

S.55: Correction to Testimony by Auburn Watersong; RE: & Highlights of cited Annals of Int Med article. Jeffrey Kaufman MD

The following entry appears on the VT House Judiciary Committee's Documents & Bills website page for Thursday, March 15, 2018

- [S.55: Article on 2017 recent research on gun surrender laws published in Annals of Int Med](#) Auburn Watersong

(<https://legislature.vermont.gov/committee/document/2018/18/Bill/4184284#documents-section>)

*Auburn Watersong's testimonial title is **MISLEADING and INACCURATE***

1. Clicking the testimonial link, I found the article referred to is NOT from the Annals of Internal Medicine ("Annals"). The link opens a different article, an opinion piece written by an anti-gun news organization, The Trace. As a physician, I was interested in and prepared to read the cited article in the Annals. Finding an anti-gun opinion piece instead, I decided to study both the substituted article and the real "Annals" article. What I found was disturbing, explained below and in **Highlights from the actual "Annals" article**, on the following pages.
2. Link to the actual referenced "Annals" article:
<http://annals.org/aim/fullarticle/2654047/state-intimate-partner-violence-related-firearm-laws-intimate-partner-homicide>
3. The testimonial title "*2017 recent research on gun surrender laws published in the Annals of Int Med*", actually covers data from 1991-2015. The "Annals" article might be considered recent, published in 2017, but not the data.
4. The "Annals" article's focus was broader than "gun surrender laws". They looked at Intimate Partner Violence (IPV)-related firearm POSSESSION laws, IPV rates, Intimate Partner Homicide (IPH) rates and whether or not IPV-related firearm surrender AND Possession laws influenced IPH rates across the US over 25 years. Further, IPH data also included cases bearing NO RELATION to FIREARMS! The actual study's title did not mention firearm surrender laws for a reason!
5. The article associated with the testimonial link, was not an "Annals" article nor was it written by the authors of the "Annals" study. It made references not contained in the "Annals" article, made assertions at variance with the data published in the "Annals" article, and relied on another non-peer review, anti-gun biased source, as well as other articles published in The Trace.

Highlights from the actual “Annals” article

Of their study, “State Intimate Partner Violence–Related Firearm Laws and Intimate Partner Homicide Rates in the United States, 1991 to 2015”, the authors wrote: “We conducted a panel study to examine the association between state IPV-related firearm laws and total and firearm-related IPH rates between 1991 and 2015”. Their panel study was not constructed as double blind, placebo controlled clinical human research with carefully controlled variables. In fact, the study suffered from self-admitted limitations on causality interpretations.

STATISTICAL SIGNIFICANCE ISSUES

One association they did report was that Intimate Partner Violence-related firearm laws resulted in statistically significant ($P < 0.05$) reduced Intimate Partner Homicide (IPH) rates, in 1 of 6 cases. See Table 1, below

*Table 1. Differences in IPH Rates Associated With 4 Categories of IPV-Related Firearm Laws Considered Individually**

Category	Total IPH		Firearm-Related IPH	
	Difference in Rate (95% CI), %	P Value	Difference in Rate (95% CI), %	P Value
Prohibition of firearm possession by persons convicted of an IPV-related misdemeanor				
Relinquishment of firearms not required	-2.9 (-13.3 to 8.7)	0.61	-6.6 (-13.9 to 1.5)	0.107
Relinquishment of firearms required	-3.9 (-10.4 to 3.2)	0.28	-7.3 (-15.7 to 2.0)	0.118
Prohibition of firearm possession by persons subject to an IPV-related restraining order				
Relinquishment of firearms not required	-6.6 (-13.2 to 0.5)	0.068	-6.4 (-15.0 to 3.0)	0.176
Relinquishment of firearms required	-10.8 (-16.8 to -4.4)†	0.001	-15.0 (-23.3 to -5.9)†	0.002
Removal of firearms from the scene of an IPV incident	-1.9 (-8.2 to 4.9)	0.58	-1.1 (-9.2 to 7.9)	0.81
Prohibition of firearm possession by persons convicted of stalking	-2.6 (-7.5 to 2.5)	0.31	-4.0 (-10.9 to 3.5)	0.29

IPH = intimate partner homicide; IPV = intimate partner violence.

* Negative binomial regression models included year fixed effects and controlled for region, lagged IPH rate, stranger homicide rate, household gun ownership, proportion of the population that is African American, violent crime rate, and divorce rate. The reference group was states with no law in the given category.

† Statistically significant ($P < 0.05$).

Only prohibition of firearm possession by persons subject to an IPV-related restraining order, who were also subject to laws requiring relinquishment of firearms, was found to reduce Firearm-Related IPH significantly.

