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A review of United Kingdom Armed Forces' approaches to prevent post-deployment mental health problems

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Abstract

There is now an abundance of research which has demonstrated that military personnel who deploy on operations are at increased risk of suffering a variety of mental health difficulties in the immediate and long-term post-deployment period. One consequence of these research findings has been the development of a variety of programmes which attempt to mitigate the increased psychological risk and to assist personnel who are returning from a deployment to make a smooth transition home. Using a three-tiered prevention model, this article reviews some of the key post-deployment issues facing the UK Armed Forces and highlights the recent interventions which have been put in place to promote successful adjustment in the early post-deployment period. The paper is based upon research identified through a thorough literature search for studies which focused on this area and included a recognized measure of mental health as an outcome. The paper focuses on three main areas; psychological decompression, psycho-education and screening. The current philosophical approaches to post-deployment mental health problems of some of the UK's coalition partners are also discussed.

Introduction

In the last 10 years, an international coalition of armed forces (AF) has committed considerable numbers of their personnel to high threat deployments in Afghanistan and Iraq. These deployments have been characterized by varying degrees of operational stress ranging from often intense combat exposure, long periods of separation, austere living environments and substantial rates of death and injury. The psychological impact of such deployments, much of which is concentrated in combat troops, has been widely researched and reported (Hotopf *et al.*, 2006). In a recent US post-deployment military study, rates of post-traumatic stress disorder (PTSD) or depression ranged from 8.5% to 31.1%, dependent on the classification criteria used, with alcohol misuse or aggressive behaviour occurring in approximately half of all the cases surveyed (Thomas *et al.*, 2010). UK studies report a much lower prevalence of both common mental disorders and PTSD than that found in US forces; however, UK troops are prone to alcohol misuse which is especially problematic in troops who have recently deployed or who undertook combat duties whilst deployed. Furthermore, UK AF reservists who deployed have been identified as being at increased risk of suffering from PTSD (Fear *et al.*, 2010).

In an attempt to mitigate psychological problems post-deployment, several nations are developing post-operational stress management (POSM) policies which mandate that troops who are returning home from deployments have to pass through a number of stages before they can 'return to normal duties'. The various POSM stages often include elements that aim to ease the transition home and to be preventative in nature through the provision of psycho-educational interventions. Many nations, including the USA, Canada and Australia conduct mandatory mental health screening which aims to ensure the early identification of illness (Dunt, 2009; National Defence and Canadian Forces Ombudsman, 2004, Warner, 2007). Whilst the UK does not currently make use of a post-deployment screening programme, a recent governmental paper, which examined the mental health support available for service personnel and veterans, recommended that a trial of screening be undertaken (Murrison, 2010).

Whilst the aims of POSM are generally accepted, that is to ease service personnel's transition home

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and to preserve their well-being, the various coalition nations operationalize the POSM process in quite different ways. US approaches tend to conceptualize POSM as a three-stage process: redeployment home, post-deployment and reconstitution, whereas the UK and Canadian approach favours four post-deployment stages, the first three are very similar to the US model and take up to three months to complete. Irrespective of how POSM is delivered, the process aims to prevent psychological ill health at three levels (Wallace, 2002). Primary prevention consists of those activities which aim to prevent disorder or potential negative behavioural consequences of deployment such as increased aggression and risk taking (Fear *et al.*, 2008). Secondary prevention relates to the early detection of personnel showing signs of incipient mental health problems so that early action can be taken to try to mitigate longer-term problems such as the development of formal illness. For the USA, Canada and Australia this takes the form of a screening programme (Rona *et al.*, 2005), which is enthusiastically supported by some (Seal *et al.*, 2008), whereas others urge caution in implementing such a venture (Rona, 2008). The UK favours raising organizational awareness of mental health problems and relying on early detection by commanders and peers as well as trying to reduce the stigma which prevents some personnel from seeking help themselves. Tertiary prevention relates to the treatment of established ill health and the prevention of long-term disability. Although the prevalence rates of mental health problems in troops who have recently returned home from deployment vary considerably, the evidence consistently shows that the vast majority of service personnel do not suffer mental ill health as a result of their deployment experiences. This paper aims to explore whether POSM processes might contribute to the apparent resilience of coalition troops through reviewing the various prevention strategies currently in use by coalition nations.

