Mass shootings make the headlines, but most US firearm deaths are suicides, not homicides, and more than half of US suicides involve a firearm.

Of 40,620 US firearm deaths each year, 23,891, or about 58%, are suicides, according to Brady, the Washington, DC–based gun violence prevention organization, which cited the average of 2015-2019 data from the US Centers for Disease Control and Prevention (CDC). And in 2020, the 24,292 firearm suicides accounted for about 53% of the 45,979 total suicides, according to CDC data.

“If we want to meaningfully address gun violence in this country, we cannot do that unless we address firearm suicide,” Christian Heyne, vice president of policy at Brady, noted in an interview with JAMA. The nonprofit is named in honor of the late Jim Brady, shot during an assassination attempt against then-President Ronald Reagan, whom he served as press secretary, and his late wife Sarah Brady. Research suggests that laws making it more difficult to access guns can lower the firearm suicide rate without raising the rate of suicide by other means.

“Surprisingly very little time”—sometimes only a few minutes—elapses between deciding to commit suicide and carrying it out, Heather Saunders, PhD, a postdoctoral fellow at the Kaiser Family Foundation, explained in an interview with JAMA. And unlike with other methods, suicide attempts with guns are nearly always fatal, Saunders noted.

One study found that among suicide methods, firearms were 2.6 times more lethal than suffocation, the second deadliest means of suicide. Although a firearm is used in less than 5% of suicide attempts, firearms account for about half of all suicide fatalities, another study found.

“The accessibility of a firearm has made that temporary crisis a lethal one,” Heyne said. “If you can delay someone’s access to lethal means, you can have a dramatic impact.”

Mental Health vs Firearm Safety Interventions

Traditionally, suicidal behavior has been viewed as a sign of an insufficiently treated mental health condition, Jeffrey Swanson, PhD, a Duke University professor in psychiatry and behavioral sciences, noted in a 2020 article. However, he pointed out, studies have shown that only about 20% of people who die by suicide were being treated for a mental health issue, and patients recently discharged from a psychiatric hospital have a suicide rate 100 times higher than the rate in the general population.

“There should not be a forced choice between suicide prevention policies that increase the public’s access to mental health treatment interventions and those that decrease at-risk individuals’ access to firearms,” Swanson concluded.

A study published in 2021 illustrates his point. Researchers from The Ohio State University, the University of Washington, and the University of Utah conducted a state-level analysis of mental health treatment capacity and suicide outcomes for young people 10 to 24 years of age. They found that on average, a 10% increase in a state’s mental health workforce capacity was associated with a 1.35% relative reduction in the nonfirearm suicide rate in this age group. However, they found no significant relationship between mental health workforce capacity and firearm suicide.

In an earlier analysis of state-level data for 2005, 2010, and 2015, published in late 2019, the same authors did find a significant inverse relationship between greater behavioral health treatment capacity and the overall firearm suicide rate, although the effect was modest: On average, a 10% relative increase in behavioral health workers per state was associated with a 1.2% relative reduction in the adjusted firearm suicide rate.

“Increasing access to behavioral health care is necessary for a variety of compelling reasons,” the authors concluded. “There is no excuse to not also pursue evidence-based firearm safety and control initiatives.”

Red Flags

On June 25, President Joe Biden signed the Bipartisan Safer Communities Act, which the White House called “the most significant gun violence reduction legislation to pass Congress in 30 years.”

The law includes measures addressing both mental health and firearm safety. It provides $11 billion for mental health services,
including increased funding for the Medicaid Certified Community Behavioral Health Clinic program.

Among the measures aimed at preventing firearm violence is $750 million in grants for states to implement what are commonly called “red flag laws,” which allow family members and law enforcement and, in some cases, teachers, coworkers, and physicians, to petition a state court to temporarily remove firearms from the environment of someone deemed at risk of harming themselves or others.

Nineteen states and the District of Columbia have red flag laws, but, of course, that means 31 states do not; 1 of them, Oklahoma, passed an anti-red flag law in 2020 “to strengthen and protect citizens’ Second Amendment rights,” according to a press release issued by the Oklahoma Senate. The law “prohibits the state or any city, county or political subdivision from enacting red flag laws,” according to the press release. “It also prohibits the acceptance of any grants or funding to enact red flag laws.”

