

Review

Studies on Firearm Legislation, Injuries, and Fatalities that Demonstrate Political Bias in the Medical Field in the United States

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Abstract

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I have been working in the medical field as a physician assistant for ten years and have always prided myself on the fact that I am helping people live better healthier lives. One of my other responsibilities, I feel, is to accurately relay medical information to my patients and fellow colleagues, especially when it involves issues related to morbidity and mortality. In addition, I am a member of the National Rifle Association (NRA) and a staunch supporter and advocate for all God-given civil liberties entrusted by the United States constitution, including the second amendment (the right to bear arms). For these reasons, some recent medical articles/reports have really struck a nerve with me, as medical professional, as they seem to attempt to push the message that stricter gun laws legislated against law-abiding citizens somehow translates into lower firearm related injuries and fatalities. To the contrary, I will demonstrate that some of these articles are biased and rely on weak data, unproven methodologies, and in the end cannot support their proposal that stricter states laws in America result in lower firearm injuries or fatalities.

Keywords: Fire-arm legislation, Fire-arm related morbidity and mortality, political bias in the medical field

INTRODUCTION

I was very disturbed last year while reading a published article by *The Journal of the American Medical Association (JAMA) Internal Medicine* "Firearm Legislation and Firearm-Related Fatalities in the United States" primarily because the data in this article does not support its bold claim that there is an *association* between a higher number of state laws and the relative number of firearm-related fatalities in that state (Fleegler et al., 2013). More recently, I am once again disturbed by a *Medscape* article "Fewer Gun Injuries in States with Tighter Controls" which promotes unpublished data as unequivocal fact (Harrison, 2014).

The study "Firearm Legislation and Firearm-Related Fatalities in the United States" was conducted and authored by medical professionals with affiliations to the Boston Children's Hospital, Boston Massachusetts, Harvard Medical School, and the Harvard School of

Public Health, Boston Massachusetts. I mention the affiliation to Harvard University because the average person will make the association between a reputable university name and the authenticity of the product; in this case, Harvard University and the study. The proof of this can be seen by the fact that online articles (<http://www.finroad.com/news/newnationwidestudyshowsstateswithmoregunlawshavealowerrateoffirearmfatalities.html>, 2014) and the media (http://www.cnn.com/2013/03/06/us/guns-laws-mortality/index.html?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+rss%2F+cnn_us+%28RSS%3A+U.S.%29, 2014) immediately touted the association between the number of state gun laws and gun-related deaths as a reality and cite this study to validate this claim in an Orwellian attempt to influence public opinion in America. However, did the cited study clearly support this claim? Let us

take a closer look.

There are several problems and weaknesses that can be identified with this study. In fact, the study itself mentions in the conclusion that there were five limitations. So then, how do you project an association about an emotionally charged issue in America without adequate data to support it? I find this particularly disconcerting because I do not approve of the medical field being used as a political pawn to support an agenda, any agenda. As medical providers we are held to a higher standard that is implicit to what we do, i.e., save lives and improve the health of our patients. I will now discuss the problems and weaknesses with the data and point out why this particular study could not support its publicly published *association* between the number of state laws and the number of gun-related deaths.

First, let us examine the methodology. One of the methods of this study was devised by the authors to produce a ranking system which was termed the *legislative strength score*. This was created by the authors using data from the Brady Campaign to Prevent Gun Violence data bank (please keep in mind that the scorecard from the Brady Campaign to Prevent Gun Violence data bank has never been validated for research purposes). How this worked is that points were given based on the number of firearm legislation laws of each state between the years 2007-2010. These scores were then averaged and each state was ranked ranging from 0.5 (lowest) to 22.5 (highest). However, this article admits in the conclusion that this scoring system was never independently validated. Never validated? Then how, or why, does the editorial board of a well-known medical journal, *JAMA*, approve this study for publication? In addition, it was also pointed out in a letter to the editor of *JAMA* that there were flaws in the mathematics of the methodology that can produce "spurious results" (Westphal, 2013).

