

Science AMA Series: I'm Michael Siegel, a professor of community health sciences at Boston University's School of Public Health. I do research on firearm violence. AMA!

mbsiegel¹ and r/Science AMAs¹

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Abstract

I'm [Michael Siegel]<https://www.bu.edu/sph/profile/michael-siegel/>], MD, a public health researcher and public health advocate. I study firearm violence, a public health issue — particularly, the effect of state firearm laws on gun violence rates at the state level. I've written about the correlation between gun laws and mass shootings, the impact of concealed-carry laws, the firearm industry's influence on the gun culture in the United States, and more. I'll be back at 1pm ET to answer your questions, Ask me anything. ***** SIGNING OFF FOR NOW - However, I will check in this evening and tomorrow to answer any additional questions or respond to additional comments. Thanks to all for these great questions!

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MBSIEGEL [R/SCIENCE](#)

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As someone from a rural background, I was raised with and am quite comfortable with firearms. I now live in a large city and there is a tremendous amount of ignorance and fear regarding firearms in urban citizens who have not had the same upbringing.

How do you account for the rural/urban background divide when assessing impact of laws restricting firearms ownership/usage?

EDIT: How do you account for rural/urban makeup in your state to state comparisons of gun laws?

Should firearms experience and education be mandatory in those making and interpreting firearms policy?

Do you own firearms? Have you ever shot a gun?

[insaneinsanity](#)

I think it is essential that people (like myself) who comment on these topics actually know something about firearms. Few of us (myself included) have ever owned or shot a gun. I have tried to educate myself over the past months by talking to many gun owners and gun dealers, visiting a number of local gun stores, and I have made arrangements with the police chief of a local town to receive a safety training and then head out to a local shooting range.

This is important because there are some aspects of policy that do not make sense one you understand some of these things. For example, many "assault weapons" bans are made based on arbitrary distinctions about guns that have little direct relevance to their lethality. As an example, a rifle that has a folding stock is classified as an assault weapon, but the same exact rifle is not an assault weapon if you simply screw the stock in so that it is fixed. That doesn't make sense to me. The same is true of a rifle that has a bayonet mount, flash suppressor, telescoping stock, grenade launcher, or pistol grip. I don't see how those "cosmetic" aspects of a rifle make it more lethal. These are things I would



not have known if I hadn't spent time inside a local gun shop taking an actual look at the weapons and their features.

As far as the urban/rural issue, you have hit on the next topic of my research. We are looking specifically at differences in urban vs. rural firearm violence and the different impact of state firearm laws on urban vs. rural homicide rates. I don't have any results yet, but we hope to publish on this in the next 6 months.

If you had the opportunity to draft our gun policy in this country, taking into account the amount of guns already in circulation and the culture around the second amendment, what would you be in favor of?

[dacomell](#)

I think the principle to gun regulation should be to balance the right of law-abiding citizens to own firearms with the public health need to keep guns out of the hands of people who are at a high risk of violence. So I think the first and most important element of a policy would be that anyone who is a risk to themselves or others should not be able to have access to firearms. On the other side of that, anyone who is not a risk to themselves or others should be able to have access to firearms, and without unnecessary red tape.

To accomplish this, the central policy would be that people who have a history of violence would not be allowed to own, purchase, or possess firearms. By history of violence, I mean a court conviction for a violent offense (after due process, not just someone making an accusation). This would include offenses at the felony or misdemeanor levels. There would be a system for mandatory reporting of all violent offenses to a central database (e.g., NICS) and background checks would be required for all firearm sales and concealed permit applications.

This would accomplish both objectives: First, it would help keep firearms out of the hands of people at high risk of violence. Second, it would allow us to ease restrictions on firearm transfers in some states that have very strict and onerous laws.

The basic principle here is that the greatest predictor of a high risk of violence is a history of violence in the past. And very few people who commit violent crimes with firearms have absolutely no history of violent behavior in the past.

Note that my suggested approach is not based on banning certain types of weapons (e.g., assault weapons), but on much tighter control of WHO can access firearms. The WHAT is less important to me than the WHO.

First off, let me just say I highly agree with your stance on this problem. I feel the media blows it up, especially in comparison to many, many other preventable causes of death, including deaths of innocents by another person (not to mention how many gun-related deaths are suicides).

