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Risk, Psychiatry and the Military

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Introduction

Few would deny that the Armed Forces take risks. Liddell Hart, who frequently wrote on the subject of risk taking in the military, would have regarded the idea that war could ever be a risk free business as absurd. He was more concerned with risk in the strategic or tactical sense, rather than in the individual context that I intend to explore. But he would not have objected to my starting point, that as a society we ask our armed forces to take risks. That is the nature of the military contract. ¹

So when men (and increasingly women) go to war, it remains the case, now and then, that some do not come back, some come back physically injured, and some come back with invisible but often equally damaging injuries, the psychiatric. Just as the notion of a military operation that could ever be free of physical casualties is something devoutly to be wished for, but unlikely to be achieved, so it is with psychiatric casualties as well.

Before, however, I discuss the nature of psychiatric injury in more detail, it is first of all necessary to place this in context. There is no single "experience of war", for good or ill. For example, hard though it is for this middle aged academic to appreciate, there are some for whom active service remains the best thing that happened to them, and for whom life afterwards became dull and monochromatic.

Recently, military psychologist Jamie Hacker Hughes showed that the mental health of members of 16th Air Assault Brigade deployed during the 2003 Iraq War actually improved compared to those who remained behind.

Liddell Hart wrote in the *Sunday Express* in March 1940: "in comparison with the tediousness or triviality of normal existence it, the war, gives people a fresh interest in life" but, he continued, "in the majority of people the yearning for excitement is always in conflict with their desire for security".²

War provides an exaggerated, perhaps extreme, version of the entire range of human experiences – excitement, love, friendship, achievement, but also fear, hate and guilt.³ And it is these latter experiences that I wish to explore first, those for whom war was not the best days of their lives, and who when they return appear hail in body, but not in mind.

Psychiatric Breakdown: acute and chronic

The first of my two themes is risk and psychological breakdown – what it is, why it is so difficult to prevent, but easier to manage, and why the Armed Forces have nothing to fear from psychiatry.

We know a lot about psychiatric breakdown in battle. If you read a textbook or classic account of military psychiatry, you will learn much about the acute psychiatric casualties of war.⁴ It is based on doctrines developed and tested in both World Wars. Liddell Hart would have been familiar with the literature, and would find modern textbooks not much changed in their descriptions of the acute breakdowns, the combat stress reactions or the soldier frozen with fear. Careful statistical inquiries in World War Two related this to the intensity of fighting - the greater the number of physical casualties, the greater the number of psychiatric casualties.⁵ Subsequent work from Israel has refined this further, but it is true to say that our basic understanding of the immediate psychiatric consequences of combat has not changed much over the past half century.⁶

Acute psychiatric breakdowns refer to the short-term consequences, but what about the long term? Once again, Liddell Hart's generation were more than aware of the long-term psychiatric costs of war - how could they not be? The hundreds of thousands of pensions paid under the labels of shell shock, effort syndrome, war neurosis and neurasthenia meant that the long-term consequences could hardly be denied.⁷ It was the fact that both the USA and the UK began the Second World War with asylums still full of ex service men, and such a staggering pensions bill left over from the Great War, that they were determined to do things better this time around.⁸ They failed, because, as Edgar Jones has shown, psychiatric casualties were actually higher in the Second than the First World War, but that's another story.⁹

So despite the occasional contemporary whiggish view of the inexorable forward march of psychiatric knowledge, there is probably little we can teach now either the RMOs of the First World War, or the psychiatrists of the Second, about the psychological effects of war.

But something clearly has changed. Let us imagine for a moment what Liddell Hart or the medical authorities of the day might have predicted in the way of psychiatric casualties after the most recent operations of the US and UK Armed Forces. Remember that nowadays our modern, professional, non-conscript military could never sustain anything remotely like the high intensity, prolonged attritional campaigns such as the Western Front, the Pacific War, or the Strategic Air Offensive. And we can be thankful for that. Instead we can be reasonably confident that based on their knowledge of psychiatric casualties in either World War, Liddell Hart and his contemporaries would not have anticipated too much in the way of psychiatric

casualties during most recent deployments. Furthermore, based on their own observations, confirmed by later careful long term follow up studies of war veterans from the United States and Israel, they would have predicted that those who stayed well in the short term were likely to stay well in the long term as well. ¹⁰ The best predictor of long-term ill health remained acute ill health during conflict.

However, these assumptions would only have been half correct. Evidence from the Falklands, Gulf War and recent operations in Iraq suggest that classic psychiatric casualties – combat stress reactions as we now call them - have indeed been relatively few, and have created little in the way of operational difficulties. But it is the apparent long-term consequences of recent operations that would have been both a surprise and a puzzle to Liddell Hart and his contemporaries,

For example, as I write, American newspapers are making predictions that up to 25% of their personnel in Iraq will become victims of Post Traumatic Stress Disorder (PTSD), despite the fact that their casualties during the war fighting period were remarkably few, and their victory overwhelming. Perusal of some of the recent British media might lead to similar conclusions.