Method

Articles were identified through performing searches of various bibliographic databases including Ovid MEDLINE® (1950–Oct 2010), PsycINFO (2002–Nov 2010), PsycARTICLES, Embase (1947–Nov 2010) and National Centre for Biotechnology Information. Searches included the keywords 'military personnel' and 'post-deployment', combined with: 'decompression', 'recovery', 'Battlemind', 'Mental health support', 'adjustment', 'redeployment' and 'homecoming', resulting in a total of 43 articles. A total of 27 articles were deemed to be either possibly relevant or directly relevant to the search criteria. Articles were included in the review if they were a randomized controlled study (RCT), a systematic review, meta-analysis or included a sample size of 140 or more subjects (the size of the average military sub-unit grouping). Articles related to peacekeeping and humanitarian operations as well as recent combat deployments were considered for inclusion. Studies were also included if they featured a valid and recognized outcome measure of mental health. Papers accepted for publication by investigators known to be researching issues relevant to this area were also considered, however case studies were not. The search was limited to papers under seven years old in order to ensure that they would coincide with the start of UK and US deployments to Iraq and increased levels of operational activity in Afghanistan. Papers were limited to English language only but not to Anglophone countries. Where possible, the current post-deployment mental health policies or philosophies of these nations were also compared. This resulted in a final total of 22 articles being included in the review.

Primary prevention interventions

The main primary prevention strategies identified from the literature search were decompression and psycho-educational interventions.

Decompression

In the immediate post-deployment period, the UK and Canadian militaries ensure that their personnel spend a short period of time in a third location, neither in theatre nor at home, where they can begin to unwind; this stopover is called decompression. As of June 2010, the French Armed Forces have developed a programme similar to that of the UK (Mouterde, 2010). Both the US and Australian forces are currently in the process of considering whether to invest in a decompression programme. The primary aim of decompression is to begin the process of transition to the home environment. Although no common multinational definition exists, there are some essential common elements to decompression (Hacker Hughes *et al.*, 2008). These include allowing personnel, particularly in formed units, to unwind together in a structured but informal way in order to encourage mutual support in a safe location. Furthermore, the various nations agree that decompression should be carried out in a location which is environmentally superior to the living conditions they experienced during deployment. Decompression is generally conducted in a location other than the operational theatre (a third location), but could be carried out in a home base location in some circumstances. The US currently has provisional plans to consider implementing and assessing decompression but does not currently

deliver it (US Army Medical Research Unit-Europe, 2010). Decompression is now an integral part of transitioning from operations, and the UK has published an in-depth evaluation of subjective utility (Jones *et al.*, 2010a), but as yet the impact of decompression on the long-term mental health of service personnel has not been systematically evaluated.

The Canadian decompression process currently takes place over five days in Cyprus. The five-day duration was determined from survey data obtained following an Afghanistan deployment in 2003 (National Defence and Canadian Forces Ombudsman, 2004). Canadian troops utilize a hotel, in contrast to the UK decompression process which lasts for 36 hours and takes place in a prepared British military facility, also in Cyprus. Currently, the ideal duration for a decompression process is not evidence-based but is instead based upon what military forces consider to be an acceptable period of time over which decompression activities can be carried out without appearing to excessively prolong the homecoming process. However, it is notable that in the UK study, the 36 hour duration was reported as optimal by the overwhelming majority of respondents. One potentially important consideration for any decompression process is ensuring that troops are told clearly that the decompression stopover is part of their operational tour and not addition to the tour. Should personnel consider that decompression prolonged their tour this could have a negative impact on health and well-being (Buckman *et al.*, 2010). Within the UK AF, decompression is now seen as an integral part of the deployment rather than an 'added extra'. Quite apart from questions about delivery and efficacy, military thinking about decompression also is mixed. Some commanders have considered that decompression should be reserved only for troops who have experienced intense combat exposure and aversive operational events. However, current UK senior commanders consider decompression should be a routine part of all operational tours whether or not personnel are in formed units or have experienced intense combat. Rigorous trials of decompression should be conducted to assess its effectiveness; however, as Jones *et al.* (2010a) point out, carrying out a comparison group trial, ideally a randomized controlled trial, would be contentious for those nations who routinely use decompression, as such a trial would require withholding decompression from some troops to form a control group. Whilst doing so would make good scientific sense, it is unlikely to be favoured by military commanders who, quite rightly, concern themselves with questions of welfare. These commanders are likely to view withholding an intervention they consider being useful, even in the absence of evidence, as unacceptable.