The next part of this study compiles the number of firearm-related deaths in each state. This was done using the WISQARS database, which is available on the CDC website (<http://www.cdc.gov/injury/wisqars/index.html>, 2014). An overall total indicating the number of firearm fatalities per 100,000 people was procured in each state. This overall number was also separated giving the proportion of homicides and suicides caused by the gun-related fatalities. However, it did not separate fatalities committed by lawful gun owners from fatalities committed by criminals who obtained the firearms illegally. It would appear that the legality of the gun ownership, when associated with a homicide or suicide in this study, is very important because if the gun was obtained illegally the *legislative strength score* would be rendered irrelevant and marginally diminished when calculating the number of fatalities in each state.

A third limitation was pointed out in the conclusion of this study. The authors themselves stated that they were "unable to control for the enforcement of firearm laws and

the exploitation of loopholes". Again, this would render the methodology and utility of the invalid *legislative strength score* pusillanimous.

A fourth weakness of this study, which was again stated by the authors, was that "there may be additional factors not considered in this model". They cited city laws and police enforcement as examples but there are many other critical factors that this study did not consider. For example, how many homicides and suicides were committed by someone with a diagnosed psychiatric disorder as opposed to fatalities committed by someone with no prior psychiatric past medical history or criminal record?

This study also pointed out that there was a strong correlation with a higher number of firearm legislations with a decrease in gun-related suicides per state. However, a similar conclusion could be drawn by a study conducted on the number of people who hang themselves and the availability to rope. The point is that a suicidal person will attempt suicide with whatever means are available. As a physician assistant I have worked in psychiatry (inpatient and outpatient) and have noted that individuals who do not own guns will do other things to commit suicide, e.g., jump off a bridge, slice their wrist/throat, hang themselves, and over-dose on medications.

Finally, it was stated in the conclusion of the Firearm Legislation and Firearm-Related Fatalities in the United States study that it was unable to determine if the high number of state laws were the actual reason for the reduced fatalities. However, the authors of this study state that a higher number of firearm laws in a state are associated with a lower rate of firearm fatalities in that state. In fact, that was the take home message which was stated in black and white in the abstract's conclusions and relevance section! So how do you make a claim about an association and then turn around and say you were unable to support that association? More importantly, how do these glaringly conflicting statements get published in a medical journal? I am not sure that I can answer these questions. However, a reasonable answer to these questions would likely suggest that there might have been some political bias to promote an anti-gun agenda in the United States.

Furthermore, there are examples in their data that do not support the study's proposed *association*. One example is seen with the state of South Dakota. It has a low number of state laws (the study gives it a *legislative strength score* of 2) and a comparatively low number of firearm fatalities. South Dakota had 8.2 firearm-related fatalities per 100,000 people between the years 2007-2010. According to the data presented by the study, only 14 other states had less firearm-related fatalities but had an average *legislative strength score* of 12.36. The obvious flaw here is that you have an example of a state that completely contradicts the proposed association between more state gun laws and lower gun-related

fatalities.

The Firearm Legislation and Firearm-Related Fatalities in the United States article is a poor study that cannot support its proposal and in reality should never have been considered for publication in any medical journal. As a medical provider, doctor, physician assistant, or nurse practitioner, your political opinion is irrelevant when you are presenting data on morbidity and mortality. We have an obligation to our patients and the public to promote safety and common sense, but not to propagate politically motivated falsehoods. I know this. The individuals who conducted this study with their affiliation to Harvard University should know this, as should the editorial board members from *JAMA Internal Medicine*.

More recently, a Medscape article "Fewer Gun Injuries in States With Tighter Controls" (Harrison, 2014) which was written by a freelance writer from Oakland, California, Laird Harrison, has been published with similar rhetoric based on feeble evidence. Prior to discussing the Medscape article, it should be pointed out that Laird Harrison is not a practicing medical professional or researcher. He has published several articles that are clandestinely anti-second amendment (for example, Google Laird Harrison and gun violence or gun control).