What seems to have changed is the expected link between short and long-term outcomes. It no longer seems to be the case that the level of short-term acute psychiatric casualties is a good guide to long-term consequences. And at the heart of this change has been a fundamental shift in contemporary formulations of why some people do not seem to recover from the acute psychiatric injuries of war.

In Liddell Hart's day it was assumed that if you broke down in battle, and the cause was indeed the stress of war, then your illness would be short lived. And if it wasn't, then the cause of your ill health was not really the war at all, but events before you went to war. At the risk of over simplification, if you belonged to the dominant school of psychiatric thinking from the latter half of the 19th century to the latter half of the 20th, then the reason was hereditary. This could be expressed in terms of degeneration at the turn of the century, which gave way to genetic concepts, but it was your constitutional inheritance that determined most psychiatric disorders other than the transient. In apparent contrast, Freud and the founders of psychoanalysis said that the cause was your parents and the way they treated you in your first few months and years.

But either way it was much the same – your cards were marked, and well marked, long before you joined the Services. In war eventually every man had his breaking point, but if you broke down and never recovered, then the real cause was not the war, but either your genetic inheritance, or your upbringing. The war was merely the trigger. This general view held good for the first half of the century and began to be eroded by the literature on concentration camp survivors, but was not fundamentally challenged until the Vietnam War.

Vietnam and the coming of Post Traumatic Stress Disorder

It is hard for us, knowing what we do now, to appreciate that for a short time the Vietnam War was regarded as a psychiatric success story. As Albert Glass, the most influential military psychiatrist of the post-1945 period wrote 'according to authoritative reports, military psychiatry in the Vietnam conflict achieved its most impressive record in conserving the fighting strength'. ¹¹ Psychiatric casualties were 'surprisingly low'. Casualties were, reported

another psychiatrist, ten times lower than in the Second World War, and three times lower than in Korea, or lower than 'any recorded in previous conflicts' said a third.¹² Likewise, the implementation of forward psychiatry created the 'impression that psychiatric casualties were rarely produced by the unique nature of combat in Vietnam',¹³ whilst 'psychiatric casualties need never again become a major cause of attrition in the United States military in a combat zone'.¹⁴

However, as the war drew to its unsatisfactory close, and the veterans started to come home, the picture changed dramatically. By the 1970s the Vietnam veteran came increasingly to be seen as a major social problem - alienated, abandoned, disturbed by nightmares of atrocities seen and committed, out of control, violent, suicidal, a social time bomb. And to explain this phenomenon psychiatrists rapidly introduced a new condition into the psychiatric lexicon – the diagnosis of post traumatic stress disorder (PTSD).

I do not have the space to discuss exactly why this happened, nor how the politics of the anti war movement in the USA merged with the politics of illness to create PTSD.¹⁵ Instead, I will simply point out what was new about PTSD.

That war could lead to lots of psychiatrically ill soldiers was not news. But the existing doctrines said confidently that should not have happened after Vietnam, since standard teaching linked the numbers of acute with the numbers of chronic psychiatric casualties. If you ended the war mentally unscathed, then in general you were likely to stay that way.

Secondly, doctrine taught that if you did develop long-term psychiatric disorder, then the war was only the trigger, not the real cause. But the formulators of PTSD did not accept that. They believed, for honourable reasons, that the war was unquestionably to blame. It was an insane, unpopular and unjust conflict, and the US Vietnam veterans were as much its victims as the Vietnamese civilians.

The cause of PTSD was the "T", the trauma. And both the attraction, and the danger was in its simplicity – here at last was a psychiatric disorder with a simple cause – adult trauma. We could dispense with all the difficult business of hereditary, upbringing and so on, and concentrate on the matter in hand – the experience of Vietnam.

In fact it was all too simple, and many soon realised that one's predisposition, the bag and baggage that one brought with one to military service, continued to play an important role, especially when rates and intensity of trauma were relatively low. It would be many years before people began to accept that a major cause of the Vietnam veteran problem lay not in the jungles of Vietnam, but in the social climate of an America that was turning against the war in particular, and the military in general.¹⁶ Indeed, one of the reasons for the modest, to put it kindly, successes of the vast and costly programme of psychological treatments for Vietnam veterans may have been because it was rooted too much in the jungles of Vietnam, and paid too little attention either to contemporary America culture or the iatrogenic role of the government's response.¹⁷

The rise of the culture of trauma

Moving on to the present, is the British military really now facing an epidemic of PTSD? The answer is probably not.

