A Soldier with 3rd Platoon, 87th Sapper Company, takes a break during a route-clearance mission in Wardak province, Afghanistan on Aug. 13, 2013. Researchers analyzing data from an Army-wide survey are already busting myths related to deployments and suicide. (Photo by Spc. Chenee' Brooks)

Army Suicide Study Already Busting Myths

By Gary Sheftick

Army News Service

Although researchers are just beginning to analyze data collected from more than 110,000 Soldiers, they have already busted some myths and discovered patterns related to suicide.

One finding confirms an elevated risk of suicide associated with a Soldier's first deployment.

Multiple deployments don't seem to raise the risk, however. That might be because Soldiers make choices after their first deployment or develop coping mechanisms, according to researchers involved in the Army's "Study To Assess Risk and Resilience in Servicemembers," or Army STARRS.

The five-year study was undertaken in 2009 in response to the rising rate of military suicides. It's the largest study ever attempted on mental health risk and resilience among service members, and it involves an expansive partnership between the Army, the National Institute of Mental Health and several universities.

The coalition of researchers found a statistically significant rise in suicides following initial deployments. This finding contrasts sharply with a study featured in the Journal of the American Medical Association's Aug. 7 edition. Led by personnel at the Naval Health Research Center in San Diego, that

study found no association between deployments and increased suicide risk.

That's just not the case for the Army, as depicted by Army STARRS data, said Dr. Michael Schoenbaum, a collaborating scientist at NIMH.

"Soldiers who have deployed at least once do have an elevated suicide rate compared with Soldiers who never deployed," Schoenbaum said.

The AMA journal article was based on analysis of data from the Department of Defense Millennium Cohort Study that sampled all service members, Schoenbaum said, surmising at least half of the participants were Sailors and airmen. In contrast, Army STARRS examines only Soldiers.

"There are a lot of reasons to expect that the experience during deployment of Air Force and Navy personnel is really substantially different from Army and Marine [personnel]," Schoenbaum said.

Higher risk in combat MOSs

Troops in combat jobs have a higher propensity to commit suicide, the Army study found, and that may help explain some differences in conclusions.

"We've identified some [military occupational specialty] categories that are associated with elevated suicide risk," Schoenbaum said. Those military occupational specialties include artillery and infantry.

Willingness to take risks might be a factor in Soldiers choosing a combat MOS, proposed Dr. James Churchill, NIMH program officer.

"They might be risk-takers, willing to step out into the street and lead their platoon," Churchill said, adding that it could help them excel at their jobs. "But at the same time, it might put them at risk for other types of things as well."

These Soldiers have an elevated risk for both fatal accidents and suicides.

Fatal accidents and suicides

Somewhat to the surprise of researchers, Army STARRS found a correlation between risk factors for fatal accidents and suicides.

"We've already found that many of the same factors that predict risk for suicide also predict risk for accident death," Schoenbaum said.

"And you might think that accidents are accidents — that these are random events. But we're not actually finding that," he said.

Churchill explained that risk-takers have more opportunity for fatal accidents, citing for example, "that super-charged motorcycle." And those same Soldiers might be more impulsive, own firearms, and have the means to commit suicide.

Suicide ideations are fleeting, he said, explaining that there's only a short time window in which people will actually follow through with a suicide attempt. If they have deadly means readily available, they have a higher chance of succeeding.

"But our method is not really designed to identify the proverbial ticking time bomb — the individual 'Pvt. Smith' who is about to do something to himself," Churchill said.

Instead the research aims to identify high-risk subgroups of Soldiers, such as those with indicators of psychological distress.

Soldiers with traumatic brain injuries comprise one subgroup that has a higher risk for suicides. Soldiers with post-traumatic stress disorder are another. Some of the groups and risk factors may not be surprising, Schoenbaum said, but he believes Army STARRS will identify some new, not previously recognized risk factors.

The multiple deployment myth

When the study was launched, everyone believed that multiple deployments were a major contributing factor to the rise in suicides. That turned out to be a myth.

