

THE MENTAL HEALTH OF VETERANS

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Abstract

For the majority service in the Armed Forces is beneficial and, in the main, military veterans have successful lives. However, a minority have a bleaker outlook as a result of on-going ill health and social exclusion. Whilst the media focuses on Post Traumatic Stress Disorder, in reality the most frequent mental health problems for veterans are alcohol problems, depression and anxiety disorders. These difficulties are difficult to manage as veterans, particularly those who are unwell, demonstrate a reticence to seek help for mental health problems. Another issue is that many veterans are now reserve personnel who have been found to be at greater risk of developing mental health problems than their regular counterparts. Steps to improve the knowledge and expertise of primary care services about veteran's mental health issues and increasing the availability of treatment options are important and are underway.

Introduction

Approximately 10% of the UK Armed Forces leave annually, which equates to a turnover of 20,000 service personnel each year [1]. For most individuals, service in the Armed Forces is beneficial but some of those who have deployed on operations may suffer what had been termed "post-conflict dysfunction" [2]. These problems are particularly common for those individuals who have served following the end of the cold War [3-5]. The recent conflicts in Iraq and Afghanistan have led to an increased awareness of the problems faced by some veterans [6] and the media coverage has focussed on those who have fared badly and have had problems adjusting back into civilian life [7,8].

Following the Second World War (WW2) literature showed that service for most people had a positive effect on their lives [9]. For instance researchers have found that veterans of WW2 enjoyed greater educational achievements, higher levels of employment status and larger salaries [10,11]. This appeared true for both the Allied and German veterans. For instance Mass and Settersen Jr, found that initially German veterans of WW2 had unfavourable occupational outcomes but that these diminished as the German economy started to recover [12].

However not all veterans do well as evidenced by the results of the plethora of research carried out with US veterans of the Vietnam conflict. Vietnam War veterans have been found to have adjusted more poorly to civilian life than those who stayed at home. Other research has found that average salaries, employment status and educational achievement for Vietnam veterans were all lower [13-15]. In particular the veterans leaving with symptoms of Post Traumatic Stress Disorder (PTSD) often end up with lower salaries, worse drug and alcohol problems and an increased chance of being in prison [16-18].

A similar picture has emerged for US veterans of the 1991 Gulf War. Veterans that returned reporting symptoms of ill health and had been exposed to combat situations were more likely to be unemployed, be in prison or have enduring alcohol

problems [19,20]. When studies have been limited to still serving military populations, veterans reporting symptoms of mental health problems have been found to miss more work days, terminate their service earlier and end up socially excluded [21-24]. However, within the UK military Iversen et al [25] found that the majority of Gulf War veterans were in full time employment and that deployment to the 1991 Gulf, for those who returned well, was in fact associated with a greater chance of being employed than those who did not deploy. In spite of this, veterans with mental health problems were more likely to have left of the military and to be unemployed.

The above literature provides evidence that the majority of veterans of conflicts fare well after leaving the forces. However, for a small minority who leave with mental health problems the outcome is bleaker. They remain chronically unwell and are more likely to suffer from social exclusion.

Common mental health problems suffered by veterans

The literature shows that the most frequent mental health problems suffered by veterans of the 1991 Gulf War include depression, anxiety disorders and alcohol problems [26-28]. This has been replicated in both still-serving military populations [29,30] and in ex-serving populations [31]. Contrary to media speculation the rates of PTSD have been found to be relatively low [29-31]. However, the focus by the media on veterans' mental health is frequently on PTSD. This may date back to the situation in the United States following the Vietnam War where the focus was heavily on PTSD. In fact, the subsequent mental health problems being observed in Vietnam veterans were partially responsible for the creation of the diagnosis of PTSD [32]. The influential Vietnam Veterans Readjustment study found that lifetime prevalence of PTSD in Vietnam veterans was 30.9% and that current rates were 15.2% [5]. This finding is somewhat at odds with the descriptions of the Vietnam War, by historians, as being a conflict of "low intensity" for America forces [33]. The findings from the Vietnam Veterans Readjustment study are at odds with other work that showed that 85% of Vietnam veterans returned to productive, well adjusted lives [34]. The Vietnam Veterans Readjustment study findings are also at odds with work by the Centre for Disease Control's Vietnam Experience study which reported lifetime prevalence rates of PTSD at 14.7% and current rates at 2.2% [35]. When the findings of the Vietnam

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Veterans Readjustment study were re-examined adjusting for functional impairment associated with PTSD lifetime rates were 18.7% which was more in line with other studies [36]. However misguided, the influence of the Vietnam War has an important bearing on why the focus on mental health problems for the veteran of conflict is often on PTSD.

