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Best way to prevent firearm violence: Limit access to firearms

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Best Way to Prevent Firearm Violence: Limit Access to Firearms

On May 24, 2022, 19 elementary school students and 2 teachers were murdered by an AR-15-wielding gunman in Uvalde, Texas. The school shooting once again shook the public conscience and inflamed existing contention about firearm violence prevention. Unfortunately, school and mass shootings have been characteristics of American life for decades, with the 1999 Columbine high school massacre serving as a tipping point. As evidenced by the increasing number of mass shootings in the 23 years since Columbine, our nation has done little to address firearm violence. Since then, we have witnessed events at Virginia Tech (32 deaths), Sandy Hook Elementary School (27 deaths), San Bernardino (14 deaths), Orlando nightclub (49 deaths), Las Vegas (58 deaths and 546 injured), Sutherland Springs (26 deaths), Marjory Stoneman Douglas High School (17 deaths), Santa Fe High School (10 deaths), El Paso (22 deaths), and many others. In Texas alone, there were at least 9 mass shootings since Columbine, resulting in 115 deaths and 162 injuries.

Although mass shootings (defined as 4 or more victims shot and killed) dominate headlines, they represent only a fraction of “everyday” gun violence.¹ In comparison to mass and school shootings, gun-related assault and homicides have unfortunately become commonplace among the general public. This type of violence is more commonly seen in low-resourced, densely populated inner-city neighborhoods.² Bushman et al detailed the differences in mass versus street shootings among youth²; since the publication of their 2016 article, firearm death has become the leading cause of death for American youths and young adults ages 10 to 24, with Black male youths facing a disproportionate burden of firearm-related homicides.³

The purpose of this writing is less about the differences between individual homicides versus mass shootings and more about what we know and need to know about firearm injury and violence. Research related to firearm access and associations with homicide and suicide and violence is limited. This is in large part due to the Dickey Amendment, which banned the use of CDC (and later NIH) funds from advocating for gun control and which was interpreted for two decades to include research about firearm violence.⁴ In 2020, the ban on research funding was lifted, causing a momentous shift in public health research foci across the country. Relationships and assumptions of violence can now be questioned and studied. Among the critical gaps in knowledge are whether there are linkages to mental illness and gun violence, associations

between access to firearms and intentional shootings, how to prevent school shootings, and the effectiveness of policies that limit gun access.

On the surface, we are a country armed to the teeth in firearms, and reactionary purchases to mass violence are increasing. Globally, US residents face a 25 times higher rate of homicide by firearm than the rates in other high-income countries.⁵ As evidenced by increased sales after high-profile mass shootings,⁶ these deaths fuel, not hinder, American fervor for purchasing firearms. The US Department of Justice's Bureau of Alcohol, Tobacco, Firearms, and Explosives released a report days before the Uvalde shooting, indicating an upward trend of firearms imported into the United States (2.8 million in 2010 to 6.8 million in 2020) and manufactured domestically (5.5 million in 2010 and 7 million in 2019, with the largest increase in 2016 at 11.5 million).⁷ Purchases soared in 2020 with over 22 million documented sales, representing a 64% increase over the 2019 purchases.⁸ Overall, the US civilian gun stock is estimated to be over 393 million.⁹

Mental illness is a spectrum with little to no link to interpersonal violence. The media and many firearm advocates and politicians, albeit often well-intentioned, associate mass shootings and firearm violence with mental illness. This association is misleading, encourages negative attitudes and blame toward people with mental illnesses, and detracts from a more concrete explanation for increased interpersonal firearm violence, which is sheer access.¹⁰

Defining mental illness is challenging. Using the blanketed term "mental illness" can mislead the public into thinking that individuals with any mental illness are dangerous. The concept is more nuanced, however. Mental illness does not conform to a singular category and instead ranges on a continuum from mild to moderate to severe. The National Institute of Mental Health uses two broad categories: Any Mental Illness (AMI), covering a mental, behavioral, or emotional disorder, and Serious Mental Illness (SMI), defined as an AMI resulting in serious functional impairment and interfering with one or more major life activities.¹¹ Mental health symptoms – in youth and adults – have been found to have little association with gun carriage and use.¹² Erroneously linking these two variables further stigmatizes mental illness and thus decreases the likelihood that someone in need of mental health services will seek professional help.

