen Medical, Laura has overseen the delivery of Virtual Care services during the COVID-19 Pandemic for Commonwealth and State Territory Governments. Laura later worked across multiple projects with clients including the Australian Defence Force. Laura's current portfolio now includes the clinical and operational oversight of a national triage service, requiring the management of a workforce of over 400 remote clinicians in geographical locations throughout Australia.*

*Laura's academic awards include; Bachelor of Health Science – Nursing, Post Graduate - Leadership and Management in Healthcare (current).*

*Laura currently holds the position of Clinical Operation Manager at Aspen Medical.*