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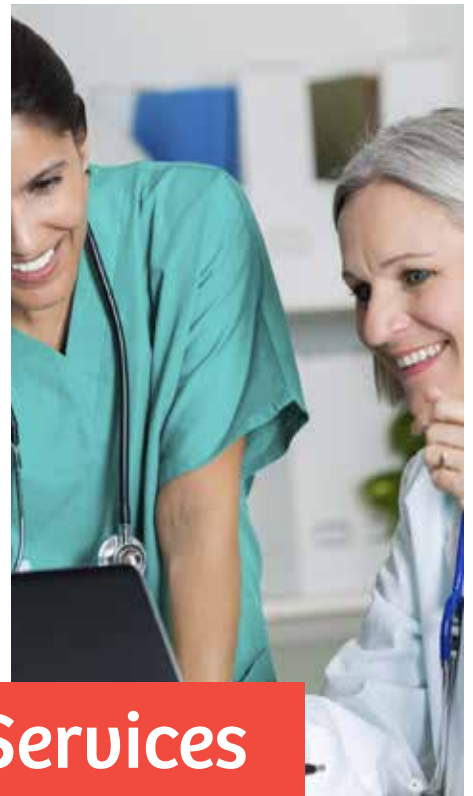
Journal of Military and Veterans' Health



- Acceptance and Commitment Therapy Group Treatment with the Military: A Preliminary Study
- Images of Service and Sacrifice – Tracing Narratives in Stained Glass
- 2018 Conference Abstracts

The Journal of the Australasian Military Medicine Association





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Title: “2GHB evac crews ready to receive wounded, Ex Hamel 18, SWBTA”

Photo courtesy of Murray Hayes

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Journal of Military and Veterans' Health

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STATEMENT OF OBJECTIVES

The Australasian Military Medicine Association is an independent, professional scientific organisation of health professionals with the objectives of:

- Promoting the study of military medicine
- Bringing together those with an interest in military medicine
- Disseminating knowledge of military medicine
- Publishing and distributing a journal in military medicine
- Promoting research in military medicine

Membership of the Association is open to doctors, dentists, nurses, pharmacists, paramedics and anyone with a professional interest in any of the disciplines of military medicine. The Association is totally independent of the Australian Defence Force.

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Editorial

Armistice of 11 November 1918

One hundred years ago, on the 11 November 1918, an Armistice was signed between the Allies of World War I and the German Empire at Compiègne, France, to cease hostilities with effect from 11 AM — the “eleventh hour of the eleventh day of the eleventh month”. The Great War was over, with an estimated 16 million deaths, including 9 million civilians. More than 60,000 Australians lost their lives and 137,000 were wounded. Throughout 1919, Australian troops were repatriated back home, with the last troops arriving in early 1920. Our themes for the 2019 issues of the Journal are Recovery, Repatriation and Rehabilitation, in recognition of the ongoing health needs of the troops post World War I and over the last 100 years. Recovery, repatriation and rehabilitation remain a critical part of military health planning. We would welcome any articles in these areas in the coming year.

The sheer numbers of casualties from the two World Wars were staggering, with the best estimates of the number of deaths in World War II, including civilians, being between 58 and 60 million. Australia had 27,073 of its military personnel killed and 23,477 wounded. The ferocity of these ‘total wars’, their casualty numbers and the sacrifices made by

both the military and civilians are increasingly being forgotten by the general population, as the years pass and these wars seem more and more like ancient history. The Journal welcomes any historical articles that puts military healthcare over the last 100 years into context and provides lessons for Defence health in coming years.

Our fourth issue of 2018 primarily addresses the abstracts of papers presented at the 27th AMMA Conference. There are also three excellent articles – one on acceptance and commitment and group therapy in the military, a further installment of the historical articles on Navy health sailor uniforms, and an article on images of service and sacrifice.

If you are presenting a paper or poster at the Conference, we would welcome their submission to JMVH for inclusion in a later issue. Although we continue to get a good range of articles, other military and veterans’ health articles are always very welcome and we would encourage all our readers to consider writing on their areas of military or veterans’ health interest.

Dr Andy Robertson, CSC, PSM
Commodore, RANR
Editor-in-Chief

Acceptance and Commitment Therapy Group Treatment with the Military: A Preliminary Study

S Harvey, D Bimler, D Dickson, J Pack, O Sivwright, D Baken, A Henricksen

Abstract

Acceptance and commitment therapy (ACT) is rapidly gaining recognition in numerous therapy settings as a treatment of choice. To date, however, research has neglected to investigate the suitability of ACT in military settings. The current investigation is an exploratory repeated-measures design evaluating an ACT wellbeing course with military personnel from the New Zealand Defence Force (NZDF). The sample consisted of soldiers (n=292), primarily referred by their units and medical personnel for anger, alcohol use and stress-related issues. At one- and three-month post-treatment, participants showed significant reductions in their levels of alcohol consumption, anger and aggression, perceived stress, anxiety and perceptions of others being responsible for their circumstances. Furthermore, the findings suggest that participants developed enhanced awareness and management of their emotions as a result of this intervention. While preliminary, these findings support the efficacy of ACT with military personnel in addressing issues they encounter.

Key words: Acceptance and Commitment Therapy, ACT, Group therapy, Anger and Aggression, Alcohol

Introduction

In recent times, major concerns have been identified regarding problematic alcohol use in military service personnel (MSP)⁽¹⁾. A corresponding awareness is emerging of the linkages between experiences of MSP and the development of mental health issues (e.g. combat deployments, conflicting family and work responsibilities, station changes) and alcohol use difficulties⁽²⁾. Development of prevention and intervention initiatives must be, therefore, sensitive to the experiences of MSP⁽³⁾. Unfortunately, there is little research investigating psychological and alcohol use treatment interventions or their suitability to this population^(4, 5).

Military populations have a relatively high risk of developing alcohol-related difficulties compared with civilian populations⁽⁶⁾. Work- and family-related stress, frequency and number of active service deployment (both during and after), and combat-related stress due to exposure to traumatic events are known contributors to alcohol abuse issues^(2, 7, 8, 9). Additionally, the belief that alcohol enables coping by lifting morale, increasing unit cohesion and protecting soldiers from adjustment problems to civilian life is a widespread belief within the military⁽¹⁰⁾. While sanctioned as a way to deal with

the stressful demands of military life, when alcohol-fuelled behaviours become excessive (e.g. violence, binge drinking or alcohol dependency) and impinge on soldiers' general functioning, it can result in major disciplinary actions. The current trajectory of alcohol abuse in the military services is argued to be unacceptably high and constitutes a public health crisis⁽¹⁾.

Empirical evidence is increasing for the treatment efficacy of workplace interventions in significantly reducing problematic outcomes of substance use disorders (SUDs) (e.g. SUD-related injuries and violations), and in simultaneously promoting healthful behaviours and stress-management^(11, 12). Such interventions are aimed at changing individual behaviour and reducing environmental risk factors⁽⁶⁾. Particularly promising are brief intervention wellbeing programs with an educative emphasis on the promotion of stress reduction and healthy lifestyle habits, as well as the reduction of risky behaviours, particularly problematic SUD consumption⁽⁶⁾. Findings have indicated that SUD-focused interventions offering educative health-risk appraisal and brief counselling can reduce alcohol consumption and that such treatment approaches are practically and cost-effectively delivered by way of brief intervention format^(11, 12).

Group therapy workshops are widely used with MSP for a variety of mental health and SUD concerns and have produced equivalent efficacy to individualised treatment^(13, 14). Two marked advantages of group therapy interventions are their cost-efficiency and capacity to address greater numbers of MSP simultaneously. This has led to their increasing use by military psychologists and an increased research focus on this modality^(13, 14).

A treatment approach that shows promise and is being applied in military settings is Acceptance and Commitment Therapy (ACT)⁽¹⁵⁾. ACT is a 'third-wave' contextualistic behavioural therapy characterised by the adoption of mindfulness and acceptance processes⁽¹⁶⁾. ACT is conceptualised as a transdiagnostic approach in the sense that it aims to weaken avoidance processes, which link various comorbid conditions at either the clinical or subclinical level⁽¹⁷⁾. ACT does not explicitly attempt to reduce the presence of 'symptoms', but instead encourages the acceptance of psychological experience (e.g. unwanted cognitions and emotions whose presence or absence cannot be controlled) and commitment to personally meaningful value-driven behaviour⁽¹⁶⁾.

Outcome research has accumulated for ACT's effectiveness when targeting clinical problems such as depression, social phobia, generalised anxiety disorder, trichotillomania, borderline personality disorder, psychotic symptoms and chronic pain (for a review, see Ruiz, 2010)⁽¹⁸⁾. ACT has also shown promise in treating individuals suffering from SUDs^(18, 19), and comorbid psychological disorders, such as depression⁽¹⁷⁾ and post-traumatic stress disorder (PTSD)⁽²⁰⁾.

ACT has the versatility to be used both as a brief therapy and as a long-term treatment⁽¹⁶⁾ and is gaining recognition in military settings. ACT is endorsed by the US Department of Veteran Affairs as an evidence-based treatment for use with mood disorders⁽²¹⁾. However, with the exception of Blevins et al.'s (2011) brief (2 hour) ACT-based intervention, research into the efficacy of ACT with MSP in addressing SUDs is largely lacking. As such, further work is needed to determine the effectiveness of ACT-based programs with MSP. The present study sought to address this with an investigation of the efficacy of an ACT-based intervention trialled with MSP at two army bases. We employed a brief one-week group course format/intervention, in line with established support for the impact and cost-effectiveness of brief interventions and delivery via group therapy^(12, 18). We hypothesised pre- to post-intervention decreases in alcohol consumption, drug use and desire to use,

anger, perceived stress, anxiety, and chance and powerful others as loci of control. Conversely, we hypothesised pre- to post-intervention increases in internal locus of control and emotion management.

Method

Participants

Assessment measures were administered to participants who enrolled in the course between April 2011 and November 2017 (N= 292; See Figure 1). The sample consists of 24 groups with approximately 5-15 participants in each group. Sample selection occurred by referral from the participants' unit commanders, military health professionals, direct court orders or the participants themselves. Referrals were largely based on alcohol- and other drug-related difficulties (AOD) (e.g. dysfunctional use or alcohol-related behaviour involving psychological, social, occupational or legal difficulties). With other considerations deemed by unit commanders to be causing social or occupational impairment (e.g. stress, anger and aggression, or other-emotional issues such as depression and reintegration difficulties, or communication and relationship problems) also prompting referral to the course. Participants ranged in age from 18 to 46 years (M=23.86, SD=5.19), although the majority (57.2%) of participants were aged 20 to 29. Refer to Table 3 for a summary of the participants' sociodemographic characteristics.

Two exclusion criteria were used regarding suitability for course admission: (1) likelihood of disruptive behaviour and (2) the presence of suicidal ideation. These were assessed during a brief interview around the time of each potential participant's referral by one of the two clinicians who ran the course. In regards to informed consent, participants were selected and referred according to military protocol. The Massey University Human Ethics Committee judged the current study to be of low-risk status, as the investigation was a secondary analysis of existing, non-identifiable archival data resulting from the new NZDF AOD treatment protocol. Although workshop attendance was required for all those referred to the course, the evaluation (i.e. questionnaire completion) was voluntary; military superiors were not involved in evaluation recruitment and no incentives were offered.

Design

The present study is a real-world repeated-measures pre-post design. A baseline pre-treatment assessment was individually administered to participants the

week prior to the commencement of the New Zealand Army Wellbeing Course (NZAWC) intervention. Follow-up assessments were individually administered at one- (T1) and three-months (T2) post-intervention to remaining participants.

Measures

Measures were selected based on established evidence of their validity and reliability, as well as ease of use and brevity. Scales were scored according to published methods, with higher scores representing more of the measured attribute. See Table 1 for references and descriptions of the measures used in the analyses.

Procedure

The procedure comprised participant referral and initial interview; baseline assessment on day 1 of the course; completion of the five-day NZAWC, and follow-up assessments one- and three-month post-intervention (with the same questionnaire battery administered at each assessment). The course was delivered in community centres on two New Zealand military bases.

To help standardise training, facilitate participant understanding and provide additional resources unable to be covered in-depth during the course, a participant manual was developed that incorporated relevant evidence-based strategies. Core areas targeted in the course included stress and reintegration, communication and relationships, anger and aggression, and AOD use (see Table 2 for details of course structure).

Participants learnt various strategies and skills through a combination of short talks, large and small group exercises, individual activities and discussion of film clips. In-class workbook activities and between-session tasks were also used to help apply, extend and consolidate information. The courses were delivered by two facilitators: The first author, a senior clinical psychologist (PhD), facilitated all courses. The co-facilitation was divided between a registered counsellor (B.Couns; third author) and a clinical psychologist (PGDipClinPsych; fourth author), with support from postgraduate clinical psychology students.

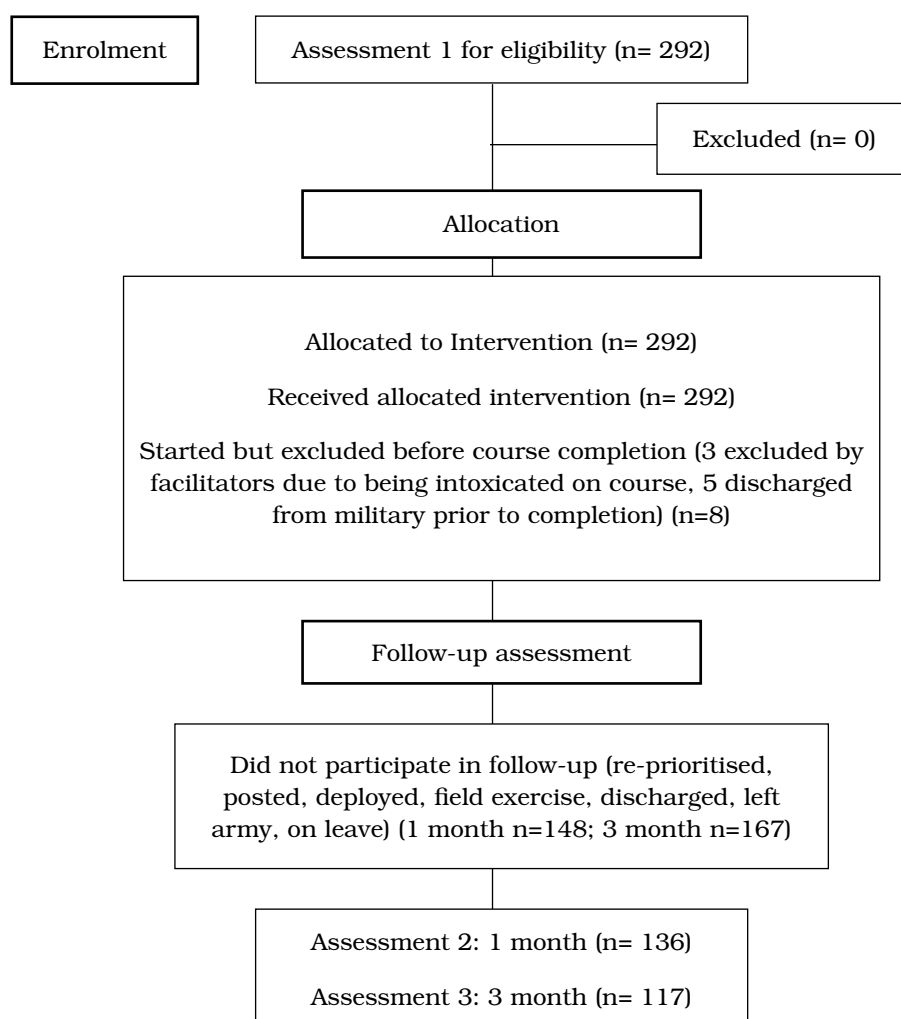
Table 1. Assessment Measures and Associated Internal Consistency Cronbach's Alpha Values.

Domain	Measure	Description (and Cronbach's alpha values)
Alcohol use	Alcohol Use Disorders Identification Test-Consumption (AUDIT-C; Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998)(22)	An internationally standardised and widely endorsed brief screen of drinking quantity and frequency on a normal day and the frequency of binge drinking ($\alpha=0.71$).
Drug use	Items derived from the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST; World Health Organization, 2010) (23)	Items assess the frequency of drug use and desire to use different types of drugs. Item phrasing was adjusted in order to assess pre/ post-intervention changes (i.e. 'past three months' was replaced with 'past month').
Aggression	12-item short-form version of Buss and Perry's (1992) Aggression Questionnaire (BPAQ-SF) (Diamond & Magaletta, 2011) (24)	Includes four sub-scales (physical aggression, verbal aggression, anger, hostility; $\alpha=0.83, 0.83, 0.80, 0.82$ respectively) as well as a combined total aggression score ($\alpha=0.91$).
Perceived stress	Perceived Stress Scale-10 (PSS-10; Cohen & Williamson, 1988)(25)	A 10-item scale that has been used in numerous research investigations with AOD and military foci ($\alpha=0.83$).
Anxiety	Brief Generalised Anxiety Disorder Screen (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006)(26)	A seven-item anxiety screen that has been used extensively with pre- and post-deployment military populations and brief AOD-focused interventions ($\alpha=0.92$).
Locus of control	Sapp and Harrod's (1993) nine-item short-form version of Levenson's (1974) Locus of Control Scale(27)	Comprises three locus of control dimensions: internal, chance and powerful Others ($\alpha=0.52, 0.65$ and 0.82 respectively).
Emotion management	Salovey Mayer, Goldman, Turvey, and Palfai's (1995) recommended 30-item version of their Trait Meta-Mood Scale (TMMS)(28)	Includes three sub-scales: attention (ability to attend to moods and emotions), clarity (ability to discriminate clearly among feelings) and repair (ability to regulate moods) ($\alpha=0.79, 0.82$, and 0.65 respectively).

Table 2 The acceptance and commitment therapy protocol

Day 1	Theme: Introduction to ACT
	<p>Introduction and therapeutic agreement</p> <p>Orientation to ACT therapy</p> <p>Values exercises: army values; analysing values</p> <p>Commitment to behaviour change: setting therapeutic goals</p> <p>Homework: observing self</p>
Day 2	Theme: Anger/aggression and communication
	<p>Understanding anger exercise: anger myths and control agenda; anger cycles</p> <p>Control agenda (exercises): white bears; suppressing emotion; what can you control?</p> <p>Creative hopelessness (exercise): personal cost of experiential avoidance</p> <p>Mindfulness and acceptance of anger emotions (exercises): mindfulness of anger; stare-down (adaptation of eyes on)</p> <p>Communication and anger: noticing emotion and function in communication</p> <p>Homework: observing emotion and function in communication</p>
Day 3	Theme: Stress management
	<p>Self-as-context (metaphors/exercises): rugby field (adaptation of chessboard), observing the mind, I am, timeline</p> <p>Defusion and acceptance (metaphors): 'Map and terrain', 'Passengers on the bus', 'Fighting the rip', 'Quicksand', Tug-of-war', Digging a hole'</p> <p>Non-judgemental awareness/being present (mindfulness exercise): noticing thoughts</p> <p>Committing to valued action (exercise): managing stress Post-its</p> <p>Homework: identify stress-management strategies that don't avoid stress</p>
Day 4	Alcohol and other drugs
	<p>Alcohol and other drugs psychoeducation</p> <p>Alcohol as experiential control or avoidance (exercise): costs of using alcohol to avoid</p> <p>Mindfulness of urges: urge-surfing</p> <p>Functional analysis and value-guided behavioural choices (exercise): planning functional alternatives</p> <p>Homework: functional alternatives</p>
Day 5	Setting the direction
	<p>Identifying values (metaphor/exercise): '65th Birthday'; values compass</p> <p>Committed action (exercise): perspective- and value-based behavioural actions</p> <p>Relapse prevention: remembering</p> <p>Generalising (combined meeting with soldiers and unit commanders): course learnings and leadership support</p>

Figure 1. Participant flow chart through the ACT intervention.



Data Analysis

To test the hypothesis that participants would experience improvements in alcohol/drug use, aggression, perceived stress, anxiety, locus of control, and emotion management from pre-treatment to post-treatment (1-month and 3-months). We calculated means for each of the measures. For each measure of interest, its pre-intervention level was compared against the 1-month post-course value and against the 3-month follow-up value. Aggregated measures were tested using a paired-samples t-test.

Results

Table 3 provides a breakdown of the demographic features of the pre- and post-treatment samples. Of the 292 MSP who completed the pre-intervention assessment battery, 136 (and 117) were contactable for 1-month (and 3-month) post-treatment follow-up assessment.

Table 4 shows the results of paired-samples t-tests evaluating the impact of the treatment intervention on participants' scores for each of the measures at pre- and post-treatment (1- and 3-month). Effect sizes were calculated using Cohen's d. As indicated in Table 4, significant pre- to post-treatment improvements across all measures at 1-month and 3-month follow-ups. Moderate effect sizes are observed for changes in alcohol use, aggression, perceived stress, anxiety and emotion management. A particularly large effect was detected for the verbal subscale of the Buss-Perry Aggression Questionnaire (BPAQ-SQ)⁽²⁴⁾.

While the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST)⁽²³⁾ drug use and desire to use drugs items were administered to participants at both pre- and post-treatment, the only substances with sufficient responses to allow analysis, for either use or desire, was cannabis.

Table 3. Sociodemographic Characteristics for MSP at Pre-treatment, 1-month and 3-month Post-treatment

Demographic Characteristic	Pre-treatment	1-month Post-treatment	3-month Post-treatment
<i>N</i> (%)	292	136	117
Sex			
Male	255 (87%)	114 (83.8%)	101 (86.3%)
Female	36 (12.3%)	22 (16.2%)	16 (13.7%)
Unknown	1 (0.003%)		
Ethnicity/Nationality			
New Zealand European	47 (16.1%)	29 (21.3%)	22 (18.8%)
Māori	116 (39.7%)	51 (37.5%)	46 (39.3%)
Pacific Islander	33 (11.3%)	13 (10%)	13 (11.1%)
European	74 (25.3%)	36 (26.4%)	30 (25.6%)
Asian	7 (2.4%)	2 (1.5%)	0 (0%)
African	1 (0.003%)	1 (0.7%)	1 (0.9%)
Other / Unknown	14 (4.8%)	4 (2.9%)	5 (4.3%)
Age (years)			
Under 20	22 (7.5%)	6 (4.4%)	6 (5.1%)
20-24	167 (57.2%)	77 (56.6%)	69 (59%)
25-29	57 (19.5%)	26 (19.1%)	23 (19.7%)
30-34	16 (5.5%)	12 (8.8%)	8 (6.8%)
35-39	11 (3.8%)	5 (3.7%)	2 (1.7%)
40 and over	12 (4.1%)	8 (5.9%)	6 (5.1%)
Unknown	7 (2.4%)	2 (1.5%)	3 (2.6%)

Tobacco was not a primary concern of referrals to this intervention so was excluded as a variable from the analysis. At 1-month post-treatment 8 participants reported lower cannabis use/urges, while 3 increased their use/urges and 3 reported no change (not including consistent non-smokers) (Wilcoxon $Z = -1.29$, $p = 0.10$). At 3-months post-treatment 5 participants reported lower cannabis use/urges, 4 increased their use/urges and 0 reported no change (Wilcoxon $Z = -1.48$, $p = 0.07$). Although these changes in cannabis use are not significant, the changes are in the expected direction. A high frequency of no change for drug use/desire was largely due to a lack of use/desire at pre-treatment, which was maintained through to post-treatment. Consequently, the distribution of changes in drug use does not meet the requirements of normality and should therefore be interpreted with caution.

<Insert Table 4>

Discussion

Support was found for the hypothesised pre- to post-intervention reductions in participant levels of alcohol consumption, aggression, perceived stress, anxiety, powerful other loci of control and emotion management. One of the greatest effects concerned the alcohol consumption reduction with significant, moderate-sized reduction observed at both 1-month and 3-month post-intervention. This reduction could be attributed to the development and use of a combination of ACT mindfulness and acceptance skills and values-guided committed behavioural action. Participants were shown how to crystallise values that were personally meaningful and to commit to behaviours which were congruent with these values (e.g. take up different leisure activities), an outcome of which may have been reduced alcohol consumption.

Table 4. Mean (\bar{x}) Differences in Dependent Variables for those completing Pre-treatment and Post-treatment Assessment with Standard Errors of the Mean (SEM), and Effect Sizes (Cohen d)

Dependent Variable	1-month Post-treatment				3-month Post-treatment			
	Pre-treatment \bar{x} (SEM)	\bar{x} (SEM)	t (df)	d	Pre-treatment \bar{x} (SEM)	\bar{x} (SEM)	t (df)	d
Alcohol Use	6.64 (0.27)	5.03 (0.26)	6.90 (115)**	0.64	3.41 (0.38)	2.90 (0.32)	6.18 (98)**	0.62
Aggression Total Score	2.04 (0.07)	1.76 (0.06)	4.53 (118)**	0.42	2.28 (0.09)	1.95 (0.07)	3.66 (107)**	0.35
Physical§	2.22 (0.09)	1.89 (0.08)	4.59 (127)**	0.41	2.41 (0.10)	2.02 (0.08)	4.00 (112)**	0.38
Verbal§	2.11 (0.08)	1.40 (0.05)	11.02 (128)**	0.97	2.30 (0.10)	1.53 (0.07)	8.78 (110)**	0.83
Anger§	1.87 (0.09)	1.55 (0.07)	3.88 (129)**	0.34	2.15 (0.11)	1.83 (0.08)	2.73 (113)**	0.26
Hostility§	2.02 (0.09)	1.72 (0.06)	3.76 (126)**	0.33	2.23 (0.09)	1.95 (0.08)	2.67 (112)**	0.25
Perceived Stress	17.48 (0.61)	13.48 (0.55)	6.61 (117)**	0.61	18.12 (0.70)	15.16 (0.60)	3.62 (106)**	0.35
Anxiety	5.81 (0.46)	3.68 (0.37)	4.97 (129)**	0.44	6.65 (0.55)	4.37 (0.44)	4.46 (110)**	0.42
Locus of Control Chance§	7.52 (0.20)	7.07 (0.20)	2.36 (135)*	0.20	7.97 (0.22)	7.28 (0.23)	2.72 (115)**	0.25
Powerful Others§	7.81 (0.26)	6.89 (0.21)	3.62 (135)**	0.31	8.32 (0.28)	7.47 (0.26)	2.84 (115)**	0.26
Emotion Management Total	100.12 (1.20)	106.71 (1.26)	5.87 (126)**	0.52	98.33 (1.27)	103.61 (1.28)	4.10 (110)**	0.39
Attention§	41.61 (0.66)	45.76 (0.65)	7.17 (128)**	0.63	41.29 (0.70)	44.89 (0.66)	5.54 (112)**	0.52
Clarity§	37.40 (0.57)	38.83 (0.60)	2.66 (129)*	0.23	36.29 (0.61)	37.43 (0.58)	2.00 (110)*	0.19

Note. Analysis-by-analysis case exclusion resulted in n ranging from 53 to 78. § = an abbreviation of 'subscale'.

* $p < 0.05$ ** $p < 0.01$. Two pre-treatment columns are provided as numbers differed between comparison samples (pre-intervention and 1-month vs 3-month samples)

Another potential explanation for reductions in alcohol consumption relates to the context in which MSP received treatment. Many of the MSP attended the NZAWC as a result of disciplinary issues, and so may have reduced their drinking to avoid further disciplinary action and/or were ordered to abstain from alcohol. In addition to this, the AOD-related psycho-education may have sensitised some participants to the adverse health effects of alcohol consumption, which may have contributed to a reduction in drinking. In this regard, it is unclear the extent to which reductions in alcohol consumption can be attributed to the NZAWC protocols, the context within which the treatment was undertaken, or some combination of these.

Significant, moderate reductions in total aggression and the four subscales (verbal and physical aggression, anger and hostility) were also found. The observed decrease in aggression scores demonstrates desired change in accordance with ACT's model of psychological flexibility and indicates a possible decrease in the use of experiential avoidance. For example, by learning to observe

their internal experience from a self-as-context viewpoint, participants potentially increased their present moment awareness of impulses to behave in aggressive ways (that have previously functioned to externally discharge the unpleasant emotional experience). With this increased awareness, it follows that there was increased opportunity to consciously accept the presence of the impulse and, therefore, greater scope for the defusion of psychological events (e.g. anger-related thoughts and impulses to act on these). This in turn could enable participants to exercise increased control of their overt behaviour so that behaviour congruent with their valued directions was more possible (e.g. inhibition of aggression was more possible; therefore, it was less likely to detract from commitment to values-directed behaviours). Eifert et al. (2006) refer to this quality of values-guided behavioural flexibility, resulting from increases in psychological flexibility, as 'responsibility', and assert that it increases the likelihood of goal attainment⁽²⁹⁾.

Moderate reductions in levels of perceived stress and anxiety were also found. These reductions may

be due to participants having learnt to make room for experiences of stress and anxiety by observing and allowing them to come and go as harmless psychological events without attempting to control them (in accord with the ACT-based open acceptance of one's immediate experience), which in turn may have increased their capacity to commit to values-directed behaviours. Thus, the accumulation of stressors is decreased given there is less experiential avoidance and more committed action, and, therefore, decreases in levels of perceived stress and anxiety are reinforced. This aligns with previous research supporting ACT's efficacy for the treatment of stress and anxiety^(18, 30, 31) and its efficacy in the form of brief intervention⁽¹⁸⁾.

Hypothesised reductions in participant drug use and desire to use drugs were not supported. Results indicated that, in addition to alcohol, cannabis (excluding tobacco) was the most commonly used drug by the participants and that no significant decrease in either the use or desire to use cannabis was found between pre- and post-treatment. A possible explanation for the lack of reduction in both the use and desire to use cannabis may relate to the small number of reported users, as most participants were primarily referred to treatment for alcohol-related disciplinary concerns. A large number of participants reported no drug use or desire to use at pre-treatment, thereby increasing the likelihood of no change from pre- to post-treatment.

Results showed support for the hypothesised increase in emotion management skills. There was a moderately strong effect found for the improvement in overall emotion management and in ability to attend to moods and emotions and discriminate clearly among feelings. These results may relate to a continued increase in awareness of emotions (more generally) in line with taught/learnt ACT acceptance strategies.

Non-significant differences between 1-month and 3-month results across the other variables suggest the positive outcomes hold over time, indicating no evidence of relapse, but little of continued improvement either. It may be that participant changes do not extend beyond 1-month; further post-intervention follow up over a longer period could help clarify the pattern of longer-term change. Some form of refresher/reminder of relevant course material (e.g. in-person follow-up sessions, emails, texts, phone applications) could also be introduced post-intervention to help MSP continue to build on gains from the course.

Several limitations were identified, mostly related

to the early developmental stages of the NZAWC. Firstly, given the small sample size, statistical power was limited; future analyses with a larger sample of MSP, and more follow-up data, would enable pre- and post-treatment comparisons with greater power. Secondly, the current study was not a randomised controlled trial (RCT), nor did it have a control group; therefore, the findings should be interpreted with caution. Future investigations into the course's treatment efficacy would benefit from employing a RCT; or, at the least, a wait-list control group should be introduced to the study, requiring earlier referrals of MSP to treatment to enable the organisation of such an addition. Thirdly, frequency and intensity measures are useful for identifying patterns of drinking behaviours over time. However, as Dufour (1999) pointed out, these forms of self-report screens are less reliable for those with irregular drinking patterns as it relies upon respondents calculating an average drinking pattern. Instead, Dufour suggested the use of graduated frequency measures or drinking diaries to enhance the accuracy of data collection⁽³²⁾. The expense and degree of labour to administer these forms of measurement meant they were not considered for this study but are important considerations in the future.

Participant selection was beyond the control of the researchers, as MSP were referred to the course in accordance with military protocol. Therefore, extraneous variables such as concurrent pharmacological intervention and the medical histories of MSP were unknown. Additionally, logistical complications associated with this population (e.g. deployment, frequent field exercises) hindered follow-up data collection, as did attrition due to the protocol of 'due diligence' (i.e. some MSP who attended the course were inevitably going to be discharged regardless of the outcome of their treatment and were sent to attend as part of a duty of care). Relatedly, the detected effects of the NZAWC may partly reflect a favourable client-related bias as the remaining MSP (i.e. those completing follow up) constitute those referred for less problematic treatment concerns than MSP referred out of due diligence. In addition, although there were effects of noteworthy magnitude, it is unclear which specific treatment processes caused them. The design of a RCT and inclusion of ACT process measures (e.g. the Acceptance and Action Questionnaire⁽³³⁾) should help to elucidate what these active treatment processes might be and to interpret findings from treatment effects with greater theoretical consistency. Future research could also include an extended follow-up assessment period to assess the longevity of observed treatment effects.

The current study represents an important step in addressing the paucity of research surrounding the specific treatment needs of MSP suffering from AOD and mental health difficulties. While the findings regarding the NZAWC efficacy are preliminary, they are promising. Levels of alcohol consumption and distressing emotions reduced over the course of treatment, with indications that treatment may have imparted valuable emotion detection and management strategies for MSP. Based on the initial evidence, further exploration of the NZAWC

treatment efficacy is warranted, as is a more general investigation of ACT's clinical utility with military populations.