Laws across the 50 states from 1991-2015 prohibiting firearm possession by persons convicted of an IVP-related misdemeanor, whether in states requiring relinquishment of firearms or not, were not associated with statistically significant reductions in Intimate Partner Homicide (IPH) rates. Nor did laws requiring removal of firearms at the scene of an IPV incident significantly reduce IPH rates. Nor did laws prohibiting firearm possession by persons convicted of stalking significantly reduce IPH rates.

Based on these results, efforts by Vermont legislators to enact laws confiscating firearms of persons who have not been issued an IPV-related restraining order (by a court) would not be expected to reduce IPH rates. Nor would attempts to pass confiscatory firearm laws in Vermont for domestic violence incidents, wherein the State has not met the burden for a court to order such a restraining order, be expected to reduce IPH rates.

ONE

One IPH death in 2015 in Vermont

Vermont had the LOWEST number of Total IPH deaths in the US for 2015!

Appendix Table 2. Firearm-Related and Total IPH Rates in 2015 and Total Number of IPV-Related Firearm Law Provisions in 2014

State*	Firearm-Related IPH Rate in 2015 (per 100 000 persons)	Total IPH Rate in 2015 (per 100 000 persons)	Ratio of Firearm-Related to Total IPH Rate, %	Total IPV-Related Firearm Law Provisions in 2015, n†	Total IPH Deaths in 2015, n‡	Population in 2015, n
Alaska	0.96	1.60	60.3	0	12	738 432
South Carolina	0.87	1.33	65.7	0	65	4 896 146
Arkansas	0.84	1.30	64.5	0	39	2 978 204
Mississippi	0.81	0.97	83.2	0	29	2 992 333
Nevada	0.79	1.15	68.5	2	33	2 890 845
Georgia	0.75	0.91	82.9	0	93	10 214 860
Missouri	0.75	1.01	74.1	0	62	6 083 672
Louisiana	0.73	1.16	63.2	2	54	4 670 724
Tennessee	0.72	1.13	63.6	5	75	6 600 299
Montana	0.68	1.52	44.5	1	16	1 032 949
Virginia	0.56	0.82	68.8	0	69	8 382 993
Kentucky	0.54	0.79	68.2	0	35	4 425 092
Texas	0.50	0.79	63.0	2	218	27 469 114
North Carolina	0.49	0.81	61.0	2	81	10 042 802
Oklahoma	0.45	0.78	57.4	1	31	3 911 338
Michigan	0.44	0.82	53.8	0	82	9 922 576
Maryland	0.44	0.71	62.1	4	42	6 006 401
Arizona	0.40	0.74	54.2	2	50	6 828 065
Idaho	0.40	0.46	86.1	0	8	1 654 930
Kansas	0.40	0.66	60.4	0	19	2 911 641
Indiana	0.39	0.54	73.0	2	36	6 619 680
Pennsylvania	0.38	0.70	54.9	4	89	12 802 503
Wyoming	0.36	0.40	90.6	0	2	586 107
Washington	0.36	0.59	61.0	3	42	7 170 351
North Dakota	0.36	0.55	64.8	0	4	756 927
New Mexico	0.35	0.68	51.7	0	14	2 085 109
Ohio	0.34	0.54	61.7	1	63	11 613 423
Connecticut	0.31	0.47	66.7	5	17	3 590 886
Minnesota	0.28	0.59	47.5	5	32	5 489 594
Nebraska	0.28	0.34	81.3	2	6	1 896 190
Wisconsin	0.28	0.47	58.5	3	27	5 771 337
Colorado	0.27	0.53	50.7	5	29	5 456 574
California	0.26	0.48	54.9	6	188	39 144 818
Utah	0.26	0.30	86.7	1	9	2 995 919
Iowa	0.25	0.42	60.0	4	13	3 123 899
Illinois	0.25	0.39	64.5	6	50	12 859 995
Oregon	0.23	0.50	45.7	0	20	4 028 977
New Hampshire	0.23	0.23	100.0	2	3	1 330 608
West Virginia	0.21	0.51	42.1	3	9	1 844 128
New Jersey	0.20	0.51	38.4	4	46	8 958 013
Vermont	0.16	0.16	100.0	2	1	626 042
New York	0.15	0.38	39.6	5	76	19 795 791
Maine	0.15	0.15	100.0	2	2	1 329 328
Delaware	0.15	0.42	35.0	3	4	945 934
Massachusetts	0.10	0.33	31.3	5	23	6 794 422
Rhode Island	0.10	0.73	13.6	0	8	1 056 298
Hawaii	0.00	0.20	0.0	5	3	1 431 603
South Dakota	0.00	0.77	0.0	1	7	858 469

IPH = intimate partner homicide; IPV = intimate partner violence.