Soldiers who had already deployed once had an idea of what to expect, Churchill said.

"They've been there before; they've developed their own sort of strategy or resilience to be able to deal with that stressful situation," he said.

"Risk and resilience are complicated matters," Schoenbaum said. "Factors contributing to suicide are numerous and there's 'no one silver bullet' to identify high risk. Instead, there are complex patterns that must be analyzed. That's why the study is examining such a wide variety of data," Schoenbaum said.

"The Army STARRS study is undoubtedly the largest of its kind ever undertaken on suicide," Schoenbaum said. And it's one of the largest and most complex studies ever administered by NIMH, according to the agency's website.

"We're using lots of different kinds of data," Schoenbaum said. "We're using data from approximately 40 different Army and Department of Defense data systems."

Study components

The study actually has five separate components:

Historical Administrative Data Study: This component involves more than one billion historical health and administrative records from 1.6 million Soldiers. A number of preliminary results in Army STARRS have come from analyzing the Total Army Injury and Health Outcomes Database, or TAIHOD, from Soldiers who served between 2004 and 2009. One preliminary finding was that female Soldiers were three times more likely to attempt suicide when deployed than when at home station. Another was that married Soldiers were less at risk to commit suicide when deployed than their single counterparts.

All-Army Study: This component assesses data from almost 35,000 active duty Soldiers who volunteered to participate in the study, including mobilized Army Reserve and National Guard troops. It also looks at another 10,000 who filled out surveys in theater, mostly while leaving for Rest & Recuperation or returning. The AAS portion of the study began in January 2011, and researchers completed the worldwide data collection earlier this year. The Army STARRS team is just beginning the analysis of these surveys, Churchill said.

New Soldier Study: Researchers invited Soldiers to complete surveys for the study at the beginning of their basic training. Just over 57,000 of the Soldiers volunteered and completed surveys during reception week or initial-entry training. Almost 35,000 also donated blood samples to the study.

Soldier Health Outcomes Study: SHOS-A examines Soldiers who are hospitalized in Army medical facilities because they attempted suicide. It compares them against a control group of Soldiers with similar experiences. SHOS-B interviews family members and supervisors of Soldiers who committed suicide. It's a sort of "psychological autopsy," Churchill said. So far, about 400 cases have been looked at in these two sub-categories of the study.

Special Studies: These include a longitudinal Pre/Post Deployment Study in which about 10,000 Soldiers participated. Volunteers answered questions and donated blood before deploying, and then again after returning home.

A number of different organizations are also involved in the study. Along with NIMH, partners in the research include the Uniformed Services University of the Health Sciences, Harvard Medical School, the University of Michigan, and the University of California-San Diego.

Partnership to save lives

"This has been a great partnership between the Army and the NIMH," said Scott Ludtke, the acting executive director for the study within the Office of the Deputy Under Secretary of the Army.

"I think it's great that the Army reached out to the civilian scientific community to get some assistance with this issue," he said. He added that the study has been fully supported across the force "from the Army senior leadership right down to that Soldier that just entered the military for the New Soldier Study. It's been great support across the board."

The data from new Soldiers, from deployed troops and those serving Army-wide is being used to test hypotheses formed from the historical data, Schoenbaum said, adding that he hopes new insights will be gleaned to help identify patterns of risk and resilience.

The new data are being crunched using statistical modeling algorithms, he said.

"We are able to develop risk algorithms that take advantage of all these different complex patterns in the data," Schoenbaum said.

"Ideally, in the course of doing this, we will identify what I think the Army refers to as actionable factors … we will identify things that the Army can act on to improve the health of the force," Schoenbaum said.

But it's going to take time.

The study is scheduled to end in nine months, but researchers may continue to analyze data from the 110,000 Soldiers long after the deadline.

"We do see that we've made tremendous progress," Schoenbaum said.

"I actually am quite optimistic that we will be able to do this," he said. And that findings will be "turned into practical tools that the Army can make use of in its prevention and treatment programs." ■