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A History of Australian Navy Health Sailor Uniforms and Ranks (Part 3)

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Purpose

More than a century after its establishment, many Royal Australian Navy (RAN) uniforms and ranks continue to reflect those used by the (British) Royal Navy (RN). The first of this three-part article described the history of Navy sailor uniforms since 1509,¹ while the second examined the development of Navy medical and dental sailor uniforms since 1879.² This final part explains the evolution of Navy medical and dental sailor rank and rate badges since 1827.

A subsequent article will do likewise for RAN health officers.

Sailor Rank Badges

The history of RN and RAN rank badges is summarised at Table 1; numbers in parentheses per the following paragraphs also refer.³

For centuries, Navy personnel were paid in accordance with their seamanship or other skills, experience and/or responsibilities. Although they were not generally recognisable by their attire, many senior sailors could still be identified by their rattan canes or short pieces of rope used to motivate or 'start' their subordinates. The use of these 'starters' was officially abolished in 1809.⁴

The ranks of Second and First Class Petty Officer (PO) were formally established in 1827. These sailors received red badges on their left upper arm: a plain anchor or 'killick' for the former, and an anchor and a crown for the latter (see (1)). In 1853, the Leading Seaman (LS) rank was added below the two PO ranks and a Chief Petty Officer (CPO) rank was added above (see (2)). The existing badges were used for the two junior ranks, while the two senior ranks received new badges: two crossed anchors and a crown for First Class POs, and an anchor surrounded by oak leaves and a crown for CPOs.⁵

All sailors wore 'square rig' uniform until 1879, when CPOs received 'fore-and-aft rig', with double-breasted jacket, tie and peaked cap with what is now the PO cap badge. The surrounding oak leaves on the CPO arm badge were also replaced by laurel at this time (see (3)).⁶

In 1890, the CPO arm badge was abolished. The black horn buttons on their jackets were changed to gilt and their rate badges were moved from the right upper arm to both jacket lapels (see (4)).⁷ This became known as 'Class I' rig, which was worn by all 'civil branch' (non-seamen) CPO and PO equivalents.⁸ The Class I rig was extended to all 'military branch' (seaman) POs with more than four years' seniority in 1920,⁹ then to those with more than one years' seniority in 1923¹⁰ and to all RAN POs irrespective of seniority after the early 1970s.¹¹
















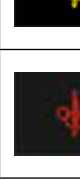
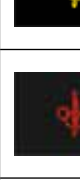
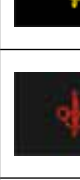
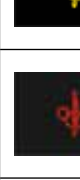
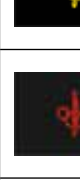























1890 also saw square rig for seaman branch personnel being referred to as 'Class II' uniform, while 'Class III' uniform referred to a double-breasted 'fore-and-aft rig', with black horn rather than gilt buttons, for non-seaman junior sailors such as medical and dental personnel.¹² Class III uniforms were abolished in the RAN in 1959.¹³

The coronation of King Edward VII in 1901 led to the St Edward's crown on all Navy badges replaced by the Tudor crown (see (5)). In 1907, the Second Class PO rank was abolished (see (6)).¹⁴

In 1919, CPOs received a new cap badge, based on their pre-1890 arm badge (see (7)), while POs received the previous CPO cap badge, which is still worn to this day.¹⁵ In 1925, CPOs were also given three ornamental cuff buttons, as a nod to their original function of securing 'turn-back' sleeve cuffs on a range of Navy uniforms during the previous century (see (8)).¹⁶

The coronation of Queen Elizabeth II in 1953 resulted in all Navy badges reverting to an updated St Edward's crown (see (9)).¹⁷

Table 1: RN and RAN Sailor Rank Insignia since 1827

	1827 (1)	1853 (2)	1879 (3)	1890 (4)	1901 (5)	1907 (6)	1919 (7)	1925 (8)	1953 (9)	1966 (10)	1971 (11)	1991 (12)	1993 (13)
Ordinary Seaman (Seaman > 1974)	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia		
Able Seaman	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia	No insignia		
Leading Seaman	Rank did not exist												
Petty Officer 2nd Class						Rank abolished	Rank abolished	Rank abolished	Rank abolished	Rank abolished	Rank abolished	Rank abolished	Rank abolished
Petty Officer 1st Class						Renamed Petty Officer, with same arm badge	Received old CPO cap badge						
Chief Petty Officer	Rank did not exist					No change	New CPO cap badge, based on 1879 upper arm badge	Three cuff buttons added					
Warrant Officer	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank	Not a sailor rank		
Warrant Officer - Navy	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	Rank did not exist	

RAN uniforms followed RN practice until 1966, when 'Australia' flashes were added to both shoulders (see (10)).¹⁸ The rank of Warrant Officer was added above that of CPO in 1971 (see (11)),¹⁹ while the rank of Able Seaman received its own dedicated badge, to differentiate them from the Seaman rank, in 1991 (see (12)).²⁰ The first Warrant Officer of the Navy was appointed in 1993 (see (13)).²¹

All day-to-day or 'working' square rig and fore-and-aft rig uniforms had red badges until 1990.²² RAN winter ceremonial uniforms have since had only gold badges, while summer uniforms or 'whites' continue to have dark blue. The current soft rank insignia (SRI) slides for these and other uniforms have used embroidered 'old gold' coloured thread since 1991.²³ Matching camouflaged SRIs were used with the grey Proban® overalls, and are also used by Navy personnel who wear the Australian Multicam Camouflage Uniform (AMCU), worn by Army members since 2014.²⁴

Good Conduct Badges

Chevrons on the left arm were introduced below the rank badge to recognise good conduct (or undiscovered crime) in 1849. From 1860, up to three stripes were awarded after three, eight- and 13-years' service (four, eight and 12 years from 1950).²⁵ While each stripe initially earned an additional one penny per stripe per day, the RAN de-linked these pay increments from the badges and renamed them Long Service Badges in 1971.²⁶



Bosun's Mate, c1812.²⁷ Note the rope 'starter' in his right hand, and the ship's name and badge painted on his hat.



RN First Class Petty Officer, 1827²⁸ Note the rank badge on his left arm.



RN First Class Petty Officer in Class II 'square rig', 1896.²⁹ Note the rank badge and Good Conduct Badges (chevrons) on his left arm.



*Victorian Naval Forces CPO James Ovenden, c1870s.³⁰
Note the 1879-1901 cap badge and the rank badge on his left arm.*



RN CPO, 1880s.³¹ Note the rank badge on his left arm.



RN CPO, 1920.³² Note the lapel rate badges identifying him as a stoker or stoker mechanic, and 1901-1919 cap badge, which became the current PO cap badge thereafter.

RAN Medical and Dental Rate and Sub-Rate Badges

The history of RN and RAN medical rate and sub-rate badges is summarised at Table 2, and that for dental rates and sub-rates is at Table 3.
























The first RN seamen to be given a dedicated job description or 'rate', were those who qualified from the gunnery school aboard HMS *Excellent* in Portsmouth (later moved ashore to Whale Island) in 1830.³³ In 1860, these 'gunnery' sailors received identifying badges on their upper right arm, with other branches receiving their own rate badges over the next 30 years.
























RN sick berth attendants have worn a red cross on the right upper arm since 1879, while Australian colonial and RAN medical sailors did likewise until 1974.³⁴ RAN dental sailors had their own rate badge from 1922 until 1942, when it was replaced by the SBA badge with a 'D' for dental assistant and 'DM' for dental mechanic badge above. On forming into their own branch in 1948, dental rates reverted to their previous badge the following year.³⁵

Both medical and dental rate badges changed to the present caduceus insignia (the latter with a superimposed 'D') in 1974. This is despite the fact that a winged staff entwined by two serpents has been used for millennia to represent trade, eloquence, negotiation, alchemy and wisdom, rather than medicine. The caduceus was first misapplied by the US Army's Medical Corps for its badge in 1902 and continues to be misused throughout much of America since. The correct medical symbol is the Rod of Asclepius, which consists of a *single* serpent entwined around a staff *without* wings, as per the RAN Health Service crest.³⁶

The RAN has a long history of specialist health sailors or 'sub-rates', the number and nature of which has waxed and waned according to requirements. At present, the RAN only has underwater medicine or 'U' rates and a small number of 'O' or theatre rates.

Table 2: RN and RAN Medical Sailor Rate Badges since 1879






















<p>1879-1974</p>	 <p>Junior Sailor SBA Winter Dress</p>	 <p>Junior Sailor SBA Winter Working Dress</p>	 <p>Junior Sailor SBA Summer Dress</p>				
<p>1901-1953</p>	 <p>Senior Sailor SBA Winter Dress¹</p>	 <p>Senior Sailor SBA Winter Working Dress</p>	 <p>Senior Sailor SBA Summer Dress</p>				
<p>1953-1974</p>	 <p>Junior Sailor SBA Aviation Medicine²</p>	 <p>Junior Sailor SBA Hygiene²</p>	 <p>Junior Sailor SBA Laboratory²</p>	 <p>Junior Sailor SBA Masseuse²</p>	 <p>Junior Sailor SBA Operating Theatre²</p>	 <p>Junior Sailor SBA Underwater Medicine²</p>	 <p>Junior Sailor SBA X-ray²</p>
	 <p>Senior Sailor SBA Winter Dress</p>	 <p>Senior Sailor SBA Winter Working Dress</p>	 <p>Senior Sailor SBA Summer Dress</p>				
	 <p>Senior Sailor SBA Aviation Medicine¹</p>	 <p>Senior Sailor SBA Dispensary¹</p>	 <p>Senior Sailor SBA Hygiene</p>	 <p>Senior Sailor SBA Laboratory</p>	 <p>Senior Sailor SBA Masseuse</p>	 <p>Senior Sailor SBA Mental Nurse</p>	 <p>Senior Sailor SBA Registered Nurse</p>










<p>1953-1974 (cont.)</p>	 Senior Sailor SBA Unknown	 Senior Sailor SBA Operating Theatre	 Senior Sailor SBA Psychiatric Nurse (1) Physiotherapist (2)	 Senior Sailor SBA Unknown	 Senior Sailor SBA Underwater Medicine	 Senior Sailor SBA X-ray	 Senior Sailor SBA Unknown
<p>1974-</p>	 Junior Sailor MED Winter Dress	 Junior Sailor MED Winter Working Dress ³	 Junior Sailor MED Summer Dress	 Junior Sailor MED Operating Theatre ²	 Junior Sailor MED Underwater Medicine ²		
  							
   							
   							

Notes:

1. The red central jewel in the Tudor crown was replaced by blue in 1920.
2. Not all sub-rate badges were in use throughout the periods indicated. Post-1974 winter badges indicate current sub-rates as of 2018.
3. All uniforms with red post-1974 insignia were abolished in 1990.

Table 3: RAN Dental Sailor Rate Badges since 1922

1922-1942				
	Junior Sailor DA Winter Dress	Junior Sailor DA Winter Working Dress	Junior Sailor DA Summer Dress	
1942-1949				
	Senior Sailor DA Winter Dress	Senior Sailor DA Winter Working Dress	Senior Sailor DA Summer Dress	
1949-1953				
	Junior Sailor DA Working Dress	Junior Sailor Dental Mechanic Working Dress		
1953-1974				
	Junior Sailor DA Winter Dress	Junior Sailor DA Winter Working Dress	Junior Sailor DA Summer Dress	
1953-1974				
	Senior Sailor DA Winter Dress	Senior Sailor DA Winter Working Dress	Senior Sailor DA Summer Dress	
1953-1974				
	Junior Sailor DA Winter Dress	Junior Sailor DA Winter Working Dress	Junior Sailor DA Summer Dress	
1953-1974				
	Senior Sailor DA Winter Dress	Senior Sailor DA Winter Working Dress	Senior Sailor DA Summer Dress	Senior Sailor Dental Mechanic Working Dress 1

1974-					
	Junior Sailor DA Winter Dress 1	Junior Sailor DA Winter Working Dress (1) 1,2	Junior Sailor DA Winter Working Dress (2) 1,2	Junior Sailor DA Summer Dress	
					
	Senior Sailor DA Winter Dress 1	Senior Sailor DA Winter Working Dress (1) 1,2	Senior Sailor DA Winter Working Dress (2) 1,2	Senior Sailor DA Summer Dress	Senior Sailor Dental Hygienist 1

Notes:

1. Not all sub-rate badges were in use throughout the periods indicated. Post-1974 winter badges indicate those in use as of 2018.
2. All uniforms with red post-1974 insignia were abolished in 1990.



RAN Health Service badge.³⁷ Note the Staff of Asclepius on the Red Cross.

Summary

Rank badges for Navy sailors were first introduced in 1827 (30 years before standardised uniforms to put them on), and assumed more-or-less their current form in 1853. Part Two of this article describes how most of the changes since were mostly limited to the CPO uniform, which only assumed its current form in 1925.

The first RN seamen given a specific job description or 'rate' were gunnery personnel from 1830, who received the first identifying rate badges in 1860. Dedicated SBAs were introduced in 1833 and they received their rate badge in 1879, while the RAN

introduced dental rates with their own badge in 1922. The rate badges for RAN medical and dental sailors assumed their current form in 1974.

It is suggested there is something appealing in the idea that a very young Trafalgar veteran not only could have easily lived long enough to see the first standardised Navy uniforms but could still identify today's sailor rank badges – although their rate badges may require some additional explanation!

Author

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Commander Westphalen transferred to the Active Reserve in July 2016.

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Disclaimer

The views expressed in this article are the author's and do not necessarily reflect those of the RAN, or any of the other organisations mentioned.

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Endnotes

- 1 Westphalen N. A History of Australian Navy Health Sailor Uniforms and Ranks (Part 1), JMVH. 2018 Apr;26(2):14-24 available from <http://jmvh.org/article/a-history-of-australian-navy-health-sailor-uniforms-and-ranks-part-1>
- 2 Westphalen N. A History of Australian Navy Health Sailor Uniforms and Ranks (Part 2), JMVH. 2018 Aug;26(3):49-56 available from <http://jmvh.org/article/a-history-of-australian-navy-health-sailor-uniforms-and-ranks-part-2>
- 3 See Royal Navy Substantive Rates for Seaman, available from <http://freepages.genealogy.rootsweb.ancestry.com/~pbtyc/Uniform/Ratings.html>
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- 10 Australian Naval Order 191/23, available from http://www.navy.gov.au/sites/default/files/documents/Commonwealth_Naval_Orders_1923.pdf
- 11 Personal communication 26 Dec 17, Mr John Perryman, Director Strategic and Historical Studies, Sea Power Centre – Australia. His research indicates that the practice ceased with the issue of ABR81 in July 1972. The plates in that publication make no reference to petty officers wearing class II rig.
- 12 1890 Uniform Regulations, available from http://www.pbenyon.plus.com/Uniform/1890_Uniform_Regs.html
- 13 Personal communication, CMDR Phil Davies (Rtd), 15 Dec 17. CMDR Davies joined the RAN as a junior sailor in 1958, and changed branch from dental assistant to sick berth attendant in 1960. He had to change from Class III to Class II rig as part of the process. He refers to a three-year transition.
- 14 See Royal Navy Substantive Rates for Seaman, available from <http://freepages.genealogy.rootsweb.ancestry.com/~pbtyc/Uniform/Ratings.html>
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Images of Service and Sacrifice – Tracing Narratives in Stained Glass

Susan Neuhaus

Abstract

The chapel at the former Repatriation General Hospital at Daw Park, South Australia has long been a special place of remembrance and reflection for veterans and their families. Established as part of the original 105 Australian Military hospitals in the 1940s by Lieutenant Colonel Frederick Neil Le Messurier DSO, it has a unique ecumenical design with two altars and bidirectional seating. The chapel also features a unique collection of stained-glass windows by artist Cedar Prest.

The 16 main windows and six smaller panels were recently rededicated as part of the Repatriation General Hospital's 70th anniversary. The windows provide significant images of service and sacrifice and represent over three generations of Australian service from World War I to Vietnam. They stand as a tribute to the spirit of veteran's service and the organisations that continue to care for them.

In 2017, the Repatriation General Hospital closed. The chapel remains a centrepiece in a new veteran's precinct. It is fitting to reflect on the very special role that the chapel has held for the South Australia veteran and medical community.

Key words: stained glass, veteran, service, military health care, repatriation hospital

Introduction

Stained glass has been used over many centuries, predominantly in churches and public buildings, to provide a visual narrative of historical and important events or simply as a medium of light and colour, offering an atmosphere of tranquillity and reflection.

Adelaide was founded in 1836 and, largely due to Edwardian architectural influences, has significant stained-glass collections. These include St Augustine's Church in Unley, which houses large William Morris windows, and a set of Tiffany windows (the only in the southern hemisphere), which reside in the Art Gallery of South Australia, having formerly been installed at Pulteney Grammar School.

Most public stained-glass collections are commonly found in churches, hospitals and memorials and reflect themes of religion or key state and military events. The role of military healthcare providers are also depicted in some memorial collections. In the Australian War Memorial, the Hall of Memory features 15 stained glass panels, each illustrating a figure in the uniform and equipment of World War I, typifying the quintessential qualities displayed by

Australians in war. One of these panels depicts a nurse.

Stained glass has also been used to commemorate the lives and service of those who have provided health services. The set of double Gothic stained-glass windows that grace St Marys church at Kangaroo Point in Brisbane, commonly known as 'the soldier windows', were donated by Miss Bedford, companion to Dr Lilian Violet Cooper as a tribute to Dr Cooper's work and legacy as a surgeon during World War I.

Many of the Repatriation Hospitals around Australia, established to treat returned Australian veterans, incorporated stained glass into their chapels and buildings. The best known of these is the Centaur Window, located in the front entry foyer of Concord Hospital in New South Wales (Figure 1). This window was dedicated to the memory of the 268 Australian lives lost at sea when the 2/3 hospital ship, AHS Centaur, was torpedoed by Japanese submarine, I-177, off the southern Queensland coast at approximately 0400 hours on 14 May 1943. Other stained-glass windows that commemorate the lives and service of Australians in times of war include

The Armed Forces Memorial Windows in the Concord Hospital chapel and the stained-glass tribute in the Anzac chapel at Heidelberg Hospital.

The chapel at the former Repatriation General Hospital, Daw Park, South Australia is home to a unique collection of stained-glass panels. This collection represents rich stories, not just of the lives of those that have loyally served their country, but of those that have cared for them.

This paper will describe key windows, including those dedicated to the Royal Australian Army Medical Corps, Nursing Corps Association and Returned Sisters, Legacy, Tubercular Soldiers Aid Society and the Ex-Prisoners of War Association.

The Repatriation General Hospital chapel, Daw Park

The chapel at the Repatriation General Hospital, Daw Park was established in the 1940s as part of the original 105 Australian Military hospitals by the then commander, Lieutenant Colonel Frederick (Freddy) Le Messurier DSO. Le Messurier served as a medical officer at Gallipoli and Egypt before joining the 12th Field Ambulance on the Western Front in March 1917. He was awarded the Distinguished Service Order for his actions east of Hamel, France, between 8 and 10 August 1918, where he evacuated wounded soldiers while under fire. During World War II, Le Messurier was appointed to oversee the building of the Repatriation General Hospital in Adelaide. The chapel was an important component in his plans and is visionary in nature. It has a unique ecumenical design (to accommodate both Protestants and Catholics) with two altars and bidirectional seating – a design inspired by the Adelaide Trams, which could reverse the direction of their seating, rather than use a turntable for the carriages.

The windows in the Repatriation General Hospital chapel were completed over a series of years and was rededicated in 2012 as part of the hospital's 70th-anniversary celebrations.

The current window collection is the result of the vision of the former hospital executive (particularly Matron Pat Deal and Executive Officer Terry Healy) who worked closely with the veteran and ex-service communities and launched an appeal in the 1980s for refurbishment of the chapel.

A decision was made to individually designate windows to separate veteran and ex-service organisations. Each organisation raised their own funds and contributed to the design and underpinning narrative of the panels. The panels

collectively epitomise the following values: love, service, dedication, loyalty, compassion, humanity, faith, hope, liberty, courage, vigilance, sacrifice, duty and comradeship.

The collection comprises 22 panels with 16 main windows (each over 6 feet high) and six smaller panels that tell the stories of those who have served our nation. Each of the larger panels is divided into three sections to provide an interweaving narrative across three generations of war, from World War I through to the Vietnam conflict.

The artistry is the work of Cedar Prest, a well-recognised South Australian glass artist. Her work also graces many of Adelaide's buildings including, most notably, Saint Peter's Anglican Cathedral in North Adelaide and the magnificent Ministering the Sick window in the chapel of the former Royal Adelaide Hospital.

The images in the windows depict many of the conflicts in which South Australians have served and present the diverse faces of war. They are a poignant reminder of the horror, apprehension and triumph of combat by land, sea and air, and the sacrifices made by the few for the good of the many.

They illustrate images of the dead of war and the dying, and those for whom the physical and mental toll continues long after the conflict ends. They act as reminders of the cost to families, those made widows or orphans by war, and the freedom we live in thanks to their sacrifice.

Most fittingly, the images also illustrate the important work of those who care for veterans, acknowledging the scars of conflict that last far beyond the bracketed dates of war.

The Medical Corps Window (eastern altar)

One of the earliest windows installed was the eastern altar window dedicated to the Royal Australian Army Medical Corps (RAAMC). Funds for this window were raised by the 3rd Forward General Hospital (3FGH). 3FGH can trace its origins to the Gallipoli campaign where it served as one of the initial evacuation hospitals on the island of Lemnos. In recent years the unit has been transformed into the 3rd Health Support Battalion (3HSB).

The figure of Simpson and his donkey, one of the iconic images of the Gallipoli campaign, dominates the foreground of the Medical Corps Window (Figure 2). In the lower panel, a World War II medical officer can be seen attending to a casualty in the jungle of Malaya or New Guinea – a jungle conflict significantly

closer to our own shores, while the Vietnam conflict is represented by a shaft of light illuminating a helicopter descending into the jungle to rescue a wounded serviceman.

Nursing Sisters Window (western altar)

The roles undertaken by women in war are commemorated in the western altar window (Figure 3). Dedicated originally in 1989, this window was made possible by funds raised by the Royal Australian Army Nursing Corps (RAANC) and The Returned Sisters Sub-Branch of the RSL.

Like the other panels, this window reflects the period from World War I to Vietnam and emphasises service, care and compassion. Sister Grace Wilson, who was Matron at Lemnos during World War I, is shown doing her rounds and in the foreground, a World War II nurse in either Malaya or New Guinea demonstrates similar dedication and caring.

The main narrative however, that resonates through this window relates to the Vietnam conflict. The Madonna-like figure in the top panel is clearly Vietnamese. This was an issue of great contention at the time but Cedar (the artist) remained defiantly proud to include this image. Arguably, in our multicultural society of today, it has greater resonance than it did at the time.

The panels of the Nursing Sisters window underscore the role of caring, not just for the soldiers but also the victims of war, and encapsulate one of the signature images of the Vietnam conflict which polarised Australian society at the time – a child burned by napalm.

The window reflects the plight of refugees and children, depicting the pain and anguish of a civilian woman holding a child – perhaps her own, perhaps an orphan – in the central panel. This image, which today could be anywhere from East Timor to Bosnia to any of the disaster or humanitarian missions that the Defence Force has been involved with in recent years, retains contemporary relevance and provides a link to current operations.

Tubercular Soldiers Aid Society window

One of the panels of the northern wall is dedicated to the service of the Tubercular Soldiers Aid Society. Tuberculosis is a scourge that has affected soldiers across a range of conflicts. While largely eradicated in Australia tuberculosis is still present today in many parts of the world.



Figure 1

The Tubercular Soldiers Aid Society window depicts the Angorichina Hostel, which opened in 1927 as the home of the Tubercular Soldiers Aid Society (Figure 4).

Nestled in the Flinders Ranges, Angorichina means 'white man's resting place'. The settlement was a place of healing and rehabilitation and the panels reflect the vibrant colours of the landscape and illustrate a patient tending to roses in the hostel garden.

As tuberculosis sufferers improved in health they undertook chores on the station, usually in the garden, poultry farm, dairy or other areas that required light work. This formed an important part of their rehabilitation and occupational therapy. The men also made furniture from local redgum which was transported for sale in Adelaide.



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6

Although no longer used for tuberculosis sufferers, Angorichina remains a working station. Trojan's Trek, a South Australian initiative of the Royal Australian Regiment (RAR) association takes veterans, principally contemporary veterans, to the remote and peaceful heart of the Flinders Ranges as a part of a program addressing the unseen wounds of war.

The Window of Hope

The Window of Hope is dedicated to all those who have been Prisoners of War. Of the over 30 600 Australian Prisoners of War in World War II, approximately 8000 died in captivity. Repatriation Hospitals in South Australia and elsewhere played a vital role in returning the survivors of incarceration to physical and mental health.

The mateship that developed during incarceration is portrayed by the images of prisoners supporting each other while the inhumanity that man is capable of is illustrated in the skeletal appearance of the two prisoners in the foreground – symbols of the deprivation, malnutrition and sheer brutality of their experience.

The huts that once housed prisoners reflect both the brick buildings of Europe and the bamboo constructions more familiar in South-East Asia. This window poignantly features the badge of the ex-Prisoner of War Association – with its powerful symbols of barbed wire and bamboo.

The Weary Dunlop window

The 'Weary' Dunlop window (in the north-western corner) was donated by the medical staff society of the Repatriation General Hospital and is dedicated to the memory and values of Colonel Sir Ernest Edward 'Weary' Dunlop AC, CMG, OBE.

Aptly titled Dedication the panels in this window illustrate Weary's story as an Australian surgeon, renowned for his leadership while being held prisoner by the Japanese during World War II (Figure 5). Although Weary himself has no local connection to South Australia, his legacy of compassion, endurance and medical innovation (depicted by the bamboo needles used to give intravenous fluids) is very much a part of the spirit of the hospital and reflects the core values of all the staff who have served at the Repatriation General Hospital.

Other windows

Other windows flank the northern and southern walls of the chapel, each labelled with a value chosen by the organisation the panels represent.

The window titled Sacrifice, the window dedicated to the Totally and Permanently Incapacitated, underscores the enduring sacrifice of those that live with their ongoing injuries and represents the ongoing care for the wounded and for those for whom the physical and mental consequences continue long after they have returned.

Every war has its signature injury. World War I was characterised by the effects of mustard gas – gas gangrene and devastating facial injuries. World War II by the effects of prison camps with malnutrition, vitamin deficiencies or the lifelong effects of tuberculosis.

It is interesting to speculate how the signature injury of our current operations would be reflected in windows made today – perhaps the survivor of a devastating blast injury or suicide bombing, or that of a young serviceman or woman dealing with the mental anguish and emotional strains of what they have done and seen.

The window of the Council of Ex-Service Women represents the Women's Services, including the Auxiliary Services and the important work of the Australian Women's Land Army formed during World War II to combat rising labour shortages in the farming sector (Figure 6). This window is significant, particularly given the paucity of images that depict

women in non-nursing military roles.

Another window commemorates the Australian Red Cross Society with its trademark red cross and represents the humanity of an organisation that has played such a vital role both at home and overseas in alleviating suffering in conflict and its essential role in providing a military blood service.

The window of the Returned Services League depicts the Adelaide Shrine of Remembrance in North Terrace and underscores the engagement of the younger generations in Anzac and remembrance services. In 2016, as part of the Anzac Centenary, a memorial walk and wall featuring images of South Australia's servicemen and women, with pavers embossed with the names of the places they fought, was officially opened at the site of the Shrine of Remembrance. The walkway has been designed as a tribute, not just to those that died but to all that have served.

The War Widow's Guild and Legacy windows reflect the values of love and service of caring for the widows, children and families of those who have given their lives. The War Widows' Guild badge features the kookaburra, which was the mascot of the Australian 7th Division, commanded by Major General George Alan Vasey CB, CBE, DSO & Bar. Vasey's wife, Jessie, was instrumental in establishing the Guild and served as its president until her death in 1966. The kookaburra was chosen for the Guild badge not just because of its cheerful and industrious nature but because, as a typical Australian symbol, it could be worn proudly by every widow whatever her creed or ideals.

Repatriation General Hospital Window

The most contemporary of the windows is located in the north-eastern corner of the chapel and is dedicated to the staff of the Repatriation General Hospital. It epitomises the service of those that are often forgotten; the staff that did not put on a uniform but nonetheless, played their part in a society torn apart by war.

The images in this window illustrate the work undertaken at the Repatriation General Hospital and feature a modern nurse going about her working day, caring for an elderly veteran. It also depicts the gardens which characterise the campus. These gardens include both a rosemary bed, grown from cuttings from Lone Pine on the Gallipoli peninsula and the Ward 17 Garden of Reflection.

The window is aptly titled Compassion and reflects the true compassion of the hospital staff in their daily work to bring about a positive change in the lives of

those they care for; members not just of the veteran community but the wider community to which we all belong.

Conclusion

The windows of the Repatriation General Hospital have special meaning to the veteran and hospital community but are also a national treasure. The images contained within their panels remain as resonant today as when they were first created and speak eloquently of the great sense of community and camaraderie that has characterised the hospital's history.

In 2017 the Repatriation General Hospital was decommissioned. The former Repatriation site remains a veteran's precinct and the chapel and gardens have been retained. Specialist services

for post-traumatic stress disorder have been incorporated into the new purpose-built facility, The Jamie Larcombe Centre.

As the hospital has been repurposed it is appropriate to reflect on the service and contribution of the staff that have served the veteran community over the last 70 years and to reflect on the legacy of the windows. The windows reflect the unique values and service of the Repatriation General Hospital and its staff and provide a true and fitting 'Tribute in Glass' to its veterans, past and present.

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A Clustered Randomised Controlled Trial Investigating the Capacity of Mental Fitness Training to Enhance Occupational Resilience in Military Personnel

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Abstract

Many organisations, including the Australian Defence Force (ADF), have acknowledged that the inherent challenges associated with military service may place individuals at an increased risk of psychological distress and compromised mental health (Hoge et al., 2004; Maguen et al., 2009; O'Toole, Catts, Outram, Pierse & Cockburn, 2009). In response to these risks, the ADF has invested significant resources in the development and implementation of resilience-strengthening programs (Cohn, Crane & Hodson, 2011).

In 2017, a new approach to resilience training, known as Mental Fitness Training, was developed to extend BattleSMART, which is the existing program used by the ADF. Mental Fitness Training attempts to develop self-awareness and a critical self-examination of one's coping and emotion regulatory responses to training stressors (Crane & Boga, 2017). This type of program has emerged from a growing body of evidence regarding the relevance of self-reflective practices to the learning process in adults (Cranton, 2006; Ellis, Carette, Anseel & Lievens, 2014; Franz, 2010; Mezirow, 1997) and to opportunities for growth following moderate stressor exposure (Crane & Searle, 2015; Seery, Holman & Silver, 2010; Seery, Leo, Lupien, Kondrak & Almonte, 2013).

An initial trial conducted during 2017 found that Mental Fitness Training, relative to a revision of BattleSMART, resulted in significantly greater reductions in anxiety symptoms, depression symptoms and perceived stress between immediate follow-up testing and long-term follow-up testing. The trial also found that those who engaged in high-quality reflections during Mental Fitness Training experienced significantly greater reductions in anxiety symptoms than those who engaged in low-quality reflections. While this initial trial provides some support for Mental Fitness Training, it had several limitations including that it did not account for different lengths of treatment time between the two programs or collect information about the reasons for participant attrition from the study.

To this end, this randomised controlled trial evaluates the capacity of Mental Fitness Training

to enhance occupational resilience in a sample of approximately 200 second-class Cadets from the Royal Military College, Canberra (RMC). It aims to replicate the findings of the previous trial and include methodological amendments such as a more rigorous control group to match the intervention and control groups for length of treatment exposure. The present trial will also refine the content of the program, collect information about the reasons for participant attrition and consider rumination, level of training engagement and other variables during the treatment program. Although the findings of this research will not be confirmed until after August 2018, it is anticipated that Mental Fitness Training will lead to significantly greater improvements in mental health outcomes, perceived stress and occupational performance compared to a revision of the BattleSMART program.

At its core, this research will examine the merits of Mental Fitness Training and provide a case for the integration of self-reflection into resilience training at the ADF. It will also translate current research about resilience and coping self-reflection into an evidence-based intervention that will prevent the onset of mental illness during challenging periods and enhance the mental fitness of military personnel

Biography

Samantha Falon is a provisional psychologist who is currently undertaking a PhD and Master of Organisational Psychology at Macquarie University under the supervision of Dr Monique Crane. She holds student membership with the Australian Psychological Society and the College of Organisational Psychologists. Her research interests include the link between occupational resilience and performance, preventative approaches to workplace mental health and evidence-based training and development programs.

Samantha's doctoral research investigates the critical roles of self-reflection and rumination during the development and consolidation of resilience in military personnel. As part of this research program, Samantha has collaborated with the Australian Defence Force (ADF) to investigate this research question and establish a high quality, evidence-based resilience training framework in the context of the ADF.