Mental health problems in veterans of the 2003 Iraq War

The conflicts in Iraq and Vietnam have many similarities. They were both fought without a frontline where it is difficult for soldiers to distinguish friend from foe among the civilian population [37,38]. This has led many commentators to predict a high prevalence of mental health problems emerging in the veterans of the Iraq conflict as was observed in Vietnam veterans [39]. Within the US, studies that have confirmed high levels of psychiatric illness amongst troops returning from Iraq. Veterans of this conflict had significantly higher rates of major depression, generalised anxiety and PTSD than those who had not deployed [40]. In particular, 17.1% of US soldiers met diagnostic criteria for PTSD following deployment to Iraq compared to 9.3% prior to deployment [40]. In a more recent study, 19.1% of US service personnel returning from Iraq reported mental health problems compared to 11.3% after returning from Afghanistan and 8.5% after returning from other locations [41]. These figures contrast with what has been observed in UK veterans of the Iraq War, where no significant differences were observed in rates of PTSD between those who deployed to Iraq and those who did not [42].

Rates of PTSD have also been found to be significantly lower amongst UK veterans than US veterans (4% versus 17-19%). The reason for the difference between US and UK rates of PTSD is an ongoing matter of discussion. Although it is likely that cultural differences in the way that PTSD is recognised and reported in the respective countries may explain some of the differences it is also important to note differences between the UK and US deployments. US soldiers tend to deploy for longer; typically 12, or more recently 15, months versus six months in the UK. They also have also reported encountering more traumatic combat experiences than their UK counterparts, although it is highly likely that this is a reflection of the earlier years of the current conflicts than recent events. Since the UK study was published it has become well recognised that deployments to Iraq have become increasingly difficult and dangerous for service personnel because of insurgency and sectarian violence. Whether these changes will impact the mental health of UK soldiers remains unclear.

The 2003 conflict in Iraq has involved the largest compulsory call up of the UK reserve forces since the Korean War. To date, over 12,500 members of the reserve forces have been called up to serve in Iraq [43], although call up is now done "intelligently" whereby the majority of reserve personnel are asked if they want to deploy. The research carried out on the initial deployment to Iraq in 2003 for reserves seems to be associated with an increased risk of mental health problems [44]. A recent study conducted researchers at Kings College London investigated the health of UK regular and reserve personnel deployed, during the phase where call up was compulsory and unexpected for many, to the 2003 Iraq War. Whilst deployment to Iraq was not associated with ill health for regular personnel, the same was not true for reserve personnel [42, 45]. Reservists were found to be more likely to report common mental health problems and symptoms of fatigue. Additionally, whilst not a significant difference, prevalence rates of PTSD were almost twice as high in reserve

personnel who had deployed during the 2003 Iraq War when compared to reserve personnel who had not deployed to the 2003 Iraq War. In a more detailed analysis it was found that when reserve personnel were compared to regular personnel, reservists were more likely to report higher level of self perceived risk to life, more experiences of trauma whilst deployed, lower unit cohesion, more problems at home during deployment, more negative homecoming experiences and poorer marital satisfaction [46].

A similar picture has emerged in US forces. Following both the 1991 Gulf War and the 2003 Iraq conflict US reservists who deployed have been found to be at a greater risk of developing mental health problems than their regular counterparts. [47,48]. Following the 1991 Gulf War US reservists were more likely to meet case criteria for chronic fatigue, alcohol abuse and report experiencing more traumatic events whilst deployed [47].

When reservists deploy to Iraq they may do so under often different conditions to that of their regular counterparts. Reservists are more likely to have been deployed as individuals rather than as formed units and at the end of their deployments reservists are often dispersed around the UK; as such many lose the easy access to informal social support which is more ordinarily available to regulars. Once back in the UK, most reservists more usually have to rely on civilian support agencies and civilian medical services which may have comparatively little understanding for their concerns.

