

## Suicide risk among 1.3 million veterans who were on active duty during the Iraq and Afghanistan wars

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### ABSTRACT

*Purpose:* We conducted a retrospective cohort mortality study to determine the postservice suicide risk of recent wartime veterans comparing them with the US general population as well as comparing deployed veterans to nondeployed veterans. *Methods:* Veterans were identified from the Defense Manpower Data Center records, and deployment to Iraq or Afghanistan war zone was determined from the Contingency Tracking System. Vital status of 317,581 deployed and 964,493 nondeployed veterans was followed from the time of discharge to December 31, 2009. Underlying causes of death were obtained from the National Death Index Plus. *Results:* Based on 9353 deaths (deployed, 1650; nondeployed, 7703), of which 1868 were suicide deaths (351; 1517), both veteran cohorts had 24% to 25% lower mortality risk from all causes combined but had 41% to 61% higher risk of suicide relative to the US general population. However, the suicide risk was not associated with a history of deployment to the war zone. After controlling for age, sex, race, marital status, branch of service, and rank, deployed veterans showed

a lower risk of suicide compared with nondeployed veterans (hazard ratio, 0.84; 95% confidence interval, 0.75-0.95). Multiple deployments were not associated with the excess suicide risk among deployed veterans (hazard ratio, 1.00; 95% confidence interval, 0.79-1.28). *Conclusions:* Veterans exhibit significantly higher suicide risk compared with the US general population. However, deployment to the Iraq or Afghanistan war, by itself, was not associated with the excess suicide risk.”

### RESEARCH HIGHLIGHTS

- Before the Iraq and Afghanistan wars, the suicide rates among active duty and former military personnel had been 20% to 30% lower than that of the US general population. However, the suicide rates in active duty Army and Marine Corps service members exceeded comparable civilian peers between 2005 and 2009. Given the increased incidence of suicide among recent wartime veterans, this study compares suicide risk between veterans, nondeployed veterans, and the US general population.
- Consistent with past studies on the healthy soldier effect, the researchers found that both nondeployed and deployed veterans had a lower mortality risk. However, among recent wartime veterans, the healthy soldier effect did not render a positive effect on the risk of suicide. The risk of suicide among recent wartime veterans was significantly higher (41% and 61%, respectively) than that of the US general population.
- Findings show that deployment to the war zone by itself did not contribute to the excess suicides in veterans. Additional studies are needed to determine the reasons Army and Marine Corps service members have a higher suicide risk.

## IMPLICATIONS

### FOR PRACTICE

Given that the suicide rate was highest during the first 3 years after leaving military service for both deployed and nondeployed veterans, veterans and their healthcare providers should continually monitor the veteran's mental, emotional, and social well-being. Veterans who think they might be at risk for suicide should seek counseling. Counselors serving veterans should be cognizant of the stressors associated with military service during a war, regardless of deployment status. Family members of veterans should understand that their veteran's readjustment could take time. Family members should remain supportive of their veteran and encourage their veteran to seek medical help if they are exhibiting signs or behaviors associated with suicide.

### FOR POLICY

Currently, the Department of Defense and Veterans Affairs offer more medical screening, counseling, and treatment programs to servicemembers and veterans who were previously deployed. Considering that more screenings, counseling, and treatment programs might have a positive effect in reducing the suicide risk among deployed veterans, the DoD and the VA might continue offering additional services to members with a past deployment. Based on these findings, the DoD and VA offer more long-term screening, counseling, and treatment programs to both deployed and nondeployed veterans.

### FOR FUTURE RESEARCH

Future studies on suicide risk in veterans should further examine reasons why Navy and Air Force veterans have lower rates of suicide. It might be beneficial to evaluate if the service or comradery between the members services as a protective factor against suicide. Additional studies are needed to determine if the increase in the Army suicide rate is associated with a concurrent increase in accession waivers for new Army recruits. Future researchers should assess the underlying reasons for the excess suicide rates among the new generation of both deployed and nondeployed veterans compared with the US general population. Underlying reasons researchers should consider include: whether the recent Iraq and Afghanistan wars have attracted more young adult volunteers with higher levels of risk taking behavior; economic stress associated with transitioning to civilian life and postservice employment; readjustment issues with familial relationships; and the possible link between of perceived mental toughness and avoidance of mental health services. Though a history of deployment in Iraq or Afghanistan was not associated with the excess suicide risk among veterans, further studies are still needed on suicide risk in deployed veterans. Considering the possibility that the psychological effect of war zone deployment may emerge in later years by increased suicide risk among the deployed, future researchers should conduct longitudinal studies on deployed veterans. A limitation of this study is the reliance on death certificates rather than medical records for information on causes of death. Future researchers should use several sources of primary and secondary data, including medical records and interviews.

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