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A Comparison of the Mental Health and Wellbeing of Transitioned ADF with an Australian Community Population: Mental Health Prevalence Report

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Abstract

In this presentation key measures of mental health and wellbeing are compared between Transitioned ADF members and an Australian community population, in order to place the mental health of Transitioned members within the civilian context. Comparisons between the Transitioned ADF and the Australian community were made using contemporaneous data obtained from the 2014–2015 ABS National Health Survey (NHS), which included psychological distress (using the K10) and alcohol use questions. To enable comparisons of estimates in the Transitioned ADF with the Australian Community population, direct standardisation by sex, employment status (employed or not) and age was applied. Results showed higher rates of psychological distress among the Transitioned ADF compared to the Australian community, with patterns of alcohol consumption and problem drinking varying according to age and gender within the two groups.

Biography

Dr. Amelia Searle has over a decade of experience in mental health research, centring on the predictors and correlates of mental health/disorder across the lifespan. She is well-versed in various quantitative analyses spanning prevalence and epidemiological modelling, including longitudinal and mediational models, and psychometric analyses. Dr Searle collaborates with industry, government and non-for-profit organisations on various projects to generate directly translatable findings within reports, program reviews, workplace performance models, and intervention evaluations. Dr Searle's research has been published extensively in peer-reviewed journals, and presented nationally and internationally. Dr Searle completed her PhD in 2011, receiving the Dean's letter of commendation for the high quality of her thesis.

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A Comparison of the Self -Reported Mental Health of Transitioned ADF and 2015 Regular ADF Members: Mental Health Prevalence Report

Dr Ellie Lawrence-Wood¹, Ms Helen Benassi²

1 University of Adelaide

2 Department of Defence

Abstract

This presentation will describe the severity of current self-reported mental health problems in the Transitioned ADF compared to the 2015 Regular ADF. Compared to the Regular ADF, the Transitioned ADF evidenced significantly greater levels of psychological distress, depression, anxiety, anger, suicidality and alcohol use. Changes in the severity of the various mental health domains in the Regular ADF between 2010 (using the results from the 2010 ADF Mental Health Prevalence and Wellbeing Study) and 2015 will also be discussed. Finally, this presentation will provide a detailed summary of the estimated prevalence of self-reported lifetime deployment and trauma exposures as an example of the background morbidity which may contribute to the high levels of sub-threshold symptomatology in these two populations.

Biography

Dr Ellie Lawrence-Wood is a senior research fellow at the Centre for Traumatic Stress Studies, University of Adelaide. She is currently an Investigator for the Transition and Wellbeing Research Programme, and is the Lead Investigator on the Impact of Combat Study, one of three studies that form part of the programme. Her other key projects include the Middle East Area of Operations (MEAO) Prospective Study, a large-scale project focusing on the psychological, physical and neurobiological impacts of deployment to the MEAO among ADF personnel; and the Mothers in the MEAO study, a follow-up to the Military Health Outcomes Program (MilHOP) Health Studies, aimed at understanding the specific health and psychosocial wellbeing impacts of deployment, for Australian mothers who have deployed to the MEAO.

In addition to her research, she is the current Chair of the Clinical Advisory Committee, and a Director on the Board of Management, for the Operation Flinders Foundation, a South Australian based charitable organisation that runs a world leading wilderness adventure program for young offenders and young people at risk. Dr Lawrence-Wood has co-authored over 19 peer-reviewed published journal articles and

abstracts, as well as 7 reports commissioned for government and industry.

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A Trilogy of Refection: Military Medicine

Major Brendan Wood¹

1 Auckland University of Technology (AUT)

Abstract

Evolution of military healthcare can be measured by the milestones marking the progressive engagement in combat from World War I to the contemporary operations in Afghanistan. During each conflict, a specific and often salient evolution can be recognised and attributed to that time and place. The ANZAC's have stood side by side in each of these conflicts, often contributed to the advancement of military medicine. Military conflict has taken place during every year of the 20th Century. There were only short periods of time that the world has been free of war. The total number of deaths caused by war during the 20th Century has been estimated at over 187 million.

This calendar of events commences with World War One (1914-1918) to the Second World War (1939-1945). Followed by the Korean War (1950-1953), the Malayan Emergency (1948-1960), The Vietnam War (1963-1975). The Gulf War (1990-1991), the War in Afghanistan (2001-2014) which concluded a century of conflict and service. A trilogy of posters will explore the Medicine, the Medic and the Art of Military Medicine in a pictorial portrayal of significant events.

The Medicine: The WW1 saw the evolution of Triage, the introduction of X-ray, and the introduction of Psychological medicine. WWII commence the journey of global access to antibiotic, delivery system for pain relief by combat soldiers and access to Blood. Forward surgery in an M.A.S.H. and the use of the helicopter for evacuation was the hallmark of the Korean War. The "Golden Hour" of resuscitation the controversial evolution of the Vietnam conflict. The Gulf War had forces configured for the management of casualties resulting from the use of chemical weapons, while the signature weapon of the Afghanistan campaign, the improvised explosive device (IED), necessitated the reintroduction of the tourniquet, hemostatic agents and hypotensive resuscitation.

Where possible, the involvement of ANZAC's in the evolution will be identified and explored.

Biography

Brendan has been a member of the New Zealand Defence Force (NZDF) for over 35 years and hold the rank of Major in the RNZAMC. Brendan currently serve's in the NZ Army Reserve.

Brendan commenced his practice as a paramedic and ambulance sector manager in 1990, gaining his Advance Care certificate in 1996. He is trained as an Intensive Care Paramedic and is employed in 2014 by the Auckland University of Technology as a Programme Leader and Senior Lecturer. Brendan holds a BHSc (Paramedicine), a Grad Dip in Emergency Management and a Post Grad Cert in Education and a Post Gard Diploma in Health Science.

Brendan currently serves on the National Clinical Governance Committee of St John New Zealand.

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A Trilogy of Refection: The Art of Military Medicine

Major Brendan Wood¹

1 Auckland University of Technology (AUT)

Abstract

Evolution of military healthcare can be measured by the milestones marking the progressive engagement in combat from World War I to the contemporary operations in Afghanistan. During each conflict, a specific and often salient evolution can be recognised and attributed to that time and place. The ANZAC's have stood side by side in each of these conflicts, often contributed to the advancement of military medicine. Military conflict has taken place during every year of the 20th Century. There were only short periods of time that the world has been free of war. The total number of deaths caused by war during the 20th Century has been estimated at over 187 million.

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of conflict and service. A trilogy of posters will explore the Medicine, the Medic and the Art of Military Medicine in a pictorial portrayal of significant events.

The Art of Military Medicine: The glorification of War has often been the theme of Military Art. However, occasionally, the work and compassion of military medics and the suffering, devastation and personal cost of combat is captured by War artists. This poster will explore the art of military medicine with a small number of representations. From Horace Moore-Jones portrayal of Simpson (Henderson) and his Donkey to John Weeks "the ambulance paintings", to Peter McIntyre's Forward Dressing Station. Matt Gauldie's painting to commemorate the Royal New Zealand Army Medical Corps centennial captures the medic in contemporary operations. These paintings and others will highlight the evolution of military health care from the Armistice (or just before) to Afghanistan.

Biography

Brendan has been a member of the New Zealand Defence Force (NZDF) for over 35 years and hold the rank of Major in the RNZAMC. Brendan currently serves in the NZ Army Reserve.

Brendan commenced his practice as a paramedic and ambulance sector manager in 1990, gaining his Advance Care certificate in 1996. He is trained as an Intensive Care Paramedic and is employed in 2014 by the Auckland University of Technology as a Programme Leader and Senior Lecturer. Brendan holds a BHSc (Paramedicine), a Grad Dip in Emergency Management and a Post Grad Cert in Education and a Post Grad Diploma in Health Science.

Brendan currently serves on the National Clinical Governance Committee of St John New Zealand.

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A Trilogy of Refection: The Medic

Major Brendan Wood¹

¹ Auckland University of Technology (AUT)

Abstract

A trilogy of refection: The Medic.

Evolution of military healthcare can be measured by the milestones marking the progressive engagement in combat from World War I to the contemporary operations in Afghanistan. During each conflict, a

specific and often salient evolution can be recognised and attributed to that time and place. The ANZAC's have stood side by side in each of these conflicts, often contributed to the advancement of military medicine. Military conflict has taken place during every year of the 20th Century. There were only short periods of time that the world has been free of war. The total number of deaths caused by war during the 20th Century has been estimated at over 187 million.

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The Medic: In each conflict, the enlisted personnel of the medical services have been the unsung heroes of first-line care. From Simpson and Henderson of Gallipoli, the Stretcher Bearers of the Somme and Passendale, the medivac medics of Vietnam to the Gallantry and loss of life in Afghanistan. The bravery and commitment of the men and women who are our combat medics will be explored.

The equipment, weapons and protection afforded them has evolved at each stage of the journey in 20th-century combat and will be portrayed in this conference poster presentation.

Biography

Brendan has been a member of the New Zealand Defence Force (NZDF) for over 35 years and hold the rank of Major in the RNZAMC. Brendan currently serves in the NZ Army Reserve.

Brendan commenced his practice as a paramedic and ambulance sector manager in 1990, gaining his Advance Care certificate in 1996. He is trained as an Intensive Care Paramedic and is employed in 2014 by the Auckland University of Technology as a Programme Leader and Senior Lecturer. Brendan holds a BHSc (Paramedicine), a Grad Dip in Emergency Management and a Post Grad Cert in Education and a Post Grad Diploma in Health Science.

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AACAP: An Unsung Australian Army Achievement

CAPT Brenton Systemans¹

1 6HSC

Abstract

The Army Aboriginal Community Aid Program (AACAP) is a collaborative partnership between the Department of the Prime Minister and Cabinet (PM&C) and the Australian Army. Resourcing of each AACAP is shared between PM&C and the Army. Each year, PM&C provides a multi-million dollar funding injection whilst the Army provides over 200 personnel, predominantly from 21 Construction Squadron, 6 ESR as well as from a smattering of other units including 2 GHB and 3 HSB.

The OPORD describes AACAP as “a directed activity aimed to improve the environmental and primary health standards of selected Aboriginal Communities.” In reality, AACAP doubles as a training exercise and CERTEX for elements from 6ESR during their readying phase. 2GHB supports this exercise by providing a Role 1E health service to the deployed force element and health support effects to the local community.

What is truly unique about AACAP is that the Army is able to capitalise on its vast array of trades to deliver a multifaceted project to an indigenous community. The Army is able to provide new infrastructure, as well as training and skill attainment for the communities' health and wellbeing projects; including the provision of medical, dental and veterinary support. No other Australian government department or NGO has the capability of providing this level and variety of service.

Each year, through dialogue and collaboration, AACAP is tailored to the needs of the individual community. Such projects as roads and sewer construction as well as housing construction, men's shed's and football stands have been constructed.

The deployed health asset provides have a two-tiered focus. Primarily, a resuscitation capacity and primary health care to the supported unit, 6 ESR is provided. Additionally, the healthcare team provide healthcare to the local community as well as delivery of health education and training. This includes primary care, dental care, the augmentation of the community clinic staff with the medics and doctors, the provision of health education to primary school aged children, attendance at men's events to provide education as well as the organisation and funding of a certified first aid certificate.

AACAP has proven to be a highly successful program with measurable outcomes that dozens of indigenous communities have now benefited from. AACAP is a good news story for the Australian Army and should be promoted to the wider Australian community to highlight the productive work the Army completes during peace time.

Biography

Dr Brenton Systemans is an emergency medicine registrar with an interest in working in austere and remote environments. He has had a varied career that has led him to work in almost every state of Australia as well as New Zealand, Ireland, Nepal and China. He has current positions with University Hospital Geelong, the Royal Australian Army Medical Corps, the University of Tasmania, Inspired Adventures, Colbrow Medics and the Himalayan Rescue Association. In 2015, deployed to the community of Titjikala in Central Australia in support of AACAP 22.

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Acceptance of Cognitive Enhancement Technologies for Improved Human Performance

CAPT Samantha Jackson¹, Dr Boris Bizumic²,
Professor Michael Smithson², Dr Adam Henschke²

1 Department of Defence, 2The Australian National University

Abstract

Advances in technology are occurring at a rapid rate. This is particularly so in the areas of bio-technology, nano-technology, information technology, and cognitive science. The convergence of these sciences has led to the development of several life-changing therapeutic innovations. Not all technological advancements in these areas, however, are designed to improve a deficit. Instead, more frequently, the design and purpose is to take humans beyond average or to exceed what is considered 'normal'. The human desire to enhance ourselves through science is not new, and indeed has been occurring for a long time. One example of this is through the use of pharmaceuticals to improve mood, memory, and attention. Certainly, increasing human performance

was identified as a key priority for the Australian Army in the most recent Army Research and Development Plan 2015. Likewise, the Future Land Warfare Report 2014 acknowledged the need for a modern fighting force to stay abreast of technological advancements, and in certain circumstances there will likely be a need for the Australian Defence Force (ADF) to adopt these in order to stay ahead of adversaries.

The research I am undertaking at the Australian National University as a part of the work towards my PhD will provide valuable insight into the psychological preparedness of society and ADF members to adopt some of these emerging cognitive enhancement technologies. Some of the greatest challenges the ADF will face in this domain will be to psychologically prepare members to work in increasingly complex environments, support members to integrate into society as enhanced humans, transition members back into society when they are no longer enhanced, and to gain support in using these technologies from the general Australian population.

This oral presentation will explore the current literature and international state of affairs of this topic. I will discuss initial research findings from my first study, and provide an overview of future research that will be undertaken as a part of my ongoing investigation into this important area.

Biography

CAPT Jackson joined the Australian Regular Army as a General Service Officer in 2001. After graduating from the Royal Military College in 2002, she fulfilled a number of roles as an officer in the Royal Australian Army Medical Corps and the Royal Australian Corps of Signals. In 2014, she transferred to the Australian Army Psychology Corps as a provisional psychologist, and was generally registered as a psychologist in 2016.

CAPT Jackson was deployed on OP AZURE in 2008/2009 and OP ACCORDION in 2016/2017. As a psychologist, she has been posted to the Mental Health and Psychology Section – Northern Territory and the 1st Psychology Unit. She is currently the Staff Officer Grade Three Operational Mental Health at Joint Health Command. CAPT Jackson is presently completing a Doctor of Philosophy (PhD) in Psychology at the Australian National University.

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ADF SPEC Demographics... and Why They Should Count

Dr Neil Westphalen

Abstract

This presentation describes the ADFs SPEC personnel demographics as of 01 March 2018, and what they mean for the ADFs health services. The latter includes their functions and roles with respect to facilitating some key ADF operational capabilities, and the fundamental inputs to health capability required for this to occur.

Biography

Dr Neil Westphalen graduated from Adelaide University in 1985, and joined the RAN in 1987. He is a RAN Staff Course graduate, and a Fellow of the Royal Australian College of General Practitioners, the Australasian College of Aerospace Medicine, and the Australasian Faculty of Occupational and Environmental Medicine. He also has a Diploma of Aviation Medicine and a Master of Public Health.

His seagoing service includes HMA Ships SWAN, STALWART, SUCCESS, SYDNEY, PERTH and CHOULES. Deployments include DAMASK VII, RIMPAC 96, TANAGER, RELEX II, GEMSBOK, TALISMAN SABRE 07, RENDERSAFE 14, SEA RAIDER 15, KAKADU 16 and SEA HORIZON 17. His service ashore includes clinical and management roles at CERBERUS, PENGUIN, KUTTABUL, ALBATROSS and STIRLING, and staff positions as J07 (Director Health) at the then HQAST, Director Navy Occupational and Environmental Health, Director of Navy Health, Joint Health Command SO1 MEC Advisory and Review Services, and Fleet Medical Officer. Commander Westphalen transferred to the Active Reserve in July 2016.

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Aeromedical Evacuations: Support to the Military for Complex Clinical and High-Risk Location Evacuation Cases

Mr Mauro Zambon¹

1 International SOS

Abstract

Introduction: In recent years, several countries in the Middle East and Africa have experienced significant political instability, social unrest and civil war that have led to the collapse of their healthcare infrastructure. Despite the medical and security risks, many civilian, military and governmental organisations are continuing to deploy personnel to these locations and are relying on the provision of aeromedical evacuation in the event of an injury or illness. To meet this demand, civilian medical assistance organisations have been required to operate in increasingly dangerous and hostile environments that were until recently the domain of military organisations.

Discussion: In 2017/2018, International SOS has performed numerous air ambulance evacuations touching nearly every country in the world by utilising a dedicated fleet of aircraft, 26 Assistance Centres and a credentialed network of aviation providers. A significant proportion of these aeromedical evacuations were performed on behalf of government and military organisations.

This paper will discuss two case studies focussed on the operational and clinical delivery model when performing these evacuations on behalf of a military organisation. The first study will outline an example of an evacuation from a high-risk country in Africa and the second case study will outline a clinically complex repatriation from the Pacific Region back to the USA on behalf of the US DoD. Each case study will highlight different aspects of complexity. The former the sovereign security challenges of the jurisdiction the patient was being evacuated from when providing critical medical care and the latter the challenges of a complex clinical case married with the logistic difficulty of long-haul medical transportation.

Air ambulance movements require a high degree of capability and coordination between the aviation, administration, operations, logistics, security and medical elements of an organisation. Each patient needs to be assessed on a case-by-case basis, taking into account a variety of factors such as the medical status of the patient, urgency to access

medical care, barometric effects and mobility. Clear decision-making protocols for the medical transportation of patients are required to achieve the best medical outcome. Aeromedical evacuations from extreme-risk countries are further complicated by unpredictable external factors, which include security issues, military activity, country clearances, no-fly zones and hostile activities.

Conclusion: Aeromedical evacuations present a challenging operating environment that requires a unique skill set and, when required, the ability to integrate with government and military commands in a cohesive manner. Experience has shown that detailed mission planning, local knowledge, community relationships, utilisation of personnel experienced in operating in hostile environments, long-haul missions across multiple sovereign air spaces, a robust civilian-military-police interface and reliable and redundant logistics and equipment are essential in achieving a successful outcome to meet the high expectations of a military organisation.

Biography

Dr Mauro Zambon is the Regional Medical Director – Assistance Services, Australasia. Dr Zambon provides the leadership and support that ensures medical assistance services in Australasia are aligned with client expectations.

Dr Zambon previously worked at International SOS in London, where he held the position of Tricare Regional Medical Director for Eurasia Africa (EA), and a part of the International SOS Regional Medical Director oversight for Northern Europe, Central Europe, Asia, Middle East and Africa.

International SOS is the world's leading medical and travel security risk services company caring for clients across the globe, from more than 850 locations in 92 countries.

Dr Zambon joined International SOS in 2006 in London, starting as a Coordinating Doctor and subsequently a Senior Coordinating Doctor, maintaining and carrying out medical assistance, air ambulance and healthcare management services across the region.

Dr Zambon has a background in emergency medicine and general practice and is committed to ensuring the provision of the highest standard of assistance services in an increasingly complex and challenging global environment.

Dr Zambon's qualifications are:

- *Bachelor of Medicine, Bachelor of Surgery*

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Mauro Zambon

An Update - RACGP Post Fellowship Specialty - Military Medicine

Ms Emma Stonham¹ Sally Wilson, Vanessa Lynne

¹ Royal Australian College of General Practitioners

Abstract

In 2017 RACGP Council approved the Post Fellowship Speciality Framework and tasked RACGP Specific Interests and the RACGP Education unit to operationalise the framework.

The framework is a structure of recognition of extended skills beyond that of core general practice.

The RACGP will be piloting the framework as a Post Fellowship Specialty - Military Medicine and has been working with Wing Commander Adeline Chong to identify the extended skill outcomes and the evidence required to meet these outcomes.

The extended skill outcomes have been mapped against the core skills in the RACGP curriculum. The next stage was the identification of the evidence required to prove the existence of the extended skill.

This presentation will provide an overview of the current processes on the development of the recognition and also discuss the next steps, including the pilot phase.

Biography

Emma Stonham has been the RACGP Specific Interests Manager for 2 years. Prior to this she was the RACGP Victoria manager for four years. Emma's key responsibilities are working with the board and the networks to continue the growth and activity of Specific Interests.

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Australian Defence Force (ADF) Suicide Attempt and Self-Harm Quality Assurance Audit: Findings of the Clinical Standards Audit

Dr Duncan Wallace¹

¹ ADF Centre for Mental Health

Abstract

Background: In 2016, the ADF commissioned a working group to conduct a quality assurance audit into the clinical and administrative management and monitoring of suicide attempts and self-harm by members of the Australian Defence Force. This is a presentation of the first report from that project which described the audit of clinical management.

Objectives: To assess whether ADF personnel who presented with episodes of self-harm or suicide attempts were managed according to accepted civilian standards of care and ADF clinical policy.

Methods: In Phase One, an audit of the Defence Electronic Health System (DEHS) identified personnel found to have engaged in a suicide attempt or self-harm between the roll-out of the DEHS in 2014 and 18 Oct 16. Statistical analysis of this data was performed to determine whether there were differences in the incidence of self-harm or suicide attempts based upon geographic location, base activity or Service. In Phase Two, a clinical standards audit was conducted on a representative sample of approximately 10% of the cohort of patients identified in Phase One. This audit used a set of civilian and ADF clinical standards that were specially developed for this purpose. Auditors then examined the individual DEHS records of the selected personnel and provided a Global Assessment Rating on the degree of compliance with each set of standards. Finally, using refined DEHS search terms over a twelve-month period, an incidence rate for suicide attempts and self-harm was calculated.

Findings: A total of 147 members of the ADF were found to have engaged in a suicide attempt or self-harm between the roll-out of the DEHS in 2014 and 18 Oct 16. Statistical analysis of this data found no significant differences in the incidence of self-harm or suicide attempts based upon geographic location, base activity or Service. The management of members was found to be generally compliant with both ADF

and civilian standards. However, more DEHS Records were found to be compliant with civilian standards of care for suicide attempts and self-harm than with ADF standards. Using modified search terms, a subsequent calculation of incidence found a total of 62 members of the ADF had presented with suicide attempts or self-harm, between 18 October 2015 and 18 October 2016. Using the exact method, incidence rates for suicide attempts and self-harm combined were calculated as 95.1 per 100,000 person years (Confidence Interval 72.9 – 122). Existing DEHS search terms were unable to separate all suicide attempts from episodes of self-harm.

Conclusions: A number of recommendations for use of search terms in the DEHS, staff training, further research and ongoing monitoring of self-harm and suicide attempts in the ADF were made.

Biography

Dr Duncan Wallace has been a consultant psychiatrist since 1990, practising mainly in public hospitals with special interests in emergency departments, rural psychiatry, telepsychiatry and military psychiatry.

Dr Wallace has extensive operational experience as a medical officer in the Navy Reserve. He has deployed on Active Service to East Timor, Iraq, Afghanistan and the Persian Gulf. He has also deployed on border protection duties to Christmas Island and Ashmore Reef, as well as humanitarian assistance operations in Banda Aceh and Nias. He is a Commodore in the Royal Australian Naval Reserve and was Director-General Naval Health Reserves from 2012 to 2015.

Dr Wallace was appointed to his current position as psychiatrist to the Australian Defence Force Centre for Mental Health, at HMAS Penguin, Sydney, in 2010. He has been a Visiting Medical Officer at St John of God Hospital, North Richmond since 2015. He is a Conjoint Senior Lecturer in Psychiatry at the University of NSW and was appointed as the inaugural chairman of the RANZCP Military and Veterans' Mental Health Network in March 2018.

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Australian Regular Army Clinician Clinical Competency (ARACCC) Study

CAPT Byron Manning, Corporal Damien Roberts

Abstract

The Australian Army strives for professional mastery across its personnel. Full-time uniformed Australian Defence Force (ADF) Clinicians (medical technicians, nurses, and doctors, collectively) are expected to balance professional military skills with maintenance of clinical competence in their particular trade, however, some indicate that they find the latter objective difficult to achieve.

A driver of the perceived difficulty in maintenance of clinical competence amongst some ADF clinicians may stem from the requirements to provide both primary health care, and critical care and trauma medicine – expectations that contrast with the specialisation of the bulk of the civilian health workforce. Seldom are civilian paramedics required to provide primary healthcare, and similarly, civilian general practice registrars are not required to be experts in managing complex trauma.

Despite a dearth of published, prospective assessment of clinical competency among military clinicians, one research paper was identified that included direct comparison of clinical outcome data for military and civilian counterparts. The most recent literature on the topic is a 2007 literature review published in the Journal of the Royal Army Medical Corps: it set out to examine the effectiveness of hospital critical care interventions in a military setting, and in the process identified two studies that highlighted differences in patient outcome between military and civilian aeromedical teams. The authors of the literature review concluded that for one study, military clinical “care may be sub-optimal”, and in the second, the review authors highlight the study findings that while “the US Military should be equivalent to their civilian counterparts... data implies that they are unable to provide civil standard emergency care to the critically ill or injured patient.”

To our knowledge, there is no current, standardised, evidence based data on ADF clinician clinical competence. We hypothesise that owing to the challenging nature of the full-time ADF clinical role, standardised measures of self-efficacy amongst ADF clinicians will differ significantly from their civilian counterparts.

This mixed methodology study will be constructed as a matched, retrospective cohort analysis. The combination of qualitative data collection via focus group, survey, and semi-structured interview, combined with quantitative data collection via survey will enable not only direct comparison between cohorts, but also a deeper understanding through theoretical and concept analysis of why differences between cohorts may exist.

This study will explore self-efficacy, and self-assessment of clinical competence in a subset of ADF clinicians, and will seek to understand how these attitudes and beliefs differ from a matched civilian cohort. This is also the first study, to our knowledge, to explore how clinical experiences, attitudes, and beliefs of full-time ADF clinicians compare with a matched civilian cohort, working in similar clinical environments. This is an important question to answer because a wide body of research indicates that while clinical competency is difficult to measure, it is directly related to health outcomes of patients in any given health system.

Biographies

CAPT Byron Manning is an Army doctor posted to a Close Health platoon at RAAF base Edinburgh. CAPT Manning joined the Army in search of a non-standard medical career, and while he's yet to see the aviation medicine, humanitarian situations, refugees, or the battle casualties alluded to by Defence Force Recruiting, he is developing his interest in expedition and diving medicine, and medical aspects of counter CBRNE warfare. He is also completing General Practice training, and a Graduate Diploma of Public Health & Tropical Medicine through James Cook University. Outside of the military, he enjoys volunteer work, hiking, diving, and flying.

Corporal Damien Roberts is a 34 year old Medical Technician posted to RAAF base Edinburgh in Adelaide. Following a 13 year career and reaching the Rank of Sergeant as a rifleman in the Royal Australian Infantry corps, CPL Roberts transferred to the Royal Australian Army Medical Corps in 2015. He is currently studying a Bachelor of Paramedical science through the University of Tasmania and would like to eventually train in the field of chemical, biological, radiological and nuclear defence medicine. In his spare time, he enjoys scuba diving, playing golf, road cycling, back country and downhill skiing.

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Byron Manning

Being Real About Resilience: What We Need to Do

LTCOL Andrew Cohn¹, CAPT Samantha Jackson

1 Joint Health Command

Abstract

A key focus for the Defence Mental Health and Wellbeing Strategy (2018-2023) is on building and maintaining resilience within Defence members, and to ensure that resilience training is relevant and realistic. The 2018 Defence Resilience Forum was held 21-22 June 18, and built on previous forums by bringing together national experts on resilience and representatives from the services and groups to discuss fundamental challenges, lessons learned, service requirements, current models of resilience training and proposed research. This forum provides an opportunity to share experiences, deliberate over key concerns and collectively apply deep thinking in an innovation sprint style platform to develop real breakthrough that underscores the theme for the Forum - 'Being real about Resilience'.

This presentation reports on the key outcomes of the Forum and how that information can be used by Defence to develop training that is practical, relevant and works to create a balance between individual, team and organisational resilience.

Biography

LTCOL Andrew Cohn completed a Bachelor of Science (Hons) degree in Psychology at the University of NSW in 1986 and a Doctorate in Clinical Psychology at the University of Queensland in 2005. He was commissioned into the Australian Regular Army in 1987 and has held a variety of Postings as an Army Psychologist, including in recruiting, student counselling and operational military psychology. He has deployed twice on overseas operations, to the Solomon Islands in 2009 and to the Middle East Area of Operations in 2010. He received a Conspicuous Service Cross in 2010 for his achievements in the area of psychological resilience training, research and evaluation, and progression of the Australian Defence Force Mental Health Strategy. He currently holds the position of Staff Officer (Grade 1) Operational Mental Health in the Directorate of Mental Health Strategy and Research in JHC.

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C27J Battlefield Airlifter - The Newest Fixed Wing Aeromedical Evacuation Capability for the Royal Australian Air Force

Ms Vicki Lousick¹

1 Air Force

Abstract

The C-27J Spartan has been selected as the Royal Australian Air Force's Battlefield Airlifter operated by No. 35 Squadron currently located at RAAF Base Richmond.

The C-27J fits the Air Force requirement to provide an efficient and effective air mobility platform to bridge Army's rotary-wing assets (such as the CH-47 Chinook) and other fixed-wing transports in Air Force service (such as the C-130J Hercules and C-17A Globemaster III).

The C-27J shares a similar layout to the Hercules, and possesses a cargo cross-section which is marginally smaller than the Hercules.

The C-27J Spartan significantly improves Defence's access to small runways and parking aprons. Within Australia, the C-27J Spartan can access over 1900 airfields, compared to around 500 for the C-130 Hercules due to the aircraft's lighter footprint.

The C-27J is expected to provide specialised airlift for transportation of ill or injured personnel under medical care across the full evacuation spectrum (forward, tactical and strategic) up to and including carriage of specialist medical equipment and/or a medical team. Initial C-27J Aeromedical Evacuation (AME) Operational Test & Evaluation in August and December 2016 assessed the effectiveness and suitability of the C-27J AME capability for strategic AME operations and was evaluated during static ground trials and a comprehensive AME scenario.

Overall, the C-27J demonstrated excellent potential for AME tasking and demonstrated adequate readiness and maturity to allow the initiation of AME tasking outside of test and evaluation. AME final operational capability was reached prior to stand down in December 2016. There are minor deficiencies and recommendations that are continuing to be evaluated and will produce a safer, more effective C-27J AME capability once addressed.

C-27J aircraft's AME capability consists of 9 bays with multiple litter positions, with a maximum of 21 litter patients with 8 attending Aeromedical Evacuation Crew Members (AECM). The C-27J can have a variety of configurations and has the capability to transport two Very Seriously Ill patients

and up to a further 9 medium to low dependency patients with 6 AECM. The clinical condition of the patients will determine final AECM-to-patient ratios.

The C27J has HEAVY and LITE configurations which allow the aircraft the flexibility to fly further and longer depending on weight. Space and weight are critical on the C-27J – the Standard AME Equipment Kit is scaled down to minimise weight and space, and limited equipment not essential to the tasking is not carried during AME missions.

The Health Operational Conversion Unit (HOCU) and Number 3 Aeromedical Evacuation Squadron (3AMES) have been working together to establish the AME training package for this capability which was implemented into AME courses in late 2017.

The C27-J's unique capability to access more austere airfields will allow further access into locations that have been limited since the days of the Caribou. Its ability to manoeuvre in and out of areas quickly may even change the face of Fixed Wing AME capability into the future.

Biography

Flight Sergeant Vicki Lousick joined the RAAF on 13 January 1997 as a Medical Assistant after completing her Enrolled Nursing training through the North West Health Service in NSW.

FSGT Lousick was deployed on Operation Tanager in East Timor in 2000 as part of the Aeromedical Evacuation Staging Facility, conducting rotary and fixed wing aeromedical evacuations (AME).

She was awarded a Commander Training Air Force commendation in 2004 for her work in quality assurance/infection control procedures, for developing a base wide inoculation database and for initiating charity events.

She deployed on Operation Catalyst in September 2004 as part of the first Australian Medical Detachment embedded into a US Hospital, a career highlight. The Detachment was awarded the United States Air Force Achievement Medal and a Meritorious Unit Citation.

FSGT Lousick participated in Operation Bali Assist II in 2005 and deployed to East Timor on Operation Astute in 2006 conducting fixed wing AME into Australia.

She was awarded a Commanding Officer's Commendation and an Australia Day Medallion Award in 2012 for her work in managing and supporting reserve personnel at Number 3 Aeromedical Evacuation Squadron (3AMES) and for her work in the Professional Development Cell.

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Vicki Lousick

Can the Inclusion of a Physiological Measure Improve the Sensitivity of Triage Sieves?

Major Brendan Wood¹

1 Auckland University of Technology (AUT)

Abstract

Introduction: In the event of multiple casualties, the military medic requires a tool to provide a guide for the sorting and disposition of casualties. The influence of contemporary operations has altered the priorities for assessment and early intervention. Which triage sieve is most appropriate for a medic to use in a pre-facility environment?

