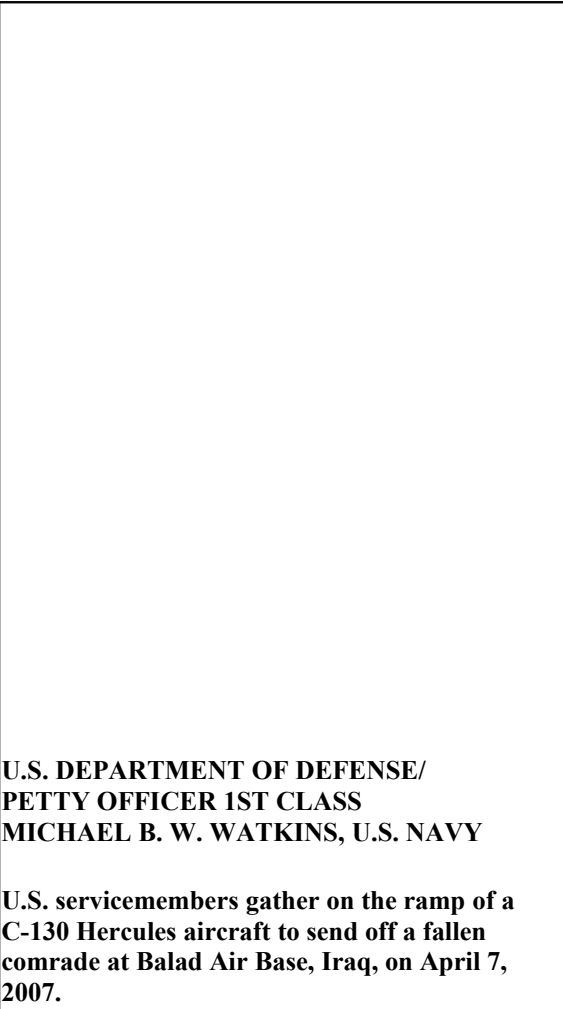


RAND REVIEW

STOP LOSS

A Nation Weights the Tangible Consequences of Invisible Combat Wounds

By Terri Tanielian, Lisa H. Jaycox, and the Invisible Wounds Study Team
Terri Tanielian is codirector of the RAND Center for Military Health Policy Research and deputy director for public health preparedness at the RAND Center for Domestic and International Health Security. Lisa Jaycox is a senior behavioral scientist and clinical psychologist at RAND. Tanielian and Jaycox led a team of more than 30 RAND researchers who studied the invisible wounds of war. Reports from their work can be found at <http://veterans.rand.org>.



Since late 2001, about 1.64 million U.S. troops have been deployed to Afghanistan or Iraq. Public concern about the care of the war wounded is high. Several task forces, independent review groups, and a presidential commission have investigated this care and recommended improvements. Policy changes and funding shifts are under way.

However, the impetus for policy change has outpaced the knowledge needed to inform it. Large gaps remain in our understanding of the prevalence of mental health and cognitive conditions among returning U.S. servicemembers, the costs of these conditions, and the care systems available to treat the conditions.

To begin closing the gaps in understanding, we studied three conditions: post-traumatic stress disorder (PTSD), major depression, and traumatic brain injury (TBI). PTSD is often triggered by exposure to traumatic or life-threatening events, such as combat. Major depression is often linked to grief and loss, which can be salient for servicemembers who

have lost their comrades. TBI refers to any physical brain injury, ranging from a mild concussion to a penetrating head wound.

Unlike strictly physical wounds, these conditions affect mood, thoughts, and behavior and often remain invisible to other servicemembers, to family, and to society. Symptoms of these

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conditions, especially PTSD and major depression, can have a delayed onset, appearing months after exposure to the causative stress. The effects of TBI are particularly unclear, leaving us uncertain about its extent and how to address it.

Based on a survey we conducted of veterans who have returned from Afghanistan or Iraq, we estimate that more than 300,000 veterans — or 18.5 percent of those deployed since 2001 — now have PTSD or major depression. A partially overlapping 19.5 percent — nearly 320,000 individuals — suffered a probable TBI while deployed. Figures 1 and 2 break down the estimated prevalence rates among those who currently have PTSD or major depression, those who experienced a TBI while on duty, and those who have endured both a TBI *during* deployment and PTSD or major depression *following* deployment.

Figure 1 —

Since 2001, an Estimated 18.5 Percent of Veterans Returning Home from Iraq or Afghanistan Have Since Suffered from Post-Traumatic Stress Disorder, Major Depression, or Both

SOURCE: *Invisible Wounds of War*, 2008.

NOTE: The prevalence rates are based on a nationally representative survey of 1,965 recently returned servicemembers.

