

Army STARRS Preliminary Data Reveal Some Potential Predictive Factors for Suicide

Early examination of data from the U.S. Army's [Total Army Injury and Health Outcomes Database \(TAIHOD\)](#) has revealed potential predictors of risk for suicide among soldiers. Preliminary results were provided by researchers leading the ongoing [Army Study to Assess Risk and Resilience in Servicemembers \(Army STARRS\)](#). Army STARRS, a partnership between NIMH and the U.S. Army, is the largest study of mental health risk and resilience ever conducted among military personnel.

The TAIHOD database includes information from Regular Army soldiers (not Guard or Reserve Component soldiers) and covers the period between 2004 and 2008. Army STARRS researchers compared data on all suicides, accidental deaths, and combat deaths in an effort to identify patterns and predictors among the three types of deaths.

The following findings are preliminary. They involve relatively few descriptive predictors and do not account for complex events or interactions. Researchers plan to do additional work with a much larger historical dataset and with survey data from the All Army Study and the New Soldier Study (two Army STARRS components) to test these initial findings.

The main preliminary findings include the following:

- **TIME:** The suicide rate increased over time for soldiers in all settings (i.e., those never deployed, currently deployed and previously deployed).
- **DEPLOYMENT:** The suicide rate was highest among those who are currently deployed (18.3 deaths per 100,000) and dropped after deployment (15.9 per 100,000). For the entire TAIHOD dataset (from 2004 through 2008), 23 percent of the soldiers studied were currently deployed, 42 percent had never been deployed and 35 percent had been previously deployed but were not currently deployed.
- **ACCIDENT DEATH & DEPLOYMENT:** Accident deaths also increased over time among the never deployed in a way similar to suicides, but did not increase among the currently deployed or the previously deployed.
- **DEPLOYED WOMEN:** The suicide rate increased among women (from 5.1 to 15.2 per 100,000) more so than men (from 14.8 to 21.1 per 100,000) when comparing soldiers who have never deployed to those currently deployed. However, although the accidental death rate for men increased during deployment (compared to never deployed, from 39.5 to 56.6 per 100,000), there was no corresponding increase among women.
- **MARRIAGE:** Being married is associated with lower risk of suicide during deployment (e.g., 15 per 100,000 among those married compared to 24.5 per 100,000 among those never married). Being married also may protect against accidental death, but only when not deployed (e.g., 27.7 per 100,000 among those married compared to 39.8 per 100,000 among those never married). This difference might reflect the possibility that those who are married tend to engage in less risky behaviors compared to those who are not married, but this difference in behavior is less applicable during deployment. Future analyses will examine this difference more thoroughly.
- **ETHNICITY:** Soldiers of Asian ethnicity had higher suicide rates than other ethnicities. This was true not only during deployment but also among the never deployed and previously deployed.

Asians also had a higher rate of accidental deaths compared to other ethnicities, regardless of deployment status. The reasons for this are unclear.

- **CONCENTRATION OF RISK:** The small number of socio-demographic variables (e.g., sex, age, education, marital status, and race) and career-related variables (e.g., rank, time in service, and deployment status) considered so far show a meaningful concentration of risk of suicide, with 22% percent of suicide deaths occurring to the 5 percent of soldiers with the highest suicide risk profile. The same basic pattern is found for accidental death, with 19 percent of deaths among the 5 percent of soldiers with the highest risk profiles.

Further analyses of the TAIHOD are now underway to better understand and validate the variables that may predict risk for suicide. In addition, Army STARRS researchers are expanding on these initial analyses by examining data from a wide variety of other Army and Department of Defense databases that include information beyond that available from the TAIHOD. Investigators will focus on periods thought to be high-risk in the course of a military career, such as during deployment, and the periods immediately before and after deployment. As the project continues, Army STARRS will collect richer and broader information that will describe soldiers' characteristics, experiences and exposures.