Our studies, for example, showed a three fold increase in the rate of PTSD in sick veterans of the 1991 Gulf War, but only from 1 to 3%.¹⁸ This is a significant increase, but it remains the case that 97% of the unwell group did not fulfil criteria for PTSD. Clearly this is nothing like enough to explain the clear and substantial increase in subjective ill health that we and others have confirmed in the aftermath of that conflict.¹⁹ And nor is PTSD even the main mental health problem facing the armed forces – instead depression and alcohol are far more common.²⁰ I suspect that future research will suggest that overstretch and excessive operational tempo with its adverse effect on family life and well being will prove to be a more potent cause of mental health problems than conventional psychiatric injury.²¹ Likewise alcohol culture and availability may pose more problems than PTSD.

Yet even if there has been no real epidemic of PTSD in the British Armed Forces, reading the media might suggest otherwise, and there has certainly been an epidemic of stories about PTSD. The Vietnam veteran story did play a significant part in one established fact – the reawakening of interest in trauma and its psychological consequences across Western society. Vietnam was not of course the only reason for this. As social commentators never tire of telling us, the 1960s was marked by major shifts in social values.

One of the key changes relevant to our story is the shift from the community or group values that had shaped the war years to a society that increasingly valued the individual over the group. Views as to how one should emotionally deal with adversity also changed - from a belief in the importance of reticence, and emotional restraint, to one that encouraged emotional expression.

Remember, there is no right or wrong answer as to how we should manage our emotions. Emotional responses like everything else are subject to fashion. And fashions can change. So during the 1960s and beyond stiff upper lip was satirised by *Beyond the Fringe* and Monty Python, whilst emotional expression was encouraged and rewarded, until we reach the *reductio ad absurdum* of Jerry Springer or Richard and Judy. Talking about oneself, and talking about the bad things that may have happened to one, was now very much in fashion.²² Some have claimed that trauma and its consequences have actually become more common because of the changing nature of modern life, but this seems unlikely. What has happened has been a widening of the boundaries around psychiatric injury. In its initial formulation PTSD could only be diagnosed after situations that were genuinely threatening to life and limb, but with every further iteration of the diagnostic criteria, this has been broadened to include situations where people felt that they were in peril, even if they were not, and, finally, to any adverse experience, which can include receiving a medical diagnosis, or normal experiences such as childbirth.

PTSD has become a short hand for all distress, and as it has moved from its initial rigorous formulation in the military context into the civilian sector it has indeed become inflated. We do not face an epidemic of PTSD, but we have experienced an epidemic of stories about it. And in consequence we all have our favourite "stupid stress stories", usually reported with glee by the right wing media. Damages for post traumatic stress have been received for the trauma of receiving a strippogram, spilling tea (*Daily Mail* 4.11.98), watching a stranger have an epileptic fit in the street (*Daily Telegraph* 9.9.2002), owning a "mentally stressed" race horse (*Daily Mail* 6.7.2002), or a dog with PTSD. All of these and many more have featured in the media.

These stories can be amusing, and certainly serve as grist to the mill of the anti-PC lobby. But they are also harmful, because they devalue the real narratives of PTSD such as that experienced by Falklands veteran Simon Weston, who has so movingly described his struggles to come to terms with not just his obvious physical disability, but his psychological scars as well. Hence these silly "I tripped over a paving stone and am now suing for PTSD" stories inadvertently trivialise the genuine stories of psychiatric distress and disorder. The inflation of PTSD has led to its increased acceptance by society, but as Chancellors of the Exchequer are always telling us, inflation also leads to devaluation.

PTSD and the myths of prevention: I – The seductions of screening

Even if it is not as common as some would have us believe, PTSD is bad news if you have it. And because it seems so obvious that prevention is better than cure, the cry for better prevention has gone up after every conflict of the last century.

Perhaps the most immediately appealing strategy involves screening those at risk before they are exposed to adversity. If we could know who was going to breakdown in battle, we could screen them out beforehand. This would give us a stronger military, and it would be better for the men themselves, their families, and the Chancellor.

The historical record is indeed full of pleas made by those having to command men in battle to those responsible for selection imploring them to do a better job. ²³ My favourite is quoted in Ben Sheppard's classic account of psychiatrists at war, and is a signal sent by a senior officer in the 8th Army in Egypt in 1942 back to the War Office begging them not to send him men who "can't stand the brothels of Cairo, let alone the Afrika Corp". ²⁴

One answer seems to be mass psychological screening. Back in World War Two, the Americans, as optimistic then as they are now, believed that they could identify those who were going to make bad soldiers and future psychiatric cases. They enlisted the enthusiastic help of the best psychiatrists in the land, led by Harry Stack Sullivan, one of the most famous psychiatrists of the mid twentieth century. The psychiatrists gave their all for the war effort, removing over two million men from the draft on the basis of personality testing that predicted who would and who would not break down. ²⁵