Methodology: Electronic databases Medline, Scopus, OVID and EBSCO were searched with key terms “triage” AND “sieve” AND/OR “multiple casualties” AND/OR “mass casualty” with limits of date: 2000-2016, English and full articles. Exclusion included specific reports on single events. Twenty-six articles were identified for inclusion.

Results: Over 20 military and civilian triage tools were identified. There is little research to validate them. The majority provide an algorithm to determine the priority attributed to each patient. In general, sieves offer two options for assessment. The first is a pragmatic flow-chart which provides little opportunity for variation in the decision process while others offer the inclusion of physiological criteria to support the process. While physician lead triage appears to have better outcomes, the reality of triage in combat requires a non-physician approach in austere environments with limited medical equipment. This suggests the pragmatic approach may still have merit.

Conclusions: The inclusion of physiological parameters within a triage sieve appeared to provide better overall results. While the roots of triage are buried deep in military medical history, ongoing review and validation of the triage sieve and its application can only result in better patient outcomes.

Biography

Brendan has been a member of the New Zealand Defence Force (NZDF) for over 35 years and hold the rank of Major in the RNZAMC. Brendan currently serve's in the NZ Army Reserve.

Brendan commenced his practice as a paramedic and ambulance sector manager in 1990, gaining his Advance Care certificate in 1996. He is trained as an Intensive Care Paramedic and is employed in 2014 by the Auckland University of Technology as a

Programme Leader and Senior Lecturer. Brendan holds a BHSc (Paramedicine), a Grad Dip in Emergency Management and a Post Grad Cert in Education and a Post Gard Diploma in Health Science.

Brendan currently serves on the National Clinical Governance Committee of St John New Zealand.

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Causes of Medical Discharges from the ADF-2007-2017

Dr Darrell Duncan¹

1 Joint Health Command

Abstract

The reasons for members being discharged for medical reasons over the period from 2017 has been identified by matching PM Keys information with the information provided to the MECRB from Joint Health Command.

The number of discharges for medical reasons has reasonably stable for this period at about 1000 cases per year. The main causes are musculoskeletal conditions and mental health conditions.

This presentation will discuss the causes of discharges over this period and identify issues for future consideration.

Biography

Dr Duncan's is in his 41st year as a Defence Medical Officer with service as a uniformed medical officer in both the full and part time component. He has also worked within Joint Health Command as a contractor and a public servant. He has also worked in the NSW public health system in an Area Health Service as well as the Department of Health (as it was known). He has post graduate qualifications in health informatics, public health, health administration and clinical epidemiology. He lives on the Central Coast of NSW with his wife. They are two children short of being empty nesters with the two who have flown the coop producing the current total of six grandchildren.

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Comparing Short Versions of The Alcohol Use Disorders Identification Test (AUDIT) in a Military Cohort

LEUT Jason Watterson^{1,2,4} Professor Belinda Gabbe² Professor Paul Dietze^{2,3} Dr Anna Bowring^{3,5} Professor Jeffrey V Rosenfeld^{1,2,6,7}

1 Alfred Health

2 Monash University

3 Burnet Institute

4 Royal Australian Navy

5 John Hopkins Bloomberg School of Public Health

6 Australian Army

7 Department of Surgery, F. Edward Hebert School of Medicine, Uniformed Services University of Health Sciences

Abstract

Background: The 10-item Alcohol Use Disorders Identification Test (AUDIT) is widely used for monitoring harmful alcohol consumption among high-risk populations. Short versions of AUDIT have been developed for time-constrained settings, but the optimal combination of AUDIT items is unstudied in military populations. We examined the performance of shortened versions of the AUDIT against the full AUDIT (10 items) in young (18-30 years) naval personnel.

Methods: 952 participants (80% male), recruited for a wider study, completed the AUDIT-10. We systematically assessed all possible combinations of three or four AUDIT items and established variations using Cronbach's alpha (internal consistency), variance explained (R²) and Pearson's correlation coefficient (concurrent validity). For our purposes, novel shortened AUDIT versions were required to represent all AUDIT domains and include item 9 on alcohol-related injury.

Results: The median AUDIT-10 score was 7 for males and 6 for females, and 380 (40%) participants were classified as having a score indicative of harmful or hazardous alcohol use (8).

While a novel four-item AUDIT variation (3,4,8 & 9) performed consistently higher than established variations across statistical measures (it explained 85% of variance in AUDIT-10, had a Pearson's correlation of 0.92, and Cronbach's alpha was 0.63), the FAST, an established shortened AUDIT variant, together with several other four-item novel variants of AUDIT-10 performed similarly.

Conclusion: Four-item AUDIT variations performed better than three item versions, but a number of

four-item versions performed similarly. Shortened AUDIT variations may be suitable alternatives to the full AUDIT for screening for hazardous alcohol consumption in military populations.

Biography

Jason is currently the Research Fellow within the Department of Intensive Care and Hyperbaric medicine, at The Alfred Hospital, Melbourne. Jason is currently a PhD scholar within the School of Public health and Preventive Medicine, Monash University.

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Creating Greater Freedom of Decision and Action and Extending Operational Reach - Mobile DCR and DCS Capabilities

Mr Ewen Mclay¹

1 Iqarus

Abstract

Introduction: In an uncertain and volatile world, governments and international organisations are required to project diplomatic, development and security capabilities overseas to achieve national and international strategic objectives. This expeditionary approach requires the deployment of personnel to environments ranging from benign to violent. Modern peacekeeping and capacity building missions are routinely deployed into regions where there is little or no peace to keep. The peacekeeping mission in Mali, for example, is acknowledged as the UN's most dangerous mission. Combat-related events have caused over 60% of its fatalities. And where there are fatalities, there is generally an associated multiple of wounded who require timely access to appropriate medical care - wherever they are in the operating space. Understanding that, whenever the casualty's condition permits, medical attention should be started within the first hour of trauma management, as the delay to the initiation of surgery may lead to an increase in mortality, morbidity and residual disability.

Discussion: To achieve security objectives, planners are confronted by the challenge of having to project security operations at a distance from secure but static bases, while ensuring that appropriate levels

of medical care support deployed personnel. Key planning considerations for modern operating environments include considerable geographical scale and dispersion, austere and remote locations, and under-developed local infrastructure - with inherent and conflict-related medical and health threats superimposed on these factors.

This presentation will discuss several case studies in Africa and Central Asia where these planning challenges are resolved through an innovative operational model. One solution for deploying militaries is to supplement its existing medical system by integrating other medical providers to deliver the required capabilities. Iqarus is International SOS' dedicated unit which specialises in the delivery of medical care in challenging and complex environments.

Time is a fundamental factor in casualty survival and recovery, and the siting of medical capabilities based on the 10-1-2 Hour principle is a clinically critical factor. However, this can create a limitation on the ambitions of security operations by reducing the operating space to within 1 or 2 hours reach of the secure base, within which a higher-level of medical care is generally located.

Increasing operational freedom of decision and action, thereby creating greater reach beyond 1-2 hours from the static operating base, requires a continuous and flexible system of casualty response, which will usually focus on providing emergency care and surgery. To extend operational reach while preserving the appropriate level of support to deploying personnel, several military organisations have integrated forward-deployed, highly mobile and light-footprint capabilities that are designed to deliver Damage Control Resuscitation (DCR) and Damage Control Surgery (DCS) support into their medical system. Conjoined by a resilient evacuation plan to the next level of care, these capabilities help provide greater flexibility and reach within the wider operational plan as well as providing the right care, at the right time, in the right place.

Conclusion: It is a recognised challenge to deliver and sustain forward-based DCR and DCS capabilities over an enduring campaign. Particularly given that resources are scarce and that generating the right level of support requires a high-level of speciality, expertise and a clear understanding of the specific operating environment. Where resources are stretched, and capability is available a legitimate option for militaries is to supplement their organisation with a medical provider that can integrate operationally and culturally with its own medical units. Iqarus is currently delivering

deployed DCR and DCS capabilities to militaries in five highly complex operating environments.

Biography

Ewen is responsible for designing and implementing Iqarus' strategy for supporting governmental organisations operating in challenging and complex environments. He is also Iqarus' Country Manager for Afghanistan.

Ewen works closely with regional leadership and their teams in Africa and the Middle East and maintains a particular focus on Afghanistan and Iraq and other conflict-affected regions in Africa such as Mali, Niger, Democratic Republic of Congo, Central African Republic and Somalia. He also oversees the operational delivery of major projects within the Middle East and Africa.

Before joining the Group, Ewen served 25 years in the British Army where he commanded at each level from Platoon to Brigade. He has operational experience drawn from multiple deployments to Northern Ireland, Bosnia Herzegovina, Kosovo, Iraq and Afghanistan. He also has strategic planning experience gained from several tours in the UK's Ministry of Defence.

Just prior to joining the Group in September 2013, Ewen was the Brigadier commanding a UK Support Brigade, which saw him serve in Germany, France, United Kingdom and Afghanistan.

Ewen is a Chartered Engineer and Fellow of the Institute of Mechanical Engineers. He has an MSc, Defence Technology from Cranfield University; and a BSc (Hons), Mechanical Engineering, from Strathclyde University.

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Ewen Mclay

Defence Involvement in the Well-Being Program

Mr Ben Webb¹, Ms Cath Allen¹

1 Veterans' Centre Sydney Northern Beaches

Abstract

Why take a new approach to training our volunteers?

The Centre has provided compensation and wellbeing support to hundreds of current and former servicemen, servicewomen and their families over the past 3 years. Through this service provision, and consultation with many medically discharging military personnel, we have recognised the general

need within the military and veterans communities for improved:

1. Early and preventative intervention
2. Facilitate pathways to professional help
3. Transition from Defence and Community Integration

The Wellbeing program consists of men and women, current and former military, with both military experience and no military experience, aged between 25 to 60, as well as military and former military partners. This is a structured program developing and supporting them to help their peers, to triage the situation and remain flexible around their lives is essential. This role is a crucial bridging (warm referral) to professional assistance (medical, financial, legal, etc). This approach addresses several realities:

- Military is a tightly knit community and often it takes a peer to provide initial assistance, not the military members chain of command or a medical professional.
- Many young current serving and former military personnel don't want to be involved in existing support programs. Some are not well enough, and others are too time poor with careers and families.
- According to the MENTAL HEALTH IN THE AUSTRALIAN DEFENCE FORCE 2010 ADF Mental Health Prevalence and Wellbeing Study Report.
 - Men discharged from the military for medical reasons, or in ranks other than commissioned officer, are at much higher risk of suicide than their peers.
 - Approximately 22% of the ADF are medically discharged each year
 - The suicide rate between 2002 and 2015 was 14 per cent higher among ex-servicemen compared to the broader male population, according to the Australian Institute of Health and Welfare.
 - The odds for suicide among those medically discharged were 1.9 times the odds for those who left the ADF voluntarily.
 - Young men who leave the Australian Defence Force (ADF) before the age of 24 are twice as likely to take their own lives compared to men of the same age a 15-year study has found.
 - Peggy Brown, chief executive of the National Mental Health Commission, said barriers still existed that prevented some ADF members from accessing suicide services, including

stigma attached to mental health issues, the culture within the ADF, and the perception that seeking mental health treatment could have a negative impact on career progression.

- Brown said the report identified no glaring gaps in services, but found the ADF and government ought to engage better with families.
- Goal 9 – Support family engagement in the mental health care of ADF members.

Care for life model

It is important to recognise many of the conditions developed while serving stay with the member and their partners for life; effective early intervention is so important for the member and their families life trajectory. As such, current & former serving ADF members and their families / carers are invited to attend on going professional development sessions to provide them with information about Defence specific support services but to also connect them to a holistic range of allied health and community-based support services within their geographical area. Currently serving members are also professionally developed to become Ambassadors for the Wellbeing Program and the Veterans Centre.

The core success of this program, all elements of the care for life model are delivered from a framework of trauma informed practices. Additionally, a continuous improvement framework and evaluation process for all measurable outcomes is enforced.

Biographies

Benjamin Webb is the Centre Manager at the Veterans Centre Sydney Northern Beaches. Ben enlisted in the Australian Army in 2001 and was deployed to Afghanistan in 2009/2010. Ben sustained many injuries through his service and was medically discharged in 2013. After undergoing his own rehabilitation Ben has been actively working to professionalise the veterans community; providing timely and effective support to current and former servicemen, servicewomen and their families.

Cath Allen is the Project Coordinator for the Wellbeing Program. She has developed, designed, implemented and evaluated peer support programs both within first responder organisations as well as post service programs. She has extensive experience in developing and delivering Mental Health training programs that have trauma informed practices embedded into the content. Her partner is a serving member of the Australian Army and she is not only passionate about ensuring that all support programs for military are contextualised to their experiences but that the

families are encouraged to attend mental health training to develop their skills and support networks to holistically support their military family member.

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Defence Mental Health and Wellbeing Strategy Action Plans and Continuous Improvement Framework

Mr David Morton¹ COL Laura Sinclair

1 Joint Health Command

Abstract

Fit to Fight, Fit to Work, Fit for Life – The Defence Mental Health and Wellbeing Strategy 2018-2023, Action Plans and Continuous Improvement Framework

The Defence Mental Health and Wellbeing Strategy 2018-2023 builds on previous strategies and expands the focus to include Public Servants and military Defence personnel while recognising the unique aspects of each. This Strategy encourages Defence to consolidate and understand current activities, to improve what we know and what we do. There are two central components to Defence's approach to mental health and wellbeing. First is the Mental Health and Wellbeing model, originally developed in 2012 and updated for this Strategy which outlines that a person's mental health and wellbeing relies on: Foundation Strengths; Risk Reduction; Early Intervention; Treatment; Recovery and Support and Transition/Separation. From the moment a person joins the organisation, their training is designed to ready them for service, be that as a military member or an APS employee. This training is also designed to provide Defence personnel with a resilience that can help them in their career and throughout life. Mental health and wellbeing is not determined simply by a person's individual characteristics. It is also impacted by external influences such as family, support networks and the work environment. This sets a context of shared responsibility for mental health and wellbeing between commanders and managers, the individuals themselves, their family and the health care system. Interventions to enhance the mental health and wellbeing of our people must take each of these factors into account and build the foundational strengths of individuals throughout their Defence

career and beyond. Defence's success in promoting mental health and wellbeing relies on nurturing strong partnerships with and between others. The second component of our overall approach are the Strategic Objectives presented in this Strategy. These are Defence's key areas for action now, to bolster the mental health and wellbeing of our people. Part of this includes a new and coordinated approach to evaluation and quality assurance which will permit Defence to monitor our progress. The Action Plans are integral to understanding how Defence intends to operationalise the Strategic Objectives, goals and desired end-state. These components underpin our approach focused on making Defence people Fit to Fight, Fit to Work and Fit for Life.

Biography

David Morton is the Director General Health Policy Programs & Assurance Branch who works to improve mental health and rehabilitation services to serving ADF members.

Since 1989 David has contributed to community health and mental health through clinical service provision, service delivery management and policy development.

Some of his achievements are;

- *Development of the DVA Mental Health Strategy – Towards Better Mental Health for the Veteran Community in 2001.*
- *Development of the DVA national alcohol project – The Right Mix – Your health and Alcohol which continues to be a fundamental program for reducing alcohol related harm in both DVA and defence communities.*
- *National Manager of the Veterans and Veterans Families Counselling Service (VVCS) between 2005 and 2010.*
- *Since 2010 David has provided advocacy and leadership to the ADF Mental Health Reform Program and development of the ADF Mental Health and Wellbeing Strategy 2011-2015 and the most current Defence Mental Health and Wellbeing Strategy 2018-2023*

Much of David's career has involved working with veterans, their families and defence members. He has a Bachelor of Social Work and has completed post graduate studies in Public Sector Management.

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Developing Intellectual Depth in Future Combat Health Leaders - Social Media a Missing Link?

Captain Nick Alexander¹, Lieutenant Tara Thompson-Hammond¹

1 1st Close Health Battalion

Abstract

Being firmly embedded in the Information Age instant access to data and knowledge acquisition is not just desirable, it is expected. Across the developed world, individuals between the ages of 18-35 have grown and developed in step with this technological revolution. For individuals who are younger than 18, they have never known anything different. A pervasive element of the hyper connected environment we now find ourselves in is the advent and uptake of Social Media (SoMe) - including specific platforms such as Facebook, Twitter and LinkedIn, as well as Blogs, Vlogs and Podcasts. SoMe is so entrenched in the lives of Australians that it is estimated that 60% of the population accesses SoMe at least once a day, 60% of us check SoMe first thing in the morning, and for 40% of us it's the last thing we do at night.

As a reflection of the society from which we're drawn the Australian Defence Force, and Combat Health Services specifically are also entrenched in this new age of information access. Over the course of the last 3-5 years there has been an explosion of high quality Professional Military Education SoMe platforms across the Five Eyes network. Combat Health however has been a relatively slow adopter of this new medium for education. This is not unsurprising given the established academic processes that have dominated the technical professions of our quorum since the adoption of evidence based medicine in the late 1960s-1970s. Our rigorous approaches to engaging in discourse via peer review and formal tertiary study have been the gold standard for professional intellectual development. As the next generation of practitioners and leaders, who are used to instant gratification, move through our organisation by holding rigidly to these processes we risk missing the opportunity to commence them on a path of personal and organisational study and development.

This presentation will explore the premise that SoMe can be used as an additional medium to traditional academic endeavours to grow the intellectual capacity of future Combat Health leaders. Through this methodology Combat Health can better prepare practitioners to deal with the challenges expected in a future battlespace that is ambiguous, chaotic, networked, distributed and potentially autonomous.

Biographies

Captain Alexander is a current serving member of the 1st Close Health Battalion, posted as Operations Officer to 8 Close Health Company Darwin. He holds a Bachelor of Physiotherapy and is currently completing a Masters of Medical Science through the University of Sydney. He has completed previous postings spanning the Army's deployable health capabilities. Passionate about ready access and engagement in professional development, he is also an Associate Editor of the Profession of Arms blog Grounded Curiosity.

Lieutenant Thompson-Hammond is a current serving member of the 1st Close Health Battalion, 8 Close Health Company Darwin. Graduating from the Royal Military College - Duntroon in 2017 she has extensive pre-appointment experience in Event Management with a bachelor's degree in business and Graduate Diploma in Public Relations. Through this experience she has seen first hand the potential power of influence that social media holds in engaging with members of diverse demographics.

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Effects of Current Cold Chain Management Equipment in Controlling the Temperature of Thermos-Labile Medications/Class 8 Stores in ADF Exercise Environments

CAPT Elizabeth Daly¹

1 1st Close Health Battalion

Abstract

In 2017, as part of a continuous quality improvement project, the 1st Close Health Battalion undertook a study into the temperature exposure of all Class 8 stores on Exercise Diamond Run at Shoalwater Bay Training Area. The results identified that all non-refrigerated Class 8 stores had been exposed to sustained temperatures greater than 37 degrees Celsius, therefore failing to meet official standards set out by the Therapeutic Goods Administration and failing to ensure product safety and efficacy.

The maintenance of temperature control for medications is required during each stage of the supply chain, and this proposed research will

analyse the effectiveness of current storage methods of thermos labile medications and Class 8 stores for 1st Close Health Battalion Treatment Teams, Evacuation Teams and Integral Medics during domestic training exercises.

The purpose of this study is to investigate the effectiveness of current equipment in controlling the temperature of thermos labile medications/Class 8 stores in routine ADF Operating/Exercise environments through the continuous monitoring of ambient temperatures versus the storage temperature. The continuous monitoring, through the placement of Tiny Tags in a variety of different storage types (trunk sizes, loading positions in vehicles and direct sunlight/shade positioning), will be analysed against the hourly monitoring of the ambient temperatures during daylight hours (including travel time). Key data will be collected to identify the peak temperature of the medication reached, number of times the defined maximum safe temperature limit (37 degrees Celsius) was exceeded, proportion of time spent above the defined maximum safe peak temperature limit, and if at any time, the temperature exceeded 40 degrees Celsius.

The inability failure to maintain an effective cold chain for Class 8 stores fails to ensure product safety and efficacy of health support, with patients exposed to a higher degree of risk in an operating or exercise environment than that within a tertiary health facility is as low as reasonably practicable (ALARP). Combined with the remote locality of these tasks and the limited communications available for diagnostic support, there is a potential for the compromised medications to create significant diagnostic confusion which may result in suboptimal medical management of the patient. This creates an unacceptable level of risk to patients and Commanders, and it is hoped this study provides the data required to spur definitive action to remediate this issue.

At the time of this abstract submission, the conduct of the research is underway in Townsville, Darwin, Shoalwater Bay and Puckapunyal. This quantitative statistical analysis project will provide definitive data on how often the stores exceed the safe temperatures during the training exercises in order to provide a robust discussion and recommendations on the current storage methods and any non-compliance that they may be creating with the TGA standards.

The study will also discuss options for and make recommendations regarding what mitigations that can be put in place to address these cold chain breaches including suitable storage methods for

thermos labile medications and Class 8 stores, improved continuous monitoring systems and the implementation of established cold chain protocols, including the requirement of all breaches to be a reportable incident to Joint Health Command.

Biography

Liz Daly joined the Australian Army as an ARES Military Police Officer in 2010 prior to transferring to ARA in 2012. Liz Graduated into the Royal Australian Army Medical Corps in 2014 and posted into the 1st Close Health Battalion (1 CHB). 1 CHB clinicians are responsible for initial and advanced treatment, including collection from POI, resuscitation, stabilisation and evacuation, and emergency diagnostics to land forces as far forward as possible.

Liz's first posting at 11 Close Health Company in Brisbane involved being the Health Commander for the Ready Combat Brigade and deploying on OP ACCORDION as the S33 for the Force Support Element. Liz is currently the OPSO at the 2nd Close Health Company in Townsville and her role has involved Health Planner for the Ready Combat Brigade and Senior Instructor on the first two CBRNE Basic Health pilot courses.

Liz has a Bachelor of Management in Sport and Event Management and a Post Graduate Diploma in Sport Management and worked in the Sport and Athlete Management industry prior to joining the Army. Liz is due to complete her Masters of Health Management in June 2018.

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Elizabeth Daly

Electronic Health Information System Training – Integral to Joint Health Command's Mission, Vision and Strategic Priorities

[SQNLDR Amanda Banks](#)

Abstract

Training is recognised as an integral component of electronic health record adoption, maintenance and user satisfaction. In 2017, a training evaluation was conducted on the Defence electronic Health System (DeHS) training framework. Using the recommendations from the training evaluation, the Directorate of Health Information Systems, Joint Health Command conducted a workshop in March 2018 with Garrison Health Operations members, to:

- a. Gather input for the development of a training strategy and continuum for the current system (DeHS); and
- b. Inform the training requirements for the future system (JP2060 Phase 4)

This presentation will outline the outcomes of this workshop and the continuous improvement initiatives currently underway by Joint Health Command. The continuous improvement initiatives include:

- a. Development of improved and or new training packages, including enhanced training delivery and effective training evaluation;
- b. DeHS quick fixes which are deemed value for money and would be supportable functionality changes;
- c. Improvement to garrison health business processes including development of cheat sheets, and review/updates to the JeHDI Aide Memoir and Quick Reference Guides;
- d. Reinvigoration of the Communities of Practice network to inform garrison health business processes and DeHS training; and
- f. Standardisation of health information systems governance, policy and training including DeHS optimisation training development.

Biography

SQNLDR Banks was commissioned into the Royal Australian Air Force on 17 Oct 1997. SQNLDR Banks has worked in clinical, training, staff officer and sub-unit command roles as well as completing varied representational appointments.

SQNLDR Banks completed operational service on OP BEL ISI Bougainville in 2000, OP CITADEL East Timor 2001-02 and OP SLIPPER as part of Australian Medical Detachment One in Iraq, working with the USAF during 2004-05. SQNLDR Banks was awarded the Nursing Service Cross recognising her contributions during this deployment in Iraq along with the detachment receiving a Meritorious Unit Citation.

SQNLDR Banks completed Australian Command Staff College in 2013 and was awarded the Master of Military and Defence Studies. SQNLDR Banks was also awarded the Commander Australian Defence College Prize (awarded to the Course Member who has made the greatest contribution to the life of the College throughout the year). SQNLDR Banks was awarded the Master of Health Services Management in 2016.

SQNLDR Banks is now working as a Staff Officer within the Directorate of Health Information Systems, Joint Health Command.

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Amanda Banks

Enhanced Medical and Military Training Efficacy Through the Introduction of Novel Simulation Training Facilities Within 2 DIV

WO2 Daryll Miller¹

1 4 Combat Services Support Battalion

Abstract

Close health delivery relies on early access to high level medical treatment and evacuation coordinated within an austere, complex battlefield environment. Army Reserve Health units (particularly within 2 DIV) have limited support to test, train and deliver this care. Given the huge number of competencies and credentialing required to bring a medic up to deployable standards, it is perhaps not surprising that only a small number of personnel have current operational experience.

The limitations on resources, equipment and full-time staffing has always necessitated a flexible, innovative and efficient approach to capability development within the ARES space. Maximising training impact and competence development within short timeframes and limited resources requires an approach to training that can be tailored for individual differences in competence, availability, military skills and personal approach. Over the period 2016 – 2017, 6 Close Health Company, 4CSSB designed and rolled out a stand-alone Indoor Medical Simulation Training Area (IMSTA) that facilitates highly realistic medical training to be delivered whilst enabling graduated exposure to environmental stressors and the requirement for military situational awareness.

Rationale: Many ARES medics have reasonably well developed clinical skills from their civilian roles. A large proportion of Combat Medical Attendants (CMA's) often have little to no medical experience outside of their military role, and all Combat Paramedics (CbtPARA) must be employed by their state based Ambulance Service. As such, the delivery of 'clinical training' is often NOT the main effort for training outcomes in ARES Health units, rather the required focus is the capability / competence of ARES personnel to operate effectively within a military / operational context. By creating a facility

that enables the introduction of simulated military environments, the transfer of civilian medical skills into potent military medical skills is significantly enhanced.

The idea for the development of the IMSTA facility was introduced and created by WO2 Daryll Miller, TRGWO at 6CHC after a number of years posted as a medic within the SOCOMD environment. Experienced gained during his career as a SOCOM medic along with exposure to various medical capabilities provided by our Allies, assisted with training methodologies and approaches to certification and was instrumental in forming the idea of a simulation based facility.

WO2 Miller's goal of building an in-house training facility that assisted in "stress inoculating" medics within a controlled environment by way of the utilisation of realistic environmental variables (light, smoke, noise, visual cues), graduated exposure to inter and intrapersonal stressors (fear, shock, decision making under stress, competing information, timelines) and the appropriate application of military skills and experiences (wearing body armour, helmet, tactical awareness, weapon carriage, comms usage, military TTP's in operation contexts) was conspired.

Current facility: The current facility is housed with a storage bay of the Oakleigh Q-store, approximately 8m x 30M with a sliding cage door. Camouflage netting covers the walls and roof of the facility and a static backdrop was painted on rotating panels at one end of the facility (of an operational environment). Sound is provided by a donated 400wRMS surround sound system, and lighting includes powerful led lighting mounted on stands to simulate muzzle flash. A mock up helicopter airframe was constructed (and approved by appropriate engineering agency) fully fitted with lighting, communication headsets, downdraft provided by powerful fans. Various appropriate environmental props were constructed for the general area including moveable low walls, etc... More recently a wrecked motor vehicle has been added to the facility, this has already been effectively utilised in vehicle born improvised explosive device (VBIED) and vehicle extrication scenarios. Smoke machines provide appropriate atmospherics and a concrete floor of the facility has been covered with synthetic grass. The environment variables are controlled from a centralised laptop. A CAESER mannequin (on loan from Army School of Health) provides for appropriate simulation of the clinical elements.

Operation: The IMSTA facility enables the delivery of reality based training to ARES members that is graduated, builds mastery and exposes them to

many of the environmental variables present within the contemporary military operating environment that cannot easily be replicated (nor are desirable) in civilian medical training environments. Environmental and clinical variables can be manipulated to suit the level of clinical competence as well as military competence of the individual member or members (up to half Brick size). The facility also enables the Health Company to provide simulation along the medical treatment path, from Point of Injury and first responder CFA, to initial assessment and stabilisation by a medic, to evacuation (G-wagon ambo or PMV ambo) to initial resus by the Close Health Company's Treatment Team – thus exercising individuals and teams across the entire Land Based Trauma System.

Unexpected, positive impacts: A number of unintended and unexpected but beneficial side effects were realised through the creation of the facility. Within the Health Company, the morale and esprit-de-corps within the unit increased in accordance with the construction and use of the facility as unit members took significant pride in building something that had both an immediate impact on their own competence and training, but also was acknowledged by and clearly impressed members of other units within the Brigade as they were exposed to the facility (eg. CFA training for members of Combat Units used the facility as part of their certification exercise). Additionally, as individual and team competence to operate within a robust, challenging military environment grew within the Health Company, more members became interested in opportunities to enhance or indeed display military prowess.

Summary: For relatively little financial cost and outlay, 6CHC has delivered a substantial increase to health capability within 2 DIV. The IMSTA facility has become a rallying point for health capability development within 4 BDE whilst also significantly enhancing the understanding and application of Close Health capability by commanders within the BG JACKA construct.

The IMSTA is a cost-effective facility which provides high end medical training to health specialists and non-health personnel alike. It can be easily replicated across FORCOMD units with a minimal burden on resources and space; thus, providing a significant increase to health capability across Army.

Biography

WO2 Miller served in the British Army for 6 years prior to serving in the Australian Army which had been for the past 17 years. During his ARA service

WO2 Miller was a member of the Parachute Surgical Team spent a number of years within SOCOM and has had extensive operational experience, include 2 tours of Afghanistan with SOTGas well as Iraq He has participated and run high-level medical training and simulation training within SASR, with a focus on POI and integral care. He is passionate about reality based simulation training encompassing high fidelity simulation and casualty treatment from POI and evacuation through the Land Based Trauma System.

WO2 Miller has been the Training WO at 6 Close Health Company 4 CSSB for the past 3.5 years, and has implemented cultural change to lead the way in development and training of medical services delivery within 2 DIV. This has included a reality based training approach to simulate operational stressors which are realistic of the contemporary operating environment, in-line with TCCC principles, and are viewed as the current best practice approach.

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Evaluating the Effectiveness of Theta Burst Stimulation as a Treatment for PTSD in an Australian Veteran Population

Ms Jane Nursey¹, Professor David Forbes, Professor Paul Fitzgerald, Dr John Cooper, Professor Malcolm Hopwood, Professor Alexander McFarlane, Professor Richard Bryant, Dr Naomi Ralph, Dr Holly Knight, Mr David Elliott

¹ Phoenix Australia Centre For Posttraumatic Mental Health

Abstract

This paper will explore the suitability and effectiveness of a brain stimulation treatment for PTSD within a veteran population. PTSD is a severe and debilitating condition affecting a significant proportion of the veteran community. However, 30-50% of veterans with PTSD fail to benefit from the recommended trauma-focused psychological therapies or are left with substantial residual symptoms. New and innovative treatments are required. There is now strong evidence that PTSD and many other mental health disorders either arise from,

or result in disruption to specific neural networks, with concomitant hyperactivity or hypoactivity in the affected regions. Neuro-stimulation techniques such as Repetitive Transcranial Magnetic Stimulation (rTMS) have been shown to 're-calibrate' affected neural networks resulting in symptom improvement in people suffering from depression, with the additional benefit of also improving cognitive deficits (including attention and working memory deficits) associated with the disorder. In the United States, preliminary studies have begun to explore the effectiveness of rTMS as a treatment for PTSD, with promising but variable results. Theta Burst Stimulation (TBS) is a modified rTMS protocol that uses bursts of high frequency theta activity to induce changes in brain activity. Early use of this protocol with depression suggests that it may have better efficacy than traditional rTMS protocols. TBS has not yet been trialled in a PTSD population in Australia but holds considerable promise and requires pilot testing. This study aimed to explore the usefulness of TBS as a treatment for PTSD in Australian Veterans. More specifically, whether TBS could reduce symptom severity and improve cognitive function in veterans with PTSD.

Method: The study involved a small case series of six veterans. Each participant was given TBS treatment over 20 sessions within a four week period at the Monash Alfred Psychiatry Research Centre. Intermittent TBS was applied bilaterally (right followed by left) to prefrontal cortex as 3-pulse 50-Hz bursts applied at 5 Hz (i.e., 50 Hz burst of 3 pulses delivered every 200 msec) with a 2-second train of TBS repeated every 10 seconds (i.e., 2 seconds of TBS followed by an 8 second rest) for a total of 190 s (600 pulses). TBS was applied at 120% of the RMT. Participants were assessed on a range of mental health and neuropsychological measures at 3 time points, pre-treatment, immediately post treatment and 3 month follow-up.

Results: Changes in scores on repeated continuous measures were compared across assessment time points. Results will be presented and discussed in terms of the significance of the clinical changes noted in both PTSD symptoms and neuro-cognitive deficits; how well the treatment was tolerated by participants and the potential future suitability of this treatment as an alternative or adjunctive treatment for veterans with otherwise treatment resistant PTSD.