Risk factors and what is being done to help veterans suffering from mental health problems

It has been established in US veterans that certain military sub-populations are more likely to report mental health problems. These include women, younger individuals, people who have lower educational achievements, are single, white, short term enlisted and members of the Army [30]. Work with UK veterans by Iversen et al found a similar pattern for UK veterans, with those who served in the Army, who were single and from the lower ranks were at increased risk of suffering from mental health problems [49]. In addition to the risk factors detailed above it has been shown that veterans with pre-enlistment or childhood adversity are more likely to report mental health problems following deployment [50, 51].

A scoping study conducted by researchers at King's College London in 2001 looked at the mental health needs of veterans and how these were being addressed [52]. Following discussion with veterans and other stakeholders the authors concluded that the mental health needs of UK veterans were not being met by existing NHS provision at that time. These initial findings were later confirmed by a cross sectional study that examined service utilisation by UK veterans [49]. Iversen et al found that only 58% of veterans who reported a mental health problem had sought help from mental health professionals, and of these only 28% had sought help from non-government agencies like the service charities. These findings have been supported by studies involving US veterans that demonstrated that only 23%-40% of US veterans who reported suffering from mental health problems on their return from deployment to Iraq actually sought help [41]. Hoge et al found that service personnel who reported symptoms of mental health problems were likely to report stigma and other barriers to care than those without mental health problems [40]. This finding has been echoed in the UK where a study within the Royal Navy observed that service personnel who reported mental health problems were between two and three times more likely to report barriers to care [53].

To counteract these self-stigmatising beliefs the UK military have introduced a peer-led stress management system, which uses the chain of command and does not rely on individuals seeking help by themselves [54,55]. The aim of the programme is to reduce the stigma attached to suffering from mental health problems and encourage individuals to both seek help themselves, and to receive appropriate support from the chain of command to get treatment for mental health problems whilst still in service.

From August 2007 the Medical Assessment Programme [56], a programme set up after the Gulf War of 1991 to provide independent assessment for those who thought they were suffering from Gulf War Syndrome, was made available for all veterans with operational experience since the Falklands War. The Medical Assessment Programme assessment, located at St Thomas' Hospital London, provides confidential examination by a Doctor qualified as both a General Practitioner and Consultant Psychiatrist who has extensive military experience and knowledge of military Psychiatry.

Whilst these initiatives have been introduced to offer help to veterans, from the evidence described above, one of the biggest challenges facing those aiming to treat veterans is to encourage them to engage with their primary care providers. Engaging veterans with primary care providers and to encourage community based help is an approach advocated by a recent review conducted by the Health Care and Social Advisory Committee (HASCAS) [57]. There is currently a pilot underway of using a 'community veteran therapists' (CVT) to facilitate the links between veterans who have left the Armed Forces and service providers. It was envisaged that CVTs with previous military experience would be more acceptable to veterans and aid them in care seeking behaviour [57].

Until recently, once reservists returned from deployments their health care was not covered by military health services. This may have acted as a barrier to care for many reservists who reported anecdotally that some local NHS healthcare providers were ignorant of or insensitive to psychiatric problems related to military service, perhaps because very few healthcare professionals now have any military experience. The Ministry of Defence reviewed its policy in 2006 and introduced a military-based assessment that is available to all reservists suffering from combat related mental health problems arising from deployments from 2003 onwards. At present uptake of the Reservists Mental Health Programme [58] (RMHP) has been relatively low (as of 15 April 2008, 53 personnel had been assessed by the RMHP and 39 of those had been referred on for help within the Defence Mental Health Services) which may indicate a need to raise the awareness and increase knowledge within reserve forces about the services available to them. The MoD has worked with the Department of Health in order to increase civilian medical practitioners' awareness of the programme and, in time, this may also help to increase appropriate use of the programme.

Conclusions

This paper has reviewed the current literature concerning the mental health of veterans. For the majority of veterans, service life is beneficial. However for the minority of veterans who do suffer psychiatric problems the issue is both topical and important especially so considering the ongoing conflicts in Iraq and Afghanistan. PTSD is not the most common challenge for those who are unwell instead alcohol, depression and anxiety disorders are the most commonly observed difficulties. Stigma and barriers to care are likely to prevent a substantial number of unwell veterans from coming forward and it is hoped that new initiatives aimed at increasing access to services will encourage those who have served to access sympathetically delivered care as and when they need it.