However, the Americans nearly lost the war in consequence. By 1944, when no less a person than George C Marshall called a halt, they were running out of men. ²⁶ What then happened was that many of those rejected on psychiatric grounds were reenlisted – a vast natural experiment. To everyone's surprise, studies showed that most made perfectly good, and sometimes very good, soldiers. Some broke down, more than those who had not been screened out – the psychiatrists were not totally wrong, but up to 85% actually made perfectly adequate soldiers. ²⁷

There were many reasons why screening for psychological vulnerability to breakdown before deployment failed then, reasons, which remain fundamentally unchanged to the present day. A major risk factor for breakdown is experiencing a traumatic event – but that hasn't happened yet, and may not, so pre-deployment screening is deprived of the best single predictive factor. And what remains are a collection of risk factors, which whilst statistically significant, are all relatively weak individual predictors of future breakdown. ²⁸

Furthermore, excluding people who have those risk factors – coming from a single parent family, having a family history of psychiatric disorder, a poor school record and so on, would have many untoward consequences. Denying military service to people with these risky backgrounds, for example, would clearly have a serious effect on recruitment, especially for the Army, which traditionally recruits from areas of social disadvantage. Furthermore, it would also deny some of the social goals and benefits of military service – giving people from disadvantaged backgrounds a chance to learn a skill, and gain self-respect.

Labelling people as potentially psychologically unstable, before anything has actually happened to prove that to be correct, is also not without risks. It changes peoples' views of themselves in unpredictable ways, and exposes them to stigma. The American experience showed that many of those denied the opportunity to serve their country because of concerns for their psychological stability returned to their home communities and were exposed to shame and ridicule.

In conclusion, the case for psychological screening has not been made, and will be difficult to make. It is hard to see how a psychological screening programme for the Armed Forces could ever fulfil the criteria that the National Health Service insist upon before introducing any new screening programme.²⁹ And indeed, in the recent seminal PTSD judgement in favour of the Ministry of Defence, Mr Justice Owen came to the same conclusion.

But as I write, voices are again being raised calling for psychological screening in the military. This time it is not to prevent breakdown in battle, but to prevent suicide during military service. However, the arguments against this are if anything even more compelling than the arguments against screening to prevent breakdown after battle. Suicide during military service is, thankfully, very rare, and like all rare events, almost impossible to predict.³⁰ Once again, it is loosely associated with variables indicating social disadvantage that are very common in military recruits. A major risk factor not amenable to screening is also the availability within the military of the means to do it – firearms.

Instead, if we are to do anything about suicide in the Armed Forces, rather than concentrate on excluding people from risky backgrounds from joining the Armed Forces, a more sensible strategy is to consider increasing the support they receive in service.

PTSD and the myths of prevention: II – The disappointments of debriefing

If screening does not work, there is still much that can be done to reduce the risk of psychiatric breakdown before people go into battle. Men fight for their friends, and the best protectors against breakdown in battle are group cohesion and bonding.³¹ Issues such as morale, leadership, good equipment, and training are all relevant.³² None of this is news, all of it is more than accepted, and little of it is anything to do with psychiatry.

But what about afterwards, after deployment, after people have been exposed to unpleasant sights or dangerous situations? Just as with screening, the idea that immediate psychological interventions could prevent later breakdown sounds intuitively appealing, and has had numerous supporters over the years. However, just as the negative experiences of psychological screening during the Second World War should give us pause for thought, we have the example of psychological debriefing to provide us with another cautionary tale.

Most people will be familiar with the concept of single session psychological debriefing. This is a fairly structured procedure in which a mental health professional carries out an intervention with people, either individually or in groups, very shortly after they have been exposed to some form of adversity. The procedure involves some element of telling the story of the event, asking how people felt emotionally during the event and now, and teaching about likely further emotional reactions over time. Its purpose, enthusiastically proclaimed by its protagonists, is to prevent later psychiatric disorder such as PTSD.

In our contemporary culture, the arrival of what the media inevitably call "trained counsellors", has become as much a part of the theatre of disaster as that of the emergency services. It has become part of the social recognition of disaster, and our collective desire that "something must be done".³³ But the problem is that single session psychological debriefing clearly does not work, and indeed there is more than a suggestion that it may actually increase the risk of subsequent psychological disorder.³⁴ There are many reasons for the ineffectiveness and possible adverse effects of debriefing. I favour the view that it impedes the normal ways in which we deal with adversity – talking to our friends, family, GP, the padre and so on, and instead professionalises distress.

So the debriefing saga is a warning against naïve efforts that we can prevent, and I emphasise the word, prevent, the psychological consequences of trauma. The only certain way of eliminating war-related psychiatric injury is by not going to war.