Studies by Swanson and others have linked red flag laws, also called extreme risk protection order (ERPO) laws in most states that have them, to fewer suicides in at least 2 states. They are Connecticut, which in 1999, after a “silent and seething” state lottery employee shot and killed 4 senior lottery officials and then himself, became the first state to pass a red flag law, and Indiana, which passed a red flag law in 2005 after an Indianapolis police officer was shot and killed by a man who’d previously had weapons seized from his home when involuntarily admitted to a psychiatric hospital. Upon his release, the man demanded his weapons be returned, and the Indianapolis Police Department lacked legal authority to refuse.

However, “the law’s only half the battle,” Paul Nestadt, MD, an assistant professor of psychiatry at the Johns Hopkins School of Medicine, emphasized in an interview with JAMA. Raising awareness that red flag laws exist and facilitating their use are vital, explained Nestadt, whose research interests include the epidemiology of suicide and the role of firearm access in predicting death. “The devil’s in the details.”

Robert Crimo III, who confessed to shooting dozens of people at an Independence Day parade this year in Highland Park, Illinois, had previously threatened to kill his family, but neither law enforcement nor family members ever initiated a red flag process to temporarily prevent him from owning firearms, PolitiFact, a nonpartisan nonprofit owned by the Poynter Institute for Media Studies, noted in an article a week after the shooting. The problem, according to a Northwestern Medicine physician quoted in the story, was that many people in Illinois, including law enforcement, didn’t know the state’s red flag law existed.

If he had his way, Nestadt said, some funds from the Bipartisan Safer Communities Act would be used to plaster signs on the sides of city buses to raise community awareness about red flag laws.

Physicians and ERPOs
Nestadt’s home state of Maryland was 1 of more than a dozen states, including Florida, that implemented red flag laws after the February 2018 mass shooting at Marjory Stoneman Douglas High School in Parkland, Florida. In the first 2 years after the Maryland law went into effect on October 1, 2018, 2000 ERPOs were filed in the state, a number that took California—whose population is more than 6 times that of Maryland’s—7 years to reach, Nestadt said.

The Maryland law was the first to empower health care professionals to seek temporary removal of firearms from individuals thought to be at risk of causing harm, he said. Red flag laws in Hawaii and Washington, DC, also give clinicians the authority to initiate the process, according to a 2021 article in JAMA Health Forum. “I think it’s been really useful for health care professionals to have the ability” to file ERPO petitions, Heyne said.

Just shy of 10 months after Maryland’s ERPO became effective on October 1, 2018, Nestadt was part of a team that surveyed Johns Hopkins physicians, including pediatricians, psychiatrists, and emergency physicians to gauge their familiarity with it. Of the 353 physicians surveyed, 92 (26.1%) completed it, Nestadt and his coauthors reported in 2020 in JAMA Network Open. After reading a brief description of the law, 85 respondents reported that they encountered patients for whom they’d consider an ERPO at least a few times per year, and 55 reported they’d be very or somewhat likely to file an ERPO petition when they identified a patient who qualified. Even so, only 1 respondent, a psychiatrist, reported having filed an ERPO petition, and 66 respondents (71.7%) described themselves as not at all familiar with ERPOs.

Time needed to complete the paperwork or attend a hearing at the courthouse was the most commonly cited barrier to filing an ERPO petition. Thirty-six respondents (39.6%) said they were concerned that petitioning for an ERPO would negatively affect their relationship with the patient in question.

Since the study was published, Nestadt says he’s given talks twice a week about Maryland’s ERPO law. He gets requests from pediatricians, from emergency departments, from colleges. In addition, he is involved in planning for the use of social workers as “ERPO navigators” in the Hopkins emergency department and at Baltimore Crisis Response Inc.

More Laws, Fewer Suicides?
States also have implemented many other types of firearm legislation besides red flag laws, and a recent study by Saunders suggests that the more such laws a state has, the lower its firearm suicide. The study was published in July on the Kaiser Family Foundation website.

