

<b>Institution:</b> King's College London (KCL)
<b>Unit of Assessment:</b> UoA4 – Psychology, Psychiatry & Neuroscience
<b>Title of case study:</b> 25: Brief interventions reduce risky behaviour of returning military personnel
<p><b>1. Summary of the impact</b></p> <p>Armed Forces personnel are twice as likely to die on the road as civilians, and around 2.5 times more likely to report alcohol misuse. Evidence from King's College London (KCL) has helped highlight these issues and led to the development of specific post-deployment interventions for service personnel in order to mitigate the impact of deployment on driving behaviour and alcohol use. Delivered during post-deployment decompression, as a result of KCL research these interventions have been mandatorily provided to up to 20,000 service personnel returning from deployment and have led to a significant reduction in road-traffic deaths.</p>
<p><b>2. Underpinning research</b></p> <p>Risky behaviour including alcohol use and risky driving are common and problematic among UK service personnel returning from deployment. In 2005, road traffic accidents were the leading cause of death for UK service personnel and 16% of regular service personnel report alcohol misuse on their return from deployment. Alcohol misuse within the military has been shown to be associated with a range of adverse behaviours and outcomes including detrimental effects on personal relationships, violence and delayed onset post-traumatic stress disorder (PTSD).</p> <p>Institute of Psychiatry, King's College London (KCL) research has helped highlight these areas as causes of concern, and developed, adapted and evaluated post-deployment intervention packages aimed at these problems. The military health research at KCL is led by Professor Sir Simon Wessely (1991-present, Chair of Psychological Medicine), Dr Nicola Fear (2004-present, Reader in Epidemiology), Professor Neil Greenberg (2000-present, Professor of Defence Mental Health) and Dr Kathleen Mulligan (2008-2011, Post-doctoral worker).</p> <p><b>Risky behaviour among UK Armed Forces personnel</b></p> <p>KCL researchers analysed the driving behaviour of 8,127 men and women returning from deployment between June 2004 and March 2006. Overall, 19% of UK Armed Forces personnel were defined as risky drivers (not wearing a seatbelt, speeding or both). The results reflect similar findings in the general population in England and Wales, with 14% driving at 90mph on the motorway, and 7% traveling in the front without a seatbelt at least every 2-3 months. However, rates of risky driving were higher among service personnel who had experienced traumatic events: 32.8% for 5-16 traumatic exposures, 24.9% for 2-4 traumatic exposures, and 14.1% for 1 traumatic exposure. (1).</p> <p>Several KCL studies also assessed the level of alcohol use in the Armed Forces. For instance, a 2008 study of 1,382 members of the UK Armed Forces found that on average, they reported drinking 14.6 units of alcohol a week with 42.5% classified as binge drinkers, compared to approximately 20% of men in the general population. Alcohol consumption and binge-drinking increased over time (3 year follow-up). The increase in alcohol consumption was greater in those who had been deployed, especially in those who thought they might be killed and those who experienced hostility from civilians (2).</p> <p><b>Introducing evidence-based interventions</b></p> <p>KCL researchers then reviewed the efficacy of psycho-educational briefings used by the Armed Forces. They found that the benefits of psycho-educational interventions were not consistent and identified the need for systematic evaluations of any future interventions (3).</p> <p>Based on KCL research, and the Ministry of Defence's own statistics on the rates of road-traffic accidents among service personnel, the Army developed an intervention targeting risky driving behaviour, a film called the 'Grim Reaper'. As of 2007, MoD policy requires that all military personnel returning from deployment via Cyprus should watch the film as part of their decompression package.</p> <p>KCL researchers also adapted a US-developed post-deployment mental health training package to</p>

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suit a UK audience and designed a randomised controlled trial to test its effectiveness. The package, called 'Battlemind' helps support personnel to make the transition from being in combat to returning home to their family and friends and had been shown to reduce the symptoms of PTSD in US troops returning from Iraq. The intervention was adapted from the US version to include a discussion of alcohol misuse, common in the UK, and consideration of how UK Armed Forces are allowed to drive in theatre.

In the KCL-led study, 2,443 UK Armed Forces personnel returning from a 6-month tour in Afghanistan via Cyprus were randomised to receive either a UK-adapted version of Battlemind, or the UK standard post-deployment brief. Personnel were followed-up 4 to 8 months later, and while there was no overall difference in mental health or alcohol use disorders, those who received Battlemind were significantly less likely to report binge drinking (4).