Prevention doesn't work, but treatment does

If psychiatric injury and its consequences cannot be prevented, it can be treated. There is now a compelling body of evidence to the effect that both physical (medication) and psychological treatments do make a difference to the outcome of psychiatric disorders once established.³⁵

But there is a problem. When it comes to treatment, there is little doubt that the current state of affairs is unsatisfactory. However, this is a problem for all of us, not just those responsible for military health care. Our research has shown that problems of care arise not so much when people are in the military, but when they leave. It is often held that this is because vulnerable or damaged service personnel can just about manage within the institutionalised society that is the military, and only start to really experience difficulties once back in civilian life.

Once again, we must keep a sense of proportion. It remains the case that the vast majority of those who leave the armed forces do well – 85% of leavers in our large cohort study rapidly found jobs,³⁶ but when we followed up a high risk group, those with mental health problems in service, or those who had failed to get a job on leaving the service, we found a less encouraging picture.

It was true that of those who wished to have treatment, many were receiving something – but this was largely antidepressants from their general practitioner. And whilst that is encouraging, indicating that they were engaged with health services, and also receiving part of an evidence based treatment, it is not sufficient. What was missing for the majority was access to modern skilled psychological treatments, which we know can make a difference.

So to conclude about psychiatric injury and risk - the only certain way of preventing PTSD and psychiatric injury is by not sending men to war. All else is speculative, uncertain, or even

erroneous. But when people do develop psychiatric disorders, however, we can and should do better. What I hope I have also shown is that contrary to the views in some quarters, it is wrong to say that the military know nothing and do nothing about psychiatric injury. Indeed, the military have an enviable record for innovation in psychiatry – it was military psychiatry that initiated group psychotherapy. Likewise, modern community care and assertive outreach begins with the military doctrine of proximity, immediacy and expectancy (PIE) that is the standard management of combat stress, and gave the intellectual stimulus to crisis intervention.³⁷ Psychiatric injury and its management is not new territory for the Armed Forces. It poses certain problems, but these are neither unfamiliar, unpredictable, nor beyond understanding or comprehension.

The syndromes are coming

If psychiatric injury is, to coin a phrase, nothing to be afraid of, the same is not true of my next examples. This is the area of risk that really does at times appear inexplicable and baffling. It is the world of unexplained symptoms and syndromes, exemplified in the military context by the story of the so-called "Gulf War Syndrome".³⁸

Sometime after the end of hostilities in the 1991 Gulf War reports started to emerge in the United States, and subsequently the United Kingdom, of servicemen and women coming forward with inexplicable health complaints. These did not constitute any recognised condition in medical science, but were instead a collection of diverse symptoms such as overwhelming fatigue, concentration difficulties, generalised pain and malaise, problems with memory and many others. At the same time Gulf veterans who had fathered children with congenital handicaps also blamed this on their military service. Numerous causes were advanced in the media, ranging from smoke from oil fires, use of pesticides, exposure to depleted uranium, new infections, reactions to the vaccination programmes used to protect against biological warfare, medications given to protect against chemical warfare, and even exposure to nerve agents themselves.

This is not the place to analyse the growing literature on Gulf War illness.³⁹ However, it is fair to say that no single cause, and no pathological process, has been found to explain the problem, and problem it undoubtedly is. Up to 20% of the UK Armed Forces who deployed to the Gulf have increased health complaints, and similar numbers believe themselves victim of this mysterious syndrome.⁴⁰

Gulf War Syndrome is not, however, a problem unique to the military. In its symptoms it overlaps with numerous other similar syndromes, such as multiple chemical sensitivity, dental amalgam syndrome, RSI, total allergy syndrome, sick building syndrome and many others. Many of these are likewise blamed on possible environmental hazards, difficult to assess or quantify, such as low level radiation, chemicals, food additives, pesticides, pollution and the like. It is these associations with controversial and unwelcome features of our environment and technology that have led Petrie and I to label all these syndromes "illnesses of modernity".⁴¹

Risks: perceptions and paradoxes

These new syndromes make a little more sense if we consider the question of contemporary health concerns, and the explanations that people give for illness.

It is well known that the health concerns in the general public are not the same as the health concerns of doctors and scientists. Whilst we as good doctors try hard to convince people not to smoke, to drink less, drive more slowly and eat more vegetables – it is an uphill struggle. Public health physicians plod on, because they know these are the real risks to health and indeed survival. Sadly the public remain fairly unwilling to do much about it, and rather unconcerned when all is said and done.

None of this is surprising, because the public does not rate risks in the same statistical way scientists do. For a scientist something that kills 100 people is twice as risky as something that kills 50 people a year. It's twice as dangerous, twice as bad. This is simple, statistical, and almost completely misses the point.

The public judge risk by other criteria, in which statistics play a relatively small role.⁴² For example, did I accept the risk voluntarily, when I chose to smoke or drive too fast, or was it outside of my control? Invisible risks – viruses, chemicals, radiation, are more scary than visible ones, and associated with particular dread. Unnatural risks rate higher than natural – far more people have died in the UK let alone the world from floods, but nevertheless, more column inches and campaign hours are devoted to the threat from nuclear power stations, yet to cause a single death in this country.

