



**Testimony Before the Subcommittee on
Military Construction, Veterans Affairs,
and Related Agencies
Committee on Appropriations
United States House of Representatives**

**Research Activities at the National
Institute of Mental Health Affecting
Veterans and Their Families**

Statement of

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Good morning Chairman Edwards, Ranking Member Wamp and members of the Subcommittee. I am Thomas R. Insel, M.D., Director of the National Institute of Mental Health (NIMH) at the National Institutes of Health, an agency in the Department of Health and Human Services. Thank you for this opportunity to present an overview of the research activities at NIMH regarding post-traumatic stress disorder (PTSD) and other mental health issues that affect veterans of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF) and their families. In my testimony I will briefly review the clinical challenges, treatment options, research opportunities, and some new efforts from NIMH.

What challenges do today's veterans face?

When NIMH was founded more than 60 years ago, its primary focus was the psychological consequences of war. OIF and OEF present unique challenges that are in many ways different from those of previous wars. The nature of combat, the range of different people going to war, the ability to stay connected to loved ones through technology while in theatre, and the conditions of life back home have altered the physical and psychological risks of war. These new realities of combat, and especially its invisible wounds, are national concerns that affect all of us and all of our communities. NIMH is committed to its research collaborations with the Department of Veterans Affairs (VA) and the Department of Defense (DoD). Not only is this important to the VA and military, but the knowledge we gain will be critical to the civilian sector: many veterans seek care within their home communities and the problems of soldiers are shared by the society they serve.

From a clinical perspective, we worry the most about depression, PTSD, and other trauma-related conditions such as traumatic brain injury (TBI). A 2008 study by the Rand Corporation found that 19 percent of OEF/OIF veterans suffered from TBI, 14 percent met

criteria for major depression, and 14 percent met criteria for PTSD.¹ A person with PTSD experiences intrusive thoughts such as flashbacks, avoids situations that recall the trauma, and often becomes hyperaroused, meaning he or she cannot sleep, is very restless, and can be very irritable. Some of these symptoms are common for many people after a traumatic event, but most people recover. PTSD is a failure of recovery, a persistence of trauma. And it usually is made worse by several coexisting mental disorders,^{2 3} especially depression and substance abuse. We do not have consistent and reliable data to determine how many veterans contend with multiple mental disorders, but a study tracking veterans' use of VA health care found that 29 percent of OEF/OIF veterans had two mental disorder diagnoses, while one-third had three or more.⁴ And a 2008 report estimates that more than 9 percent of veterans ages 21 to 39 experienced at least one major depressive episode in the past year. Among those with depression, more than half reported being severely impaired at home, work, in personal relationships and in social activities.⁵ Other significant medical problems are also likely to develop, such as high blood pressure, asthma, and digestive and stomach problems.⁶

¹ Tanielian T and Jaycox L eds. *Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences and Services to Assist Recovery*. Santa Monica, CA: Rand Corporation. 2008.

² Breslau N, Davis GC, Andreski P, Peterson E. Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Arch Gen Psychiatry*. 1991; 48:216-22.

³ Resnick HS, Kilpatrick DG, Dansky BS, Saunders BE, Best CL. Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *J Consult Clin Psychol*. 1993; 61:984-91.

⁴ Seal KH Metzler TJ, Gima KS, Bertenthal D, Maguen S, Marmar CR. Trends and risk factors for mental health diagnoses among Iraq and Afghanistan veterans using Department of Veterans Affairs Health Care, 2002-2008. *American Journal of Public Health*. 2009 Sept. 99(9):1651-1658.

⁵ SAMHSA Office of Applied Studies. National Survey of Drug Use and Health Report. Major Depressive Episode and Treatment of Depression Among Veterans Ages 21 to 39. November 6, 2008.

⁶ Leserman J, Drossman DA, Li Z, Toomey TC, Nachman G, Glogau L. Sexual and physical abuse history in gastroenterology practice: how types of abuse impact health status. *Psychosom Med*. 1996; 58:4-15.

PTSD also increases one's risk for suicide. Research among civilian populations has noted that PTSD is more strongly associated with suicide than any other anxiety disorder. In fact, having PTSD increases a person's risk for a suicide attempt by six-fold.⁷

What mental health treatments are available now for today's veterans?

There are effective treatments for PTSD and depression. Carefully controlled clinical trials have demonstrated the value of a type of psychotherapy called cognitive behavioral therapy, or CBT, to help treat depression as well as PTSD. CBT helps a person focus on his or her current problems and how to solve them. A trained therapist helps the patient learn how to identify distorted or unhelpful thinking patterns, recognize and change inaccurate beliefs, relate to others in more positive ways, and change behaviors accordingly.

Medication also is used to treat PTSD and depression. Antidepressant medications, such as selective serotonin reuptake inhibitors (SSRIs), are recommended to treat both depression and PTSD. Two SSRIs, sertraline (Zoloft) and paroxetine (Paxil), are FDA-approved to specifically treat PTSD. These medications can help control some of the most disabling PTSD symptoms such as fear, anger and sadness. When these symptoms are controlled, psychotherapy tends to be more effective.

What efforts are underway to improve mental health treatments for today's veterans?