In the absence of high quality trials, studies such as the Jones *et al.* (2010a) study which examined the subjective utility of the decompression process may provide some, albeit low quality evidence. Jones and colleagues surveyed 11,304 troops who had just completed decompression in Cyprus after having deployed either to Iraq or Afghanistan. The results of the survey suggested that whilst the majority (approximately 80%) of respondents had not wished to attend decompression before arriving in Cyprus, on completion more than 90% of troops had found it useful. However, some troops found the process less helpful, including those who had been through the process before and non-commissioned officers; the latter perhaps because they were not able to properly unwind as they were still in charge of the more numerous junior troops they commanded. The Jones *et al.* research also found that those who reported the most adjustment concerns (such as about re-establishing relationships or settling down to 'normal life') were the most likely to find decompression helpful.

In summary, although decompression is a process that many nations use, and others are considering doing so, there is a lack of any high quality evidence which is able to identify whether the process actually prevents mental health problems. Whilst what evidence is available suggests that troops find it beneficial, unless high quality trials are undertaken it is difficult to be confident who might benefit from decompression and what the optimal format for a decompression process might be.

Post-deployment mental health education and prevention activities

Peer or unit led psycho-educational interventions are widely used in the AF (Adler *et al.*, 2008). They are often perceived as a tool for preventing the negative effects of deployment and improving the quality of the homecoming process. The delivery of psycho-educational interventions is normally mandated by policy and often aims to cover many different potentially useful topics including, but not limited to, normal deployment stress, depression, PTSD, alcohol use, relationships and describing techniques to cope with post-deployment problems. In a recent review of the literature about military psycho-education (Mulligan, *et al.*, 2010b) the authors note that few educational briefs have been robustly evaluated in randomized controlled trials. Some psycho-educational interventions are associated with small but inconsistent positive benefits. The review explored psychological debriefing, which often has an educational component, and also the use of trauma risk management (TRiM) a UK-developed peer-delivered model of assessment which contains elements of psycho-education (Greenberg

et al., 2010). Whilst not intended solely as a post-deployment intervention, TRiM has the advantage of engaging with personnel immediately post-exposure and also four weeks and three months later to ensure that problems are identified and managed early. TRiM has an option to conduct a psychological briefing session that can be delivered as an alternative to face-to-face intervention. In a recent survey of TRiM, Royal Marines and Army personnel completed measures of general mental health and were surveyed prior to, during and upon return from an operational deployment to Afghanistan (Frappell-Cooke *et al.*, 2010). In that study there was some evidence that the use of TRiM may have been associated with increased psychological resilience and that it may have helped to reduce stigma through the facilitation of social support and education about symptoms, although it is unclear which element of TRiM was responsible for this outcome.

The US Army has developed a system of training known as Battlemind (2010), which has a post-deployment element comprised of a series of educational briefs delivered at the redeployment phase. In 2007, the Battlemind training system was mandated US Army-wide (Adler, 2009). It is a cognitive and skills-based group approach which seeks to normalize reactions to operational stress, build resilience, promote self-recognition of psychological problems and help-seeking and identifying difficulties in others. Battlemind training focuses on 10 'soldier skills' or strengths which are crucial in the combat environment but that must be adapted and transitioned to successfully re-enter the home environment. The efficacy of Battlemind as a post-deployment intervention has been evaluated in a cluster randomized comparison trial assessing the efficacy of two different post-deployment modules, Battlemind training and Battlemind debriefing (Adler *et al.*, 2009). A total of 2297 US soldiers were randomized by platoon to receive either stress education, small or large group Battlemind following a 12-month deployment to Iraq. A total of 1060 of the participants were followed-up and the results suggested that in those reporting higher levels of combat exposure, all of the Battlemind interventions reduced psychological symptoms compared to standard stress education; the effect sizes were all modest, however, and those reporting lower levels of combat exposure did not benefit differentially from the Battlemind interventions. The UK military has conducted an evaluation of an anglicized version of post-deployment Battlemind which was compared with the UK standard post-deployment stress and homecoming brief in a cluster-randomized controlled trial (Mulligan *et al.*, 2010a). A total of 2443 UK personnel attending decompression after undertaking a deployment in Afghanistan were randomized by company to receive either Battlemind or a standard stress and homecoming education brief. Approximately six months later, 66% of the original sample completed a follow-up survey comprising measures of PTSD, depression and alcohol use. No significant differences in mental health outcomes were found between Battlemind and the stress and homecoming brief, however, those who received Battlemind were less likely to be classified as binge drinkers than those who received the stress and homecoming brief; there was also a positive effect of the Battlemind brief on troops who had experienced high levels of combat. Given that alcohol misuse is a major concern in the UK AF, an intervention that reduces binge drinking is certainly worth developing further. Battlemind is an exemplar of an intervention that appears to have good face validity and appears more useful than standard stress education, however, when subjected to scientific evaluation, has only marginal advantages in specific personnel and mental health outcomes. Post-deployment Battlemind has now been integrated into the Canadian AF decompression programme in Cyprus; the Netherlands military has also adopted post-deployment Battlemind and the Baltic nations are currently working on 'Baltic Battlemind' for delivery both pre- and post-deployment; however, the outcome in this context has yet to be evaluated.