People are also more prepared to accept risks if they also perceive some individual benefit to themselves from that risk. The government has been unable to persuade the British public that GM foods pose any benefit to our society (as opposed, for example, to developing countries). In contrast, despite all the media attempts to generate mobile phone scares, people still accept this risk (if indeed there is one) because the benefits are so obvious. And hence we have the strange situation of the Stewart committee concluding that although there was no evidence that mobile phones were a health hazard, they recommended restricting use by children "as a precaution". However, as anyone with adolescent children will know, never was government advice so obviously ignored.

People worry about risks because of factors other than statistics. It is not smoking, obesity, poor diet, speeding, and lack of exercise that are associated with popular concerns and outrage. Instead it is issues such as landfill sites, chemicals, food additives, silicon breast implants, dental amalgam, low level radiation, vaccinations such as MMR and so on. These are the risks, some of them more virtual than real, that get the media excited, the public worried and the politicians perplexed.

All of this matters. People's appraisals of risks, their concerns, directly affect health as well. We know that the greater the degree of worry shown by a person about the potential effects of, for example, living near a landfill site, the greater the number of symptoms.⁴³ There is also compelling evidence from a prospective New Zealand study led by psychologist Professor Keith Petrie. He had advance warning of a plan to eliminate a particular pest, the painted apple moth, by spraying some Auckland suburbs with pesticide. Before this could take place, he asked a large sample of residents about their particular concerns about health and the environment. The spraying then took place, and he repeated the study, looking at how people had been affected by the spray.

What he found was that the more people registered concerns about, for example, GM food, mobile phone masts or food additives, before the spray, the more they reported symptoms afterwards. They even reported more health problems in their pets. So what we think of our

environment, and the explanations we give for our symptoms, matter, and impact on how we will react when exposed to these agents.

Remember, if the effects of the pesticides were solely toxicological, then beliefs should not make a difference. Once you have taken the decision to smoke, your risk of developing cancer is unaffected by your acceptance or non acceptance of the link between smoking and cancer, nor that your grand uncle Albert smoked 60 day and still got a telegram from the Queen.

Taken at face value, none of this is surprising. Many, perhaps most, of the public share concerns about the quality of our food, water and air. Many support the efforts of organisations, especially Non Governmental Organisations (NGOS), to improve our environment. Many share the views of the same NGOs about the links between our environment and health.

But taken overall, and in historical context, it seems baffling, and paradoxical. We now live longer, and we are healthier than at any other period of human history. Our environment, be it the air we breathe, the food we eat or the water we drink, has little relationship to that of a hundred years ago, testament to a century of extraordinary successes in public health. And yet this is not reflected in what medical sociologists call self rated health. Indeed, we actually complain of more symptoms, spend more days in bed, and rate our health worse than we did 40 years ago, even 80 years ago.⁴⁴ This has been aptly described as a paradox, sometimes called the paradox of health.⁴⁵

Our current concerns with the quality of our food or water seem to have become disconnected from the real advances that have been made. Some idealists look back nostalgically to a period when our food was "natural", and free from contamination, before the rise of the food industry and mass farming. But any reading of classic descriptions of working class life in London or industrial Salford in the 19th century would serve as an antidote to over romantic readings of history. Back then our food, air and water really was toxic. Victorian food was grossly contaminated - strychnine in rum, copper sulphate in pickles and preserves, lead in mustard, ferrous sulphate in tea and beer, lead and mercury in sugar and chocolate. A *Punch* cartoon in 1855 shows a little girl approaching a grocer and saying "if you please, sir, mother would like a pound of tea to kill the rats with, and an ounce of chocolate to get rid of the beetles".⁴⁶

So the undeniable and indeed extraordinary changes in all objective indices of health, do not seem to have been mirrored in a collective increase in subjective health and well being, rather the opposite. In recent years, the increased tempo of regulation exemplified by the "Precautionary Principle" does not seem to have been reflected in increased public well being, confidence or reassurance. Instead, as numerous commentators have noted, excessive regulation, coupled with a media that seems to thrive on a diet of health scare stories, leads to the danger that we are worrying ourselves sick.

The Military: acceptable and non acceptable risks

So far I have been considering the position as I see it for civilian society, but there is little reason to suspect that things are very different for the military. We know that the military do accept certain risks and hazards for which they see a purpose – most serving members of the

Armed Forces go out of their way to make it clear that they do accept the risks of war that go with the job, and hence the chance of physical and perhaps even psychological injury.

Like civilians, the military seem accepting of other risks over which they feel they have a choice – such as driving or sports injuries, a perennial cause of serious injury and manpower difficulties. These type of risks are associated with both clear cut harm, and a greater burden of morbidity and indeed mortality, than any of the hazards that have been linked with, for example, Gulf War Syndrome, yet it is the latter not the former that dominate the column inches.

