

Higher rural suicide rates driven by use of guns

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Suicide rates in rural areas of Maryland are 35-percent higher than in the state's urban settings, a disparity that can be attributed to the significantly greater use of firearms in rural settings, according to new research from the Johns Hopkins Bloomberg School of Public Health.

The findings, to be published online Aug. 17 in the *American Journal of Public Health*, suggest that policymakers grappling with rising rates of suicide in the United States might need to develop more robust rural firearm safety and control initiatives to deal with this pressing [public health](#) problem.

"The reason that rural suicide rates are higher is because people in these areas are killing themselves with guns," says study leader Paul Sasha Nestadt, MD, a post-doctoral fellow in the Bloomberg School's Psychiatric Epidemiology Training Program. "The media focuses on homicides committed with guns, but only one in three deaths by firearm are homicides. The other two are suicides. Most of the other leading causes of death are going down. Suicides are going up—and firearms are a big reason why."

The suicide rate in the United States rose to 13.3 deaths per 100,000 people in 2015, the highest rate in 30 years, up from a low of 10.4 deaths per 100,000 in 2000. Overall, suicide is the 10th leading cause of death in the United States and is second only to accidental injury in adults under the age of 45.

For the study, Nestadt and his colleagues analyzed nearly 6,200 suicides in Maryland between 2003 and 2015. The suicide rate in the most [urban areas](#) was 16 deaths per 100,000, while the rate in rural counties was more than 24 deaths per 100,000. Roughly half of the suicides in the state were committed by firearm. Men committed 80 percent of all suicides and 89 percent of all firearm suicides. The suicide rate by firearm was 66 percent higher in rural as compared to urban areas.

When firearms were taken out of the equation, the researchers found, suicide rates in rural and urban areas were comparable.

"It is often said that people would kill themselves anyway, even if they didn't have access to guns," Nestadt says. "There is an entire body of research that tells us that is simply not true."

Studies show that areas with more firearms have higher suicide rates, especially among children. Access to firearms is certainly one of the factors driving the urban/rural divide in suicide. Other research has found that 71 percent of people acted on suicidal thoughts within one hour of having them.

"If there is no gun around, many people won't have the means to follow through on those impulses, or would use a less lethal method with a much greater chance of survival," he says.

Men are four times more likely than women to die in their suicide attempts, a difference that can be explained by the significantly higher lethality rate in

firearm suicide and the fact that women are much less likely to use firearms to commit suicide. Prevention efforts have targeted rural areas because of the high male suicide rates.

But this study found that women, who less commonly use guns, were 37 percent more likely to commit suicide in urban areas. This suggests that suicide prevention and mental health treatment programs may also need to focus on urban women, a population that has previously been overlooked.

The reasons for the urban/rural divide have been debated. The prevalence of major depression and other common mental disorders is arguably lower in rural compared to urban settings. There have been suggestions that increased [suicide](#) rates in rural areas may be the result of increased economic isolation, economic disparities or decreased access to care. But the new findings, Nestadt says, suggest that any impact from these other factors is overshadowed by the fact that differences in rural/urban [suicide rates](#) are limited to suicides by firearm.

The greater availability of firearms in [rural areas](#) is a likely reason, Nestadt says, though little quality data is available on the prevalence of firearm ownership at the county level. Still, he says, previous research has shown that restricting easy access to firearms - for example, by implementing permit requirements for purchasing handguns - has not only slowed homicides, but suicides too.

Nestadt says laws that allow the transfer of firearms from one person to another in an emergency - for example, making sure that someone who has suffered from suicidal thoughts has someone else hold onto their gun for a while - could be helpful. Also, he says, efforts to help gun shop owners flag people who are potentially buying firearms to kill themselves would be a good step. He says gun shop owners could be instructed to monitor buyers who only purchase a few bullets or people who don't seem interested in how to maintain the gun or who don't seem interested in, say, a hunting license or home security. Such efforts are already underway in states like Maryland and New Hampshire, due in part to the work of firearms dealers' associations.

"Suicide is an impulse and can only be carried out by firearm if there is a gun in the drawer," Nestadt says. "Any barrier you can put up can work."

More information: "Urban-Rural Differences in Suicide in the State of Maryland: The Role of Firearms" *American Journal of Public Health* (2017).

Provided by Johns Hopkins University Bloomberg School of Public Health

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