Biography

Jane is a Clinical Neuropsychologist. She currently holds the position of Director, Professional Support Service, Centenary of Anzac Centre at Phoenix Australia. Jane has 25 years' experience in the

public hospital and not-for-profit sectors as a Senior Clinician, Manager and Director of programs, working with groups and individuals across the lifespan in both acute and mental health services. She has expertise in the development and implementation of clinical service programs; policy and service development advice to government and industry; and development and implementation of training programs to assist government, clinical services and high risk industry apply best practice support to staff and clients suffering from trauma related mental health issues. She has worked extensively with adults, children and adolescents presenting with a range of trauma-related mental health disorders, as well as with high risk industry groups such as veterans and members of the defence force, emergency and law enforcement agencies, security organisations, NGO's, schools, the judiciary, media organisations and disaster survivors. Jane's research interests are in the field of the neurobiology and neuropsychology of trauma and trialling innovative treatments that target deficits in these areas which underlie many of the symptoms of trauma related mental health disorders.

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Evaluation of Skills Training in Affective and Interpersonal Regulation Program for Military, Veteran, Police and First Responder Personnel

Dr Jonathan Lane^{1,2}

¹ Centre for Traumatic Stress Studies, University of Adelaide

² Army - 3rd Health Support Battalion

Abstract

Evaluation of Skills Training in Affect and Interpersonal Regulation Program and Peer-Led Counselling Service for Military, Veteran, Police and First Responder Personnel.

Aim: To evaluate the effectiveness of this skills-based intervention (STAIR program) with a larger group of current and ex-serving ADF members, South Australian Police, Fire Services and other First Responder personnel participants.

Background: The STAIR (Skills Training in Affective and Interpersonal Regulation) is a fully manualized

intervention aimed at improving emotional regulation and interpersonal functioning. Whilst initially designed for patients with PTSD, the program is trans-diagnostic in nature and aimed at patients with primary PTSD, mood, and anxiety disorders. It consists of 90minute sessions over 12 weeks. The purpose of the program is to improve functioning in day-to-day life, and to provide participants with a base level of emotional stability and capacity to either engage in and continue further treatment if required, or to continue their lives with a range of skill sets that will improve their capacity to tolerate distress, build resilience, and maintain their interpersonal relationships.

Method: Dr Lane has commenced delivering the STAIR program at the Jamie Larcombe Centre as a part of a PhD through the Centre for Traumatic Stress Studies (University of Adelaide) under the supervision of Dr Miranda Van Hooff and Prof Sandy McFarlane, OA. The participants will be completing pre, post and follow up questionnaires at 3 and 6 month time points. The questionnaires are comprised of a range of widely used psychometric measures to evaluate mental health functioning, and primary symptoms of depression, anxiety, PTSD, substance abuse, interpersonal relationships and emotional regulation.

Results: To be advised prior to AMMA (ongoing research).

Discussion: The original trial program run in Hobart for Mates4Mates participants in 2016 showed positive feedback about the trans-diagnostic nature of STAIR and its goals for functional improvement, as opposed to a specific model of 'treatment' for mental health problems. This extended research project aims to evaluate the STAIR on a wider basis of ex- and current serving ADF members and First Responder populations, and with more extensive outcome measures. The research is also developing a cohort of Peer Counsellors to evaluate the effectiveness of the program when delivered by non-expert (but suitably qualified) peers with lived experience, and therefore whether this adds any financial, efficiency, or other clinical benefit to the participants in terms of early access to a skills-based intervention as an adjunct to normal mainstream mental health services.

Biography

Dr Jon Lane enlisted in the Army in 1989. After working as a soldier for 10years he completed his Medical Degree at University of Tasmania as an Army sponsored Undergraduate student in 2004. He worked with 1st Health Support Battalion until returning to Hobart in 2010 to do his Psychiatry training. In

2013 he was deployed to the MEAO, 6 months of which was working with the US Mental Health Team at the NATO Role 3 Multi-National Medical Unit in Kandahar, Afghanistan as the first ADF psychiatrist to be directly embedded with US forces. In 2015 he spent 6 weeks at various facilities in the US looking at Military and Veteran's Mental Health for a Churchill Fellowship. He is a Lieutenant Colonel with the 3rd Health Support Battalion (Army Reserve), and works in private practice at The Hobart Clinic where most of his patients are Military, Veterans, Police and Emergency Services personnel. He is a Senior Clinical Lecturer at the University of Tasmania, and is also doing a PhD through the Centre for Traumatic Stress Studies at Adelaide University, aimed at developing Peer-Led counselling services for Military, Veterans, Police and Emergency Services personnel.

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Expanding the Learning Dialogue of Medic Training - Using Reflective Practice as an Assessment Tool During NZDF Medic Practical Training

Dr Wendy Maddocks¹

¹ NZ Defence Force

Abstract

[Please note part one of this research study has been accepted for publication in the AJMVH May 2018].

In 2016 the NZ Defence Health Directorate changed its strategic vision in the way NZDF medics were trained from an external tertiary provider to an in-house specially designed learning solution lasting approximately 2.5 years. The training covers all the knowledge and skills a NZDF Medic needs to work in both a domestic military environment (including primary health care) and a deployable operational context. The training is tri service with all learners completing the same training. At the completion of the training the Medic has met the competencies and is ready to serve the NZDF in any capacity required by the NZ Government. Through the process of designing a new learning solution it was possible to explore new ways of assessing learners and a model of reflective practice was adapted for use by the NZDF medics during their training.

The first iteration of the new learners were interviewed during their primary health on job experience (OJE) and a retrospective analysis was conducted on their responses. A further cohort of learners were also interviewed to see if there was validation in the value of learning.

The medic learners needed to critically reflect on 6 encounters during their on job experience which was conducted in various Defence medical treatment centres in New Zealand. Learners spent six weeks in two different locations. The learner then needs to link in their experience with literature relating to the experiences. Learners could choose clinical encounters or other non clinical events such as ethic issues, administration or safety issues or any other situation which impacted on their practice. The first cohort of fourteen learners were followed up at the end of the first 12 week block of Primary Health Care OJE completed in 2017. The responses were overwhelmingly positive as to the value it added to their learning, confidence and practice skills in conjunction with sound clinical supervision. The second cohort of learners (n=18) was followed in 2018 on their first primary health care clinical on job experience. At the time of submitting the abstract the second interviews were being conducted at the end of their 12 week primary health care placement so no analysis is available at this time. This study provided valuable information to help guide the NZDF medic training and education into higher academic skills as they work within a unique context which does not relate directly to any other health care environment in New Zealand.

Biography

Dr Wendy Maddocks (RN, DHlthSc) currently works as a Civilian Medical Lecturer at the NZDF Defence Health School. She was one of the lead learning designer who worked on the new training programme for NZDF medics. Prior to this Wendy has worked in a variety of nursing practice, nursing and health education and research roles in both acute and primary health care settings. Wendy's doctoral research involved the management of radiation induced mucositis using a blend of natural plant extracts. It was the first such clinical study in NZ. Drawing on her extensive and diverse background and applying this into the NZDF military context Wendy saw the opportunity to develop a way for the medics to use reflective practice early in their training as a tool to enhance their critical thinking and research skills. Wendy is currently seconded to the Defence Health School from the Defence College of NZ helping deliver content related to the new programme.

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Exploring Seasickness and Management Regimes in the Royal Australian Navy. Naval AntiEmetics for Motion Evoked Sickness (NEMESIS) Study

LEUT Jason Watterson^{1,2,3}, CPO Matthew Wood^{3,4,5}, CMDR Richard Loizou³, CMDR Andrew Fock^{1,2,3}

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3 Royal Australian Navy

4 Ambulance Victoria, 5Department of Community Emergency Health and Paramedic Practice, Monash University

Abstract

Background: The primary seasickness medication in use within the RAN is promethazine, a potent antihistamine with profound sedative properties. There is also anecdotal evidence of self-management by RAN members. No primary research on the optimal anti seasickness medication has been conducted by the RAN, with current drug usage based on empirical practice derived from the 1980's.

Research questions/aims/objectives/hypothesis

1. To explore current prescribing/management practices of medical officers within the RAN fleet related to seasickness.
2. Explore the practices on board fleet units within the medical sailors responsible for the day to day management of seasickness.
3. Explore the effects of seasickness and the current treatments on manning and role function on board fleet units.

Method: Survey questionnaire of all medical officers/ Medical Sailors on all seagoing fleet units.

Expected outcomes

1. Clearer understanding of the prescribing practices and management of seasickness by

medical officers and sailors on board RAN fleet units.

2. Better articulate the self-management of seasickness in the RAN

Conclusion: This proposed study seeks to better understand the current prevalence and management regimes related to seasickness in RAN fleet units. The outcomes of this study will allow the researchers to design and implement a Randomised Controlled Trial (RCT) of current management compared to new management techniques.

Biography

Jason is currently the Research Fellow within the Department of Intensive Care and Hyperbaric medicine, at The Alfred Hospital, Melbourne. Jason is currently a PhD scholar within the School of Public health and Preventive Medicine, Monash University.

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Forward and Tactical Casualty Evacuation in The ADF Amphibious Environment. Why Do We Need a Shake Up?

Dr Ben Butson¹, Dr David Cooksley²

1 ADF Medical Specialist Program

2 RAAF Specialist Reserve

Abstract

The development of ADF capability to project force in the Amphibious Environment poses new challenges and opportunities for casualty evacuation. Dispersed operations across the Land and Maritime environments will require the ability to safely transport critically ill and injured personnel to a limited number of regional (including shipborne) medical facilities. FORWARD and (non-fixed wing) TACTICAL casualty evacuation systems within the ADF have not developed substantially since the Vietnam War era and currently lag far behind contemporary civilian and military best practice. We provide a review of the current ADF model and capability for casualty evacuation in the FORWARD and TACTICAL amphibious environments. We also examine recent literature to support our assessment that future gains in combat casualty survival are to

be made in the FORWARD (pre-hospital) domain. We conclude there is a need to significantly upgrade ADF casualty evacuation capability in the Amphibious Environment.

Biographies

LTCOL (Dr) Ben Butson, CSC is an experienced emergency and retrieval physician with 30 years of experience in the Australian Army. He currently works full time in the ADF in the Medical Specialist Program. He is the Lead Consultant for LifeFlight Retrieval Medicine in Townsville and has held this post for more than 5 years. He has extensive experience in the deployed environment, having worked at all stages from Role 1 to 3 health facilities during recent decades. He has worked in Aeromedical Evacuation roles overseas as a civilian and on operations with the ADF. He instructs on Aeromedical and Pre-hospital courses for LifeFlight Retrieval Medicine, James Cook University and the ADF. He is currently working closely with the development of the MRH-90 AME fit out project and is interested in Tactical Care of Combat Casualties as well as critical care in the Forward and Tactical environments.

WGCDR (Dr) David Cooksley is an experienced emergency and retrieval physician. He has extensive training and experience in pre-hospital and retrieval medicine including with the Royal London Hospital Helicopter Emergency Medical Service (HEMS) and several Australian retrieval services. He has successfully completed the USAF 'Critical Care Aeromedical Transport Team' (CCATT) initial training, UK military 'Medical Emergency Response Team' (MERT) training and is the Air Force Principal 'Military Critical Care Aeromedical Transport Team' (MCAT) instructor. His current military interests include Forward and Tactical critical care patient transport, and Military Working Dog emergency care and transport.

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From 'MCAT' to 'MDOG': Considerations for ADF Aeromedical Transport of Ill or Injured Military Working Dogs (MWD)

WGCDR David Cooksley¹, MAJ Kendall
Crocker²

1 RAAF, 2ARA

Abstract

It is anticipated that the ADF will eventually have around 400 Military Working Dogs (MWD) with approximately half serving in Army and the other half in Air Force. These animals will be deployed extensively within Australia and around the world on exercises and operations. It is inevitable that some will become ill or injured while deployed and end up needing urgent aeromedical transport within the Forward, Tactical and Strategic domains. This presentation will examine the issues and considerations surrounding safe handling, restraint, monitoring and in-transit care during aeromedical transport of ill or injured MWD.

Biography

WGCDR (Dr) David Cooksley is an experienced emergency and retrieval physician. He has extensive training and experience in pre-hospital and retrieval medicine including with the Royal London Hospital Helicopter Emergency Medical Service (HEMS) and several Australian retrieval services. He has successfully completed the USAF 'Critical Care Aeromedical Transport Team' (CCATT) initial training, UK military 'Medical Emergency Response Team' (MERT) training and is the Air Force Principal 'Military Critical Care Aeromedical Transport Team' (MCAT) instructor. He recently completed, with distinction, a Master of Trauma Science (Military and Austere) at Queen Mary University, London. His current military interests include Forward and Tactical critical care patient transport, and Military Working Dog emergency care and transport.

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Healing Veterans' Spiritual Wounds

Mr Murray Davies¹

1 Wounded Spirit

Abstract

Background: Figures from the Department of Veterans' Affairs indicate there may be over 30,000 Australian veterans' that have or may yet develop some form of service related mental illness. There is a growing body of evidence that there is a spiritual dimension to soldiers' wounds.

Purpose: The purpose of this presentation is to understand the causes, symptoms and healing pathways for spiritual wounds

Method and Materials: Initial exploration of the nature of veteran spirituality. Secondly, how a veteran's spirit can be wounded and what form these wounds take will need to be understood. Finally, approaches to healing these spiritual wounds.

Results: There is a strong and growing body of empirical evidence highlighting linkages between diminished spiritual functioning and mental health issues such as PTSD. Properly trained and accredited medical and psychological practitioners are required to deliver treatment in their space.

Conclusion: There is limited evidence of any spiritual institution or facility of any nature making a significant contribution in the support of veterans' whose Defence service has led to mental health issues with a spiritual or faith basis. Determining what role spiritual institutions or facilities should take will need to be a major area for further study.

Biography

Murray Davies is the CSO of Wounded Spirit. Wounded Spirit is an Australian Charity that works with Australian Defence Force Veterans' to assist them recover from spiritual wounds that they may have received during their service. An ex-Army Officer, Murray has Masters degrees in Defence, International Relations and Theology and is currently undertaking a PhD at UNSW ADFA in Veterans' Spirituality.. His paper, "Wounded Spirits - The Dark Night of the Veterans' Soul" was published in the April Issue of the Journal of Military and Veterans' Health

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HP4 - Human Performance Enhancement: The Application of Psychological Skills to Achieve Best

MAJ Sarah Watson

Abstract

Performance Psychology is a growing area, and Army, like many organisations has an interest in ensuring opportunities are provided for individual's and teams to perform at their best. In an operational context, these outcomes can contribute to life and death. Due to an increase in requests for training that focus on the enhancing of human performance, a critical assessment of the way in which training provided by the 1st Psychology Unit has been completed. The result of this is the Human Performance Four (HP4) framework, which offers an evidence based model guided by current learning, training and development best practise. The framework provides direction on the process, implementation and training content which will support the ongoing skill development of participants. This paper outlines the HP4 framework, the particular learning areas, and how it can be applied.

Biography

MAJ Sarah Watson is a Senior Psychologist with the Australian Army and is currently posted as the SO2 Operational Performance within 1st Psychology Unit Headquarters. MAJ Watson has completed a Bachelor of Arts, Bachelor of Science (Psychology) with Honours, and most recently a Masters of Psychology (Organisational). Research undertaken to date has included the identification of gender differences in occupational stress and coping, and investigation of the relationship between reported over confidence and tested competence in trainees. MAJ Watson is currently completing the AHPRA registrar program for endorsement as an Org Psych. She has deployed on OP SLIPPER and OP ACCORDION and has enjoyed Army and JHC postings including the School of Infantry.

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Sarah Watson

Impact of Paternal Deployment to the Conflicts in Iraq and Afghanistan and Paternal PTSD on the Children of Military Fathers

Prof Nicola Fear¹, Dr Marie-Louise Sharp¹, Dr Ruth Reed², Dr Sarah Rowe³, Dr Howard Burdett¹, Mr David Pernet¹, Dr Alyson Mahar⁴, Dr Amy Iversen¹, Professor Paul Ramchandani⁵, Professor Alan Stein², Professor Sir Simon Wessel¹

1 King's Centre for Military Health Research, King's College London

2 University of Oxford

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4 Queen's University, 5Imperial College

Abstract

Background: Little is known about the social and emotional well-being of children whose fathers have been deployed to the conflicts in Iraq/Afghanistan or who have post-traumatic stress disorder (PTSD).

Aims: To examine the emotional and behavioural well-being of children whose fathers are or have been in the UK armed forces, in particular the effects of paternal deployment to the conflicts in Iraq or Afghanistan and paternal PTSD.

Method: Fathers who had taken part in a large tri-service cohort and had children aged 3–16 years were asked about the emotional and behavioural well-being of their child(ren) and assessed for symptoms of PTSD via online questionnaires and telephone interview.

Results: In total, 621 (67%) fathers participated, providing data on 1044 children. Paternal deployment to Iraq or Afghanistan was not associated with childhood emotional and behavioural difficulties. Paternal probable PTSD were associated with child hyperactivity. This finding was limited to boys and those under 11 years of age.

Conclusions: This study showed that adverse childhood emotional and behavioural well-being was not associated with paternal deployment but was associated with paternal probable PTSD.

Biographies

Dr Marie Louise Sharpe - Marie-Louise is a Senior Research Associate at the King's Centre for Military Health Research (KCMHR). Marie-Louise has research expertise in psychological medicine and epidemiology and has responsibility for KCMHR research strategy.

Her research interests include military mental health and help-seeking behaviours, the health and well-being of Emergency Service Workers and has a focus on methods to extend research impact.

Marie-Louise previously worked in the non-profit sector specialising in Armed Forces healthcare policy and has advised the UK Government on research and best practice in the National Health Service and the Ministry of Defence in healthcare provision for the Armed Forces community. She was awarded a Clore Social leadership fellowship in 2016 which aims to support leadership, understanding and innovation across the non-profit sector. Marie-Louise also has a background in political science and comparative government having trained at post-graduate level at Oxford University. Marie-Louise spent a short secondment at Phoenix Australia - Centre for Posttraumatic Mental Health at the University of Melbourne in 2016 assisting with the Pathways to Care, Mental health and Wellbeing Transition Study. She is therefore particularly interested in the value gained from international comparative research and the benefit of international and cross-disciplinary research based in practical and policy outputs.

Nicola holds a Chair in Epidemiology at the Academic Department of Military Mental Health (ADMMH) and is Director of the King's Centre for Military Health Research (KCMHR) at King's College London. Nicola leads a number of high profile studies regarding the health and wellbeing of military personnel (regulars and reserves), veterans and their families which have been awarded funding from the UK Ministry of Defence, the US Department of Defence, ESRC and MRC. Nicola frequently briefs senior government officials and military leaders on the work of KCMHR and the impact of service life on personnel, veterans and families. Nicola also works with a number of service charities to evaluate the interventions they deliver to veterans and their families, to ensure interventions are evidence-based and are targeted appropriately. Nicola has over 190 academic publications and an H-index of 38.

Before joining King's, Nicola spent two years as a Consultant Epidemiologist with the UK Ministry of Defence, leading the Epidemiological Analysis and Interpretation Team.

Nicola has represented the UK on a number of international research working groups, e.g. for NATO.

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Implementation of the Clinical Standards Audit Program in Garrison Health

Dr Darrell Duncan¹

1 Joint Health Command

Abstract:

The Clinical Standards and Audit Program was developed to assess the standard of care provided within Garrison Health facilities against the Standards for Garrison Health Facilities published by the RACGP.

The program has now seen audits completed across Garrison Health over the last two years with a number of quality improvement actions being identified through the audits.

This presentation will outline the implementation of the program over the last three years, discuss what has been learned to date from the program and identify where the future direction of the program.

Biography

Dr Duncan's is in his 41st year as a Defence Medical Officer with service as a uniformed medical officer in both the full and part time component. He has also worked within Joint Health Command as a contractor and a public servant. He has also worked in the NSW public health system in an Area Health Service as well as the Department of Health (as it was known). He has post graduate qualifications in health informatics, public health, health administration and clinical epidemiology. He lives on the Central Coast of NSW with his wife. They are two children short of being empty nesters with the two who have flown the coop producing the current total of six grandchildren.

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Initial Implementation of the ADF's Periodic Mental Health Screen: Enabling Early Identification of Mental Health Concerns of Defence Members

MAJ Nicole Walker¹, LTCOL Alison Kaine¹

1 Department of Defence

Abstract

The Australian Defence Force's Periodic Mental Health Screen (PMHS) was designed to enhance the existing mental health screening continuum in order to provide a method of early identification of mental health issues for all ADF members, regardless of deployment history. Trials conducted in 2015 and 2016 were utilised to determine an appropriate method and to inform future implementation, including the associated required workforce and financial resources. In March 2018, Joint Health Command's Garrison Health Branch, in collaboration with Health Policy, Programs and Assurance Branch, conducted initial implementation in seven diverse health centres, noting the combined dependency of these health centres was approximately 20% of the full time ADF population. The purpose of the initial implementation was three-fold; firstly, to introduce the PMHS to Defence as a routine, business-as-usual process; secondly, to enable robust evaluation of the PMHS in the context of its appropriateness and effectiveness; and, lastly to conduct a continuous improvement activity to enhance the PMHS process's effectiveness and sustainability in preparation for the national rollout.

The evaluation of the PMHS consisted of three data collection methods including quantitative data drawn directly from the Defence eHealth System, and qualitative data from service providers as well as from Defence members who participated in the PMHS. The results of the evaluation will be presented as well as how these results have informed the enhanced PMHS process, which will be rolled out to Garrison Health's remaining 49 health centres and clinics nationally as business-as-usual by March 2019. Strength and challenges of the initial implementation will also be highlighted.

Biographies

MAJ Nicole Walker is the Staff Officer Grade 2 Operational Mental Health at the Directorate of Mental Health Strategy & Research, which provides technical authority for the ADF's mental health screening continuum and resilience training

program. MAJ Walker is a military psychologist and has completed a Master of Clinical Psychology (Defence) with the University of Adelaide. She has experience in the delivery of psychological services in brigade and training establishment setting, and the implementation of key mental health policy. She has extensive operational experience in the Middle East Area of Operations.

LTCOL (DR) Alison Kaine is the Staff Officer Grade 1 Mental Health & Psychology Garrison Health which provides technical control for all mental health and psychology services within Garrison. LTCOL Alison Kaine is a psychologist, University of New South Wales Masters graduate and has completed her Doctor of Philosophy through the University of Adelaide. LTCOL (DR) Kaine has experience within a range of domains including forensic, alcohol and other drugs and in the development of the Forces Command Resilience Framework and guidelines for Resilience Training for Army personnel. She has extensive operational experience with thirteen operational tours to various operational settings including Timor Leste, Afghanistan, Pakistan, Cyprus and Antarctica.

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Just a Military GP. GP Training in the ADF and Post Fellowship Specialty in Military Medicine

GPCAPT Glenn Pascoe^{1,2}, SQNLDR Michael Clements^{1,2}

1 RAAF Health Reserves, 2RACGP

Abstract

Post fellowship specialty in Military Medicine and GP training in the ADF. The current rules, regulations and application of GP training in the ADF will be explored and an update provided on the post fellowship speciality in military medicine (formerly known as the Diploma in Military Medicine).

Biography

GPCAPT Pascoe is the current Clinical Director of Primary Health Care Services, RAAF Health Reserves and the Chair of the Chapter of Military Medicine, RACGP.

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Glen Pascoe

Leading Causes of Death and Suicide Monitoring Among Serving and Ex-Serving ADF Personnel

Mr Andrew Powierski¹, Ms Tylie Bayliss¹, Mr Nick Grange¹

1 Australian Institute of Health and Welfare

Abstract

Background: The health and wellbeing of Australia's defence personnel and veterans is of high priority for the Department of Veterans' Affairs (DVA), the Department of Defence and the Australian Government. In 2016, DVA, with the support of the Department of Defence commissioned the Australian Institute of Health and Welfare (AIHW) to examine suicide among the serving and ex-serving ADF personnel (AIHW suicide study). This presentation will include results from two pieces of work. The first component builds on the AIHW suicide study by examining leading causes of death in serving and ex-serving Australian Defence Force (ADF) personnel. The first annual update of key measures to monitor suicide in ADF personnel forms the second component of this work.

Aim: The aim of the cause of death study was to identify the leading causes of death among serving and ex-serving ADF personnel with at least one day of service between 2001 and 2015 and determine if any cohorts are at a greater risk of death from particular causes in comparison to the Australian population.

The aim of the ongoing suicide monitoring is to incorporate additional suicide information, annually as it becomes available. Counts of suicide death for serving and ex-serving ADF personnel and suicide rates in this population are being updated annually for monitoring purposes.

Methods: The same study population forms the basis of both components of this work and is based on serving and ex-serving ADF personnel that had at least one day of service since 2001. The study population was derived from the administrative Personnel Management Key Solution database (held by the Department of Defence). These data were linked with the National Death Index (held by the AIHW) to determine the number of deceased personnel in the study population. The linked data set was then supplemented by cause of death information from the National Mortality Database (also held by the AIHW).

For the cause of death study, counts were used to identify the leading causes of death among serving and ex-serving ADF personnel. Crude rates and

standardised mortality ratios were used to identify cohorts of ADF personnel that have a higher risk of death in comparison to the Australian population of the same age and sex.

For the ongoing suicide monitoring, an additional year of suicide information was incorporated into the data and updated counts of suicide deaths produced for the period 2001–2016. Crude rates and standardised mortality ratios are calculated using data aggregated over 3-year periods in order to monitor trends in suicide risk in serving and ex-serving ADF personnel.

Results: The cause of death results and ongoing monitoring results are not due for public release until later in 2018. It is anticipated that these results will be presented at the conference.

Conclusion: The results from this analysis may help to further inform policy and develop interventions to reduce the rates of death for particular leading causes, including suicide, among serving and ex-serving ADF personnel.

Biographies

Tylie Bayliss is the analysis and reporting lead for the Incidence of suicide in ADF personnel study working in the Veteran's Health and Welfare Unit at the Australian Institute of Health and Welfare (AIHW). Tylie has almost 10 years' experience in analysis and reporting with experience across a range of health and welfare subject areas including mortality, mental health service use and homelessness service use.

Nick Grange is a Data Analyst in the Veteran's health and Welfare Unit at the AIHW working on a project to monitor suicide mortality in Australian Defence Force personnel. Nick has previous clinical experience as a drug and alcohol counsellor and sleep scientist, along with research experience in drug and alcohol epidemiology and clinical neuroscience at the Australian National University and the University of Wollongong.

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Longer Term Outcomes for ADF Battle Casualties from the MEAO

Brigadier Leonard Brennan¹

1 Joint Health Command

Abstract

Introduction: At the AMMA Conference in 2014 I presented "East Timor to Afghanistan - Australian Battle Casualties" in which I described the mechanisms on injury, injury severity score (ISS) and evacuation disposition of Australia's battle casualties from recent conflicts with a particular focus on the Middle East Area of Operations (MEAO).

Method. During this presentation I will review the disposition of the 291 ADF members Wounded in Action (WIA) in the MEAO by reviewing PMKeyS and Defence eHealth System (DeHS) data on service status, medical employment classification and employment restrictions.

Results. The presentation will highlight the medical discharge rates for WIA, correlations with ISS and the significant long term mental health comorbidities associated with being WIA.

Biography

Brigadier Leonard Brennan joined the Australian Army as a medical undergraduate in 1986. Between 1997 and 2012 he saw operational service in PNG, Timor Leste, Solomon Islands and Afghanistan. Brigadier Brennan maintains specialist registration as a general practitioner and medical administrator and has an interest in tropical medicine, mild traumatic brain injury and battlefield casualties. He is current day job is as the Director General Garrison Health with secondary duties as Director General Army Health Services and Head the Royal Australian Army Medical Corps.

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Mass Casualty TRIAGE: Accuracy of St John Ambulance Volunteers After SMART Intervention

Ms Shirley Mo^{1,2}, Mr Nathan Crabtree^{1,2}, Mr Jamie Gillespie¹, Dr Jason Bendall¹, Dr Daniel L Chan^{1,2}

1 St John Ambulance Australia (NSW)

2 Faculty of Medicine, University of New South Wales

Abstract

Purpose: Natural disasters and terrorist events overwhelm even the most prepared emergency medical systems. In these situations, the participation of trained volunteers is required to augment existing resources. Triage is a priority of prehospital disaster management. There exists a potential for volunteers to fulfil the role of initial triage, to reduce the burden on paramedics and other emergency service providers in the field. The potential risk in under and over-triage resulting in mismatched resource allocation may burden stressed hospital systems further. This study aims to assess the accuracy of triage by St John Ambulance Australia (NSW) volunteers after a brief educational intervention.

Methodology: This is a cross-sectional observational study on the accuracy and retention of triage performance in St John Ambulance volunteers, following a 1-hour education intervention. A timed questionnaire (15 questions; 5 minutes) to replicate rapid decision making is conducted initially and at follow-up. For each scenario, participants will be instructed to assign the appropriate triage level, according to the SMART adult SIEVE protocol.

Results: In this study, 120 St John Ambulance volunteers (62.5%female) have been assessed to date. The majority of volunteers were First Aiders (n=72, 60%), with 30 (25%) First Responders (Certificate II in Emergency Medical Service First Response), and 18 (15%) Advanced Responders (Certificate III in Basic Health Care). Overall, 87% of cases were triaged accurately. First Aiders achieved a mean accuracy of 87%, First Responders triaged accurately in 80% of cases, and Advanced Responders achieved a triage accuracy of 93%. Of the incorrect responses, 65.8% under-triaged and 20.3% over-triaged. Unanswered questions contributed the remaining 13.9%.

Conclusion: St John Ambulance (NSW) volunteers are able to accurately triage after brief educational intervention and may provide an additional resource in mass casualty disaster triage in the field, to augment other emergency services.

Biography

Shirley Mo is an Advanced Responder in St John Ambulance Australia (NSW). She is also a medical student in her penultimate year at the University of New South Wales, Sydney, Australia. Shirley has interests in General Surgery, Trauma Medicine and Prehospital Medicine.

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Maximising Operational Capacity by Outsourcing Enabling Health Capabilities. Case Study: Combat First Aid Training, Al Minhad, Middle East

Mr Ewen Mclay¹

1 Iqarus

Abstract

Introduction: Outsourcing military capability is a bit like marmite. There are lovers, haters and very few fence sitters. But outsourcing has always been with us and is here to stay. Militaries have continually sought innovative ways to bridge persistent gaps between Ends, Ways and Means. This natural tension between ambitious national strategic objectives and the means to deliver them has been the primary driver for nations to seek outsourced solutions. Either to create new capabilities rapidly, fill gaps or reinforce under-resourced organic capabilities. Militaries are under increasing pressure to allocate larger percentages of their budget to the latest cyber and digital technologies to stay competitive. Consequently, those responsible for delivering the fighting power of a nation must continuously assess outsourced options for supporting services. Health and medical support is one such service. Critical to this assessment is an understanding of trusted industry providers capable of working seamlessly in partnership with a military in a garrison, training or war fighting setting. As outsourcing is here to stay, current and future Defence leaders must understand the good, the bad and the ugly within the often-bewildering array of options available to them. Mastering the 'outsourced' environment will, without doubt, serve to enhance overall fighting power.

Discussion: This paper will explore the outsourced delivery of Combat First Aid Training to Australian forces conducting their Reception and Staging, ahead of Onward movement into conflict-affected regions. This modest case study of an outsourced capability being delivered in the Middle East today serves as a microcosm from which the themes described below can be explored and brought to life. The decision to seek an outsourced solution is influenced by a number of factors. It is a decision environment where factors such as history, prejudice, emotional attachment and public presentation carry just as much weight as the new-sciences of Operational Effectiveness, Cost-Effectiveness and Value-for-Money. Key factors when considering outsourcing a solution should include:

Feasibility. Is delivering a solution possible given the time, space and resources likely to be available, and the operating environment (physical, security, political, administrative and cultural)?

Acceptability. Are the likely gains worth the expected costs such as resources committed, reputation and levels of risk?

Completeness. Does the solution answer the when, who, what, why and how?

Suitability. Does the solution meet with National aims and objectives?

Value for Money. Does the solution provide defensible VFM?

Risks. Are the risks manageable? Political, Operators (generally the policy and procurement level looking for a defensible contract that will survive audit and wider scrutiny) and Operational (does it actually deliver what it has been outsourced to do?)

Conclusion: Partnering with proven industry providers to optimise the use of scarce military resources without compromising capability is an increasingly legitimate model for adoption by Defence forces globally. An understanding of best practice models for complimentary military and industry partnership is required for modern commanders when planning and executing expeditionary deployments.

Biography

Ewen is responsible for designing and implementing Iqarus' strategy for supporting governmental organisations operating in challenging and complex environments. He is also Iqarus' Country Manager for Afghanistan.

Ewen works closely with regional leadership and their teams in Africa and the Middle East and maintains a particular focus on Afghanistan and Iraq

and other conflict-affected regions in Africa such as Mali, Niger, Democratic Republic of Congo, Central African Republic and Somalia. He also oversees the operational delivery of major projects within the Middle East and Africa.