I suggest four particularly relevant reasons for this. First, these risks are similar to those that are already known from the civilian literature to score high on the measures of risk perception already considered. Second, these apparently new risks are not seen as part of the traditional military contract. Third, there are questions about fairness and equity. Finally, we cannot ignore the growing problem of mistrust of all institutions, but particularly those with military connections.

The first reason that might help understand the emergence of "Gulf War Syndrome" is because the list of potential hazards that have been linked with Gulf War Syndrome all have clear links to the health concerns of non military populations, and in particular to those risks that generate the most public disquiet. Concerns about the effect of smoke from the oil fires burning in Kuwait, even though these have not been substantiated, link directly to general concerns about air pollution and quality. Concerns about the use of organophosphate insecticides during the Gulf Campaign have direct civilian counterparts, and can be traced back to Rachel Carson's seminal book *Silent Spring* and the beginnings of the ecology movement. Given the continuing crisis over MMR, one does not need to labour the overlap between civilian and military concerns about vaccination.

Another source of considerable anxiety and column inches is the use of Depleted Uranium (DU) munitions. The main hazard of exposure (assuming that one survives the actual impact) comes not from its radioactive properties, as so many think, but because it is a heavy metal. The risks from DU fragments are closer to those from lead, rather than plutonium.⁴⁷ Instead, the reason for its very high public, media and political profile may come not from its properties as a heavy metal, but its lexical links to radiation, conjuring up images of Hiroshima and Chernobyl, and thus scoring about as high as one can get on measures of risk perception.

There is a second reason why it is these hazards that the military find so problematic. It is that these "toxic" risks are not what people sign up for. And it is worse if these risks appear to be self inflicted – hence the anxiety and distrust over the use of medical countermeasures such as pyridostigmine or bio warfare vaccinations, or alternatively from the side effects of our use of depleted uranium munitions. These are the medical equivalents of "friendly fire", itself a very emotive issue with great resonance for the Armed Forces.

Third, we already know that risk perception and tolerance is linked to questions of equity. Risks that are equally distributed across the population are seen as less problematic than those that affect a small group, especially if that group is seen as disadvantaged. During the 2001 anthrax crisis in Washington there was a general perception that officials reacted more vigorously to the threat to Congress and its staff than to that of postal workers, who were far

more likely to come from the disadvantaged ethnic minorities. The consequences of that misjudgement are still being felt.

Turning to the military, we have moved away from the concept of a citizen army, or one based on national service or conscription. Consequently, both the British and American militaries contain an over representation of those from disadvantaged backgrounds and regions of the country. Thus when these individuals become exposed to risk, especially the unexpected, it seems less fair than, for example, in the Second World War when, on the surface at least, one could argue that all social classes were equally exposed to danger, both in the military and in the civilian sector. I have already referenced the seminal long term studies of the outcome of combat performed by George Valliant on the Harvard class of 1942, ⁴⁸ – but what is striking about that study is that nearly all of that undergraduate class, drawn from the most privileged in American society, joined the Armed Services, and two thirds of them served overseas, most seeing combat. The lack of parallels with the present is clear. Exposure to risk is no longer equitable.

Finally all of these narratives take place in a society that has become less accepting of authority or expertise, and less deferential. Likewise, the legacy of episodes perceived to be examples of official denial, cover up and less than full disclosure, such as Agent Orange or the side effects of nuclear test programmes in the 1950s, means that the public and the rank and file of the Armed Forces are less likely to accept official reassurance, and more likely to believe information from the Internet, irrespective of its scientific merit. This general loss of trust in institutions and military institutions in particular, amplifies risk concerns and risk awareness across society. ⁴⁹

Risks: proportional and non proportional

I conclude that the military have little to be afraid of from acknowledging the reality of psychiatric injury. Understanding it better, and accepting it more sympathetically, poses no real danger to the military, provided it is managed within the context of military culture, and providing the military do not heed the siren voices who claim that stress can be avoided or prevented, as opposed to managed.

The Ministry of Defence fought and won the massive PTSD legal case on the basis that it is utopian to believe that stress can ever be eliminated from a military organisation. Indeed, I suggest that this is undesirable. The military deliberately stretches and tests people because like it or not, war is a stressful business, and it is best to come prepared.

However, things are not perfect, and one thing the armed forces can do better is to promote a climate in which people will come forward and declare they are having problems – stigma remains a serious issue. The current initiative launched within the Royal Marines to encourage peer group support ("TRIM") might play a role here, ⁵⁰ provided we remember the cautionary tale of debriefing. No matter how intuitively appealing an intervention seems, there is no substitute for sound evidence of efficacy, and all psychological interventions also have the capacity to do harm as well as good. In the meantime, one thing we can all do better is improve the availability and acceptability of services for those with psychiatric problems after they leave the Armed Forces.