* Alabama and Florida were missing data for 2015.

† Total possible number of provisions is 6.

‡ Includes imputed data from Uniform Crime Reports, Supplementary Homicide Reports (26).

VERMONT had the LOWEST number of Intimate Partner Homicide Deaths in the US in 2015!!

No State experienced fewer deaths! Yet, Vermont is ranked 8th from the lowest, based on population. What difference does population size make in this case?

STATISTICS ARE A “FUNNY” THING. Vermont is ranked as the 8th lowest state in the nation for Firearm-Related IPH rates in 2015 per 100,000 population, with a rate of 0.16, as seen in Appendix Table 2, above. One single IPH death in Vermont for 2015 !! Now you can see why anti-gun activists insist on “per capita” data. The data doesn’t change. They just want Vermont to seem to be less safe than other states. See the **Ecological Fallacy cautions** under “Author Challenges” towards the end of this report.

Appendix Table 5. Model Results When Analysis Was Restricted to Nonimputed Data on IPHs*

Variable	Difference in IPH Rate (95% CI), %	P Value
IPV-related restraining order firearm possession and surrender law	-8.4 (-16.0 to -0.04)†	0.049
Control variables‡		
Region		
Northeast	-3.7 (-15.4 to 9.6)	0.56
South	22.4 (6.5 to 40.7)†	0.004
West	18.8 (5.2 to 34.1)†	0.005
Firearm ownership (SD = 13.4%)	12.8 (7.1 to 18.9)†	<0.001
Stranger homicide rate (SD = 0.83 per 100 000 persons)	1.9 (-1.7 to 5.7)†	0.31
Lagged IPH rate (SD = 0.45 per 100 000 persons)	11.4 (7.4 to 15.6)†	<0.001
Proportion of population that is African American (SD = 9.5%)	9.0 (3.2 to 15.1)†	0.002
Violent crime rate (SD = 2.13 per 100 000 persons)	8.5 (3.8 to 13.5)†	<0.001
Divorce rate (SD = 1.2 per 1000 persons)	4.1 (1.0 to 7.2)†	0.008

IPH = intimate partner homicide; IPV = intimate partner violence.

* The law being tested prohibits persons who are subject to IPV-related restraining orders from possessing firearms and requires them to surrender firearms they already have. The models included year fixed effects, region, household gun ownership, stranger homicide rate, lagged IPH rate, proportion of the population that is African American, violent crime rate, and divorce rate. The reference group is states with no law requiring surrender of firearms by persons subject to an IPV-related restraining order.

† Statistically significant ($P < 0.05$).

‡ All variables are standardized such that the percentage shown is the percentage difference in IPH rates associated with a 1-SD increase in the listed factor.

STUDY FINDINGS “EXCLUDE” VERMONT BASED ON GEOGRAPHIC LOCATION & POPULATION

Data shown in Appendix Table 5, above, shows the reduced IPH rate findings were not statistically significant for the Northeast. In addition to this geographic exclusion for Vermont, was the following explanation by the authors that speaks to the African American population:

“Other state-level variables that were related to IPH in our models were residence in the South, the prevalence of household firearm ownership, the stranger homicide rate, the lagged IPH rate, the proportion of the population that was African American, the violent crime rate, and the divorce rate. Data from a national survey conducted by the Centers for Disease Control and Prevention show that physical (excluding sexual) IPV is approximately 35% higher among African American women than white women (42). Thus, it may be that the significant coefficient for this variable reflects a higher rate of IPH among African Americans.”

IPH rate results for were found to be statistically significantly for regions with higher proportions of population which are African American. **Given that Vermont has an African American population of only 1.3%, based on US Census data, the study results have little applicability to Vermont.**

(www.census.gov/quickfacts/fact/table/VT/PST045217),

IPH rates fell BEFORE states enacted IPV-related firearm Laws!