The Fewer Gun Injuries in States with Tighter Controls article is not actually a peer-reviewed research or medical article. Rather, it appears to be a brief report on a presentation given by a Dr. Viraj Pandit, a trauma surgeon and researcher from the University of Arizona, Tucson. His presentation was given at *The American College of Surgeons 2014 Clinical Congress*- October 26-30, 2014. Dr. Viraj Pandit, originally from Pune, India has been involved in noteworthy medical articles on the aggressive management and improving the survival of individuals who have suffered gunshot wounds to the head (Bellal et al., 2014a; Bellal et al., 2014b). However, the information cited by Laird Harrison, from Dr. Pandit's presentation, is unpublished at this point.

The Medscape article proposes that states with tight regulations on the purchase and control of guns have fewer injuries and deaths from firearms. The data was collected from the Nationwide Inpatient Sample database (<http://www.hcup-us.ahrq.gov/nisoverview.jsp>, 2014), which identified 2583 gun-related hospitalizations for trauma from 44 of the 50 states in the U.S. from the year 2011. It was not made clear why 6 states were omitted or which states were not included or why only the year 2011 was selected. Next, a 100-point scoring system from the Brady Campaign to prevent Gun Violence was utilized to measure the extent of gun control in each state. This was also used in the previously discussed study's methodology and notably has not been validated for research purposes.

According to Laird Harrison's report, Dr. Pandit's data concludes that the incident of firearm-related injuries were 30% lower in 10 of the states with the strictest gun

regulations, which was a score of 12 or more (out of a possible 100) when compared to the 34 states with "the laxest" laws (which was a score that was less than 12 out of 100). However, Dr. Pandit apparently stated that there were two main weaknesses in the study: 1) that the enforcement of the laws was the biggest limitation in studies such as these and is difficult to control for 2) there may be a potential bias in the scoring system.

The ability to account for the law enforcement of the gun laws in each state was also a weakness pointed out in the Firearm Legislation and Firearm-Related Fatalities in the United States article. Thus, both of these studies are forthcoming with the fact that the fatality figures that are obtained do not distinguish whether the death was caused by a legally owned firearm or a firearm that was procured illegally. If the firearm was obtained illegally then state laws, or any laws for that matter, are rendered irrelevant.

Let us now examine the second weakness mentioned by Dr. Pandit in regard to the "potential bias" of the results presented and then published in the Medscape article. First and foremost, what 6 states were eliminated from this data but on what criteria? Would including these 6 states have altered the resulting 30% reduction in firearm-related injuries? If you recall, there were examples of states; like South Dakota, in the Firearm Legislation and Firearm-Related Fatalities in the United States study in where there were more lax laws but yet comparatively low homicide and suicide rates. So were states like South Dakota among the 6 states eliminated from the data? We do not know because a study was not published, this was a presentation at a conference. Finally, by purging 6 of the 50 states, which would be approximately 12% of the available data, it would appear at the very least that the data obtained does indeed have a potential bias and a wider margin of error. By gathering data in this manner, an author(s) of any firearm-related study can pick and choose which states will yield the results that would support a political agenda. This is not scientific and is by all measurements unethical.

Secondly, the statement that "there may be potential bias in the scoring system" seems accurate. In this study, the cutoff in the scoring system was 12 out of a possible 100. This seems very low. Laird Harrison makes mention of California which registered a score of 81 and had the strictest gun laws which appears to be a very far distance from 12. This prods the question- what would a perfect score entail- the complete disarmament of all law-abiding citizens in America? The point is that in both of the studies discussed here the rating system was based on the Brady Campaign to prevent Gun Violence which has never been validated for use in research. Are there other independently non-biasedly derived scoring system? I have conducted multiple searches and have been unable to find one that was backed up by mathematical or statistical data.