Other interventions such as online interactive briefing and education have been utilized in the immediate post-deployment and normalization phase. In 2008 the US Department of Defense authorized the creation of an internet-based platform focused upon common post-deployment psychological health issues (afterdeployment.org). The emphasis of the programme is upon 'pre-clinical' self-care solutions, anonymous use, interactive exercises, self-assessments, personal stories and narrator-guided workshops with the aim of establishing an online user community. Given the mobility of the military population and its reluctance to seek help for mental health problems, the anonymity provided by online self-assessment and support may be a promising venture; however, the programme developers concede that rigorous scientific evaluation of the programme is required.

Secondary prevention strategies

Post-deployment mental health screening

After the initial return home, personnel enter into a 'normalization' phase. UK, US Canadian AF and Dutch forces all conduct an in camp period of 'normalization' and 'reintegration'; the UK favours a period of 4–5 days (Ministry of Defence, 2010). The 'normalization' phase is characterized by a period of structured activity and reintegration in the home base for a formed unit, or in a demobilization area

for reserve personnel. At around this point, the US and Australian AF conduct some form of post-deployment mental health screening. A comprehensive package is delivered by the Australian Defence Force (ADF) known as the Return to Australia Psychological Screen (RtAPS), which includes briefing components, single person and group interviews, education and socializing, all of which are delivered during an in-camp decompression period, although unlike the UK and Canadian decompression this activity takes place in theatre albeit in a safe location there. This is followed up by the Post-Operational Psychological Screen (POPS) at 3–6 months as described by Dunt, (2009). However, due to a lack of professional mental health resources within the ADF and concerns that service personnel will have raised expectations that may not be met, the Dunt review of ADF Mental Health Services recommended abandoning RtAPS in favour of enhanced psycho-educational support, including a families briefing, with resources redirected to the POPS programme. It is hoped that better diagnosis of post-deployment mental health conditions and assured referral and management will result from focusing resources on later screening rather than the initial post-deployment period. The outcome of these initiatives has yet to be determined by systematic research.

Turning to the US experience of screening, there is now an accumulation of research examining screening for mental health problems in the initial post-deployment period. The US Army conducts both psychological and physical health assessments at set time periods post-deployment (Milliken *et al.*, 2007). Similarly, the ADF and Canadian military screen upon return home and then three months later. The US Department of Defense (DoD) initiated a mental and physical health assessment programme targeting the immediate reintegration period (US Department of Defense, 2006). Called the Post-Deployment Health Assessment (PDHA), it assesses traumatic stress, depression, suicidal ideation, interpersonal conflict and interpersonal aggressive feelings, as well as physical symptoms and environmental exposures. It is currently conducted within the first two weeks of reintegration. Whilst the screening process purports to have identified a significant number of personnel who may require mental health care, there is some speculation about how effective and accurate this screening is. Whilst some evidence suggests that significant increases in mental health disorders can be identified at 120 days, the optimal timing for conducting screening has not been rigorously studied or agreed upon (Bliese *et al.*, 2007). Some have argued for mental health screening in the early reintegration phases so that healthcare resources can be mobilized for individuals who are identified to be at risk. It is argued that in this form, screening may serve as an early intervention for individuals who are likely to be experiencing early mental health problems, however, this is not without complications. Bliese *et al.* (2007), argue that the immediate reintegration period represents a significant transition from deployment to home and that personnel may report a sense of relief about having returned home that may mask emerging mental health symptoms. Furthermore, personnel completing screening surveys containing personally identifiable information may suspect that high scores may result in a clinical interview, a delay in taking leave and a possible referral for mental healthcare, all of which may lead to underreporting of symptoms (McLay *et al.*, 2008).