Using 2020 data from the CDC WONDER (Wide-ranging Online Data for Epidemiological Research) database and the State Firearm Law Database, which catalogs the presence or absence of 134 firearm safety laws in 14 categories from 1991 to 2019, Saunders compared states’ numbers of firearm provisions with their firearm and nonfirearm suicide rates. Idaho had the fewest firearm laws on the books, with just 1, while California had the most, with 111, Saunders noted.

She divided the states into 3 groups—those with the most, least, and moderate number of gun laws; respectively, states in the 3 groups had an average of 61, 6, and 19 provisions.

Although her study wasn’t designed to show a causal relationship between the number of gun laws and the firearm suicide rate, it did show a “pretty striking association between the 2,” Saunders noted.

In the states with the fewest gun laws, the suicide by firearm rate was 10.8 per 100,000 population, she found. In the states with the most gun laws, the rate was 4.9 per 100,000, and in the states with a moderate number of gun laws, the rate was 8.4 per 100,000.
If all states had similar suicide by firearm rates as the states with the most gun laws, approximately 6800 lives might have been saved in 2020, Saunders estimated. Meanwhile, rates of suicide by means other than firearms varied little among the states, suggesting that restricting gun access doesn’t drive people to use other methods to commit suicide, Saunders said. In fact, the nonfirearm suicide rate was slightly higher in the states with the fewest gun laws (6.9 per 100,000 population) compared with states with the most gun laws (6.5 per 100,000 population).

Nestadt cited confounding factors that could have accounted for Saunders’ findings. States with fewer firearm safety laws might have more of a “gun culture” and a greater proportion of White residents, who have higher rates of firearm suicides than Black individuals, he pointed out. “We have so many unanswered questions around gun violence,” Saunders acknowledged, in part because Congress only recently ended what had basically been a more than 20-year freeze on funding research into the subject.

Still, her findings echo those of another study, published by researchers at Cedars-Sinai Medical Center in Los Angeles, in 2017. That study, which used the National Inpatient Sample for 1998-2011, found that injuries from firearm-related suicide attempts among hospitalized patients were significantly higher, as were deaths following these attempts, in states with less strict gun laws, as classified by Brady.

One limitation of their study, the authors noted, was that it did not include people who died of self-inflicted gunshot wounds before they could be taken to a hospital, who account for 80% to 90% of suicides by firearms. “However, our intent is to report inpatient suicide data rather than general national rates,” the authors explained.

In addition, they noted, what type of gun law affects suicide rates the most—age restrictions or background checks, for example—wasn’t known. Reducing Firearm Suicides Among Young People

A study published in 2021 examined the relationship of 2 youth-oriented types of state gun laws, child access prevention (CAP) laws and minimum age laws, on firearm suicides among people 24 years of age or younger. The study controlled for several potential confounding variables, such as states’ per capita incomes, unemployment rates, and divorce rates, which could induce stress on youth, the authors wrote.

Every CAP law is different, Jack Kappelman, who coauthored the study, told JAMA in an interview. Such laws generally make it illegal to give an underage individual a firearm and to store a firearm negligently, said Kappelman, a political science PhD candidate at UCLA. He and his coauthor found that only relatively strict state CAP laws, such as those that require firearm owners to safely secure their guns in their home and not provide a gun to a minor younger than 18 years, were linked to a decrease in youth suicides; weak CAP laws, representing the majority of them, appeared to make little difference.

As in earlier studies, the association between strict CAP laws and youth suicides was stronger in males—who in 2019 accounted for nearly 80% of all US suicides—than in females, Kappelman and his coauthor reported. Minimum age laws, only a minority of which set the legal age for purchasing and possessing a handgun at the maximum 21 years, also were associated with lower youth suicide rates, they found.

They saw no relationship between youth-targeted gun laws and suicides by other means, suggesting that firearm safety laws weren’t driving young people to commit suicide with nonfirearm methods, although, they noted, they looked only at suicide deaths, not suicide attempts.

“Suicide is very preventable,” Heyne emphasized. “We can’t do that if we’re not willing to talk about it.”

Conflict of Interest Disclosures: Mr Kappelman reported that he was a paid Brady intern from January 2020 to May 2020.

Note: Source references are available through embedded hyperlinks in the article text online.