Before joining the Group, Ewen served 25 years in the British Army where he commanded at each level from Platoon to Brigade. He has operational experience drawn from multiple deployments to Northern Ireland, Bosnia Herzegovina, Kosovo, Iraq and Afghanistan. He also has strategic planning experience gained from several tours in the UK's Ministry of Defence. Just prior to joining the Group in September 2013, Ewen was the Brigadier commanding a UK Support Brigade, which saw him serve in Germany, France, United Kingdom and Afghanistan.

Ewen is a Chartered Engineer and Fellow of the Institute of Mechanical Engineers. He has an MSc, Defence Technology from Cranfield University; and a BSc (Hons), Mechanical Engineering, from Strathclyde University.

Measuring Transition Readiness: Development and Trial of the Military-Civilian Adjustment and Reintegration Measure (M-CARM).

Dr Madeline Romaniuk^{1,2,3}

1 Gallipoli Medical Research Institute

2 The University of Queensland

3 Queensland University of Technology

Abstract

The period of transition from military service and the subsequent reintegration to civilian life is gaining more recognition as an integral component of the long-term health and well being of the veteran population. However, there remains a need to develop standardised, evidence-based methods for assessing adjustment during the military to civilian transition process, beyond the measurement of psychopathology and trauma related difficulties. The objective of this study was to develop a valid and reliable measure of 'transition readiness' as well as adjustment to aid clinicians designing interventions to support veterans who have difficulties reintegrating back to civilian life. A two phase, mixed methods design was used. Phase one was a qualitative investigation of transition which included a series of in-depth interviews and focus groups with 100 participants consisting of ex-service personnel who had discharged from the Australian Defence Force between 2006 and 2016 (n

= 60), partners of ex-service personnel (n = 20), and health and rehabilitation clinicians with expertise in veteran mental health (n = 20). The interviews and focus groups were conducted by a clinical psychologist using a semi-structured interview guide, and were audio recorded. The audio files were transcribed, and the data was coded using thematic analysis, assisted by NVivo analysis software, version 11. Analysis of this data included factors that contribute to a successful versus compromised adjustment, which then informed item generation for the Military-Civilian Adjustment and Reintegration Measure (M-CARM). Phase two commenced early 2018 consisting of theoretical analysis and refinement of the measure via an expert panel of clinicians and veterans, as well as assessment of psychometric properties via a national trial. Details of the scale development methodology as well as early findings will be presented. The outcome of this study may considerably improve current practice for transitioning veterans by facilitating evidence-based detection and early intervention for those most at risk of problematic adjustment.

Biography

Dr Madeline Romaniuk a Senior Clinical Psychologist and the Leader of the Veteran Mental Health Initiative at the Gallipoli Medical Research Institute. She holds Honorary and Adjunct Senior Lecturer positions at the University of Queensland (UQ) and the University of Southern Queensland (USQ) respectively and is a Visiting Research Fellow at Queensland University of Technology (QUT). She is currently Principal Investigator on seven research projects focused on veteran mental health and has been the listed Principal Investigator or Investigator on research proposals that have collectively received over \$7 million in funding. In addition to research, Dr Romaniuk has worked as a therapist since 2009 in a variety of settings including public and private hospitals, community government services, NGOs, and private practice. For the past seven years, her practice has focused on trauma and adjustment and specifically on the assessment and treatment of current and former ADF personnel suffering PTSD, transition difficulties and associated comorbidities.

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Medical Supply in High-Risk Countries for NATO and Defence Forces

Vidya Menon¹ Mr Sune Svenningsen¹

1 International SOS

Abstract

Introduction: One of the biggest priorities of various government procurement agencies is ensuring the right amount of quality medical supplies are made available at the right time and at competitive pricing in challenging high-risk countries. Medical supplies can range from disposable medical products to highly government-regulated pharmaceuticals, medical equipment and kits. This wide portfolio of medical supplies demands the need to work with multiple suppliers, and the complex quality assurance programs demand excessive resources from procurement agencies.

Discussion: NSPA – NATO Support and Procurement Agency, which is the centralised body involved in providing complete operational support and services to NATO military authorities and collaborating nations, was one of the first agencies to be supported by MedSupply with its strategic approach. MedSupply was able to identify and address the key struggles faced by NSPA during the procurement of critical vaccines required by the Security Forces in Afghanistan.

Primarily, the deliveries were expected in Kabul, Afghanistan which posed high security risks, and the vaccines being biological products sensitive to temperature demanded the shipment to be maintained in cold chain (+2°C to +8°C). In addition to the above, the tender list also included the requirement of syringes and needles, which further restricted the direct participation of the main vaccine manufacturers.

The inability to find suppliers who meet WHO standards could have potentially resulted in procurement delays or failures for NSPA.

This is when MedSupply, being a global company with distribution capability and support systems in various parts of the world like United States, London, Dubai and Singapore, was able to adapt to the client's situation, requirements and urgency of demand.

The integrated solution offered by MedSupply included the sourcing of WHO pre-approved vaccines and supplies meeting the SRA requirements from multiple low-cost countries and the delivery of more

than 3,400 pallets of medical supplies across 30 shipments over a period of eight months. The project execution also involved contracting fully chartered B747 cargo aircraft to support the challenging delivery of medical supplies into the Kabul military airbase. The lessons learned from the execution has assisted MedSupply's continuous improvement efforts and strengthened its Quality Management System framework, enabling it to continue winning contracts with other military and government agencies.

MedSupply also stands out amongst the other market leaders, as it is uniquely positioned to combine supply chain and medical services expertise for complete and integrated solutions. The World Food Programme (WFP) is one such project where MedSupply, in conjunction with International SOS, accomplished the delivery of vaccines along with the mobilisation of the medical staff to support WFP's vaccination campaign in South Sudan. To date, the medical services team has successfully vaccinated more than 10,000 national staff, community health workers and volunteers.

Conclusion: MedSupply remains committed to delivering safe and quality-assured products to its clients in high-risk countries. It has been able to successfully demonstrate and propose an integrated end-to-end supply chain solution, thereby offering a unique value proposition to its Defence clients globally while continuing to be a highly cost-effective player in the marketplace.

Biography

Ms Vidya Menon joined International SOS in February 2017 as Group Senior Product Manager of the MedSupply Division of International SOS. She is responsible to define the MedSupply product strategy and drive product adoption through targeted product marketing initiatives, branding campaigns, and profitable pricing of new and existing products.

Ms Menon came from Oman and her previous role included the management of products and has brought about successful launch of various profitable products. In addition to this, she was also responsible for business development support in the company.

Originally from India, Ms Menon holds a Masters in Medical Biotechnology with Bio-Business from the University Of Aberdeen, UK and is a certified Project Management Professional.

Serving multiple organisations in the Pharma industry for over 6 years, Ms Menon brings strong expertise in product life cycle management within in the medical industry especially with Medical Equipment and Consumables.

Mental Health Outcomes at the End of the British Involvement in the Iraq and Afghanistan Conflicts: A Cohort Study

Dr Sharon Stevelink¹, Dr Marie-Louise Sharp¹, Mrs Margaret Jones¹, Mrs Lisa Hull¹, Ms Shirlee MacCrimmon¹, Mr David Pernet¹, Dr Laura Goodwin³, Dr Deirdre MacManus¹, Dr Dominic Murphy⁴, Lt Col Norman Jones², Professor Neil Greenberg¹, Professor Roberto Rona¹, Professor Nicola Fear¹, Professor Sir Simon Wessely¹

1 King's Centre for Military Health Research, King's College London

2 Academic Department of Military Mental Health, King's College London

3 University of Liverpool

4 Combat Stress

Abstract

Background: Little is known about the prevalence of mental health outcomes in UK personnel at the end of the British involvement in the Iraq and Afghanistan conflicts.

Aims: We examined the prevalence of mental disorders and alcohol misuse, whether this differed between serving and ex-serving regular personnel and by deployment status.

Method: This is the third phase of a military cohort study (2014-16; n=8093). The sample was based on participants from previous phases (2004-06 and 2007-09) and a new randomly selected sample of those who had joined the UK Armed Forces since 2009.

Results: The prevalence was 6.2% for probable posttraumatic stress disorder, 21.9% common mental disorders and 10.0% alcohol misuse. Deployment to Iraq or Afghanistan and combat role during deployment were associated with significantly worse mental health outcomes and alcohol misuse in ex-serving regular personnel but not in currently serving regular personnel.

Conclusions: The findings highlight an increasing prevalence of PTSD and a lowering prevalence of alcohol misuse compared to our previous findings and stresses the importance of continued surveillance during service and beyond.

Biographies

Dr Marie-Louise Sharpe - Marie-Louise is a Senior Research Associate at the King's Centre for Military Health Research (KCMHR). Marie-Louise has research expertise in psychological medicine and epidemiology and has responsibility for KCMHR research strategy. Her research interests include military mental health and help-seeking behaviours, the health and well-being of Emergency Service Workers and has a focus on methods to extend research impact.

Marie-Louise previously worked in the non-profit sector specialising in Armed Forces healthcare policy and has advised the UK Government on research and best practice in the National Health Service and the Ministry of Defence in healthcare provision for the Armed Forces community. She was awarded a Clore Social leadership fellowship in 2016 which aims to support leadership, understanding and innovation across the non-profit sector. Marie-Louise also has a background in political science and comparative government having trained at post-graduate level at Oxford University. Marie-Louise spent a short secondment at Phoenix Australia - Centre for Posttraumatic Mental Health at the University of Melbourne in 2016 assisting with the Pathways to Care, Mental health and Wellbeing Transition Study. She is therefore particularly interested in the value gained from international comparative research and the benefit of international and cross-disciplinary research based in practical and policy outputs.

Nicola holds a Chair in Epidemiology at the Academic Department of Military Mental Health (ADMMH) and is Director of the King's Centre for Military Health Research (KCMHR) at King's College London. Nicola leads a number of high profile studies regarding the health and wellbeing of military personnel (regulars and reserves), veterans and their families which have been awarded funding from the UK Ministry of Defence, the US Department of Defense, ESRC and MRC. Nicola frequently briefs senior government officials and military leaders on the work of KCMHR and the impact of service life on personnel, veterans and families. Nicola also works with a number of service charities to evaluate the interventions they deliver to veterans and their families, to ensure interventions are evidence-based and are targeted appropriately. Nicola has over 190 academic publications and an H-index of 38.

Before joining King's, Nicola spent two years as a Consultant Epidemiologist with the UK Ministry of Defence, leading the Epidemiological Analysis and Interpretation Team.

Nicola has represented the UK on a number of international research working groups, e.g. for NATO.

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Monkey Business: Plasmodium Knowlesi Malaria and the Occupational Implications for Jungle Warfare Training in Malaysia

Dr Kristin Roe¹

1 Defence

Abstract

In February 2018 a 21-year-old Australian soldier who had deployed to Rifle Company Butterworth (RCB) developed a febrile illness which was diagnosed as Plasmodium knowlesi malaria.

Diagnosis was delayed due to initial presentation of diarrhoea and the illness complicated by additional infection with infectious mononucleosis. The member remained unwell for an extended period with two admissions to the infectious disease unit, Royal Adelaide Hospital. Although successfully treated with Artemether-lumefantrine he remained unfit for duty for 7 weeks, had lost over 10kgs weight and was forced to delay the commencement of his university studies until later in the year.

With the introduction of malaria eradication programme in the late 1960's, economic development of Malaysia and insecticide treated bed nets the number of malaria cases reported steadily decreased. Although the transmission of human Plasmodium species declined an increase of Plasmodium knowlesi parasites were now found on blood films in malaria cases.

Plasmodium knowlesi has become an emerging public health problem in Malaysia with numerous reports since 2004. In the Ministry of Health Annual Report in 2012 38% of the malaria cases were found to be due to Plasmodium knowlesi followed by Plasmodium vivax at 31%.

Plasmodium knowlesi causes a naturally acquired malaria in macaque monkeys which are found throughout SE Asia mainly in lowland or coastal forests and rainforest including shrubland. The first natural infection in humans was reported in 1965 in Peninsular Malaysia.

Soldiers deployed on RCB spend several weeks in the tropical forest environment within the natural habitat of the long tail macaque monkey. Routine malaria prophylaxis consists of Doxycycline 100mg daily. From 26th Jan to February 8 the member was training at the Malaysian Army Combat Training centre, Pulada, Johor. On the 14th of February he presented to medical with a febrile illness accompanied with diarrhoea and vomiting. He was diagnosed with gastroenteritis likely related to recent street food but he continued to experience fevers and malaise. The decision was made to return him to Australia on the 28th of February. On his last blood test taken on the day of departure malaria parasites were discovered which were later confirmed as *Plasmodium knowlesi*.

This is the first time *Plasmodium knowlesi* malaria has been recorded in an Australian soldier training in Malaysia. This presentation will outline the case history highlighting some of the clinical difficulties in diagnosing malaria, followed by a discussion of *Plasmodium knowlesi* malaria (epidemiology, diagnosis and treatment and prophylaxis) with a reflection on the occupational implications.

Biography

Dr Kristin Roe is a General Practitioner working as a senior medical officer at Keswick medical centre, Keswick Barracks Adelaide since 2012. She is a graduate of Flinders University, a Fellow of the College of General practitioners and holds a Master's degree in Public Health and Tropical Medicine. She is also a Fellow of the Faculty of Travel Medicine (Australasian College of Tropical Medicine). Prior to working in Garrison Health, she was the Medical director at the Travel Doctor TMVC Adelaide and remains keenly interested in all aspects of travel medicine.

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No Fake News: Non-Traditional Infectious Disease Outbreak Surveillance to Minimise the Impact on Health and Operations

Ms Irene Lai¹

1 International SOS

Abstract

Introduction: WHO warns: "The epidemics in the 21st century are spreading faster and further than ever." The 2009 influenza pandemic spread across the world in less than nine weeks. In 2015, a single traveller who visited the Middle East started an outbreak of MERS-CoV in South Korea that over two months infected over 180 people, with more than 35 fatalities, involving 90 healthcare facilities and 16,000 people who were quarantined. In addition, "newly emerging diseases have been identified at the unprecedented rate of one or more per year", and old scourges such as pneumonic plague and yellow fever have resurfaced in large outbreaks in recent years.

21st-century intelligence gathering, and assessment measures are required to stay abreast of the rapidly changing risk environment. "Infodemics", the "rapid spread of information of all kinds, including rumours, gossip and unreliable information" contribute to confusion as well as inappropriate actions and reactions. Timely, accurate and credible assessment and communications are essential for a proportionate and effective response to minimise impacts on health and operations.

Discussion: International SOS resources and operates a specialised global medical unit to monitor and report on emerging and active health security risks. The unit continuously screens hundreds of sources including news reports, official government information and social media. It participates in informal and formal outbreak information-sharing channels and leverages the International SOS network of global health professional's in-house experts and specialist consultants). Signals are filtered and validated. Algorithms are applied to analyse the events, which include a medical "risk rating" framework. When triggers are reached, the event is communicated to stakeholders and military organisation users, allowing timely preventive and protective actions to be taken.

This presentation will focus on two case studies highlighting the process and rapidity of reliable information gathering, analysis and stakeholder communication. The first case study will focus on the pneumonic plague outbreak on Madagascar in late

2017 where more than 2000 cases were recorded, and over 200 people died. The second case study will focus on the Ebola outbreak in the Democratic Republic of the Congo in May 2018. Both cases were examples of rapidly developing outbreaks with potential for wide geographic spread. The challenges and complexities of monitoring, timely reporting and analysis will be reviewed.

Conclusion: Timely, accurate and credible assessment and communications are essential for a proportionate and effective response to minimise impacts on health and operations.

Biography

Dr Lai is Medical Director for Medical Information and Analysis, International SOS. She provides technical and practical guidance to the organisation and its clients globally, on topics ranging from infectious and non-communicable diseases, travel health, public health, disaster preparedness and response, medical risk and wellness.

Irene joined International SOS in 1997, as a Coordinating Doctor in the Singapore office. Since then she has experienced different roles within the group during postings in Sydney, Australia and Jakarta, Indonesia.

Irene's medical degree is from the University of Sydney, and she is a Fellow in the Faculty of Travel Medicine of the Royal College of Physicians and Surgeons Glasgow. She trained primarily in internal medicine and clinical research, working in a number of hospitals in Sydney before practising at Northwestern Memorial Hospital, Chicago and then New York University Medical Center. She holds current medical licenses in Australia and Hong Kong.

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Irene Lai

NZDF Holistic Health Assessment Programme - Development and Evaluation

Colonel Clare Bennett¹

¹ *New Zealand Defence Force*

Abstract

An optimised workforce that is physically and mentally healthy is the foundation for organisation success. Physical and mental health issues are on the rise in all working populations and it is likely the NZDF is no exception. The nature of occupational

demands can also place our people at higher risk of exposure to mental health issues.

A mentally resilient, healthy and high performing workforce is critical for delivering optimal performance in an evolving strategic environment. Maximising the health and performance of the NZDF needs requires fresh thinking about the NZDF's approach to health and wellbeing. There is considerable evidence that a focus on the prevention of physical and mental health issues, early help-seeking behaviour and quality care will lead to better individual, team and organisational outcomes. Research has also shown that investing in wellness initiatives will result in the improved health status of individuals, and cost and productivity benefits to organisations who invest in these.

This presentation provides a summary of the development and outcome of the NZDF Health Assessment Programme piloted across the NZDF over the period September 2017 to April 2018. The aim of the programme was to help participants build health awareness, strengthen healthy habits, and identify and proactively manage any areas of existing or potential health risk. The programme promoted a positive health focus spanning the four domains of health within the Te Whare Tapa Wha Model of Health (Physical, Mental, Social/Whanau and Spiritual health) and the prevention or early detection and management of health conditions through screening, health education, coaching and support/referral. The design comprised four key components:

- I. Physiological health screen and risk assessment
- II. Psychosocial health screen and risk assessment (using an online survey tool)
- III. Individual feedback, health coaching and referral as required
- IV. Evaluation post participation and at three month follow up

A summary of the findings and recommendations for future directions in health screening programmes and broader health initiatives in the NZDF are presented.

Biography

Col Bennett joined the NZDF Regular Force as a commissioned officer and Psychologist in 1987. She served for 20 years in a variety of operational, research and policy roles, latterly as the Director of Military Personnel Policy and Director Strategic Human Resources. In 2003 she was made a Member of the NZ Order of Merit. and in 2004 graduated from the NZDF

Command and Staff College. She transferred to the Reserves in 2007 to work in broader government roles before returning to the Regular Force in December 2016 to take up the role of Chief Mental Health Officer in the Directorate of Health, NZDF. She holds master's degrees in business and strategy, and is a registered psychologist trained in CBT.

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Operational Health Support - The Evolution of the Medical Specialist Program and the Future for Health Specialists

Commander Ian Young¹

1 Maritime Operational Health Unit

Abstract

Provision of specialist health care in the military deployed environment is essential for health capability above Role 1. The Medical Officer Specialist Training Scheme (MOSTS) was created in 2001 to provide assurance of having medical procedural specialists available to deploy at short notice and for potentially long duration with ongoing support by Health Reserves. The scheme was cancelled in 2006 with only two members under training. Ongoing pressures for medical procedural specialist support resulted in the establishment of the reserve force Military Surgical Team and eventually by the permanent force Medical Specialist Program.

This paper will review the history and development of the Medical Specialist Program (MSP), describe the current state of the MSP and explore the future potential of expanding it to include a wider range of clinicians under a proposed Health Specialist Program (HSP).

Biography

Commander Ian Young is an Orthopaedic Surgeon in the Navy as a full-time serving member under the current Medical Specialist Program. He has deployed to Afghanistan, Iraq, Indonesia, Papua New Guinea and Bougainville. His posted Navy position is with the Maritime Operational Health Unit and his clinical placement is at Frankston Hospital in Melbourne. Commander Young was the first entrant and graduate of the Medical Officer Specialist Training Scheme that

has now been replaced by the Medical Specialist Program. He has a strong interest in trauma care and clinical education. He is a Director and Faculty of the EMST Course, Faculty on the DSTC Course and is a member of the RACS Victorian Trauma Committee.

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Operational Systems Evaluation of a Large Scale Multi-Agency Decontamination Exercise

Dr David Heslop¹, Dr Jane Currie²

1 School of Public Health and Community Medicine

2 Sydney Nursing School

Abstract

The threat of chemical, radiological and nuclear (CBRN) incidents from terrorist attacks or accidental incidents is pervasive. The hospital response to the decontamination of casualties requires specific expertise, knowledge and command and control. Decontamination exercises have become an essential component for the disaster preparedness of health services. Evaluating such exercises is an important aspect of preparation to highlight areas of systemic vulnerability and operational constraints. The aim of this study was to conduct an operational systems evaluation of a large scale multiagency decontamination exercise. A mixed methods study composed of a participant questionnaire and follow up telephone interviews was undertaken. Collected qualitative and quantitative data underwent combined thematic and descriptive statistical analysis using standard qualitative research techniques. The results show significant variation in perceptions and experiences of clinicians, exercise controllers, non-clinical responders, and casualties. Casualties report significant concerns relating to communication, command and control and clinical handling. Clinicians and exercise controllers reported concerns primarily related to resource shortages, inadequate means of communication and safety issues, very different to the concerns of casualties. The findings highlight that CBRN incident management involving the decontamination of large numbers of people requires more systematic approaches to planning, preparation and operational response focusing on resilient and flexible emergency response. Intangibles such as command and control,

communication, personnel management, and catering for the psychosocial needs of the population are at least as important as traditional factors for CBRN planning, preparedness and response activities for health facilities.

Biography

Dr David Heslop (FRACGP MBBS PhD(Medicine) MPH BSc (Adv) Hons 1) is an Associate Professor at the School of Public Health and Community Medicine at UNSW, and retains significant military responsibilities as Senior Medical Adviser for CBRNE to Special Operations Headquarters Australia and to Australian Defence Force (ADF) joint senior leadership. Dr Heslop is a practicing vocationally registered General Practitioner, a senior trainee in Occupational and Environmental Medicine with RACP, and a fellowship candidate for the Academy of Wilderness Medicine. He is an international expert in Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) and general military medicine, and regularly is consulted and participates in the development and review of national and international clinical and operational CBRNE policy and doctrine. Dr Heslop's current research effort and interests touch on complexity science, agent based and deterministic modelling, emergent complex adaptive systems phenomena, test and evaluation of systems, policy research, epidemic modelling, exotic and emerging infections, disaster preparedness and response, organisational resilience in health care, development of robust socio-technical systems in health care, and the modelling, simulation and investigation of public health interventions and systems.

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Pathways to Care in Transitioned ADF Members and Regular ADF Members in 2015: Results from the Pathways to Care Report

Professor David Forbes¹ Colonel Nicole Sadler¹

¹ *Phoenix Australia*

Abstract

The fourth presentation in this symposium provides an overview of the self-reported pathways to care in transitioned and currently serving ADF members

in order to determine if appropriate mental health care is being received. In particular, it will discuss the proportion of both groups seeking care, the time it takes to decide to seek care, the types of problems driving decisions to seek care, the types of professionals consulted, and the types of treatments received. In addition, it will describe the common attitudes and beliefs that exist in the military space in relation to mental health and help-seeking. Results of this study showed that the majority of the 2015 Regular ADF and Transitioned ADF populations with a mental health concern sought help within the first 12 months, with a considerable number doing so within the first three months. However, while the rates of initial engagement and uptake of services are reasonably high, due to an accumulation of factors that occur at each phase of the help-seeking process, the findings suggest an under-engagement with evidence-based treatment for those with a current disorder

Biography

Professor David Forbes is the Director of Phoenix Australia – Centre for Posttraumatic Mental Health and Professor in the Department of Psychiatry, University of Melbourne. He has over twenty years' experience in the assessment and treatment of mental health problems in trauma survivors, with a speciality in military and veteran mental health. He led the development of the inaugural 2007 Australian Guidelines for the Treatment of Posttraumatic Stress Disorder (PTSD) and the revision published in 2013 approved by the National Health and Medical Research Council and endorsed by colleges of psychiatrists, psychologists and general practitioners. Professor Forbes is also Vice Chair of International Society for Traumatic Stress Studies Committee for the development of their new PTSD Guidelines. He has a strong track record in the conduct of research in the assessment and treatment of PTSD and the provision of policy and service development advice and training to government and agencies responsible for the care of veteran and military personnel and trauma survivors across the community. He has published over 140 scientific papers in the international literature and sits on many Commonwealth government policy and scientific advisory panels and academic journal editorial boards.

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Perceived Injustice, Anger and Posttraumatic Stress Disorder (PTSD): Opportunities for Improved Treatments

Dr David Berle^{1,2}, Professor Zachary Steel^{2,3,4}

1 University Of Technology Sydney

2 School of Psychiatry, UNSW Sydney

3 St John of God Health Care, Richmond Hospital

4 Black Dog Institute

Abstract

Introduction: While the prominence of anger in many individuals with Posttraumatic Stress Disorder (PTSD) is well-recognised, the beliefs and cognitive appraisals associated with this have received little research attention. Perceived injustice surrounding: i) the trauma itself, or, ii) the response of communities and institutions to the events surrounding one's trauma may contribute to both problematic anger and PTSD symptoms. We aimed to determine the relationships between perceived injustice, anger and PTSD symptoms.

Methods: We administered the 12-item Injustice Experiences Questionnaire of Sullivan et al., (2009) alongside measures of PTSD, anger and depression to 49 individuals with PTSD (16.3% female, median age = 46 years) attending a 4-week residential PTSD treatment program.

Results: Changes in perceived injustice, but not anger, predicted changes in PTSD symptoms across the residential and 3-month post-residential phases ($r = 0.24$, $p < 0.05$) after controlling for changes in depression and anxiety symptoms respectively.

Conclusion: These findings highlight the clinical importance of perceived injustice as an independent contributor to PTSD symptoms. Perceived injustice, rather than anger per se, may be an important target for therapeutic interventions.

Biography

David Berle is a senior lecturer and NHMRC Early Career Research Fellow in the Discipline of Clinical Psychology at the University of Technology Sydney. He has worked in clinical and research positions since 2001. His research interests include posttraumatic stress disorder, obsessive-compulsive disorder and anxiety disorders. He is currently working with colleagues on a Defence Health Foundation funded project investigating the role of problematic anger in sub-optimal outcomes from therapy and whether persisting anger increases the risk of relapse following treatment.

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Performing Under Pressure: The Use of Military Psychology to Enhance Combat Shooting

MAJ Sarah Watson, MAJ Rob Whistler

Abstract

The use of military psychology to enhance combat shooting

There is little doubt that most people strive to achieve excellence in their chosen area of work, and for soldiers, marksmanship skills are central to their role. In recent years Army has applied innovations in the teaching of combat shooting skills, and 1st Psychology Unit has had the opportunity to support this process. This presentation will highlight the role of psychology in enhancing skills to increase performance and as well as highlight how technology, particularly biofeedback, has aided in the training and application of psychological skills in the Army environment.

Biographies

MAJ Sarah Watson is a Senior Psychologist with the Australian Army and is currently posted as the SO2 Operational Performance within 1st Psychology Unit Headquarters. MAJ Watson has completed a Bachelor of Arts, Bachelor of Science (Psychology) with Honours, and most recently a Master of Psychology (Organisational). Research undertaken to date has included the identification of gender differences in occupational stress and coping, and investigation of the relationship between reported over confidence and tested competence in trainees. MAJ Watson is currently completing the AHPRA registrar program for endorsement as an Org Psych. She has deployed on OP SLIPPER and OP ACCORDION and has enjoyed Army and JHC postings including the School of Infantry.

MAJ Rob Whistler joined the Australian Army in 2002 and immediately posted to 3rd Combat Support Services Battalion. Subsequent postings have included the Australian Centre for Posttraumatic Mental Health (now Phoenix Australia), the Army Logistic Training Centre, Mental Health and Psychology Section – Gallipoli Barracks, 2nd Health Services Battalion and

the Defence Force School of Intelligence. MAJ Whistler is currently posted as OC 1 PSYCH Unit Townsville Detachment. MAJ Whistler has deployed on OP ANODE, OP SUMATRA ASSIST, OP CATALYST, OP VIC FIRES ASSIST, OP PADANG ASSIST, OP ASTUTE, OP SLIPPER, and OP ACCORDION with support to OP HIGHROAD and OP OKRA.

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Sarah Watson

Predicting Individual Risk of Injury in Navy Recruits

Graham Arndt

Abstract

Reasoning: The Recruit (RCT) training for the Australian Navy is conducted at HMAS Cerberus, Westernport, Victoria, Navy's premier training facility. This program consists of an 11 week training program where RCT's will learn the fundamentals of serving in the Australian Navy, before moving onto their Initial Employment Training (IET). This initial training program challenges RCT's physically and mentally and instils the Navy core values of Honour, Honesty, Courage, Integrity, and Loyalty. The RCT training program can be physically demanding and challenging for recruits because of varying levels of fitness on entry. With the use of a sub-maximal cardiovascular test at the recruiting level and a very basic musculoskeletal screen at Defence Force Recruiting (DFR) it is not surprising to see a spike in musculoskeletal injury throughout the first month of RCT training.

Preventing injury before it occurs is the most effective treatment protocol that a health practitioner can administer. Functional Movement Screening (FMS) is a process that looks at movement patterns, identifies weaknesses / imbalances that should be corrected before a person is allowed to progress with loaded exercise training. This system is widely used in the United States Defence Force and in professional sport throughout the world. Our plan is to administer the FMS screen on each RCT intake (currently 150 persons every 4 weeks) and provide corrective exercise strategies with the goal of reducing injury. This will enable us to reduce the cost associated with injury and the impact to Initial Entry Training.

Aim:

- To identify RCT's that are at risk of developing lower and upper limb musculoskeletal injuries.
- To intervene using corrective exercise techniques to address these imbalances.
- To reduce the cost of injury to Navy and the ADF

Predicted Outcomes: We hypothesise that by using the FMS screen and implementing corrective exercise strategies we will demonstrate a reduction in injury for RCT's throughout the first 4-6 weeks of RCT training. We believe that this will have a significant impact on the health care cost associated with injury and the impact to training and Initial Employment Training (Category School).

Method: We have selected four exercises from the FMS system to use. These are Squat, Push-up, Inline Lunge and Shoulder Mobility. We have also included a postural screen with respect to foot posture and the current footwear RCT' bring to HMAS Cerberus.

Biography

Graham Arndt has a Bachelor of Sport and Exercise Science and a Masters Degree of Physiotherapy Studies and has worked at HMAS Cerberus for the past 5 years. Graham has made health/fitness, injury treatment and prevention his vocation for the past 20 years working in various roles through the public and private sectors. Graham's key areas of interest are in injury prevention and performance enhancement which has taken his professional development towards Functional Movement Screening (FMS), becoming certified as a Level 1 & 2 FMS Practitioner. Over his time with Defence Graham has observed and driven the Navy forward with the development and implementation of the first Physiotherapy/Rehab Program at HMAS Cerberus. For this work and his passion and commitment to Navy and the ADF he was awarded a Commendation by Captain Bowater (RAN) in 2015. Graham is a key stakeholder in working with Command to drive research projects at HMAS Cerberus with a special interest in reducing injury rates in Navy Recruits.

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Graham Arndt

Physical Health of Transitioned ADF Members and Regular ADF Members in 2015: Findings from the Transition and Wellbeing Research Programme

Dr Helen Kelsall, Ms Helen Benassi, Dr Craig Hansen, Dr Stephanie Hodson, Dr Ellie Lawrence-Wood, PROF Alexander (Sandy) McFarlane, COLONEL Nicole Sadler, Dr Miranda Van Hooff

Abstract

This presentation will provide an overview of the Transition and Wellbeing Research Programme: Physical Health Status Report which compares the physical health of Transitioned ADF (ADF members who transitioned from the Regular ADF between 2010 and 2014) with that of Regular ADF members in 2015 using indicators relevant to several body systems as well as general health indicators.

The study assessed the physical health and wellbeing of Transitioned ADF and 2015 Regular ADF in the following areas: self-reported health symptoms, self-reported doctor diagnosed medical conditions, respiratory health, injuries, pain, sleep problems, lifestyle risk factors, self-perceived health, quality of life, and health service use.

This was one of the first studies internationally to investigate a comprehensive range of physical health indicators in recently transitioned military personnel and context and implications of findings will be discussed.

Biography

Dr Helen Kelsall is a Senior Research Fellow in the Monash Centre for Occupational and Environmental Health, School of Public Health and Preventive Medicine, Monash University. She is an Investigator together with Profs Malcolm Sim and Jeffrey Rosenfeld, Monash University, for the Transition and Wellbeing Research Programme, and is the Lead Investigator on the Physical Health Study.

Helen has been active in veterans' health research for over 15 years and undertook her PhD in this field. She was a lead investigator on the 2000-02 and 2011-12 Australian Gulf War Veterans' Health Studies, and on other collaborative studies investigating physical, psychological and social health and wellbeing in military and veteran populations. Recent research includes a literature review of effects of fuel and solvent exposure on human female reproductive

health outcomes. Her research also includes exposure, risk factor and health outcome assessment in other occupational groups, evaluation of chronic disease prevention programs, and risk factors and prevention in long term injured workers. She has over 60 peer review publications, numerous industry and government research reports, and has presented research findings at national and international conferences. Helen is a member of the Editorial Board and a Sub-Editor on the Journal of Military and Veterans' Health.