### 3. References to the research

- 1) Fear NT, Iversen AC, Chatterjee A, Jones M, Greenberg N, Hull L, Rona RJ, Hotopf M, Wessely S. Risky Driving Among Regular Armed Forces Personnel from the United Kingdom. *American Journal of Preventative Medicine* 2008;35(3):230–236. doi: 10.1016/j.amepre.2008.05.027 (21 Scopus citations)
- 2) Hooper R, Rona R, Jones M, Fear N, Hull L, Wessely S. Cigarette and alcohol use in the UK Armed Forces, and their association with combat exposure; a prospective study. *Addictive Behaviors* 2008; 33: 1067-1071 (23 Scopus citations)
- 3) Mulligan K, Fear NT, Jones N, Wessely S and Greenberg N. Psycho-educational interventions designed to prevent deployment-related psychological ill-health in Armed Forces personnel: a review. *Psychological Medicine* 2010 Apr;41(4):673-86. doi: 10.1017/S003329171000125X (9 Scopus citations)
- 4) Mulligan K, Fear NT, Jones N, Wessely S and Greenberg N. Post-deployment Battlemind training for the UK Armed Forces: A cluster-randomised controlled trial. *Journal of Clinical and Consulting Psychology* 2012 Jun;80(3):331-41 doi: 10.1037/a0027664 (6 Scopus citations)

### Grants

- 2008-2010 - Ministry of Defence: A randomized controlled study of Battlemind in the UK Armed Forces (£400,541) PIs: Nicola Fear, Neil Greenberg
- 2003-2006 - Ministry of Defence: An epidemiological investigation into the health and well-being of serving and ex-serving UK Armed Forces (Phase 1) (£2,585,053) PIs: Simon Wessely, Roberto Rona, Christopher Dandeker, Matthew Hotopf
- 2006-9. S Wessely, M Hotopf, RJ Rona, NT Fear. Operation TELIC: Investigation of Possible Health Effects Post Conflict. Ministry of Defence, £2,198,000

### 4. Details of the impact

On return from deployment in Iraq or Afghanistan, all UK Armed Forces personnel spend 36 hours in Cyprus (termed decompression). Decompression involves a range of briefing sessions about transition to home-life. Evidence from King's College London (KCL) has informed and altered how these briefings are delivered.

#### Reduced number of deaths due to road traffic accidents

As a result of KCL research, the British Army and the Central Office of Information in collaboration with Edge Pictures developed the Grim Reaper film/DVD. Since 2007, the DVD has been a mandatory part of the post-deployment decompression briefing sessions with an estimated 20,000 returning service personnel having watched it. The film was part of a wider campaign involving radio broadcasts and posters, aiming to change service personnel's behaviour towards risky driving.

During the development of the film, KCL researchers shared pre-publication findings from Fear NT et al. 2008 about exposure to traumatic events being independently associated with risky driving, with the Ministry of Defence (MoD). The Army used this finding to develop the film's tagline 'You're

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tough but you're not invincible'.

MoD statistics show that the number of deaths from road traffic accidents among the UK regular Armed Forces has decreased. The Grim Reaper was one of three Armed Forces road safety campaigns introduced between 2006 and 2008, but is the only film/DVD on road safety to be mandatory shown during decompression. Recent statistics show that during 2009-2011, rates of road traffic accident deaths were at their lowest since 1984 at 12 per 100,000 regular service personnel (1a). In 2012, road traffic accidents accounted for only 12% (n=15) of all deaths (1b), compared to 33% (n=52) in 2005, when road traffic accidents were the single largest cause of death in the UK regular Armed Forces (1c).

Risky driving is one of the outcomes measured in the KCL-led Phase 2 military cohort study which includes 5,020 UK Armed Forces personnel who were included at Phase 1. Early results (currently in submission) demonstrate that the prevalence of risk driving behaviour has decreased to 13.6%.

Since March 2009, the film has had over 29,000 views on YouTube (2a) and, in 2008 the Grim Reaper film won the highest award from the International Visual Communications Association (2b), an organisation that promotes effective business and public service communications.

### Improving post-deployment mental health briefing

KCL research (later published as Mulligan et al. 2012) demonstrating the impact of the UK-adapted Battlemind intervention on binge drinking led to changes in post-deployment briefings. Since 2011, elements of Battlemind have been routinely used in the two standard post-deployment briefings provided for all troops who return from operational deployments. This includes one session at decompression, the other 6-12 weeks after returning home, both sessions cover mental health and alcohol use. These changes were recommended by the MoD's Armed Forces Mental Wellbeing Steering Group, which is responsible for the tri-service policy on stress management training (3).

## 5. Sources to corroborate the impact

### 1) Ministry of Defence statistics

- a. Land Transport Accidents (2008-2012)  
[http://www.dasa.mod.uk/publications/health/deaths/land-transport-accidents/2012-12-31/31\\_december\\_2012.pdf](http://www.dasa.mod.uk/publications/health/deaths/land-transport-accidents/2012-12-31/31_december_2012.pdf)
- b. Deaths in Service (2012)  
<http://www.dasa.mod.uk/index.php/publications/health/deaths/deaths-in-service/2012>
- c. Deaths in Service (2005) <http://www.dasa.mod.uk/publications/health/deaths/deaths-in-service/2005/2005.pdf>

### 2) Grim Reaper film

- a. YouTube: [http://www.youtube.com/watch?v=HKqo\\_V3DnRo](http://www.youtube.com/watch?v=HKqo_V3DnRo)
- b. IVCA awards (2008): <http://www.ivca.org/news/2008/winners-announced-at-this-year-s-ivca-awards.html>

### 3) Battlemind

Contact: Service & Veterans' Welfare, Chief of Defence Personnel (details available on request)