References

- 1 Defence Analytical Services Agency (2007) Outflow from UK Regular Forces. <http://www.dasa.mod.uk/natstats/tsp1/outflow.html> (last accessed 01.11.07).
- 2 Gabriel, R., Bolton, J. P., Bale, A. J. and Lee, H. A. (2002) Gulf War syndrome may be post-conflict dysfunction. *BMJ*, 324, 914.
- 3 Orner, R., Lynch, T. and Seed, P. (1993) Long-term traumatic stress reactions in British Falklands War veterans. *British Journal of Clinical Psychology*, 32, 457-459.
- 4 Solomon, Z. (1993) Immediate and long-term effects of traumatic combat stress among Israeli veterans of the Lebanon War. In *International Handbook of Traumatic Stress Syndromes* (Wilson, John P; Raphael, Beverley (eds.), pp. 321-332. Plenum Press.
- 5 Kulka, R., Schlenger, W., Fairbank, J., Hough, R., Jordan, B. K., Marmar, C. and Weiss, D. (1990) Trauma and the Vietnam War Generation: Report of Findings From the National Vietnam Veterans Readjustment Study. Brunner/Mazel.
- 6 McSmith, A. (15th June 2006) Iraq: 60 soldiers a month suffer mental illness The Independent, London. <http://news.independent.co.uk/uk/politics/article1018575.ece> (last accessed on 01.11.07)
- 7 Wainwright, M. (29th January 2007) Unstable Gulf veteran killed his family Guardian, London.
- 8 Arkell, A. (2002) Dying inside from wounds that you cannot see. The Times, London. (http://www.timesonline.co.uk/tol/life_and_style/article827387.ece; last accessed 01.11.07)
- 9 Elder, G. H., M.J., S. and Clipp, E. (1994) When War comes to men's lives: life-course patterns in family, work, and health. *Psychology and Aging*, 9, 5-16.
- 10 Elder, G. and Clipp, E. (1988) Wartime losses and social bonding: influences across 40 years in men's lives. *Psychiatry*, 51, 177-198.
- 11 Elder, G. H. and Clipp, E. C. (1989) Combat experience and emotional health: impairment and resilience in later life. *Journal of Personality*, 57, 311-341.
- 12 Maas, I. and Settersten Jr, R. (1999) Military Service During Wartime. Effects on Men's Occupational Trajectories and Later Economic Wellbeing. *European Sociological Review*, 15, 213-232.
- 13 Angrist, J. and Krueger, A. (1990) Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records. *American Economic Review*, 80, 313-316.
- 14 Angrist, J. and Krueger, A. (1994) Using the Draft Lottery to Measure the Effects of Military Service on Civilian Earnings. *Research and Labour Economics*, 10, 313-336
- 15 Rosen, S. and Taubman, P. (1982) Changes in Life Cycle Earnings: What do Social Security Data Show? *Journal of Human Resources*, 17, 321-38.
- 16 Savoca, E. and Rosenheck, R. (2000) The civilian labor market experiences of Vietnam-era veterans: the influence of psychiatric disorders. *Journal of Mental Health Policy and Economics*, 3, 199-207.
- 17 Bremner, J. D., Southwick, S. M., Darnell, A. and Charney, D. S. (1996) Chronic PTSD in Vietnam combat veterans: course of illness and substance abuse. *American Journal of Psychiatry*, 153, 369-75.
- 18 Yager, T., Laufer, R. and Gallops, M. (1984) Some problems associated with War experience in men of the Vietnam generation. *Archives of General Psychiatry*, 41, 327-33.
- 19 Prigerson, H. G., Desai, R. A. and Rosenheck, R. A. (2001) Older adult patients with both psychiatric and substance abuse disorders: prevalence and health service use. *Psychiatry Quarterly*, 72, 1-18.
- 20 Black, D. W., Carney, C. P., Peloso, P. M., Woolson, R. F., Letuchy, E. and Doebbeling, B. N. (2005) Incarceration and veterans of the first Gulf War. *Military Medicine* 170, 612-8.
- 21 Engel, C. C., Jr., Ursano, R., Magruder, C., Tartaglione, R., Jing, Z., Labbate, L. A. and Debakey, S. (1999) Psychological conditions diagnosed among veterans seeking Department of Defense Care for Gulf War-related health concerns. *J Occup Environ Med*, 41, 384-92.
- 22 Hoge, C. W., Lesikar, S. E., Guevara, R., Lange, J., Brundage, J. F., Engel, C. C., Jr., Messer, S. C. and Orman, D. T. (2002) Mental disorders among U.S. military personnel in the 1990s: association with high levels of health care utilization and early military attrition. *American Journal of Psychiatry*, 159, 1576-83.
- 23 Rosenheck, R., Frisman, L. and Chung, A. M. (1994) The proportion of veterans among homeless men. *American Journal of Public Health*, 84, 466-9.
- 24 Rosenheck, R., Leda, C., Gallup, P., Astrachan, B., Milstein, R., Leaf, P., Thompson, D. and Errera, P. (1989) Initial assessment data from a 43-site program for homeless chronic mentally ill veterans. *Hospital and Community Psychiatry*, 40, 937-42.
- 25 Iversen, A., Nikolaou, V., Greenberg, N., Unwin, C., Hull, L., Hotopf, M., Dandeker, C., Ross, J. and Wessely, S. (2005) What happens to British veterans when they leave the armed forces? *European Journal of Public Health*, 15, 175-84.
- 26 Toomey, R., Kang, H. K., Karlinsky, J., Baker, D. G., Vasterling, J. J., Alpern, R., Reda, D. J., Henderson, W. G., Murphy, F. M. and Eisen, S. A. (2007) Mental health of US Gulf War veterans 10 years after the War. *British Journal of Psychiatry*, 190, 385-93.

