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Soldiers at Increased Risk for Suicide Within a Year of Psychiatric in-Patient Treatment
Predictive analysis can identify high-risk patients prior to discharge

Bethesda, Md – Soldiers hospitalized with a psychiatric disorder have a significantly elevated risk for suicide in the year following hospital discharge, according to findings published in *JAMA Psychiatry*, Nov. 12, 2014. Although this has long been known in the civilian sector, it has never before been studied in the military population.

The study used data from the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS), the largest study of mental health risk and resilience ever conducted among U.S. Army personnel. Robert J. Ursano, MD, chair of the Department of Psychiatry at the Uniformed Services University, Murray B. Stein, MD, MPH, professor of Psychiatry and Family and Preventive Medicine at the University of California, San Diego, both co-principal investigators for Army STARRS, and a team of Army STARRS researchers looked at data from the 12 months following a hospital discharge for more than 40,000 regular Army soldiers (excluding National Guard and Reserve) who served on active duty from 2004 through 2009.

The Army's suicide rate began increasing in 2004, exceeded the rate among U.S. civilians (adjusted to match the sex and age distribution of the Army), in 2009, and has remained high through 2014. This study of administrative data shows that 40,820 soldiers (0.8% of all regular Army soldiers who served from 2004-2009) were hospitalized with a psychiatric disorder. Suicides occurring in this group during the year after a hospital discharge accounted for 12% of all Army suicides during this period.

Researchers also found that it was possible to identify smaller, higher-risk groups within this at-risk population. Analyzing soldiers' characteristics and experiences prior to and during hospitalization, researchers identified the 5% of soldiers with the highest predicted risk of suicide after leaving the hospital. This top 5% accounted for 52.9% of the post-hospital suicides. Soldiers in this top 5% also accounted for a greater proportion of accident deaths, suicide attempts, and re-hospitalizations, compared to other previously hospitalized soldiers.

The researchers report that within this group of hospitalized soldiers, those at higher risk of suicide include: 1) males, 2) those who enlisted at an older age, 3) those with a history of criminal offenses during Army service, 4) those who had prior suicidal thoughts or actions, 5) and those with disorders diagnosed during hospitalization and aspects of prior psychiatric treatment.
However, researchers found that many different factors contributed to predicting suicide risk in this group, both individually and in combination. This fact underscores the complexity of assessing suicide risk and the added value of developing new approaches to better predict very challenging events.

Researchers concluded that the high concentration of suicide risk among this study group, and particularly the smaller highest-risk groups, might justify targeting expanded post-hospital interventions for such individuals. Researchers continue to develop and refine computer models to help the Army predict suicide risk among soldiers and prevent self-harm.

"The application of big data methods to target soldiers at high risk of rare, but important, outcomes like suicide is an exciting development because it gives us a way forward in focusing prevention efforts on an ongoing basis," said Ursano.

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About Army STARRS:
Army STARRS is a large-scale epidemiological and neurobiological study of Army suicides and their correlates sponsored by the Department of Army and funded under a cooperative agreement with the U.S. Department of Health and Human Services, National Institutes of Health, and National Institute of Mental Health. In addition to study leaders Ursano and Stein, members include site investigators Steven G. Heeringa, PhD, at the University of Michigan, and Kessler, along with NIMH collaborating scientists Schoenbaum, and Lisa J. Colpe, PhD, MPH. The team brings together international leaders in military health, health and behavior surveys, epidemiology, suicide, and genetic and neurobiological factors involved in psychological health. For more information on Army STARRS, please visit: http://www.armystarrs.org/

About USU:
The Uniformed Services University of the Health Sciences (USU), founded by an act of Congress in 1972, is the academic heart of the Military Health System. USU students are primarily active duty uniformed officers in the Army, Navy, Air Force and Public Health Service who receive specialized education in tropical and infectious diseases, TBI and PTSD, disaster response and humanitarian assistance, global health, and acute trauma care. A large percentage of the university's more than 5,200 physician and 790 advanced practice nursing alumni are supporting operations around the world, offering their leadership and expertise. USU also has graduate programs in biomedical sciences and public health committed to excellence in research, and in oral biology. The University's research program covers a wide range of clinical and basic science important to both the military and public health. For more info, visit www.usuhs.edu.

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Learning to Care for Those in Harm's Way

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