With that out of the way, two questions:

1. How many suicides do you think would be prevented if nothing else is done other than removing their access to firearms? Are firearms the ultimate decider, makes it easier for them? Or would most of them pursue another way?
2. Do you have a rough idea of the % of shooting incidents there have been by someone without a history of violence or mental illness?

[DuncSully](#)

1. Based on my research, the prevalence of household gun ownership is a strong predictor of the overall suicide rate. States with a higher proportion of households with guns experience a higher overall suicide rate, not merely a substitution of guns for non-firearm methods of suicide. This is especially true for men, although perhaps not the case for women. See:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4984734/>.

Specifically, we observed complete substitution for female suicide (meaning that if a gun is available, a woman will use the gun but if it is not available, she will still commit suicide, just using a non-gun means). However, for males, we only observed partial substitution, meaning that for many of these events, the absence of a gun actually prevents the suicide. I don't have enough information to quantify the exact number of suicides that could be prevented, but for males, our results suggest that for each 10 percentage point decrease in firearm ownership, the overall suicide rate will decrease by 2 per 100,000. Thus, for every 100,000 males in the population, there would be 2 fewer suicides than expected if the firearm ownership rate were 10 percentage points higher.

1. I do not know of any data on the percentage of shooting incidents committed by someone without a history of violence or mental illness. We do know, however, that in mass shootings, there is previous evidence of mental illness in approximately 50% of cases. This is a critical area for future research, because we need to be able to identify, with specificity and accuracy, people who are at high risk for future violence.

How do you rank these factors in terms of influence on gun violence?

- number of weapons
- type of weapons
- attitude toward weapons
- any factor you consider more important than the above

[narikela](#)

1: WHO has access to these weapons? Are people with a history of violence allowed to own and carry firearms? To me, this is the #1 issue. In most states, a history of conviction for a violent offense does NOT preclude people from buying, owning, or carrying firearms. I think restrictions on access are the central issue.

2: The quality of systems for checking for a history of violence, so that weapons can be kept from people at high risk.

3: The ubiquity of the above factors. In other words, you are only as strong as your weakest link. To prevent gun trafficking from states with weak gun laws to those with strong gun laws, we need restrictions and systems like those mentioned in #1 and #2 to be present, at a minimum level, in all 50 states.

4: Attitudes towards weapons

I wouldn't put number of weapons or type of weapons anywhere near the top of my list because I think they're far less important than issues regarding access.

What do you say to those who say the successful firearm ban in Australia would not work in the USA because of the sheer number of arms?

[Trumps_micro_penis](#)

The estimates I've seen are that there are somewhere between 250 and 350 million firearms in the current stock of civilian-owned guns in the United States. So I don't think it is realistic to suggest disarming the population as the centerpiece of an approach to reducing firearm violence. To me, the

centerpiece of the strategy is better controlling WHO has access to firearms. The better we are able to identify people at the highest risk of violence, the more specifically we'll be able to fashion criteria that maximize the prevention of access by high-risk individuals at the same time as minimizing the imposition to people who are law-abiding and represent low risk. In short, I don't believe that the Australia example is something we should be trying to emulate. However, the experience does provide some evidence regarding the impact that gun regulation can have on firearm-related deaths.

does impeding innocent, law abiding americans ability to own guns really prevent criminals from committing crimes? how has the gun violence rate in chicago changed since illinois rolled back some of its strict gun laws?

[dumfuker](#)

The key is to find a better way of preventing people who at a high risk of violence from accessing firearms, not setting such broad standards that everyone is lumped into the same pot, including people who are perfectly law-abiding. The key to accomplishing this balance is to find more sensitive ways of identifying people who are at the highest risk of violence.

It's kind of like airport security. Why does everyone have to take their shoes off and get patted down? This makes no sense. The reason is that we don't have a very specific way of identifying people at risk. So everyone gets lumped together and we all have to go through these cumbersome rituals. However, if we had a sensitive way of identifying people at greatest risk, then those individuals could be more carefully screened and people at low risk could basically walk on through.

I see the firearm regulation problem similarly. Because we have not developed sensitive measures to distinguish people at low vs. high risk for committing firearm violence, everyone gets thrown together and there are significant impediments in some states for law-abiding citizens to obtain firearms. These burdens could actually be reduced if we found a more sensitive way to identify high risk individuals.

In response to some other questions, I've suggested that a history of conviction for a violent offense should be the gold standard that is set as the indicator of a high risk of future violence. This is based on evidence that the greatest predictor of future violence is a history of violence in the past.