Another issue related to the delivery of screening is the optimal time to screen. Some have voiced fears that not only may it be delivered too soon, but also too late. Hoge, Auchterlonie and Milliken (2006) examined the relationship between deployment and mental healthcare use in the first year after returning from Iraq or Afghanistan by examining the results of the US post-deployment mental health screening programme. In particular they assessed the relationship between screening results, actual use of mental health services and attrition from military service. They concluded combat duty in Iraq was associated with high utilization of mental health services and attrition from military service after deployment. Other researchers have noted the low validity of the post-deployment screening process (Nevin, 2009), and our own studies suggest that even when personnel recognize symptoms in themselves, they do not seek out and engage with treatment (Iversen *et al.*, 2010). We therefore conclude that the role of screening in facilitating access to mental healthcare in this context is unclear. In view of the conflicting opinions and outcome data associated with screening, we are about to embark on a randomized controlled trial of mental health screening in the UK AF in an attempt to evaluate the efficacy and feasibility of the process.

Tertiary prevention

The treatment of mental health problems, stigma and barriers to care

Despite efforts to prevent the negative mental health consequences of deployment through primary and secondary means, there is some suggestion that there is a significant group of UK service personnel who have mental disorders but do not seek treatment. The Iversen *et al.*, study investigated help seeking and engagement with treatment following deployment to Iraq in 2003 and found that the majority of individuals with a diagnosis of common mental disorder and probable PTSD were neither seeking nor receiving treatment. The authors also found evidence to

suggest that a proportion of individuals with mental ill health failed to recognize their own need for treatment. A similar finding has also been noted in US personnel (Hoge *et al.*, 2004) where military personnel reported mental health symptoms but low motivation to seek out care. During mental health screening, many individuals reported significant symptoms yet few requested to speak with a counsellor. In part, this reluctance was thought to reflect concerns about stigma about mental health or a lack of trust in those providing clinical support, which has also been identified in UK studies (French *et al.*, 2004). While there is a lack of empirical evidence on how to reduce stigma and promote treatment seeking, changes to organizational policies, assessment strategies and active early outreach services have the potential to be effective but are a long-term venture given the torpor associated with organizational attitudinal change; however, there is some evidence that this may be worthwhile in both TRiM studies cited earlier in this paper. In the TRiM cluster RCT, Greenberg *et al.* (2010) reported a reduced rate of military offending, an important barometer of unit functioning, in those units in receipt of TRiM training, and Frappell-Cooke *et al.* (2010) also suggest a possible positive effect for TRiM.

Many studies suggest that there are many mental health consequences other than PTSD associated with military deployment. The literature on post-deployment mental health examined in this paper suggests that detecting and managing troublesome relationships, reducing stigma, promoting inclusion and social support, managing alcohol misuse, treating depression and reducing post-deployment risky behaviour are all important. Kilgore *et al.*, (2008) collected survey data about the combat experiences of 1252 US Army soldiers at redeployment followed by a second survey three months later which included administering the Evaluation of Risks Scale. Greater exposure to specific combat experiences (such as killing someone) was predictive of reported physical aggression toward others. The findings of this study also suggest that combat was associated with an increased propensity to engage in risky behaviour generally. As cited earlier in this paper, Fear *et al.* also found an increase in general risky behaviour post-deployment, suggesting that specific risk reduction strategies may be worthwhile. Similarly, the negative consequences of alcohol misuse on post-deployment health have been identified in virtually all of the studies examined. Several studies suggest an increase in binge drinking and symptoms of harmful drinking at three months post-deployment, and levels of alcohol misuse at greater levels than age- and gender-matched civilian comparison groups in some studies (Fear *et al.*, 2007). Much of the literature links risk taking, combat exposure and alcohol misuse and highlights the need for either the treatment of established problem drinking or addressing the cause of the misuse (Wilk *et al.*, 2010).

Post-deployment barriers to care also feature in the literature. In one of the few studies to focus on air force personnel (Visco, 2009), a survey was conducted with 200 US personnel about the prevailing attitudes to mental health, the findings of which concur with those of Hoge *et al.* (2004), Iversen *et al.* (2010) and Fear *et al.* (2010). Visco describes differences in both male and female perceptions of barriers to mental healthcare where men are twice as likely as women to report a desire for treatment but not to access it. Several perceived barriers were cited, including career concerns, confidentiality, and the desire not to relive traumatic experiences. Multiple post-deployment life stressors were also reported and were linked to relationship breakdown by the respondents. The author makes recommendations that include administering a screening and triage tool to allow for early identification and to facilitate access to mental health support. Reassessment at a later time is also suggested, particularly for personnel deployed more than once in a year. Enhanced training for primary care managers is also recommended as they are the most likely first point of contact should an individual attempt to seek treatment. The final recommendation is the instigation of telephone support post-deployment, since 34% of men in the study suggested that they would value the anonymity afforded by this method and also its convenience and the lack of perceived intimidation associated with help-seeking face to face.

