COMMENTARY

Reducing gun violence in America

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The rate of gun violence in the United States substantially exceeds that of most other developed nations (1). Within the United States, gun deaths—particularly homicides—contribute to disparities in life expectancy between whites and minority groups, particularly African-Americans (2). Scientific progress in understanding how to address this problem has been limited in part because of limited research funding, which itself is largely due to the politics around guns in America (3). Therefore, the new article in PNAS by Luca et al. (4) addresses a critical topic.

In their new paper, Luca et al. argue that the adoption of mandatory waiting periods for handgun purchases reduces gun homicides by about 17%. These estimated effects are enormous. Most remarkable of all is that the policy intervention that leads to these reductions in gun violence would seem to impose so few costs on society. In what follows, I first try to put the magnitude of Luca et al.'s estimates into context to help readers appreciate how large they actually are. Moreover, if the results are correct, they would imply that that almost all gun violence in America is committed by people with only transitory motivation. However, it is also possible that their estimates overstate somewhat the effects of waiting periods on gun violence. This is not intended as a criticism; the question they address is intrinsically difficult. Refining our understanding of this question is likely to require better data systems in the future.

Their analysis also raises a natural follow-up question: If these laws are so helpful, why do only 16 states have such policies currently in place? The answer seems due in part to what has been called the "collective action problem" (5) that leads a small but highly motivated minority of the population to dominate the legislative process. This theory predicts that alternative paths to policy change, such as ballot referenda, should be more likely to result in additional firearm regulations like waiting period requirements. This prediction seems consistent with the experience of several states in recent years.

Fig. 1. Differences in log gun homicide rates between states that did versus did not change waiting periods due to the Brady Act, by year before or after Brady. Source: Figure generously provided by Luca et al. and from reestimating their main equation with log gun homicide rate as the dependent variable, but replacing the binary indicator for whether a waiting period is in effect with a series of indicator variables for whether the state-year observation is X years before or after adoption of a waiting period (X from -4 to $+4$, shown along the x axis). The figure plots the estimates and 95% confidence intervals for the coefficients on these indicator variables, so the y axis is percentage change divided by 100.

The Effects of Waiting Periods on Gun Violence

The system of gun regulation in the United States sets a relatively modest floor of federally required regulations that cities and states can then supplement on their own if they so choose. The federal Gun Control Act (GCA) of 1968 prohibited firearm acquisitions by minors, adults with felony convictions, illegal aliens, and those confined by court order due to mental illness. However, the GCA did not actually require federally licensed firearm dealers (FFLs) to do much to determine the purchaser's eligibility.

Luca et al. examine the consequences of the "natural experiment" that arises from many states choosing on their own to require FFLs to carry out background checks of potential handgun purchasers,

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believe any regulation is a violation of the Second Amendment, or the start down some slippery slope toward repeal of gun rights) can dominate the legislative process.

There is a testable prediction of this theory: mechanisms that reduce the costs of achieving policy change for the majority of weakly motivated people who support additional gun regulations will have a greater chance of success than the usual legislative process. One example of such a mechanism is the ballot referendum. Consistent with these predictions, Oregon's Measure 5 (expanding the set of gun transfers for which background checks are required to include, for example, gun shows) received 61.8% of

the public's vote—much higher than the 47.0% of the state's vote received by the Democratic candidate for president that year (Al Gore). A similar referendum in Colorado in 2000 (Initiative 22) received 70% of the vote, compared with the 42.4% vote share for Al Gore.

What remains to be seen is whether the insights from this social science theory wind up changing the political strategies of gun control proponents over time. If waiting periods are even a fraction as effective as Luca et al.'s estimates suggest, the result could be sizable reductions in this most uniquely American public policy (and public health) challenge.

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