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Physiological Assessment of an ADF Diver After a "Near-Miss" Diving Accident

CMDR Andrew Fock^{1,2,3}

- 1 Department of Intensive Care and Hyperbaric Medicine, Alfred Health*
- 2 School of Public health and Preventive Medicine, Department of Epidemiology and Preventive Medicine, Monash University,*
- 3 Royal Australian Navy*

Abstract

The investigation of Diving accident and near misses can often be a difficult undertaking due to the complex physiological changes associated with immersion and breathing under pressure. This is especially true in military diving where the exact nature of the operation may be classified. Special forces individuals who undertake military diving have extremely high levels of fitness with VO₂max levels similar to those of elite athletes. The ability for such members to perform in the aquatic environment may be limited by this environment and by the equipment through which they breath.

We present the case of CD "X", a Clearance Diver trainee who had two near miss events during training dives on a closed circuit oxygen rebreather (CCR), the last of which required rescue from his dive buddy.

Hypothesis: The history of the events was suggestive of the event being related to either hyperoxia or hypercapnia. The hypothesis for the latter was supported by a CO₂ sensitivity test that revealed a reduced sensitivity to carbon dioxide.

Methods: The member was tested on a cycle ergometer with full respiratory and cardiac physiological monitoring as well as sequential arterial blood gas analysis while breathing from the RAN's current O2 CCR unit. Increasing load was applied as the member exercised.

Results: Testing confirmed the elite physical fitness of the member and demonstrated potential issues with the diving equipment limiting physiological performance of the member at high workloads. The member was not found to retain CO₂ and had a normal exercise CO₂ response.

Discussion: The ability of the member to exceed the performance of the diving equipment during this testing has significant outcomes for the ADF with regards to both training and operations. These factor as well as the relevance of the members CO₂ sensitivity tests will be discussed.

Biography

Dr. Andrew Fock is Head of the Hyperbaric Medicine service at the Alfred Hospital Melbourne Australia. He also has a busy medical practice in Cardiac Anaesthesiology and holds a position as a medical officer with the RANR.

Andrew has authored or co-authored a large number of papers on Diving Medicine that have been published in the peer reviewed literature and is a regular speaker at both local, an international meetings.

He has been an avid wreck diver for more than 20 years and has led multiple expeditions to many of the warships lost during the conflicts of the last century. His use of mixed gases via closed circuit rebreathers has fostered a keen interest in their safety and decompression issues surrounding this type of diving.

Andrew is one of the medical advisors to the Australasian Diving Mortality Study.

He is actively involved in RAN Diving and Hyperbaric medicine, and specifically in Submarine Escape and Rescue.

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Raising a Basic CBRN Medical Capability - Building the Plane While its Flying

Captain Dr Robert Worswick¹

1 1st Close Health Battalion

Abstract

In late 2017 Army was directed to develop a basic Chemical, Biological, Radiological and Nuclear (CBRN) medical course, as part of the broader remediation of the ADF CBRN capability. This paper describes how this task was achieved, discusses the challenges encountered along the way and proposes a conceptual framework for an ADF CBRN medical capability.

Biography

Captain Worswick is an Army medical officer serving with the 1st Close Health Battalion in Townsville. He served as an infantry officer for a number of years before completing his medical training

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Raising, Sustaining and Transitioning Trauma Services Capability in a Humanitarian Emergency

Mr Leo Cusack¹

1 Aspen Medical

Abstract

In March 2017, Canberra-based Aspen Medical was contracted by the World Health Organization (WHO) to provide healthcare professionals and hospital management at a 48-bed field hospital south of Mosul in northern Iraq. The field hospital was established by WHO at the urgent request of the Ministry of Health in Iraq. WHO coordinated a number of organisations providing trauma care in the conflict zone.

Aspen Medical initially provided a team of over 80 personnel to the facility including emergency physicians, surgeons, anaesthetists, nurses, midwives, neonatal specialists, obstetricians and paramedics. In addition to the clinical team, Aspen

Medical provided management, logistics, security, administration and operations specialists to the field hospital. The Aspen Medical team worked alongside 50 national health personnel of different cadres to support trauma care at the hospital.

Over the following 12 months Aspen Medical were contracted by WHO to manage a further three facilities. In total, the Aspen Medical teams saw in excess of 40,000 patients and delivered 4,000 babies in Iraq. The mortality rate was 4%.

In this presentation Leo Cusack will focus on the project management aspects. He will outline how the facility was set up, how the systems, processes and logistics were created to enable a team of clinicians from around the world to perform their duties in Mosul. He will outline the importance of training and creating a multicultural team capable of building capacity. He will also discuss the collaboration with many other agencies that was required to ensure the success of the mission.

Biography

Leo is an independent Project Manager who has a long association with Aspen Medical. During the Ebola crisis, he was the Program Manager, West Africa, for Aspen Medical. He was responsible for Aspen Medical's deployments to Sierra Leone in support of the Australian and UK Governments and also the four Ebola Treatment Units in support of USAID in Liberia. Currently, he is responsible for the trauma centre deployment at several locations south of Mosul, Iraq.

Leo's career has seen him complete his Bachelor's degree at ANU, post graduate studies in Project Management from UNSW and he is a graduate of the Royal Military College, Duntroon, and served in the army as an Infantry Officer until 2005.

Upon leaving the ADF, Leo has had a broad business career including the General Manager of a multinational company in the region and now concentrates on project consulting and commercial property interests.

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Leo Cusack

Reconsidering Stigma: Barriers to Mental Health Care in the ADF

Ms Helen Benassi¹

1 Defence/Australian National University

Abstract

It seems logical that concerns about career and deployability prevent ADF members seeking help for mental health conditions. However, recent research suggests that these presumed barriers may not actually prevent individuals from seeking care. This paper revisits the research on stigma and barriers to mental health care and examines the known factors associated with help-seeking behaviour in military populations. Using data from the 2015 Transition and Wellbeing Research Programme the presentation will examine help-seeking behaviour in current and recently transitioned ADF members, and the relationships between perceived and actual need, beliefs and enabling factors. The influence of anticipated and self-stigma, as well as attitudes towards mental health care will be examined. Results will be discussed in the context of similar international studies and implications for military mental health policies and programmes highlighted.

Biography

Helen joined the Department of Defence in 2005 where she has worked in mental health policy and research roles spanning mental health screening, surveillance and unit climate, epidemiology and personnel selection. Helen has a Bachelor of Arts/Science (2002) and Graduate Diploma in Psychology (2003) from the Australian National University (ANU). She completed a psychology internship with Defence, registering as a psychologist in 2010. Helen is currently undertaking a PhD at the ANU under the Sir Roland Wilson Foundation Scholarship investigating e-mental health, early identification and self-management of mental health in the ADF. Prior to starting her PhD, Helen was responsible for the coordination of strategic mental health research within Defence and is currently an investigator on the Longitudinal Australian Defence Force (ADF) Study Evaluating Resilience and the Transition and Wellbeing Research Programme. She was also an investigator on the 2010 ADF Mental Health Prevalence and Wellbeing Study.

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Results of the CLIP Pilot Clinical Trial of Cryopreserved vs Liquid Platelets

Colonel Michael Reade^{1,2}, A/Professor Denese Marks³, Professor Rinaldo Bellomo⁴, Ms Renae Deans², Dr Daniel Faulk^{e5}, Professor John Fraser⁵, A/Professor David Gattas⁶, Commander Anthony Holley^{1,2}, Professor David Irving³, Dr Lacey Johnson³, Ms Bronwyn Pearce⁵, Colonel Alistair Royse^{1,7}, Dr Janet Wong³

1 Australian Defence Force

2 University of Queensland

3 Australian Red Cross Blood Service

4 Austin Hospital

5 The Prince Charles Hospital

6 Royal Prince Alfred Hospital

7 Royal Melbourne Hospital

Abstract

Background: Platelet transfusion is essential to treat major bleeding. However, liquid-stored platelets have only a 5-day shelf-life. To use this scarce resource optimally, liquid-stored platelets are not kept in smaller hospitals, including military hospitals. Cryopreservation, developed by the US Navy and used by Australian clinicians at the Dutch Role 2E hospital in Afghanistan, might allow smaller hospitals to provide platelets and reduce wastage by extending shelf-life to 2 years. However, evidence is limited to animal and in vitro studies and a single trial in which only 24 patients were transfused cryopreserved platelets (Khuri et al., *J. Thorac. Cardiovasc. Surg.*, 1999). While universally encouraging, this is insufficient to justify regulatory approval in most parts of the world including Australia and New Zealand.

We hypothesise that cryopreserved platelets would be at least as effective and safe as conventional liquid-stored platelets in the management of active bleeding related to surgery. A definitive trial that would demonstrate this with sufficient certainty is likely to require a large number of patients and funding of several million dollars. Before making such an investment, several design questions must be answered, including choice of patient population, which safety and effectiveness outcomes will be both feasible and sufficiently persuasive, and whether Australian and New Zealand hospitals have sufficient capacity to conduct such a trial. Accordingly, we designed a pilot study to test what we believed was likely to be the optimal trial design.

Method: Between July 2015 and December 2017, in four Australian tertiary academic hospitals we enrolled adult cardiac surgical patients who had given prospective consent and who had been identified as being at high risk of requiring a perioperative blood transfusion using a validated score. Patients were randomised 1:1 to receive either cryopreserved platelets or liquid-stored platelets if their treating clinicians decided a platelet transfusion was indicated. If more than three units of study platelets were required, all subsequent platelet units were conventional liquid-stored platelets. Cryopreserved platelets were prepared in 27% dimethylsulfoxide (DMSO) by the Australian Red Cross Blood Service using a method based on that of the Netherlands Military Blood Bank, a modification of the original protocol described by the US Navy. The 20-30 mL platelet concentrate was frozen at -80°C for up to two years. When required for transfusion, platelets were warmed to 30-32°C over 5 minutes, then resuspended in 280mL plasma. Post-thaw shelf-life was 4 hours. Outcomes, assessed for potential use in a subsequent definitive trial were the volume of perioperative bleeding, perioperative transfusion requirement, and incidence of adverse events including requirement for reoperation, fever, wound infection, systemic infection, acute respiratory distress syndrome, myocardial ischaemia, signs of DMSO toxicity, pulmonary embolus, and deep venous thrombosis detected either clinically or on a mandated ultrasound screening examination performed 48-96 hours postoperatively. Platelet counts and laboratory indices of coagulation, including viscoelastic testing when this was available, were also recorded when these were performed for clinical indications. The trial was prospectively registered (ACTRN12612001261808) and the analysis plan published prior to enrolment completion (Marks et al., *ISBT Science Series*, DOI: 10.1111/voxs.12406).

Results: In total, 121 patients were randomised, of whom 41 (34%) received a platelet transfusion. Only one adverse event was reported, and this was deemed not to be related to the study platelets. The study groups were well-matched at baseline, with median age 70-71 years, 67-70% male, and mean (SD) APACHE III scores of 55(16) – 61(18). Aortic valve procedures were the commonest (39-53%) indication for surgery. Most platelet transfusions (72-87%) were initiated in the operating theatre. Median (IQR) platelet counts in the cryopreserved group were significantly less on day 1 (112 (80-153) vs. 150 (124-192), $p=0.02$), as expected based on preclinical data that suggest cryopreserved platelets are more likely to be incorporated into clot than to

circulate. There were no significant differences in any effectiveness outcome, but there was a trend for the cryopreserved group to require fewer red blood cell units transfused (median (IQR) 3 (1-5) vs. 4 (3-5) units, $p=0.23$). There was a trend towards the cryopreserved group having less blood in their chest drains at 24hr (median (IQR) 715 (540-915) vs. 805 (591-1080)ml, $p=0.41$) and 48hr (median (IQR) 980 (680-1215) vs. 1075 (810-1540), $p=0.45$). For the composite outcome defined by the Bleeding Academic Research Consortium (BARC), there was a strong trend to superiority in the cryopreserved platelet group (30.4% vs. 55.6%, $p=0.10$). There were no trends to clinically important differences in any of the measured adverse events. Specifically, no patients suffered myocardial infarction, and there were only two non-occlusive below-knee venous thromboses identified – one in each study group. There was no clear pattern in the laboratory indices of coagulation. Adjustment of blood loss or red cell transfusion outcomes for any minor imbalances in baseline characteristics did not alter these results.

Three patients in the cryopreserved group received open-label platelets before their third unit of study platelets when their treating clinicians considered waiting for study platelets might take too long. When these patients were excluded from the analysis (having not received the intended treatment), the superiority of cryopreserved platelets in reducing red cell transfusion requirement (2 (1-4) vs 4 (3-5) units, $p=0.07$) and bleeding at 24hrs (673 (520-795) vs 805 (591-1080) ml, $p=0.12$) was accentuated.

Conclusion: This pilot clinical trial shows that transfusion with cryopreserved platelets, compared to liquid-stored platelets, is associated with no evidence of harm and small non-significant trends to reduced requirement for red cell transfusion and reduced postoperative blood loss. In the light of this data and the clear logistic and cost-effectiveness advantages of cryopreservation, a definitive study with a non-inferiority design testing volume of postoperative bleeding as the primary outcome is warranted. With the collaboration of the ANZICS Clinical Trials Group and the ANZCA Clinical Trials Network, funding has been sought from the Australian Government to conduct this definitive trial. The trial program is registered as a Collaborative Project under the ABCA Technical Co-operation Program Memorandum of Understanding (Technical Panel 22 (Military Medicine) 2016-01.B.2 Cryopreserved Platelets).

Biography

Colonel Reade is an anaesthetist, intensivist and clinician scientist in the Australian Defence Force, seconded to the University of Queensland as the

Defence Professor of Military Medicine and Surgery to lead a program of research relevant to military trauma medicine and to guide implementation of modern trauma care into ADF practice. He holds a DPhil in applied molecular biology from Oxford, and an MPH from the University of Pittsburgh focussed on clinical trials. He is the Director of Clinical Services of the Australian Regular Army's only field hospital and has completed nine overseas operational deployments, including twice to Afghanistan and three times to Iraq. His research interests are fluid resuscitation and coagulopathy in trauma, clinical trials of cryopreserved blood products and tranexamic acid, and the management of delirium. He supervises 12 research students, holds or has held >A\$17M research grants, has published >150 papers and delivered >240 national and international lectures.

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Review of the Voluntary Blood Testing Program for Per and Poly Fluorinated Substances in the Australian Defence Force

Dr Katherine Tindall, Dr Catherine Kelaher¹

1 Joint Health Command

Abstract

Aim: To analyse the blood results of ADF members who participated in the Voluntary Blood Testing Program (VBTP) for Per and Poly fluorinated substances (PFAS) initiated by the Australian Government in 2016. **Method.** The blood results of ADF members who consented to participate in the VBTP were stratified into age groups and were reviewed and assessed against Australian population averages using a comparison of proportion analyses.

Results: Since commencement of the VBTP 187 ADF members presented for pre-test counselling. 121 (65%) results are available. Of those tested 14 (12%) were female and 107 (88%) were male. The average age was 42 (19–60) and they belonged to a wide number of trades. In the 16–30 age the average for perfluorooctane sulfonate (PFOS) was 5.5 ng/ml (1.2–14.0, 95% CI 4.2–6.8). The average for perfluorooctanoic acid (PFOA) was 1.9 ng/ml (0.8–5.1, 95% CI 1.5– 2.3). In the 31–45 age the average for PFOS was 5.9 ng/ml (0.4–14.8, 95% CI 5.0–6.8).

The average for PFOA was 1.9 ng/ml (0.5–4.7, 95% CI 1.6–2.2). In the 46–60 age category the average for PFOS was 15.0 ng/ml (0.5–112, 95% CI 9.5–20.5). The average for PFOA was 2.4 ng/ml (0.5–6.29, 95% CI 2.1–2.7).

Discussion: Progressive ADF VBTP data has consistently shown that average PFAS blood values for ADF members are lower than the estimated 95th percentile for the Australian population. There was a small minority with levels of PFOS which were higher than the Australian population average. The majority of this group were firefighters in the oldest age group. This is consistent with other Australian research. It is noted that the recent independent expert panel established by the Department of Health concluded there is mostly limited or no evidence for any link with human disease related to PFAS exposure. The Defence VBTP will continue until Apr 30, 2019 and a further analysis will be undertaken at that point.

Biography

Dr Kelaher is the Senior Medical Advisor for Occupational and Environmental Medicine in the ADF. She is a fellow of the Faculty of Occupational and Environmental Medicine and the Royal Australian College of General Practitioners. Dr Kelaher has worked in Defence for the last 15 years. She is interested in all aspects of occupational medicine and is qualified in aviation medicine and underwater medicine.

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Catherine Kelaher

Serving Under Two Flags in The Great War

CDRE Michael Dowsett AM¹

1 Retired

Abstract

A small number of military health personnel served in both the Royal Australian Navy and in the 1st AIF or British units in The Great War. This presentation will expand on the lives of several of those individuals and the circumstances that led to their service

Biography

A former Director General of Naval Health Services Michael Dowsett has a long standing interest in Australian military medical history. He has published in various journals and books and presented at previous AMMA conferences. He is a Voluntary Guide at the Australian War Memorial in Canberra.

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Supplementing and Sustaining Disaster Response: Evolution of Options for Private Sector Engagement

Dr Douglas Randell¹, Dr Markus Huettl, Ms Karen Holloway, Dr Ofer Merin

1 Aspen Medical

Abstract

Civil Military Cooperation in disaster and emergencies is now doctrine. Yet the health capabilities of the private sector have rarely been incorporated into emergency response planning, response, and recovery. Aspen Medical is an Australian-owned private sector corporation invited by WHO, DFID and USAID to join the international response to the West African Ebola crisis and by WHO and UNFPA Iraq to assist in health service provision during the siege of Mosul in Iraq and its aftermath.

WHO is the lead agency for the coordination of international health response to emergencies and humanitarian crises. A capability-based classification system for Emergency Medical Teams (EMT) and minimum core and technical standards guidelines have been published by WHO. A register of government, not-for profit NGO's, military and international organisations able to provide EMTs meeting minimum standards is maintained in Geneva.

Aspen Medical is the first private sector corporation invited to participate in an audit process leading to registration as an EMT provider. This presentation will detail the capability

that Aspen Medical makes available to the Australian government and its journey towards partnership in emergency response operations. This presentation will discuss the emergence of "benefit corporations" that use business as a force for good and niche role that the commercial sector offers in supplementing and sustaining effective disaster response.

Biography

Dr Doug Randell is General Practitioner who served with the Australian Army, specialising in Aviation Medicine and deploying on peace keeping,

humanitarian response and warlike operations. He joined Aspen medical in 2012 with the Defence On-Base Health project, and appointed Senior Medical Officer for Aspen Corporate Health in 2016, and Group Medical Director in 2017. He retains a keen interest in travel and tropical medicine and overseas Aspen Medical projects in Australia, the Asia-Pacific and Middle East region.

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Supporting Homeless Veterans' - A Stitch in Time

Mr Nathan Klinge¹

1 RSL Care SA

Abstract

The purpose of this presentation is to introduce the concept that investing modest resources to support working-age veterans who are experiencing homelessness can generate significant social and health care benefits during the later stages of a veteran's life.

This is not a research paper, but rather the presenter will use experiences gained in running a homeless program for Contemporary Veterans and his role as the CEO of two Aged Care facilities that also support veterans to discuss how veterans experiencing chronic health and social issues during their elder years could have been better supported during their working-age years to live better for longer.

The ex-service community has a valuable opportunity now to support a range of veterans aged 25-50, in order to prevent these veterans from experience unnecessarily adverse health and wellbeing outcomes beyond the age of 65.

By reviewing over 28-months' worth of data from the homeless veteran program, this presentation provides a summary of the key demographics of veterans currently experiencing homelessness in South Australia. The presentation also provides a direct link between these observations and the lived-experiences of a population of Vietnam Veterans who were not well supported during their working-age years, and who now find themselves residing in aged care at a relatively young age with a range of chronic health conditions.

Biography

Following 23-years of full time military experience Nathan is now employed as a CEO in aged care. Nathan has served in a variety of leadership, management and training positions, and he spent most of his military career as a Commissioned General Service Officer within the Royal Australian Army Medical Corps. Having discharged from the Regular Army in 2014 he remains a member of the Army's Active Reserves, and in his role as CEO of RSL Care SA he introduced the Veteran Homelessness Program - Andrew Russell Veteran Living, which supports homeless Veterans in South Australia.

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Surgical Preparedness for the Next Conflict. Challenges Faced by the ADF and Coalition Partners

Dr Andrew Pearson¹

1 RAAF

Abstract

The Australian Defence Force and coalition partners have recently experienced a decrease in operational tempo following years of high tempo deployments to the Middle East. Significant advances in the field of combat surgical and critical care have been made over the past two decades and many of these advances have been incorporated into civilian trauma care.

Given the changing tempo of deployments and nature of deployed coalition ground forces there has been a requirement for surgical support to adapt to this modern deployed environment. Following the recent changes to a health facility in Iraq and current JP2060 procurement project, it is a prudent time to consider future surgical workforce planning to ensure that lessons learnt are not forgotten.

The last two decades have also seen dramatic changes in a number of aspects of civilian surgical training and employment. These include the nature of general surgical training, surgical workforce employment, the decline of the generalist surgeon, rise of subspecialty surgical care and centralisation of specialist surgical services. These changes both directly and indirectly impact on ADF surgical capability.

This talk addresses challenges faced by the ADF and coalition partners in deploying adequately trained and resourced surgical teams to support combat operations. It will address issues such as general surgical training and the widening divide between the roles of the civilian surgeon and what is required in the deployed setting.

These issues are not unique to the ADF and are also encountered by our coalition partners. By acknowledging issues faced and employing strategies to mitigate against a decline in surgical capability the ADF will be well placed to provide quality surgical care when next called upon to deploy in support of combat operations.

Biography

Squadron Leader Pearson is a General Surgeon and full time member of the RAAF in the Medical Specialist Program. Dr Pearson previously served as a full time general medical officer in the RAAF prior to undertaking general surgical training and post fellowship training in Hepatico-pancreaticobiliary surgery. Squadron Leader Pearson has previously deployed to Afghanistan, Pakistan and Iraq. His current interests are in general & trauma surgery with subspecialty interest in surgery of the liver, pancreas and biliary tract. He works at Hornsby Ku-Ring-Gai hospital in Sydney under a Medical Specialist Program deed of agreement.

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Telepsychiatry at the ADF Centre for Mental Health

Dr Duncan Wallace¹ MAJ Samantha Hodges

¹ ADF Centre for Mental Health

Abstract

Background: The Australian Defence Force (ADF) operates across Australia and on overseas deployments in many parts of the world. Access to mental health services for serving members can sometimes be challenging.

Objectives: We report the successful operation and expansion of a telepsychiatry service in the Australian Defence Force (ADF), located at the ADF Centre for Mental Health since 2011.

Methods: We conducted a retrospective review of telepsychiatry service records and an analysis of telepsychiatry patient satisfaction scores from the Second Opinion Clinic, a tertiary level service for ADF personnel.

Findings: Defence Health services in Darwin were the largest users of the service, followed by Townsville. A small number of personnel on overseas deployment were also seen. Telepsychiatry patient satisfaction scores showed some differences to those in patients seen face to face, but generally showed a high level of satisfaction with the service.

Conclusions: Our findings add to the growing literature around the efficacy of telepsychiatry when compared to traditional face-to-face assessment. Given the wide geographical distribution of the ADF, including remote, rural and international areas, the acceptance and effectiveness of telepsychiatry greatly enhances the level of care available to ADF personnel.

Biography

Dr Duncan Wallace has been a consultant psychiatrist since 1990, practising mainly in public hospitals with special interests in emergency departments, rural psychiatry, telepsychiatry and military psychiatry.

Dr Wallace has extensive operational experience as a medical officer in the Navy Reserve. He has deployed on Active Service to East Timor, Iraq, Afghanistan and the Persian Gulf. He has also deployed on border protection duties to Christmas Island and Ashmore Reef, as well as humanitarian assistance operations in Banda Aceh and Nias. He is a Commodore in the Royal Australian Naval Reserve and was Director-General Naval Health Reserves from 2012 to 2015.

Dr Wallace was appointed to his current position as psychiatrist to the Australian Defence Force Centre for Mental Health, at HMAS Penguin, Sydney, in 2010. He has been a Visiting Medical Officer at St John of God Hospital, North Richmond since 2015. He is a Conjoint Senior Lecturer in Psychiatry at the University of NSW and was appointed as the inaugural chairman of the RANZCP Military and Veterans' Mental Health Network in March 2018.

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The ADF Digital Health Strategy - A Roadmap to Digital Transformation

LTCOL David Bullock¹, Mr Dan McInerney

1 Information Warfare Division

Abstract

The Australian Digital Health Agency (ADHA) published a Digital Health Strategy in 2017 outlining a pathway for the national digitisation of health care over the next 10 years. The ADF, through Joint Health Command, has a requirement to embark upon a digitisation program to meet industry best practice and emergent standards of healthcare in meeting its moral, ethical and legislative requirements of 1st class healthcare provision. As such, Chief Joint Health (Surgeon General) commissioned the research and development of a ADF Digital Health Strategy in May 2018.

The ADF Digital Health strategy recognises more than Government direction. In recognising the values of clinical data and medical information across the longitudinal ADF career and beyond, the strategy contributes to the aggregation of data generated by the Next Generation Health Services and Medical & Dental equipment from JP2060 Phase 3, and its analysis and fusion into Enterprise Health Knowledge, informed by and informing Enterprise Information Management, Department of Veterans Affairs and Veterans Counselling Service.

This presentation provides a depth of insight into the why, what of this strategy development followed by the how of its implementation.

The why: Health information is a critical and enabling component for Enterprise Information Management and Battlespace information Management in achieving the optimisation of business and military operational outcomes as a result of enhanced decision support. Health information, as processed data overlaid with information requirements within the health business and on operations, provides Commanders with the ability to make intelligence augmented decisions, in turn achieving information dominance. This includes decisions in support of providing a world class health care system to ADF personnel in meeting ADF moral, ethical and legislated requirements.

Digital information is the foundation of high quality healthcare. For the ADF this is realised through a Prevention Focussed, Command Responsive, Member centric, Rehabilitation oriented health system. The benefit for the ADF is improved health readiness, supporting defence capability.

The what: In developing the strategy, we sought to identify the priority areas within JHC and across the ADF enterprise information Management that that form the basis of the ADF vision for digital health. It should build upon our current system, itself the 1st and indeed only National E-Health system and support members and clinicians in developing a member centric safe system, aligned to ADHA.

Today we face new health challenges and rapidly changing demand for services. It is imperative that we embrace technology and work together with Australian Agencies and industry to harness the power of technology to support high quality, sustainable healthcare today and into the future.

A strategy which facilitates the sharing of sharing of high-quality, commonly understood, health and health related information is essential in supporting members and clinical staff to not only transition treatment to prevention, but also to ensure this patient information remains confidential and secure, whilst being readily available, whenever and wherever it is needed.

The how:

1. How the strategy was developed

Phase 1 - Where is the ADF now? Comprised of discovery interviews with key stakeholders from across the Defence health community.

Phase 2 - What does the ADF need from Digital Health? Involved collaborative workshops.

- Workshop 1 focused on the needs of the clinician, and the needs of the serving member. It sort to identify risks, issues and gaps in the existing architecture, and how a Digital Health Strategy can enable Defence to move forward.
- Workshop 2 focused on validating the information from Workshop 1, and address the future potential of a Digital Health Strategy, including an ADF patient centric approach, emerging technologies, management of cyber threats as a result of digitally enabled care pathways, and enhanced health knowledge with supporting data analytics in support of a predictive analysis capability for ADF health outcome optimisation.

Phase 3 - A Strategic Direction for ADF Health. Witnessed the development, consultation, review and delivery of the strategy. As part of Phase 3 a third workshop brought together other key external digital healthcare delivery stakeholders to the ADF. The workshop focussed on further collaboration and alignment towards common digital health goals.

We present the findings of how digitisation is enabled, how it improves qualitative and quantitative outcomes through integrated BI (Health Business) and epidemiological CDSS and clinical workflows (business of health) and how it should be adopted.

There is an increased focus on the importance of transforming data into information into knowledge for improved decision support across all activities within the ADF. Custodianship aside, strategic vision for digital health is a key digitisation enabler. Strategic use cases of current and planned uses of knowledge will underpin all activities to provide direction and action to improved health readiness, and support defence capability.

New methods are needed for developing new data standards, processes and custodians for emerging technologies and new information use including a need to increase the knowledge of the digital workers and digital consumers through access to information.

Maturity of digital health and health information management and health intelligence needs to be increased across ADF Business divisions and JHC, underpinned by strategic partnerships for internal and external information sharing, ADF fostered knowledge sharing across information management initiatives and innovation, and the equitable availability of information tools and technologies across all ADF services.

Adoption

The Digital Health Roadmap is an extension to the Digital Health Strategy for the ADF, and has been prepared with the purpose of providing actions to achieve the strategy. It outlines the program of work required across the ADF, driven by JHC, to mature digital health adoption. It is in line with the national digital health and innovation agenda, as set out in the ADHA Digital Health Strategy.

Underpinned by the principles for digital health, the scope of this roadmap includes the initiatives aligned to the Strategy across Horizon 1, 2 and 3:

Horizon 1: Building (within three years)

Horizon 2: Optimising (within five years)

Horizon 3: Transforming (within seven years)

The Roadmap is separated into several areas of focus. Each area includes an overview, high level diagram, detailed roadmap and implementation considerations.

Biography

David Bullock began his career as a Dental Technician prior to training as an advanced paramedic and later as a Health Services Manager. His 35year combined British & Australian Defence health career includes operations to more than 10 countries and responding to three HADR operations within Australia and the Asian Pacific region.

He is currently the Deputy Director of the Defence future e-Health program (JP2060-4 (Health Knowledge Management)) at Joint Capabilities Group. Additional duties include combat and technology advisory roles to JP2060 Ph 3 and Next Generation Health Services.

Outside of Defence, David has been awarded adjunct titles at the University of Queensland and Queensland University of Technology where he lectures in Public Health As a strong advocate for Australian and Defence health services management, David became a Fellow of the Australasian College of Health Services Management, establishing the Defence Special Interest Group in 2016. He is an Executive member of the Health Information Management Systems Society (HiMSS) and is the Chair of the HiMSS Military Health Information and Technology project.

David is a German linguist and his interests include Ultra-Marathon running, equestrian sports and horology.

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The Association of Intrusive Future Threat and Post Traumatic Stress Disorder in a Clinical Sample of Veterans and First Responders

Prof Zachary Steel¹

1 School Of Psychiatry, University New South Wales

Abstract

Introduction: The role of exaggerated threat appraisal has been hypothesized as a central mechanism in the development and maintenance of PTSD. Key symptoms of PTSD specified in DSM5 and ICD11 involve past oriented re-experiencing of trauma memories rather than intrusive threats of future feared trauma. This study examines the temporal direction on PTSD phenomena to better understand the nature of PTSD and future threat.

Method: The sample consists of 88 Veterans and first-responders presenting to a residential treatment program for PTSD. All participants met diagnostic criteria for PTSD as determined by the CAPS PTSD Scale. We use a newly developed measure, the Fear for Future Scale to examine the prevalence and frequency of future oriented intrusive trauma experiences and the PCL-5 to assess past oriented PTSD symptoms. Confirmatory factor analysis undertaken in Mplus was used to examine the structure of symptoms assessed by the two scales. In addition, we applied an experience sampling framework to examine the daily experience of past vs future oriented traumatic intrusions.

Results: Fit statistics for the factor analysis supported a model containing factors assessing future oriented traumatic threat intrusions that were distinctive from posttraumatic stress intrusions. Findings from the experience sampling indicated a lower prevalence of future oriented intrusions than past oriented intrusions which tended to be disproportionately clustered in some participants. There was no direct association between the severity of PTSD symptoms and the temporal orientation of symptoms.

Conclusion: The results suggest that symptoms characterized by future oriented intrusive traumatic imaginings appears to overlap but are symptomatically distinct from more traditional past-oriented PTSD intrusive symptoms. This may have important implications as to how we understand the nature of PTSD and ongoing traumatic threat.

Biography

Professor Zachary Steel holds the St John of God Chair of Trauma and Mental Health a partnership between Richmond Hospital, the School of Psychiatry UNSW and the Black Dog Institute. He heads a program of clinical research into the impact of trauma on veterans and first responders and has built a highly cited research program that has investigated the prevalence, social determinants, and intervention models for mental health problems within the Asia-Pacific region and amongst vulnerable populations such as asylum seekers and refugees in Australia and more recently in partnership with Aboriginal communities in Far West NSW.

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The Judicious Use of Antimicrobials in the ADF: Where Do We Start?