It appears that stigma reduction at a unit level may be worthwhile and may help to encourage those requiring treatment to access it. In an anonymous sample of 680 US combat support soldiers (Wright *et al.*, 2009), good leadership and perceived unit cohesion were associated with reduced levels of stigma and fewer perceived barriers to care. More importantly, higher levels of good leadership and cohesion were associated with lower perceived stigma and barriers to care after adjusting for the presence of mental health problems. This seems to support the need for military commanders to positively reinforce social support to facilitate the free discussion of problems and mental health treatment seeking. Although yet to publish outcomes, Greden *et al.* (2010) describe a 'Buddy to Buddy' model of provision consisting of personnel ranging from peers to primary healthcare providers who will act as hubs for enabling mental health support and early intervention. Whilst evidence of the positive effects of cohesion, leadership and morale is increasing, this should not be considered an absolute association in even the best of units (Jones, 2006; Sundin *et al.*, 2010). Any venture which facilitates engagement in treatment is

certainly worthwhile, given that treatment is effective, particularly trauma-focused cognitive behaviour therapy in the case of trauma- or combat- related problems, especially if it is delivered early (Bisson, 2007), and service personnel should be assured that, contrary to the popular image of the difficult-to-treat combat veteran, this treatment could be highly effective and time efficient (Ehlers & Clarke, 2010).

Mental health treatment and service leavers

The literature on the veterans of the past decade of wars is growing at an exponential rate, yet whilst governments are developing measures to deal with the needs of demobilized reserves, the issue of newly discharged regular soldiers appears to receive less attention. This seems an important element of the post-deployment period given the association of mental health problems and attrition from the armed forces (Hoge *et al*., 2006). Stagg Elliott (2005) describe the difficulties physicians in the USA have in treating recently acquired physical and psychological ailments in 'new' veterans who have left military service in the year prior to presenting for treatment. The perceived lack of knowledge and awareness of a veteran's needs by the civilian family doctor is complicated by an apparent reluctance on the part of the veteran to engage with treatment which is compounded by less than robust linkages with the Veterans Affairs system (VA) (Stagg Elliott, 2005). In response to this shortcoming, the US Department of Defense now treats recently discharged personnel for 3–6 months post-discharge. Whilst the UK Ministry of Defence has not made similar arrangements for discharged regular personnel, the recently demobilized reservist can access the Reserves Mental Health Programme (RMHP), which has shown encouraging early signs of effectiveness (Jones *et al*. 2011).

Conclusions

This paper has examined post-deployment mental health by relating this to three levels of mental ill health prevention. The primary preventative strategies reviewed are decompression and psycho-education, and the secondary prevention strategy reviewed was post-deployment mental health screening. In spite of the widespread use of screening, however, there is a distinct lack of robust outcome data to support its use at any stage during an individual's military career, including at post-deployment; the available data suggests that whilst screening might identify significant numbers of personnel who appear to suffer from mental health problems, it does not appear to facilitate engagement with treatment services. Similarly, we have found little research evaluating the efficacy of decompression despite its large-scale deployment and popularity. We have identified that decompression is reported to have high levels of utility by those attending, yet this is not guaranteed to result in a positive mental health outcome. There is, however, some evidence to suggest that some forms of psycho-education may be worthwhile, although again the outcome studies conducted so far suggest that the whole force advantages of these approaches, in particular the use of Battlemind, are modest at best. However, there is still no consensus as to the optimal timing of the delivery, and/or whether all returning personnel might benefit. Our review also suggests that tertiary prevention is poorly researched in the military context, with few studies reporting the results of the clinical treatment of military personnel with mental disorders. Therefore, this review strongly suggests that whilst there is considerable preventative activity being carried out by coalition nations, there remains a very considerable knowledge gap as to what works and what does not. Given the need for all nations to focus their ever tightening budgets on supporting activity which works, we suggest that further high-quality research in this area should be seen as a priority.

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