Reconsidering Risks of Gun Ownership and Suicide in Unprecedented Times

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In March 2020, as the coronavirus pandemic spread throughout the United States, Americans bought nearly 2 million guns — the second highest monthly total in the decades since such records have been kept. Previous spikes in U.S. firearm sales have followed widely publicized mass shootings and the attendant national calls for regulations regarding the prevention of gun violence. (January 2013, the month after the massacre at Sandy Hook Elementary School in Newtown, Connecticut, holds the record for the highest number.)¹ That so many Americans started or added to their personal arsenal when faced with deeply uncertain times suggests the extent to which many consider a firearm to be a form of personal protective equipment during a national emergency.

Gun violence in America is often mired in intense political or legal debate, but the special article in this issue of the Journal by Studdert and colleagues,² which examines the relationship between handgun ownership and suicide in California, serves as yet another reminder that gun violence is unequivocally a public health issue. Two particularly important findings emerge from this rigorously conducted study: first, new handgun ownership is strongly associated with suicide immediately following California’s 10-day waiting period between purchase and acquisition of a firearm; second, although the absolute risk of suicide is higher among men than among women, new handgun ownership is associated with a disproportionately greater increase in death by suicide among women.

The investigators identified handgun acquisitions among California residents on the state’s voter rolls, developing a cohort of more than 26 million people who had no record of handgun ownership. Over an average of 6.9 years of follow-up, 2.6% of the cohort obtained at least one new handgun; approximately 18,000 suicides were observed, with nearly 40% completed with...
firearms. The finding of an association between firearm ownership and death by suicide is not surprising. Analyses conducted over decades have shown that access to a firearm is an independent risk factor for death by suicide, driven by the lethality of attempts with guns.\textsuperscript{3,4} However, this study is by far the largest, and to our knowledge the first, to focus on new firearm owners and to map the time from acquisition, allowing for one of the most granular examinations to date. Among the new findings reported in this study is the sharp increase in death by suicide with a firearm immediately after a handgun has been acquired following a mandatory 10-day waiting period — that is, 11 to 30 days after the purchase of the gun (hazard ratio, 100.1; 95% confidence interval [CI], 55.8 to 179.9). The fact that the risk of death from suicide is 100 times as high in the 20 days after a handgun has been acquired as before acquisition of the handgun suggests that the gun was acquired with deadly intent. A second major finding relates to handgun ownership and risk of suicide according to gender. Women who were new handgun owners were more likely to die by suicide with a firearm than women who did not own a gun (hazard ratio, 35.2; 95% CI, 29.6 to 41.8), representing a much greater increase in risk than that observed in men (hazard ratio, 7.8; 95% CI, 7.3 to 8.4).

This study has several implications for clinical care and suicide prevention. First, any assessment of suicide risk should include inquiries about recent gun ownership and access to firearms. Second, inquiries about gun ownership should not be limited to men, and new gun ownership in the presence of other risk factors for suicide may indicate an immediate and urgent need to assess and mitigate risk. Finally, suicide prevention efforts may benefit from greater partnerships with gun-shop owners.\textsuperscript{5,6} This approach leverages the potential for gun shops to disseminate suicide prevention information to buyers who might be at risk at the point of sale. Gun-shop owners often represent trusted voices among gun owners, offering a potential pathway to raise awareness about suicide and to depoliticize efforts to prevent gun violence.

The study provides critical new insights into new handgun ownership as a risk factor for suicide, but it is limited in its focus on the gun owner, probably underestimating the risk for other household members. The study may also underestimate rates of suicide by firearm in states that do not have a mandatory waiting period, have less stringent gun-related regulations, and have higher baseline rates of deaths by firearm than California.\textsuperscript{7}

Addressing these and other potential limitations of the study will require further rigorously conducted research. It is noteworthy that this study was supported by internal and foundation funding — without federal research dollars. Relative to its morbidity and mortality, firearm-related violence remains one of the most underfunded areas of federally funded research, limiting our ability to answer critical questions.\textsuperscript{8} How will the current surge of gun purchases affect firearm-related violence? With an additional 2 million guns now in households across the country at a time of widespread unemployment, social isolation, and acute national stress that is unprecedented in our lifetime, we urgently need to find out.

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