Indeed, there is little population-level evidence to support the notion that individuals with mental illness are more likely than their counterparts to engage in violence. Only about 4% of US crimes involve people with

mental illness.^{13,14} The limited studies that do support a link between mental illness and violence are typically cross-sectional in nature and employ a stratified subpopulation of adults whose crimes did not specify gun use. Not surprisingly, comorbid substance misuse among this subpopulation was found in many studies, confounding the association of mental illness with violent crime.^{14,15} In reality, the overwhelming majority of people with AMI or SMI are not violent and, in some cases, developed a mental illness as a consequence of firearm violence.^{15,16} Reports by police enforcement corroborate this conclusion, stating that encounters between the police and a person with mental illness rarely result in violence.¹⁷

In our longitudinal community-based study of 1042 adolescents and young adults, we did not find a link between gun violence (defined as threatening others with a gun) and symptoms of common mental health symptoms (eg, anxiety, depression, stress, post-traumatic stress disorder, impulsivity, borderline personality disorder). Rather, and unsurprisingly, access to guns was the primary culprit. Youth with ready access to firearms were 18 times more likely to threaten others with a gun than their counterparts who lacked access.¹²

If the data linking mental illness to gun violence is weak,¹⁸ where do we focus efforts? First, we can certainly leverage the momentum in the aftermath of mass shootings to sway policy and educate the public about known contributors of firearm violence (eg, substance abuse, poverty, and gun availability).¹⁹ Second, efforts should mobilize around the larger environmental context of firearm violence as opposed to the individual. Acts of violence, especially mass violence, are not committed by “lone wolves” operating in a silo of mental illness.²⁰ This is not to say that intrapersonal mental health issues should be ignored; rather, they should be examined and addressed in the environmental context of social support (or lack thereof), political, institutional, and cultural forces that interact with the individual. In other words, firearm violence is an integrated public health problem and will not be fixed solely through pinpointing and addressing individual mental health problems.

Prioritizing the environmental issue of gun accessibility. In contrast to scant evidence associating firearm violence with mental illness, access to firearms is the common denominator among all forms of gun violence, including suicides, unintentional deaths at home, and interpersonal assaults at home or in the community.²¹⁻²³ In light of the American fervor behind firearm ownership, we nudge owners toward safe storage and policymakers toward evidence-based and measurable initiatives to make communities safer. Research related to safe storage

(eg, maintaining the firearm is locked, unloaded with ammunition stored elsewhere, or stored outside the home when used for recreation) suggests meaningful reductions in firearm suicides, especially among youth, because it provides a “cooling off” period between an impulsive thought and potential suicide attempt.²⁴ Safe storage also reduces the risk of unintentional shootings by preventing children from mistaking the firearm for a toy.²⁵ Finally, safe storage has implications for interpersonal violence prevention because it prevents domestic abusers from using it as a method to intimidate, control, and hurt their partner.^{26,27} By extension, this may help prevent children from witnessing severe domestic violence, risking developmental impairments in adulthood, and using violence themselves to resolve conflicts.²⁸

Preventing school shootings. On a policy level, states and schools can prevent firearm violence on campus; however, we do not believe that this will be accomplished by arming teachers and staff. No evidence supports the notion that firearms on campus will make schools safer, and we strongly recommend against arming school employees in K-12th grade schools.²⁹ Evidence indicates that arming adults outside of law enforcement elevates risks for injury, accidental firing, and confusion about identifying the perpetrator, should a school shooting occur.³⁰ Rather, we suggest a two-pronged approach to preventing school shootings. First, mandate socioemotional learning and healthy relationship curricula through primary and secondary schooling, such as the *Fourth R* or *Dating Matters* curricula.^{31,32} While initially expensive and resource-intensive, we argue that this proactive approach is fiscally responsible as it will prevent crime and violence while also creating better students and future taxpayers.

Second, banning civilian purchases of large-capacity ammunition magazines and semi-automatic rifles warrants further discourse, even in today’s politically polarized climate. Historically, the 1994 Assault Weapons Ban had prohibited the sale of large-capacity magazines (that fire 10 or more rounds without reloading) and semi-automatic weapons to civilians (such as the AR-15 rifles used at Robb Elementary School (Uvalde), Sandy Hook Elementary School, and Marjory Stoneman Douglas High School). Although the ban was allowed to expire in 2004, societal benefits included a reduction of mass shootings by 70% during the ban years compared to the years after its expiration. In the years after its expiration, deaths from mass shootings trended upwards (relative rate 0.30; 95% CI 0.22-0.39),³³ indicating that a return to this type of policy is necessary if we want to see measurable decreases in mass shootings.