Although we do have effective treatments, unfortunately, they do not work for everyone, and they are not available to everyone. That is why NIMH invests heavily in research aimed at

⁷ Kessler R. Posttraumatic stress disorder: the burden to the individual and to society. *J Clin Psychiatry*. 2000;61[suppl 5]:4-12).

better understanding PTSD, developing more effective treatments, and improving access to care. Recent NIMH-supported research has made significant strides in understanding the nature of anxiety-related disorders like PTSD. Researchers today view PTSD as a brain disorder, related to specific circuits in the brain necessary for overcoming or extinguishing fear.⁸ Recently, scientists have discovered that “fear extinction” in the brain is an active learning process, not a passive process of forgetting.⁹ Researchers have identified at least one specific chemical that may help to improve the brain’s process of extinction learning, and it is currently being tested as an adjunct for treating PTSD.¹⁰ And they have identified periods at which people are most receptive to treatment that may facilitate fear extinction. New research suggests that therapy administered within a certain time frame after the traumatic event may enhance recovery.¹¹ This research and other studies provide hope that our new understanding of fear extinction can be applied to the development of new behavioral therapies to promote more rapid recovery among those suffering from PTSD.

In Fiscal Year 2009, NIMH spent over \$41 million in 97 grants, in 23 states, dedicated to helping veterans. We are working with DoD, VA, and academic clinicians and researchers to focus on the mental health needs of active duty, National Guard, and Reserve service personnel, as well as veterans and their families. We are coordinating what we know and need to know regarding the nature and magnitude of mental health needs related to deployment and war-related

⁸ Milad MR, Quirk GJ. Neurons in medial prefrontal cortex signal memory for fear extinction. *Nature*. 2002; 420:70 – 74.

⁹ Bouton ME. Context and behavioral processes in extinction. *Learn Mem*. 2004; 11:485– 494.

¹⁰ Walker DL, Ressler KJ, Lu K-T, Davis M. Facilitation of conditioned fear extinction by systemic administration or intra-amygdala infusions of D-cycloserine as assessed with fear-potentiated startle in rats. *J Neurosci*. 2002; 22:2343–2351.

¹¹ Schiller D, Monfils MH, Raio CM, Johnson DC, LeDoux JE, Phelps EA. Preventing the return of fear in humans using reconsolidation update mechanisms. *Nature*. 2010 Jan 7,463(7277): 36-37.

trauma. We are working together to identify the barriers to care that some veterans may be facing, and evaluating systems of care within the military and civilian sectors to ensure that all those who might benefit from mental health care receive it. For example, a grant made possible with funds from the American Reinvestment and Recovery Act of 2009 is currently evaluating the implementation of evidence-based psychotherapies used to treat PTSD among veterans, allowing us to specifically measure the impact of these treatments.¹² Other ongoing research is evaluating ways we can increase veterans' willingness to seek out and use mental health services.¹³ ¹⁴ And we are actively trying to make effective psychosocial treatments like CBT and specific CBT techniques that target PTSD more widely available, with Internet-based therapy and telephone-assisted therapy,¹⁵ not only for veterans but for their spouses as well.¹⁶

Moreover, in the last decade, rapid progress in understanding the mental and biological foundations of PTSD has led scientists to focus on prevention. For example, research is underway to identify genetic biomarkers that may increase a person's vulnerability to developing PTSD. NIMH-funded researchers are exploring new medications that may target the underlying causes of PTSD in an effort to prevent the disorder. Others are studying potential medications that appear to selectively affect how traumatic memories are stored in the brain. Still other research is attempting to enhance cognitive, personality, and social protective factors and to

¹² Cook, J. Yale Univ. Theory-driven mixed-methods evaluation of PTSD treatment implementation in VA Res. 1RC1-MH088454-01

¹³ Stecker T. Dartmouth College. Outreach intervention for OIF veterans to promote use of mental health services. 3R34MH078898-04S1

¹⁴ Stecker T. Dartmouth College. Increasing PTSD treatment engagement among returning OEF-OIF veterans. 1R01MH086939-01.

¹⁵ Engel C. Uniformed Services of the U.S. Randomized trial of an online early intervention for combat PTSD in primary care. 5R34MH078874-02

¹⁶ McFarland B. Oregon Health and Science Univ. Preventive web-based intervention for spouses of traumatized military personnel. 5R34MH083494-02

minimize risk factors to ward off full-blown PTSD after trauma. Still more research is focused on mitigating insomnia and other sleep issues among veterans with PTSD.

Finally, in an effort to reduce the increasing rate of suicide among U.S. Army personnel, NIMH and the U.S. Army have partnered to conduct the Study to Assess Risk and Resilience of Service Members (Army STARRS)—the largest mental health study of military personnel ever undertaken. The study's goal is to identify, as rapidly as possible, risk and protective factors that will help the Army develop effective strategies for reducing rising suicide rates and addressing associated mental health problems among service members. The project has been called a Framingham study for the Army.¹⁷ What Framingham did for identifying risk and protective factors for cardiovascular disease, Army STARRS aims to do for suicide and associated mental health problems such as depression, anxiety disorders, and PTSD. The study's findings will also inform our understanding of suicide in the overall population, leading to more effective prevention and treatment for service members and civilians alike.

Army STARRS investigators have designed the study to provide information rapidly so the Army can immediately improve suicide prevention efforts and better address related mental health issues. By October 2010, Army STARRS investigators plan to be conducting more than 6,500 interviews per month with new recruits, plus more than 3,000 interviews per month with Army soldiers in various stages of their career and deployment, including post discharge.

I appreciate the opportunity to discuss the research activities NIMH is undertaking in partnership with the VA and DoD on behalf of our veterans. We have made real progress, and with your continued support and that of the American people, we will more quickly and effectively be able to help these valiant warriors.

¹⁷ The **Framingham Heart Study** is a long-term, ongoing cardiovascular study on residents of the town of Framingham, MA. The study began in 1948 with 5,209 adult subjects from Framingham.