Figure 2 —

Since 2001, an Estimated 19.5 Percent of Troops on Duty in Iraq or Afghanistan Experienced a Traumatic Brain Injury While Deployed

SOURCE: *Invisible Wounds of War*, 2008.

NOTE: The prevalence rates are based on a nationally representative survey of 1,965 recently returned servicemembers.

By our calculations, the 300,000 PTSD and major depression cases have already cost the nation up to \$6.2 billion in just the first two years following deployments. The additional cost of the documented TBI cases, a small fraction of all probable TBI cases, could exceed \$900 million in just the first year following deployments.

Only about half of veterans who currently need treatment for these conditions seek it, and just 30 percent of those in need of treatment receive minimally adequate care. Yet expanding access to high-quality care can save money while improving recovery rates. Investing in high-quality treatment for PTSD and major depression could save more than \$1,000 per returning veteran (wounded or not) in just the first two years following deployment by substantially reducing the costs of lost productivity and suicide.

With political will galvanized to improve care for the mental health and cognitive conditions of returning U.S. servicemembers, there is now an historic opportunity for transformation. But the magnitude of the challenge should not be underestimated.

Extraordinary Conditions

Stress has been a fact of combat since the beginning of warfare. However, the current conflicts share three unique features pertaining to the stress levels placed on the force: extended deployments, the proliferation of improvised explosive devices, and higher survival rates among the wounded.

The pace of deployments in Iraq and Afghanistan is unprecedented in the history of the all-volunteer force. Not only is a higher proportion of the armed forces being deployed, but the deployments have been longer, redeployment to combat has been common, and breaks between deployments have been infrequent. Many troops have been exposed for prolonged periods to combat-related stress or traumatic events. Some commonly identified current stressors are improvised explosive devices, roadside bombs, suicide bombers, the handling of human remains, killing an enemy, seeing fellow soldiers and friends dead or injured, and the helplessness of not being able to stop violent situations.

The current conflicts have also witnessed the highest ratio of wounded to killed in action in U.S. history. Advances in medical technology and body armor have allowed more servicemembers to survive experiences that would have led to death in prior wars. Consequently, casualties of a different sort — those with invisible wounds — have begun to emerge.

In our survey of a nationally representative sample of recently returned servicemembers, we found high reporting levels of nearly 50 percent for many traumatic events. Vicariously experienced traumas, such as having a friend be killed or seriously wounded, were the most frequently reported (see Figure 3).

Figure 3 —

Vicariously Experienced Traumas Were the Most Frequently Reported

SOURCE: *Invisible Wounds of War*, 2008.

NOTE: The exposure rates are based on a nationally representative survey of 1,965 recently returned servicemembers.

A total of 1,965 individuals participated in our survey. Unlike other surveys of veterans returning from Iraq or Afghanistan, our survey drew from the population of all those who have been deployed, regardless of service branch, active or reserve component, or unit type. Ours also guaranteed confidentiality because our survey data cannot be linked to any individual's government personnel records.

Among the estimated 300,000 recently returned veterans who now have PTSD or major depression, we estimate that 226,000 are afflicted with PTSD, that 225,000 have major depression, and that nearly 150,000 are currently afflicted with both disorders. To measure the rate of exposure to a probable TBI during deployment, we asked veterans a series of questions to determine if they had experienced any combat-related injury resulting in an alteration of consciousness immediately following the injury — such as being confused, experiencing memory loss, or being unconscious. Of the estimated 320,000 veterans who reported having experienced a probable TBI during deployment, most (about 200,000) do not have a current mental health disorder, while the remaining 120,000 also met criteria for PTSD, major depression, or both.

The rates of PTSD and major depression are highest among U.S. Army and U.S. Marine Corps veterans, who have borne the brunt of the recent conflicts; among those who are no longer on active duty (those in the National Guard or National Reserve and those who have left the military); and among women, Latinos, and enlisted personnel. However, the single best predictor of PTSD and depression among all groups of servicemembers is exposure to combat trauma while deployed.

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The need for mental health services for servicemembers deployed to Iraq or Afghanistan will likely increase over the years and decades to come, given the recent large increases among Vietnam and Gulf War veterans who are using mental health services, likely reflecting the lifetime recurrence of mental health problems and legitimate need. Policymakers may therefore consider the numbers presented here to underestimate the burden that PTSD, major depression, and TBI will impose now and in the future.

Editor's Note: The Rand Corporation is a huge resource for information concerning many aspects of the research of veterans care. There are copies available of testimony to congress by Terru Tanielan, Lisa H. Jaycox, and Christine Eibner. These topics are Mental Health Issues, More information is available from the following link <http://veterans.rand.org>.