- 27 Ikin, J. F., Sim, M. R., Creamer, M. C., Forbes, A. B., McKenzie, D. P., Kelsall, H. L., Glass, D. C., McFarlane, A. C., Abramson, M. J., Ittak, P., Dwyer, T., Blizard, L., Delaney, K. R., Horsley, K. W., Harrex, W. K. and Schwarz, H. (2004) War-related psychological stressors and risk of psychological disorders in Australian veterans of the 1991 Gulf War. *British Journal of Psychiatry*, 185, 116-26.
- 28 Ismail, K., Kent, K., Brugha, T., Hotopf, M., Hull, L., Seed, P., Palmer, I., Reid, S., Unwin, C., David, A. S. and Wessely, S. (2002) The mental health of UK Gulf War veterans: phase 2 of a two phase cohort study. *BMJ*, 325, 576.
- 29 Murphy D, Hooper R, French C, Jones M, Rona R, Wessely S. Is the increased reporting of symptomatic ill health in Gulf War veterans related to how one asks the question? *Journal of Psychosomatic Research* 2006; Vol 61(2):181-6.
- 30 Riddle, J. R., Smith, T. C., Smith, B., Corbeil, T. E., Engel, C. C., Wells, T. S., Hoge, C. W., Adkins, J., Zamorski, M. and Blazer, D. (2007) Millennium Cohort: the 2001-2003 baseline prevalence of mental disorders in the U.S. military. *Journal of Clinical Epidemiology*, 60, 192-201.
- 31 Jenkins, R., Lewis, G., Bebbington, P., Brugha, T., Farrell, M., Gill, B. and Meltzer, H. (1997) The National Psychiatric Morbidity surveys of Great Britain--initial findings from the household survey. *Psychological Medicine*, 27, 775-89.
- 32 Marlowe, D. (2000) *Psychological and Psychosocial Consequences of Combat and Deployment*. Rand Corporation.
- 33 Jones, E. and Wessely, S. (2001) Psychiatric battle casualties: an intra- and interwar comparison. *British Journal of Psychiatry*, 178, 242-247.
- 34 Burkett, B. and Whitley, G. (1998) *Stolen Valour: How the Vietnam Generation was Robbed of its Heroes and its History*. Verity Press.
- 35 Centre for Disease Control Vietnam Experience Study (1988) Health Status of Vietnam Veterans I. Psychosocial characteristics. *Journal of the American Medical Association*, 259, 2701-2707.
- 36 Dohrenwend, B. P., Turner, J. B., Turse, N. A., Adams, B. G., Koenen, K. C. and Marshall, R. (2006) The psychological risks of Vietnam for U.S. veterans: a revisit with new data and methods. *Science*, 313, 979-82.
- 37 Friedman, T. (October 18, 2006) Barney and Baghdad. *New York Times*.
- 38 O'Keefe, E. (October 18th, 2006) Bush Accepts Iraq-Vietnam Comparison. <http://abcnews.go.com/WNT/story?id=2583579> (last accessed on 01.11.07).
- 39 Shane, S. (16 December 2004) A deluge of troubled soldiers is in the offing, experts predict. *New York Times*. <http://query.nytimes.com/gst/fullpage.html?res=9C03EFDF1430F935A25751C1A9629C8B63&sec=health> (last accessed 01.11.07)
- 40 Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I. and Koffman, R. L. (2004) Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine*, 351, 13-22.
- 41 Hoge, C. W., Auchterlonie, J. L. and Milliken, C. S. (2006) Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *Journal of the American Medical Association*, 295, 1023-32.
- 42 Hotopf M, Hull L, Fear NT, et al. (2006) The health of UK military personnel who deployed to the 2003 Iraq War: a cohort study. *Lancet* 367(9524):1731-41.