In regards to the scoring system, Dr. Pandit's made a

keen remark which was that “this is the best scoring system that we could use for our study”. Hence, any study that compares the strictness of state laws to correlations to gun-related injuries or mortality is destined to be bias. This is due to the fact that the Brady Campaign to prevent Gun Violence scoring system is one of the only ones that are used in these types of studies. In addition, the Brady Campaign to prevent Gun Violence scoring system is not an approved methodology for scientific research and the campaign is politically biased towards passing stricter laws against law-abiding gun owners in America.

Additionally, it did not escape my attention that at the end of the Medscape article there was a statement “The National Rifle Association did not respond to a request for comment from *Medscape Medical News*”. With all due respect why would the NRA respond to a Medscape article which was based on a conference presentation in where an honest confession by Dr. Pandit stating that there were pivotal weaknesses in the proposal? Furthermore, when has it been the NRA’s responsibility to peer-review medical articles on morbidity and mortality? This “disclaimer” at the end of this article seems to be an attempt by Laird Harrison to clandestinely take an unprovoked cheap shot at the NRA.

Finally, in both articles that were discussed there are two other problems in the reporting of firearm-related fatalities. The first problem is that the major cause of firearm-related fatalities in the United States is suicide. It is not clear, in any sense, that stricter state gun laws will decrease suicide fatalities when other means are available to engender the same result, e.g., hanging or jumping off a bridge.

Another major problem with the reporting of fire-arm related fatalities in America, which was overlooked in both articles, is that firearm-related fatalities that are homicides are also grouped in with deaths caused by law-enforcement. This is evident by the 2014 *Morbidity and Mortality Weekly Review* publication (Parks et al., 2010). Law enforcement personnel are legally allowed to carry firearms and have the legal authority to use deadly force with that weapon at their discretion. The number of deaths caused by law enforcement can never be influenced by state gun laws. Therefore, all firearm-related deaths that are not suicide, need to be further divided into homicides and deaths caused by law enforcement, otherwise it is not accurate data and no correlation to stricter gun laws can be made with these types of numbers. Why was this separation not performed in either article? Was it an attempt to make the mortality numbers appear higher? Or is it that the number of firearm-related fatalities committed by law enforcement in the United States insignificant? Let us take a quick look at this last question.

I did conduct a study on the WISQARS database from the CDC website which is available to anyone (<http://www.cdc.gov/injury/wisqars/index.html>, 2014).

Thus the numbers that I present here can be validated by the reader on this website. According to the WISQARS database there were 3,592 deaths (a crude rate of 14%) that were caused by legal intervention between the years 1999-2007, and 146 in 2011 (a crude rate of 15%). However, data from only 17 states were available on the website, hence these number are likely significantly smaller to the real numbers; especially because states such as New York and California were excluded. Both states have notoriously high crime rates and deaths caused by legal intervention.

CONCLUSION

Unfortunately, it would appear that some entities in the medical community in the United States are willing to fabricate results and aggressively promote weak data on gun-related morbidity and mortality in order to satiate a political agenda, i.e., the demonization of guns and the promotion of stricter draconian gun laws against law-abiding American citizens. It is calamitous that there have been heinous mass shootings that have occurred and that innocent lives have been lost. However, there are a lot of questionable circumstances surrounding some of these recent shootings in the United States indicating that the shooters may not have acted alone. Regardless, the actions of a deranged lunatic should not result in the loss of civil liberties that are inalienable to law-abiding American citizens. In addition, it would appear that more efficient methodologies need to be constructed in order to get honest studies that may help prevent these types of injuries and fatalities, e.g., accurate scoring systems that are validated for research purposes, including data from all 50 states, discerning which deaths were caused by legally owned firearms verse illegally procured firearms, and subdividing firearm-related fatalities into suicides, homicides, and deaths that resulted from law enforcement. This would eradicate any potential bias. Finally, if sectors of the American medical community want to report on gun-related morbidity and mortality and attempt to make correlations to the state laws then they should keep their political agenda at bay and their integrity up front, otherwise all of their work and devotion becomes reduced to nothing more than being a mere pawn on a political chess board and on the wrong side of history.

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