Alternatively, if it is impractical to ban sales of AR-15s and similar rifles with abilities for mass carnage, we urge policymakers to place restrictions of these firearms and magazines on young civilians. Many of the mass shooters obtained firearms via legal purchases; the Uvalde shooter simply had to wait until his 18th birthday to legally buy two AR-15 rifles and seven 30-round magazines. He was legally allowed to display the rifles in public. He had no mental health diagnosis, no adult criminal record, and was known among peers as the quiet kid who was teased for a speech impediment. He was even nicknamed “school shooter.” The fact that he obtained the rifles legally suggests the need for further research on who (eg, increased age), when (eg, longer waiting period), and the types of firearms (eg, rifles, handguns) and accompanying magazines that can be purchased.

Bipartisan Safer Communities Act. On a policy level, limiting gun accessibility from individuals with histories of violence can prevent domestic firearm injuries and fatalities. The recent Bipartisan Safer Communities Act (BSCA), which became law on June 24, 2022, is an essential first step in making environments safer through stronger criteria on who is allowed to purchase a firearm. First, the law closes the boyfriend loophole, which refers to a federal law that previously prohibited convicted domestic abusers from purchasing or owning a firearm but had only included spouses. With 37% of intimate-partner murders occurring among dating partners,³⁴ the new law prohibits all convicted intimate partners from buying or possessing firearms for at least 5 years. This law is supported by evidence showing a 13% reduction in intimate-partner homicide rates (in states that have already included dating partners), compared to the 6% reduction of homicides in states that had excluded dating partners.³⁵ For married couples with a child together, the firearm ban is permanent. We encourage further study of the lifetime ban on firearm purchases and possession in all cases of intimate-partner convictions; if the law effectively deters would-be cases of homicide, extending the lifetime ban to all intimate partners is warranted.

As a supplemental measure, we advocate for complementary social services when applying firearm access laws to domestic violence cases. It is in the child’s best interest to improve relationships between their caregivers. The intent of the access law is to protect the safety of partners and children who have experienced or witnessed domestic violence; it is not or should not be punitive. Efforts should be made to encourage health promotion and avoid criminal measures. In this spirit, victims of domestic

abuse will be more likely to seek help, especially when children are shared between partners.

Lastly, we applaud the provisions of the BSCA that fall outside the scope of firearm access yet can potentially yield enormous benefits for mental health and safety in general. Among these provisions are funding for community violence intervention programs, providing school safety funding, and investing in mental health services. Future research initiatives related to environmental safety should include evaluation and scaling of effective, BSCA-supported programs, and identifying strategies to prevent firearms from reaching the hands of violent users (eg, via interstate firearm trafficking and straw purchasing).

Conclusion. Whether through implementing bans, waiting periods, background checks, age increases, or safe-storage practices, the most effective way to prevent firearm violence is to target an environmental contributor: firearm access. Not only is targeting people with mental illness ineffective and unfeasible, it stigmatizes the use of mental healthcare.

In communities that are high in economic stress and low in resources, being threatened by a firearm as a youth is associated with over 3 times the likelihood of firearm perpetration in adulthood.³⁶ One's history of violence (perpetration or victimization) predicts future violence, and communities--not single individuals--need access to safe and affordable housing, childcare, livable wages, food security, green spaces, education, and the potential for upward mobility. These are the upstream, social determinants of health that serve as long-term, protective factors against violence as we address more immediate needs of reducing firearm access from dangerous environments.

Limiting access to firearms depends in large part on our willingness as a society to participate. While we recognize that US residents value our individual rights, behaviors based in social contract theory have allowed us to become a healthier and safer nation. This is evidenced by the public's agreement to wear seatbelts, refrain from smoking indoors, and mask in crowded indoor events. US residents agreed then to abide by certain rules despite individual differences of opinion, and we saw a decrease in motor vehicle deaths,³⁷ higher odds of smoking cessation among emerging adults,^{38,39} and decreased spread of the COVID-19 virus.⁴⁰ We see no reason that this logic will not extend to policies related to firearm access. Decreasing firearm violence is a societal challenge, not an individual one, and should be addressed accordingly.

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