I believe that none of this will weaken the fundamental purpose of the armed forces, of fighting and winning wars. However, what the military should be worried about, and what

may well reduce their operational effectiveness, is the wider risk adverse culture that is now so entrenched in the civilian world. Similar sentiments were expressed by a previous Liddell Hart lecturer, General Sir Charles Guthrie, in his valedictory lecture at King's when he stepped down from the position of Chief of the Defence Staff. We have as a society become too risk averse, terrified of our shadows, able to contemplate a measles epidemic that will kill children because of fears of a vaccine that doesn't. If the Armed Forces embrace a similar risk averse culture, fuelled by rumour and anecdote, then the consequences could be as severe.

There is a further untoward consequence of our increasingly risk averse society. Because we find it harder to take risks, we find it harder to challenge ourselves, to innovate. Just think which medical discoveries would not have happened in our current precaution driven society. It is hard to believe that drugs such as penicillin, the contraceptive pill or aspirin would ever have been made available now, and X rays would have stood little or no chance of being accepted in today's environment.

There are some fundamental differences between the psychiatric and non-psychiatric risks that have formed the subject matter of this lecture. Psychiatric injuries are proportionate to risk, in the sense that at least in the short term there is some relationship between exposure and outcome. Furthermore, we have a reasonable if not perfect understanding of why psychiatric injury occurs, and finally have some idea of what to do about them. But our new "modern" risks, which I have detailed in the second half of this lecture, are more problematic. There is little evidence of simple links between exposure and outcome, the mechanisms involved are either obscure or occasionally non-existent, and we have little idea of what to do about them. Indeed, because we do not understand these new risks, our approach tends to be based on precaution, yet that may be further increasing our anxieties.

The precautionary approach, which is currently the accepted doctrine for managing these small, perhaps non-existent risks, seems to be failing. People do not appear to be reassured by ever more draconian measures to reduce ever smaller risks. Indeed, one could argue that the consequence is increased, not reduced, anxiety. There are always more things that might cause cancer and more things to scare us, rendering us blind to the real situation, that we have never lived longer, or been safer. In clinical psychology it is now well established that reassuring an excessively anxious person not only fails, but is counter productive.⁵¹ Perhaps the same applies to populations as well.⁵²

From risk aversion to resilience

But is this unstoppable? Not necessarily. Because there is one piece of the jigsaw that is missing.

A simple glance at history will convince even the most sceptical reader that people are not intrinsically risk averse, provided, and it is a crucial proviso, that they are given reasons why they should accept the risk. The record of populations under extreme stress provides numerous examples of often remarkable resilience in the face of adversity. Our own work on psychological reactions to the London Blitz and the absence of widespread public panic confirms one well-known example.⁵³ Thomas Glass' appraisal of the evacuation of the World Trade Centre in New York is another.⁵⁴ It seems clear that people can behave with great resilience, even heroism, in circumstances when all experts before hand had predicted mass panic and civil breakdown.

The key difference between these examples and the ones I have described earlier is that people can see a wider purpose to accepting the risk, and also have become active participants in the process. It is no co-incidence that during the war years in this country voluntary public participation in the war effort involved up to 80% of the adult population in one shape or form. ⁵⁵

In contrast, if all the authorities can offer is safety for its own sake, in which the only purpose of risk management is to reduce risk, then as Bill Durodie has argued, such measures fail to reassure and generate greater anxiety. Maintaining the resilience of both civil society or the Armed Forces, cannot be seen as simply a matter of reducing risk. Safety first is not enough. People need to know that there is a wider purpose to accepting risk. Public health measures that are based solely on fear, on alarming the public, rarely work, and instead even if they remove one source of anxiety, seem merely store up trouble for the next.

The challenge for all of us, not just the Armed Forces, is to find a positive agenda of engagement that is based on more than simply reducing risk. The goal of a risk free society, let alone a risk free Armed Forces, is unachievable, and probably unpalatable. But at present that seems to be the only purpose of policy, which lacks any vision other than precaution. "Better safe than sorry" may seem sensible, but the danger is that we will end up no safer, and a lot sorer.

Acknowledgements

Numerous people have shaped my views on risk, psychiatry and the military over the years. A few would no doubt be appalled to learn this. Others may detect traces of their own better articulated views in this paper – I trust they will agree that imitation is the sincerest form of flattery. My thanks therefore to Christopher Brewin, Christopher Dandeker, William Durodie, Craig Hyams, Edgar Jones, Rick McNally, Ian Palmer, Keith Petrie, Sally Satel, Ariel Shalev and Ben Shephard. I also wish to thank all of those who have contributed to, a euphemism for carried out, all the research that I claim as my own which provides some of the empirical evidence on which I rely.

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