

Accidental death rates among Afghanistan/Iraq war veterans differ by time since deployment, age and gender

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Accidental death is the most common type of mortality among United States military members and veterans who served in the wars in

Afghanistan and Iraq. But there is limited knowledge on whether this risk, or the type of accidental death—such as motor vehicle accidents (MVA) or accidental overdose—vary following military members' return from deployment.

A new study led by a Boston University School of Public Health (BUSPH) researcher has found that MVA mortality rates were highest among soldiers immediately following their return from deployment, and that these rates decreased substantially over time. Death rates from accidental overdoses, however, were lowest in the immediate years post-deployment, increasing sharply over time.

The new analysis, [published in *Annals of Epidemiology*](#), found that accidental deaths accounted for more than one-third of deaths among Army soldiers following their deployment in Afghanistan or Iraq.

The majority of these deaths—46%—were a result of MVA, while 36% occurred from accidental overdose. Among all accidental deaths, younger soldiers between 18-24 years old were at highest risk, followed by soldiers aged 25-34, compared to soldiers ages 40 and above, and males were at higher risk than females.

These findings can inform more tailored and targeted prevention and intervention planning as soon as military members return from deployment, and throughout their lives as veterans.

"Our findings suggest that we should think more strategically about the timing of targeted [prevention efforts](#) for different types of accidental deaths following return from combat deployments," says study lead and corresponding author Dr. Rachel Sayko Adams, research associate professor of health law, policy & management at BUSPH.

"Efforts to reduce risky driving and driving while under the influence

are most critical in the immediate years following deployment return, while initiatives to reduce excessive substance use and to treat [substance use disorders](#) should be implemented early following deployment return and maintained for many years as veterans transition out of military service."

Utilizing data from the Substance Use and Psychological Injury Combat Study, Dr. Adams and colleagues examined [accidental death](#) mortality rates and trends among 860,930 Army soldiers who returned from an Afghanistan/Iraq deployment between 2008–2014.

Afghanistan/Iraq soldiers' high risk for MVA mortality suggests that this risk begins to escalate while they are still in military service, and implies that the time period immediately following deployment is a critical opportunity to provide support and resources that can help prevent risky driving during this transitional phase back to civilian life.

While illicit drug use is less common among military members due to the Department of Defense's zero tolerance policy, prescription opioid misuse increased among military members who served during the Afghanistan/Iraq conflicts, as these wars coincided with the height of the US opioid epidemic, and heavy drinking has been normative in military culture.

Age differences in risk for accidental overdose mortality were particularly stark; compared to those ages 40 and over, accidental overdose [death rates](#) were more than four times higher for soldiers ages 18–24, and nearly 3.5 times higher for soldiers ages 25–29. Further, accidental overdose deaths were more than 11 times higher for junior enlisted soldiers compared to officers.

"We observed that risk for accidental overdose deaths steadily increased during the first decade after returning from combat deployment, with no

observed leveling off of risk through the end of 2018," Dr. Adams says. "These findings suggest that efforts to prevent development of addiction for military members and veterans should be high priority. It is particularly concerning that risk for [accidental overdose](#) deaths were highest for the youngest military members, and those from junior enlisted rank, which represents the largest portion of those who were called upon to deploy during the Afghanistan and Iraq conflicts."

The study also revealed differences in risk of accidental deaths by race and ethnicity. Accidental mortality rates were mostly lower for Black non-Hispanic, Hispanic, and especially Asian American or Pacific Islander soldiers than for white non-Hispanic soldiers.

The researchers hope that future studies will continue to examine these disparities in accidental mortality rates among military members, to explore whether there are differences in risk for accidental [death](#) by history of mental health status and substance use behaviors while in military service.

"Interventions to reduce risky driving and excessive substance use, and to prevent overdose, are of critical importance following combat deployment," says Dr. Adams. "Coordinated efforts are needed from the Department of Defense, Department of Veterans Affairs, and organizations that serve veterans to intervene early for emerging substance use problems and to support the health and well-being of those who served."

At BUSPH, the study was coauthored by Dr. Jaimie Gradus, professor of epidemiology and director of BUSPH's Center for Trauma and Mental Health. Dr. Adams is a partnering faculty member of the Center, which develops public health strategies to address the health consequences of stress and trauma, particularly among vulnerable populations.

Additional co-authors of the study include researchers from Brandeis University, the Veterans Affairs Rocky Mountain Mental Illness Research Education and Clinical Center, the University of Colorado, and Vanderbilt University Medical Center.

More information: Rachel Sayko Adams et al, Divergent trends in accidental deaths since return from an Afghanistan/Iraq deployment among army soldiers, *Annals of Epidemiology* (2024). DOI: [10.1016/j.annepidem.2024.01.002](https://doi.org/10.1016/j.annepidem.2024.01.002)

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