Flight Lieutenant Anita Lim¹ Flying Officer Samuel Lopes¹ Flight Lieutenant Chuong Nguyen¹

1 Joint Health Unit - Central Australia

Abstract

Antimicrobial resistance threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi. Increasing rates of antimicrobial resistance threatens global public health and requires that all sectors, including the ADF, act to minimise the impact.

Since 2013, all public multi-purpose services and small hospitals have been required to implement an antimicrobial stewardship (AMS) program as part of the National Safety and Quality Health Service (NSQHS) Standards. The NSQHS Standards 2018 impact data shows that AMS reduced the number of antimicrobials prescribed, medicines wastage, the risk of antimicrobial resistance, and the harm to patients from adverse effects.

The ADF lacks overarching AMS policy as part of its Clinical Governance activities that aligns to the national standards. Tindal Health Centre has taken the initiative to implement an adapted version of the Clinical Excellence Commission's 5x5 Antimicrobial Audit program to collect data on systemic antibiotic prescriptions issued by doctors and dentists in garrison. This presentation will describe the Tindal Health Centre Antimicrobial Audit, present preliminary results, and demonstrate how an antimicrobial prescribing audit can contribute to the development of a robust AMS framework for use by Defence in both the garrison and deployed environments.

Biographies

Flight Lieutenant Anita Lim joined Defence through the Undergraduate Sponsorship Scheme in 2012. She is currently posted as the Senior Dentist to Tindal Health Centre, Joint Health Unit – Central Australia. Flight Lieutenant Lim has a special interest in Oral Medicine and Public Health policy.

Flying Officer Lopes joined Defence through the undergraduate program in 2013. He is currently posted as the pharmacist of Tindal Health Centre under Joint Health Unit – Central Australia. Flying Officer Lopes is currently studying a dual Master of

International Public Health and Public Health with specialisations in Infectious Diseases and Public Security.

FLTLT Chuong Nguyen is an Aviation Medical Officer in the Royal Australian Air Force. He graduated from the University of Queensland in 2013, and spent two years as a resident at Caboolture Hospital in regional South-East Queensland. Currently based at RAAF Base Tindal in the Northern Territory, he is in his fifth post-graduate year and completing his initial general practice qualifications, with interests in occupational and travel medicine.

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The Longitudinal ADF Study Evaluating Resilience (LASER-Resilience): Trajectories of Mental Health and Wellbeing in Early Career

Ms Carolina Casetta¹, Dr Lisa Dell²

¹ Defence

² Phoenix Australia

Abstract

Joint Health Command, on behalf of the Australian Defence Force, has been conducting the Longitudinal ADF Study Evaluating Resilience (LASER-Resilience) since 2009, in collaboration with Phoenix Australia: Centre for Posttraumatic Mental Health. LASER-Resilience is a longitudinal study of the psychological and environmental factors that contribute to or erode the resilience of ADF members. Data was collected upon enlistment or shortly after training commenced for members who enlisted between Nov 2009 and Dec 2012 (Time 1), at the end of Initial Training or 12 months following Time 1 (Time 2) and at 12 months intervals for the first three years of their career (Time 3 to Time 5). All administrations ceased in Oct 2016.

To date, seven reports have been produced on LASER-Resilience data, all of which have been presented at previous Australasian Military Medicine Association conferences. This presentation will focus upon the Final LASER-Resilience Report. This Report will use data from all five time points to identify the key trajectories of mental health and wellbeing in this ADF sample, and identify what psychological and environmental factors (such as trauma and stressful

events) that impact on these trajectories. Specifically, this presentation will discuss the analyses planned in this Report, and anticipated results and implications for Defence. This presentation will also provide an in-depth overview of the project; including the methodology of the project, challenges in conducting a longitudinal study within the Defence context and lessons learnt.

Biographies

Ms Carolina Casetta is a Registered Psychologist and is the Senior Research Officer in the Mental Health Research and Evaluation Team within Joint Health Command. Ms Casetta's primary role in this team is the Project Manager of the Longitudinal ADF Study Evaluating Resilience (LASER-Resilience).

Dr Lisa Dell is a Senior Research Fellow in the Department of Psychiatry at the University of Melbourne. Lisa has a background in psychology and completed her PhD in the area of stress and emotional management. She is also currently undertaking a Masters in Evaluation at the University of Melbourne. Lisa has extensive experience in managing research and evaluation projects at Phoenix Australia, including the development of the Australian Guidelines for the Treatment of Acute Stress Disorder and Posttraumatic Stress Disorder, the three-year evaluation of Department of Veterans' Affairs (DVA) Mental Health Initiatives, and DVA's Scientific Health and Wellbeing Evidence Schema research project. Lisa is currently leading the Longitudinal ADF Study Evaluating Resilience and the National Health and Medical Research Council partnership grant study of Intensive Prolonged Exposure therapy.

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The Prevalence of Mental Disorder in Transitioned ADF Members: Results from the Mental Health Prevalence Report

Dr Miranda Van Hooff¹, Dr Stephanie Hodson²

¹ University of Adelaide, ²Department of Veterans' Affairs

Abstract

This presentation will present the 12-month and lifetime prevalence estimates of ICD-10 mental disorder in ADF members in the first five years

following transition from Regular 'full-time' ADF Service (January 2010-December 2014). It will begin with a brief summary of the methodology and response rates, followed by an overview of the socio-demographic profile of the Transitioned ADF. Following this, it will provide a detailed summary of the prevalence and comorbidity of ICD-10 mental disorder in this population as well as an examination of the association between 12-month mental disorder and various transition, service, and socio-demographic factors. Prevalence results show Transitioned ADF members are a group at particular risk for mental disorder with an estimated 46% meeting 12-month diagnostic criteria for either an affective (23.1%), anxiety (37%) or alcohol disorder (12.9%). PTSD was the most common 12-month disorder type in recently Transitioned ADF members (17.7%) with the spectrum of mental disorders reported being broader than anticipated, particularly for anxiety disorders. The presentation will conclude with a discussion of the strengths and limitations of the study and potential future research opportunities and directions.

Biography

Dr Miranda Van Hooff (BA (Hons), PhD) is the director of Research at the Centre for Traumatic Stress Studies, University of Adelaide. Dr Van Hooff has extensive expertise in trauma, PTSD, mental health/wellbeing, longitudinal research, epidemiology and quantitative research design. Her research has focused on the mental health of Australian Defence Force (ADF) and emergency service personnel. She is currently the CIA for the Transition and Wellbeing Research Programme, a comprehensive \$3.5M study examining the impact of contemporary military service on the mental, physical and social health of serving and ex-serving ADF personnel and their families. In 2010 she was lead investigator on the ADF Mental Health Prevalence and Wellbeing Study, the largest and most comprehensive study conducted on the prevalence of ICD-10 Mental Disorder in the ADF. These studies have been strong drivers of change in DVA and Defence service provision, highlighting Dr Van Hooff's success in the translation of epidemiological research into policy and practice. In 2014, she was awarded an NHMRC partnership grant with the South Australian Metropolitan Fire Service, examining the resilience, health and wellbeing of firefighters. Dr Van Hooff has authored 50 peer-reviewed journal articles and 20 commissioned reports for the Department of Defence.

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The Three Pillars of Army Psychology: To Serve with a Strong Foundation

COL Laura Sinclair¹, LTCOL Kylie Tuppin¹

1 Army Health

Abstract

Since the Second World War, the Australian Defence Force (ADF) has been supported by uniformed psychologists, and this capability has resided predominantly in the Australian Army, within the Australian Army Psychology Corps (AAPSych). Formed in 1952, AAPSych is comprised of uniformed registered psychologists and para-professionals, known as psychological examiners. Despite being a relatively young organisation, AAPSych has established itself as a highly valued Corps within Army and the ADF by providing services across a wide range of areas that include personnel selection and support, mental health support, human factors, research and development, and policy development and implementation.

The support that AAPSych provides to Army and the ADF is illustrated through the Three Pillars model that is based upon a strong foundation in research and governance. The first Pillar of Organisational Health and Effectiveness is concerned with the organisation as a whole, and is concerned with all aspects of personnel selection and management as well as creating and maintaining an organisationally "healthy" Army with solid values and positive attitudes. The second Pillar of Performance Enhancement reflects many of the human factor elements of military performance and capability, including increasing performance outcomes of individuals, teams and people-technology interfaces. The third Pillar of Psychological Health and Readiness is associated with both the assessment and assistance provided to troops and their families for poor mental health and psychiatric disorders, and with the psychological screening processes completed after deployment and after a potentially traumatic event.

This presentation will explore the Three Pillars model in detail, including its strengths and weaknesses, and how it is applied to both the Australian Army and the ADF both on operations and within garrison. Considerations to future challenges to the model will also be discussed.

Biographies

Lieutenant Colonel Kylie Tuppin currently serves as a psychologist in the Australian Army. Throughout her

career she has worked in recruitment and selection, training, clinical assessment, counselling, service delivery management, career management, and more recently in strategic health and personnel policy. She has deployed in support of military operations to Afghanistan, Iraq, East Timor and Bougainville. Kylie holds a Masters Degrees in Clinical Psychology and War & Psychiatry, and is a PhD candidate in Organisational Psychology.

COL Laura Sinclair is the Head of Australian Army Psychology Corps. COL Laura Sinclair is a psychologist, Monash University Masters graduate and has a broad range of Army experience ranging from aviation human factors through to command and control of health facilities. She is currently completing a PhD in Adaptive Decision Making with the University of New South Wales. Her operational experience is extensive with twelve operational tours that have taken her to the Solomon Islands, Iraq, Afghanistan and Antarctica. She is the recipient of the Conspicuous Service Cross (CSC) for command and leadership of Joint Health Unit North Queensland.

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The Way Back Support Service - A New Suicide Prevention Program Engaging People Following a Suicide Attempt

Mr David Petersen¹

¹ Beyondblue

Abstract

Beyondblue is implementing The Way Back Support Service (The Way Back), for the ex-serving Australian Defence Force (ADF) community, which is designed to support continuity of care by providing non-clinical, assertive outreach, follow-up care and practical support to individuals directly after a suicide attempt or suicidal crisis.

The Way Back is currently operating in 7 locations across Australia and has supported over 1700 Australians during a time of immense vulnerability. The 2018 Federal budget, the Commonwealth provided \$37.5 million to expand the implementation of The Way Back, nationwide.

The Commonwealth Department of Veterans Affairs has also provided funding to improve the care and

support available to vulnerable veterans experiencing mental health concerns - entitled: The Veteran Suicide Prevention Pilot.

The pilot, will assess the benefits of providing intensive non-clinical support services to ex-serving Australian Defence Force (ADF) clients with severe and complex needs following their discharge from a hospital.

The pilot is designed to demonstrate the effectiveness of the existing beyondblue service, The Way Back, adapted to the needs of ex-serving ADF personnel in reducing suicidal behaviour.

The aim of this Project is to evaluate the effectiveness of The Way Back model for the needs of ex-serving ADF personnel, - in reducing suicidal behaviour amongst ex-ADF personnel without duplicating existing services and build solid evidence to inform the potential for national implementation.

The objectives of the Pilot are to design, develop, implement and trial the targeted approach to ex-serving ADF personnel to ensure it:

- Engages participation in The Way Back with a focus on men (without excluding other population groups);
- Supports an individual to stay safe and connect with essential services during a period of high risk and vulnerability;
- Reduces the burden on supporting networks including family and carers;
- Works collaboratively with existing services/organisations and complements current service offering by supporting attendance and by reducing the burden for follow-up care and support;
- Provides a service for a currently unmet need in the community;
- Is a suitable model and can provide evidence to support further roll-out nationwide.

Beyondblue will commence service delivery in July 2018 in the Brisbane region with a trial completion date in mid-2020.

This presentation is intended to provide awareness to the Australasian Military Medicine Association and its members on The Way Back. A subsequent presentation will report back to the AMMA and its members in 2020 on the outcomes of the Veteran Suicide Prevention Pilot.

Biography

David served for 11 years in the Australian Regular Army. Following graduation from the Royal Military

College - Duntroon, David completed numerous postings across Australia and the United States as an Artillery Officer.

David is a veteran of Australia's longest running military campaign in Afghanistan (2012) and has been awarded the Australian Active Service Medal (International Coalition Against Terrorism), Afghanistan Campaign Medal, Australian Defence Medal, North Atlantic Organisation Medal (ISAF) and the Army Combat Badge.

David was medically discharged from the ADF in 2017.

David now works with *beyondblue* as a Project Manager for a national suicide prevention service called 'The Way Back'.

David is the Vice President of the Camberwell City RSL and is a strategic advisor to the disaster response organisation -Team Rubicon Australia.

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There's an App for That!

Dr Helen Mooney¹, Mrs Heather Sheridan, Dr Felicity Williams

¹ Joint Health Command

Abstract

Healthcare today is a bonanza for the up and coming app designer. At last count there were huge numbers of health apps available on digital platforms and patients continually surprise their healthcare clinicians with a new app each visit. These can be very beneficial-Defence has a number of apps to encourage good self care with mental health- but they can also be very challenging, especially where the advice from the app clashes with well known medical and health wisdom. Early on, the doctor had to deal only with learned patients who may have brought books with them to question with. This then gradually changed over time to every GP nightmare of "Google says I have this condition" accompanied with the obligatory 25 page printout that the patients kindly provided to the doctor/clinician to read to "update their knowledge". This has now been well and truly superseded by the rise of the health app, with many of these becoming an integral part of a consultation. From Fitbit to Health Monitoring and everywhere in between, we want to look at how much

is known about some of the popular apps, whether there is an evidence base for them, and how can they be used for good not evil.

Healthcare today has a very different look to that of the early 20th century. We want to take a look at the role health apps play and how this can be viewed and influenced to become a positive evolutionary step.

Biography

Dr Helen Mooney is the Regional Medical Advisor for SNSW in JHC. She is a practicing GP having spent time working in civilian and military general practice.

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Time for a Little 'SALTT'? The 'Sea, Air, Land Treatment and Transport' (SALTT) Team Initiative

WGCDR Dr David Cooksley¹, LTCOL Dr Ben Butson²

¹ RAAF, ²ADF MSP

Abstract

The 'Sea, Air, Land Treatment and Transport' (SALTT) team concept has been proposed as a potential solution to the current ADF inability to provide safe and effective Forward and (non-fixed-wing) Tactical patient critical care and transport. The SALTT model would be particularly suited for the amphibious environment and comprise three-person tri-Service multi-disciplinary critical care teams. These teams would be equipped and trained to work in the non-permissive Forward and Tactical spaces via any transport platform - sea, air or land. This presentation will detail how and why the SALTT team concept arose and outline the current work underway to select, equip, train and deploy four SALTT teams as a concept demonstration on Exercise Talisman Sabre 19.

Biography

WGCDR (Dr) David Cooksley is an experienced emergency and retrieval physician. He has extensive training and experience in pre-hospital and retrieval medicine including with the Royal London Hospital Helicopter Emergency Medical Service (HEMS) and several Australian retrieval services. He has successfully completed the USAF 'Critical Care

Aeromedical Transport Team' (CCATT) initial training, UK military 'Medical Emergency Response Team' (MERT) training and is the Air Force Principal 'Military Critical Care Aeromedical Transport Team' (MCAT) instructor. He recently completed, with distinction, a Master of Trauma Science (Military and Austere) at Queen Mary University, London. His current military interests include Forward and Tactical critical care patient transport, and Military Working Dog emergency care and transport.

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To Each Her Own – Optimisation of Skills in Aeromedical Assessment of Military Aviators

A/Prof Pooshan Navathe¹ GP CAPT Nader

Abou Seif¹

¹ RAAF

Abstract

Military aircrew represent some of the nation's most expensive assets, because becoming a skilled military aviator requires training and experience. Experience takes time; time brings not only experience but also age – and age is sometimes expressed as morbidity. How do we ensure that we make the best assessments to ensure that we make a balanced aeromedical decision for these aviators? Should we ask the consultant clinician? We could, but we would lose out on the aeromedical knowledge. Should we ask an AVMO? We could, but with some exceptions, they would not have the depth of the clinical knowledge. Can CASA help with its policies? It could, but CASA has no interest in the long term well being of the aviator – its remit is the safety of air navigation, with the 'end date' of their interest being the expiry of the medical certificate. What is needed is the ability to get all these inputs and arrive at a nuanced opinion that respects all these sometimes competing priorities. The authors propose a mechanism and a framework by which appropriate and reasonable decisions can be made – decisions that balance the interests of the organisation, the aviator, and of society.

Biography

Associate Professor Pooshan Navathe is and has been a practising clinician specialising in occupational and aviation medicine for many years, and is internationally respected as a thought leader in evidence based aeromedical decision making. He continues to maintain his clinical currency, even as he works as the Director Medical Services for the Maitland and Lower Hunter Hospitals and as the Deputy Clinical Director Aviation Medicine with the RAAF specialist reserves. He describes his role as that of a Senior Staff Specialist in safety, quality, and system integrity. Pooshan's special interests are safety and governance, the education and mentoring of health professionals, implementing change, and enabling colleagues to attain professional excellence in their practice.

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Pooshan Navathe

Training Army Medical Officers - An Infantryman's Perspective

Captain (Dr) Robert Worswick¹

¹ 1st Close Health Battalion

Abstract

The aim of this presentation is to review the current training paradigm for ADF medical officers, with a specific focus on the training of Army medical officers. The paper will discuss the shortfalls in the current approach to training and propose solutions that will enhance the medical officer capability, and ultimately enable Army (and other ADF) medical officers to provide better medical care to ADF personnel.

Biography

Captain Worswick is an Army medical officer currently serving with the 1st Close Health Battalion in Townsville. He served as an infantry officer for a number of years before completing his medical training.

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Unveiling the Blind Spot: Applying Machine-Learning Techniques to Explore Health Symptoms Associated with Posttraumatic Stress Disorder in Australian Defence Force Personnel

Ms Kristin Graham

Abstract

Aims: Posttraumatic stress disorder (PTSD) is often associated with a range of somatic symptoms; however, the mechanisms of association are not fully understood. Identifying clusters of health symptoms as they occur in individuals may offer insights to the pathophysiologic mechanisms involved in PTSD. The aim of this research was to use advanced machine learning techniques to examine self-reported health symptoms to describe clusters of individuals with increased rates of PTSD.

Methods: Data were from a cross-sectional study of Australian Defence Force personnel who deployed to the Middle East Area of Operations between 2001 and 2009 (n = 14032). A health symptom checklist of 67 items was used in a multistage strategy utilising an unsupervised machine learning (ML) technique.

Results: Based on a health symptom checklist of 67-scaled items two clusters were identified. Cluster 1 was small including approximately 3% of the sample. The two clusters could be differentiated by number of symptoms, symptom severity, and posttraumatic stress list score. Specifically, individuals in the small cluster had higher health symptom count, increased severity of symptoms, and higher PCL scores.

Conclusion: The application of machine learning consistently identified health symptoms clusters associated with PTSD in defence force personnel. The symptom characteristics identified may help in the early recognition of veterans with PTSD and early intervention strategies.

Biography

Kristin Graham has over 20 years' experience as a clinical podiatrist. She returned to study and completed a Bachelor of Psychological Science (Honours), and is currently a PhD candidate at the Centre for Traumatic Stress Studies conducting research regarding the associations between war-related trauma exposure and the physical and mental health of veterans'.

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Kristin Graham

Use of Health Services by Veterans with Chronic Opioid Use

Dr Anna Moffat¹, Dr Lisa Kalisch¹, A/Prof Nicole Pratt¹, Ms Mhairi Kerr¹, Professor Elizabeth Roughead¹

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Abstract

Background and aims. Chronic pain is common in veteran populations, with 50 to 70% of general medical patients within the US Veterans Affairs suffering from chronic pain. Pain medicine use is common in the Australian veteran population with just over half of the veteran population having a claim for a pain medicine in the calendar year. Pain medicine use includes opioids which are frequently used for chronic pain, despite a lack of clear evidence supporting long term use. Long term use of opioids is associated with a number of adverse effects and can lead to psychological and physical dependence, abuse, tolerance, diversion and overdose.

Guidelines for the treatment of chronic non-cancer pain recommend the use of allied health services such as physiotherapy, consultations with a specialist in pain, and psychological or psychiatric services as part of a multimodal pain rehabilitation plan. Despite these recommendations a previous Australian study found that management of pain with medication alone is more common than multimodal treatments. Initiating non-pharmacological treatments in the earliest stage of chronic pain is likely to reduce reliance on opioid treatments and improve functioning more effectively than if initiated later. This study compared uptake of services that may be beneficial for the treatment of pain in veterans. Three groups were compared: new opioid users who stopped within 90 days, new opioid users who became chronic users, and prevalent chronic opioid users.

Methods: Data for this study were sourced from the Australian Government Department of Veterans' Affairs (DVA) administrative claims database. The study included DVA gold card holders aged between 25 and 54 years at 1st July 2016 (study start date). New users of opioids were veterans who were dispensed opioids between 1st July 2016 and 30th June 2017 and had not been dispensed opioids in the previous two years. These veterans were stratified by those who become chronic users (i.e. received 90 days' continuous supply from the day of first initiating therapy) and those who stopped within 90 days. A prevalent opioid user group was defined by selecting all persons who had 90 continuous days of opioid use

at study entry. Health service use was determined as the proportion who claimed for the following services in the 90 days following opioid initiation or study start date: physiotherapy, exercise physiology, psychology, and pain specialist consultations. Use of oral non-steroidal anti-inflammatory drugs (NSAIDs) and paracetamol were assessed.

Results: A total of 1479 veterans were included in the study. Of these, 419 were chronic opioid users at study entry. Of the remaining 1060 who initiated opioids in the study period, 63 (6%) had a chronic episode and the remaining 997 (94%) stopped within 90 days. More than half of the newly chronic users had a physiotherapist claim (52%) compared to 33% of prevalent chronic opioid users and 38% and initiators who stopped. In both chronic groups, claims for a psychologist consultation were made by less than 19% of veterans. Exercise physiology and pain specialist consultations were claimed by 11% and 16% of prevalent chronic users, and 16% and 18% of newly chronic users,. This was higher than in opioid initiators who stopped (9 and 4%, respectively).

Conclusions. Six percent of veterans who initiated opioids had a chronic episode within twelve months. Newly chronic users were more likely to make claims for health services that may be beneficial in treating pain than prevalent chronic users. Results suggest that multimodal approach may be under-utilised to treat chronic pain in veterans.

Biography

Dr Anna Moffat has a background in psychology and a career that has focused on projects that partner service delivery and research to improve health outcomes. She has been working with the Veterans' Medicines Advice and Therapeutics Education Services (Veterans' MATES) program at the University of South Australia for over two years.

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Virtual Reality (VR) Simulation Training for ADF Medical Personnel: Simulating Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA)

Capt Abhilash P. Chandra¹, Mr Steve Cook¹, A/ Prof Edward Palmer¹

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Abstract

Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) is a life-saving, temporising procedure for (combat) casualties with haemorrhage from non-compressible abdominal or pelvic injuries. It involves insertion and inflation of an endovascular balloon into the aorta (via the common femoral artery) for initial patient stabilisation in the pre-hospital battle phase, and subsequent transfer to a Role 2E or Role 3 facility for definitive surgical treatment.

Artificial Environment Simulations (AES) are very useful in training life- and limb-saving procedures. A team has been put together at the University of Adelaide to develop Virtual Reality and Mixed Reality AES for REBOA-training as a proof-of-concept prototype.

The advantages of developing AES for REBOA training include:

- Cost – Endovascular balloons are single-use, and expensive.
- Enhanced simulated 'individual' and 'team' training.
- 'Real' environment training – multiple environment simulations for targeted training pre-deployment.
- Ability to 'gamify' with AES (patient survival directly related to time-to-inflation of balloon within aorta).
- Only a small number of variables are required for REBOA simulation development.

Currently, our team take surface geometric images of 3D real objects, and then use photogrammetry to generate 3D rendered images. These 'objects' are imported into HTC Vive and Microsoft HoloLens game engines within different artificial environments. They can be manipulated within an AES, which simulates visual, audio, and tactile stimuli. Once a REBOA-training AES has been developed, it will be expanded to develop other AES for other procedures within the Tactical Combat Casualty Care Guidelines and Role 2/3 facilities.

Biography

Dr Chandra is a General and Vascular Surgeon, and has a special interest in Trauma Surgery. His clinical practice is based in Adelaide, and spends one week per month at Royal Darwin Hospital in Darwin. He is a Captain in the Australian Army.

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Where is Army Now? A Command Reflection on Modernisation of Close Health Capabilities in Army

LTCOL Elisabeth Barnett¹

1 Australian Army - Department of Defence

Abstract

This presentation will review the evolution of the Australian Army Field Ambulances and the legacy links to contemporary Close Health Companies of the 1st Close Health Battalion (1 CHB). Discussion will focus on elements of function, capabilities, service and application in combat health and provide a command assessment of close health capability in advance of review in 2019.

Background. Australian Army health units have existed in the Australian Army since the formal inception of Field Ambulances. While adapted from the traditional British model, the Australian Army Medical Corps (AAMC) raised several units in 1914 in support of Australian Citizen Military Forces (CMF) and the Australian Imperial Forces (AIF) when Australia entered WWI. Early Field Ambulances were formed aligned with Brigades and Units. Field Ambulances were raised and demobilised numerous times according to military and service requirements in times of conflict. The 11th Field Ambulance was formed in Mitcham South Australia in 1916 in support of the 3rd Division AIF. It has legacy links to the 11st Close Health Company (11 CHC) based in Enoggera, Queensland. The 8th Field Ambulance was formed initially in 1916 as part of the 5th Division, 8th Brigade it now has links to the 8 Close Health Company (8 CHC). The 2nd Field Ambulance was raised in Puckapunyal in 1917 and has links to Townsville based 2 Close Health Company (2 CHC). Army Health is expected to review current structures in 2019 and seek to inform best support to Army and future modernisation out to 2030.

Discussion. A key focus in combat health care is the provision of timely, appropriate and effective patient care within the trauma system. By doing so, increases survivability, rehabilitation and recovery. Effective pre-deployment prevention, point of injury care, response and rapid evacuation are tenets which have directly influenced close health organisation structures and health capabilities. Lessons applicable from WW1 to contemporary conflicts are still recognised today. Education and training of military personnel in all-corps skills, Tactical Combat Casualty Care (TCCC) principles, Care of the Battle Casualty (CBC), health planning considerations and application of rapid evacuation methods have evolved to support enhanced care outcomes.

The Health Force Modernisation Review (Health FMR) in 2011 centralised integral and close health capabilities. Has the intent of this review been successful? As a health commander, what are some of benefits and challenges resulting? What are key suggestions and considerations recommended for future modernisation?

Biography

LTCOL Barnett is an Australian Army General Service Officer in the Royal Australian Army Medical Corps (RAAMC). She has served in a range of health, logistics and staff appointments. These have included platoon, company and unit command. She has operational service in Timor-Leste, Iraq and Afghanistan. LTCOL Barnett holds a Bachelor of Arts, Masters in Military Studies and a Masters in International Health Management. LTCOL Barnett was a recipient of a Conspicuous Service Medal in the 2016 Australia Day Honours List. LTCOL Barnett is the current Commanding Officer of the 1st Close Health Battalion (1 CHB)

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Where to from Here? Implications of the Mental Health Prevalence and Pathways to Care Report Findings for DVA and Defence

Dr Stephanie Hodson¹, Mr David Morton²

1 Department of Veterans' Affairs, 2Department of Defence

Abstract

The final presentation in this symposium will discuss the implications of the findings outlined in the initial presentations for service provision and policy within DVA and Defence as well as potential strategies that can be used to better aid service personnel while in service and throughout the transition process. An overview of the broad range of mental health programs and initiatives currently underway in Veterans and Veterans Counselling Service (VVCS), Defence and DVA addressing psychological distress, PTSD, substance abuse and suicidality will be provided. This will be followed by a discussion of suggested strategies to improve engagement rates, retention and delivery of best practice mental health care at each contact point that will be acceptable to current and ex-serving ADF members.

Biography

DR Stephanie Hodson, CSC works for the Department of Veterans' Affairs as the National Manager of the Veteran and Veteran Families Counselling Service. She has worked for 25 years in the area of mental health and is herself an Australian Defence Force veteran. Dr Hodson graduated from James Cook University in Townsville in 1990 with a Bachelor of Psychology (Honours) and joined the Army in August 1991. As an Army Psychology Officer, she worked with Defence members in clinical, research and organisational health roles both in Australia and on operational deployment. In 2002, Dr Hodson completed her doctoral studies investigating the longitudinal psychological effects of operational deployment to Rwanda. While in the Army she had the opportunity to command the operational psychology assets, deploying herself to both the Middle East and Timor Leste. For her work in this role she was awarded the Conspicuous Service Cross. Dr Hodson has a significant research background. She is currently an investigator on a number of studies including the Transition and Wellbeing Research Program, the Stepping Out: Attention Reset Trial and the RESTORE intensive exposure Trial. Additionally, she was co-principle investigator for the 2010 ADF Mental Health Prevalence and Wellbeing Prevalence Study.

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Will it or Won't it? Spartan Proof of Concept: Tactical Aeromedical Evacuation on Cope North 2018

SGT Fahren Birrer¹

1 Royal Australian Air Force

Abstract

Situated in the Micronesian region of the Pacific Ocean, the US Territory of Guam hosts an annual multi-national military coalition exercise, Exercise Cope North (CN18). Displays of Air Power dominate the airspace with concurrent activities connecting field training exercises and Humanitarian Aid and Disaster Relief (HADR) activities. Each year CN alters its focus; this year the exercise scenario saw a small island off the coast of Guam experience a magnitude 5.6 earthquake. Intelligence suggested a semi-permissive environment with damage to water and sewage infrastructure, contamination of water supplies, disease outbreak and other major health concerns.

CN18 was the first opportunity for the RAAF C27J Spartan to test its AME capability in a prolonged 'real-time' scenario. HADR components of CN18 tested the airframe, aircrew, AME team and equipment. The known inherent space and weight limitations of the airframe required constant tailoring of the AME equipment to ensure adequate support of the patient load and clinical requirements were met. The prolonged trial reinforced the knowledge that the size restrictions of the airframe increased stressors of flight and fatigue for AME team members. CN18 saw the AME team exposed to regular tactical flying and engine running on-loads/offloads. This resulted in the AME teams quickly becoming efficient in the loading and unloading of patients whilst adhering to restricted flight times. CN18 allowed for a multi-mission AME scenario, proving a successful test of this capability in the HADR environment.

Not only did CN18 see the C27J in action, it also provided a trilateral learning environment and training experience for RAAF, USAF and Japanese Air Self-Defence Force (JASDF) clinicians to review and gain a working knowledge of each nation's individual AME processes and treatment protocols. The RAAF

AME team had the opportunity to display and train with our CN18 partners on our new tactical airframe, demonstrating its effectiveness in HADR and intra-theatre AME tasking's.

Biography

Growing up, Sergeant Fahrney Birrer saw the challenges, friendships and life experiences the RAAF offered serving personnel, and this encouraged her to enlist at the age of 18 as a Medical Assistant. Sergeant Birrer has spent the majority of her Air Force career within Expeditionary Health at RAAF Bases Richmond, Townsville and Amberley. During her posting to 1 Expeditionary Health Squadron Amberley, she was assigned to the RAAF Security and Fire School where she worked autonomously as the unit medic, enabling and facilitating the training needs of the School. Sergeant Birrer is currently posted to No. 3 Aeromedical Evacuation Squadron at Richmond.

Her time in the Air Force has seen her deploy in support of various ADF exercises and operations including to the Middle East Regions (MER) and Malaysia. In December 2017, Sergeant Birrer completed her undergraduate studies in Bachelor of Paramedic Practice.

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The Journal of Military and Veteran's Health is a peer reviewed quarterly publication published by the Australasian Military Medicine Association. The JMVH Editorial Board has identified the following themes and deadlines for future editions:

ISSUE DATES AND DEADLINES

Volume	No	Issue Date	Submission Deadline	Advertising Deadline
January 2019 - 100 Years On – Repatriation				
27	1	January 2019	1 October 2018	1 December 2018
April 2019 – 100 Years On – Recovery				
27	2	April 2019	1 January 2019	1 March 2019
July 2019 – 100 Years On – Rehabilitation				
27	3	July 2019	1 April 2019	1 June 2019
October 2019 – Conference Abstracts				
27	4	October 2019	As per AMMA Conference Submission Process	1 September 2019

The Editor would be delighted to receive articles for consideration on these themes. However, please note that although these are the suggested themes, we encourage authors to continue to submit articles on a range of topics on military medicine and veterans' health including operational articles.

Categories for the above include: Original Research/Original Articles, Short Communication, Review Articles, Reprinted Articles, Case Studies, Abstracts from the Literature, Biographies, History, Book Reviews, Commentary and View from the Front.

Please submit via the JMVH website www.jmvh.org just click the 'Submit your article' button on the home page. Ensure you read the 'Instructions to Authors' that can also be found on the JMVH website by clicking on the 'AUTHORS' tab.

Should you have any queries in relation to submitting to JMVH, please do not hesitate to contact JMVH Editorial Office on +61 3 6234 7844 or editorial@jmvh.org



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