

How to reduce US firearm suicide rates?

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Researchers from Columbia University Medical Center (CUMC) and New York State Psychiatric Institute (NYSPI) have found that legislation reducing access to firearms has lowered firearm suicide rates in other countries. This finding is based on evidence from around the world on the relationship between firearm ownership and firearm suicide rates.

The report was published recently in the *American Journal of Psychiatry*.

To reduce firearm suicide rates in the United States, the authors recommended several measures, such as targeted legislation to limit firearm access to individuals at risk for suicide, using smart gun technology, offering public education on firearm suicide, and research to evaluate the effectiveness of prevention methods.

According to the authors, half of suicide deaths involve a firearm. In 2014, of the more than 33,500 firearm deaths in the United States, over 21,000 were the result of suicide. About 38 percent of U.S. households own at least one gun, making firearms widely available to those at risk of suicide.

Their findings and recommendations were based on a review of case-control, ecological, and time-series studies from the United States and other countries. The researchers extrapolated from gun control measures implemented elsewhere in considering what might be possible and effective in preventing firearm suicides in the U.S.

Studies in the U.S. showed, at both ecological and individual levels, that greater firearm availability is associated with greater risk of firearm suicide. Globally, four studies in other developed countries found that per capita gun ownership correlates with national firearm suicide rates.

Over the three-year period from 2000 to 2002, the 15 states with the highest household firearm ownership (47 percent) had almost twice as many suicides (N=14,809) as the six states with the lowest firearm ownership (15 percent, N=8,052). This difference in overall suicides is largely accounted for by the difference in firearm suicides (9,749 compared with 2,606). Non-firearm suicides (5,060 compared with 5,446) and the total populations of the two sets of states were comparable.

While states vary widely in the stringency of their firearm laws, recent studies are encouraging about the potential benefits of targeted and multifaceted firearm restrictions, including purchasing permits, waiting periods, safe storage, gun violence restraining orders, background checks, and registration guidelines. All of these measures have been associated with lower firearm suicide rates and lower overall suicide rates.

Smart gun technology, such as fingerprint recognition, limits use of a gun to the owner and permitted users. Mandating that new guns use the new technology and instituting trade-in programs to replace old guns with safer ones can prevent a household's firearms from being used for suicide by family members or others with access to the firearm.

Safe storage methods, keeping guns unloaded, methods of identifying individuals at risk of suicide, and changing the belief that a suicide is "inevitable" are among the public health messages that may help reduce firearm suicide rates. Social marketing initiatives to change public perceptions—similar to the successful campaigns to prevent driving

while impaired, encourage seat belt use, and promote smoking cessation—may also prove valuable in reducing firearm suicide rates.

"These findings illustrate the influence that social policy can have on medical conditions, in this case suicide," noted Jeffrey Lieberman, MD, chair of the department of psychiatry at CUMC and director of NYSPI.

All methods to reduce firearm [suicide rates](#) require not only implementation, but also monitoring and systematic evaluation of their effectiveness. "Ultimately," said J. John Mann, MD, the Paul Janssen Professor of Translational Neuroscience (in Psychiatry and in Radiology) at CUMC, director of the Molecular Imaging and Neuropathology division at NYSPI, and senior author, "such program evaluation and lifting the ban on federal funding of research on firearm violence will help improve efforts to reduce firearm suicide mortality."

More information: J. John Mann et al, Prevention of Firearm Suicide in the United States: What Works and What Is Possible, *American Journal of Psychiatry* (2016). [DOI: 10.1176/appi.ajp.2016.16010069](https://doi.org/10.1176/appi.ajp.2016.16010069)

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