As far as Chicago goes, we have to recognize that most of these urban crimes are being committed with guns that were illegally trafficked into the affected neighborhoods. This highlights the importance of interfering with trafficking avenues across states, in addition to reducing access to guns among high risk individuals within states.

Hi Michael,

Was there ever a case in history when people stopped buying/collecting guns, without a law forbidding them to do so ?

[JohnnyKingos](#)

I'm not aware of such a case.

Thanks for taking the time to do this AMA, Dr. Siegal.

Have you or your colleagues ever directly faced pressure from political groups, think tanks, the firearm industry, etc. to influence your research?

[twinned](#)

I have not faced any political pressure regarding my research. Ironically, the only interference with my research has come from the government itself - the NIH tried to shut down our alcohol advertising research. You can read about it here: <https://www.statnews.com/2018/04/02/nih-rejected-alcohol-advertising-study/>.

Does civilians with guns prevent more violent crimes than it causes, of course we're talking about legal arms.

[Cartkross](#)

On the whole, I believe the evidence supports the conclusion that the likelihood of a gun being used successfully in self-defense is lower than the likelihood that the same gun will be used in an offensive action. However, we are talking here specifically about normal civilian ownership of firearms (not about armed security personnel). I think this question is relevant to the issue of whether or not arming more civilians is a reasonable strategy to deter violence, but not to the question of whether having more security personnel and law enforcement officers in sensitive places would help protect public safety.

Is the increase in mass shootings in the U.S correlated with the # of guns available, or some other variable?

[wifflehockey](#)

First, I'm not convinced that there has actually been an increase in mass shootings in the U.S. A major problem is that with the advent of the internet, there is better reporting of these incidents when they do occur and everyone is aware of them. But studies by experts such as Dr. James Fox (Northeastern University) suggest that there hasn't really been a substantial increase in mass shootings (defined as shooting events with 4 or more victims). There doesn't even appear to have been an increase in school shootings.

This is not to minimize the significance of recent events, but to highlight the fact that gun violence has been an endemic aspect of our culture for far too long.

Also, we don't see a correlation between the number of guns available and homicide and suicide rates; rather, we see a correlation between the proportion of households with guns and firearm violence rates.

In your opinion what could be done to reduce the amount of gun violence in America?

[Lightning_Hopkins](#)

I'm repeating my answer from above, as this is a central question:

I think the principle to gun regulation should be to balance the right of law-abiding citizens to own firearms with the public health need to keep guns out of the hands of people who are at a high risk of violence. So I think the first and most important element of a policy would be that anyone who is a risk to themselves or others should not be able to have access to firearms. On the other side of that, anyone who is not a risk to themselves or others should be able to have access to firearms, and without unnecessary red tape.

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Which would be more effective at curbing mass shooting fatalities...firearms bans, or firearms education?

[ZippyYeti](#)

Neither. I don't think a firearm ban of any kind will solve the problem. Nor do I think that firearm education will solve the problem. I think that we need greater restriction of access to firearms by people with a history of violence or other behavior that shows them to be at high risk of violence. I also think we need to have greater security in sensitive places like schools - but here, I'm talking about trained security personnel, not teachers or school staff.

From your research, does concealed-carry laws help or hurt firearm violence? Is there any indication that some areas should never be allowed to conceal and carry (e.g. hospitals, schools)?

[oopsa-daisy](#)

Based on my research, laws that do not allow law enforcement officers discretion in reviewing concealed carry permit applications are associated with 6.5% higher total homicide rates than in states which do allow such discretion ("shall issue" states vs. "may issue" states). See: <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2017.304057>.

So I do believe that there needs to be some discretion for law enforcement in reviewing these applications. In particular, law enforcement officials need the ability to deny permits to people who have been convicted of misdemeanor violent offenses who they know may pose a high risk, but who cannot be denied permits in most of the 50 states.

I certainly do not think that there should be any concealed carry of firearms in schools or hospitals.

Do you think an annual tax on firearms would be an effective policy for reducing gun violence? How many gun owners would give up their guns if they had to pay, say, \$100 per gun per year license fee/tax? Are there any studies about it?

[geneing](#)

I don't think it makes sense to tax gun owners. If the fee was too high so that it actually restricted access, there could be 2nd Amendment issues since it could be interpreted as a de facto ban on ownership of handguns. However, I do think that it is reasonable to impose a tax on gun manufacturers to increase the incentive for them to stop selling to gun dealers who sell guns illegally to people who should not have access.