- 43 The National Audit Office (2006) Ministry of Defence: Reserve Forces London, pp. 1-68.
- 44 McAllister, P., Blaire, S. and Philpott, S. (2004) Op Telic- a field mental health team in the general support medical setting. *Journal of the Royal Army Medical Corps* 50, 107-12.
- 45 Horn, O., Hull, L., Jones, M., Murphy, D., Browne, T., Fear, N. T., Hotopf, M., Rona, R. J. and Wessely, S. (2006) Is there an Iraq War syndrome? Comparison of the health of UK service personnel after the Gulf and Iraq Wars. *Lancet*, 367, 1742-6.
- 46 Browne T, Hull L, Horn O, Jones M, Murphy D, Fear NT, Greenberg N, French C, Rona RJ, Wessely S, Hotopf M Explanations for the increase in mental health problems in UK reserve forces who have served in Iraq Br J Psychiatry 2007 190: 484-489.
- 47 The Iowa Persian Gulf Study Group (1997) Self-reported illness and health status among Persian Gulf War veterans: a population-based study. *Journal of the American Medical Association*, 277, 238-245.
- 48 Smith, T. C., Corbeil, T. E., Ryan, M. A., Heller, J. M. and Gray, G. C. (2004) In-theater hospitalizations of US and allied personnel during the 1991 Gulf War. *American Journal of Epidemiology*, 159, 1064-76.
- 49 Iversen, A., Dyson, C., Smith, N., Greenberg, N., Walwyn, R., Unwin, C., Hull, L., Hotopf, M., Dandeker, C., Ross, J. and Wessely, S. (2005) 'Goodbye and good luck': the mental health needs and treatment experiences of British ex-service personnel. *British Journal of Psychiatry*, 186, 480-6.
- 50 Iversen, A., Fear, N. T., Hull, L., Greenberg, N., Jones, M., Browne, T., Murphy, D., Hotopf, M., Rona, R. and Wessely, S. (2007) Pre-enlistment Vulnerability Factors and their Influence on Health Outcomes amongst UK Military Personnel (submitted).
- 51 Cabrera, O. A., Hoge, C. W., Bliese, P., Castro, C. A. and Messer, S. C. (2007) Childhood Adversity and Combat: Effects on Depression and Post Traumatic Stress. (submitted).
- 52 Wessely, S., Dandeker, C., Iversen, A. and Ross, J. (2003) Improving the Delivery of Cross Departmental Support and Services for Veterans. Ministry of Defence, London. http://www.veteransagency.mod.uk/pdfs/publications/misc/kings_college_report_jul_03.pdf (last accessed 01.11.07)
- 53 Langston, V., Greenberg, N., Fear, N., Iversen, A., French, C. and Wessely, S. (2007) Stigma and mental health in the Royal Navy. submitted.
- 54 Gould, M., Greenberg, N. and Hetherington, J. (2007) Stigma and the military: evaluation of a PTSD psychoeducational program. *Journal of Traumatic Stress*, 20, 505-15.
- 55 Greenberg, N., Cawkill, P. and Sharpley, J. (2005) How to TRiM away at post traumatic stress reactions: traumatic risk management--now and the future. *J Royal Navy Medical Services*, 91, 26-31.
- 56 The Medical Assessment Programme at St Thomas' Hospital, London. <http://www.veterans-uk.info/map/announcement.html>
- 57 Ministry of Defence (2007) Community Veterans Mental Health Pilots, <http://www.veterans-uk.info/map/faq.html> (last accessed 01.11.07).
- 58 The Reserves Mental Health Program <http://www.army.mod.uk/rtrmc/rmhp.htm> Gabriel, R., Bolton, J. P., Bale, A. J. and Lee, H. A. (2002) Gulf War syndrome may be post-conflict dysfunction. *BMJ*, 324, 914.