The authors reported a modest benefit for the 15 states which enacted IPV-related restraining order laws prohibiting firearm possession AND requiring relinquishment, finding: “9.7% lower total IPH rates and 14.0% lower firearm-related IPH rates”. However, the authors reported that nationally Total and Firearm-Related Intimate Partner Homicide (IPH) rates **dropped by nearly 50% from 1991 to 2015** ! (“from 1.19 per 100 000 persons in 1991 to 0.60 per 100 000 persons in 2015, and the firearm-related IPH rate decreased from 0.68 to 0.36 per 100 000 persons”). The rate of drop was reportedly faster from 1991 to 2005, then continued, but dropped more slowly until 2013 in states WITHOUT restraining order firearm relinquishment laws. They reported a slight increase from 2013 to 2015. For states with restraining order firearm relinquishment laws, they reported that IPH rates dropped at the same rate, from 1991, through 2005, and continued at that rate until 2015. The authors explained why they focused on data after 2003: “We examined the association of state IPV-related firearm laws with IPH rates using data subsequent to 2003, a period in which many states enacted such laws. “

THIS MEANS THAT INTIMATE PARTNER HOMICIDE RATES WERE FALLING DRAMATICALLY BEGINNING MANY YEARS (almost half the duration of the study) BEFORE MANY STATES ENACTED IPV-RELATED FIREARM LAWS. ALSO, A DRAMATIC DROP WAS FOUND IN STATES WITHOUT RESTRAINING ORDER FIREARM RELINQUISHMENT LAWS. THESE DATA SPEAK AGAINST EFFORTS PUSHING S.55, SEEKING TO RESTRICT FIREARMS AND ACCESSORIES and S.221, RELATED TO EXTREME RISK PROTECTION ORDERS, AS THE TREND SUGGESTS THAT OVERALL, IPH EVENTS MAY BE SELF LIMITING, AND OTHER FACTORS, AS YET UNIDENTIFIED, ARE OPERATING TO REDUCE IPH RATES WITHOUT CONFISCATORY LEGISLATION OR LAW ENFORCEMENT ACTION.

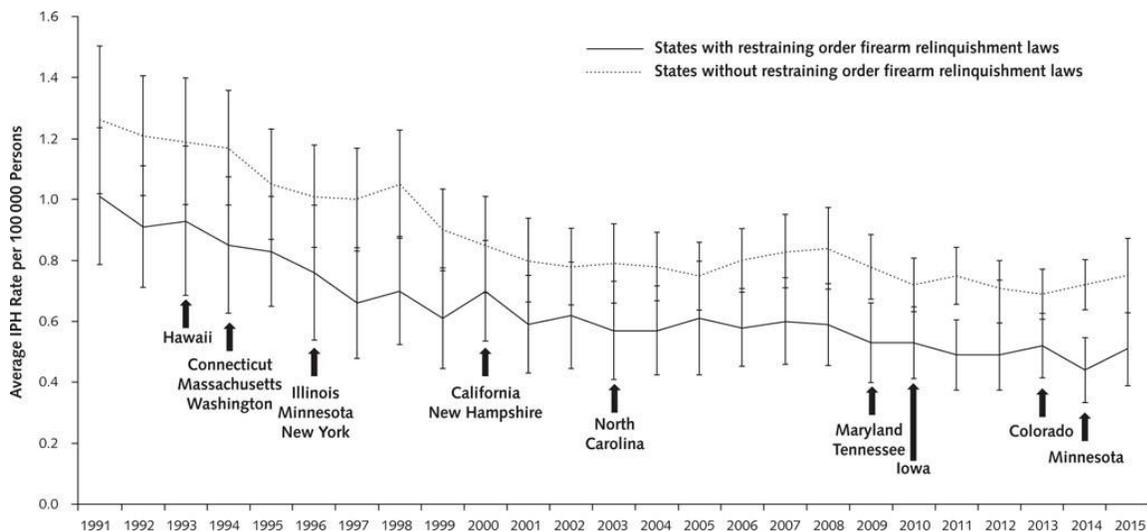


Figure 3 shows the IPH rate drop in states without relinquishment laws parallels the rate drop of those of states with those laws for most of the study period. **The data strongly suggests that factors OTHER THAN restraining order firearm relinquishment laws are operating to reduce IPH rates.**

While states with restraining order firearm relinquishment laws experienced IPH rate drops, as described in the study, the authors reported **no significant reduction in Intimate Partner Homicide (IPH) rates as a function of IPV-related misdemeanor laws, with or without relinquishment; nor laws authorizing REMOVAL of firearms from the scene of a domestic violence incident, nor prohibitions of firearm possession by persons convicted of stalking.** (emphasis mine) See Table 1, below

Table 1. Differences in IPH Rates Associated With 4 Categories of IPV-Related Firearm Laws Considered Individually*

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† Statistically significant ($P < 0.05$).

In other words, neither government REMOVAL of firearms laws nor relinquishment laws achieved statistically significant IPH reduction for these misdemeanants.

BIAS: “Annals” bias may affect study result validity

35 years ago I was a young physician critically reading and analyzing numerous medical journals. The “Annals”, a publication of the American College of Physicians, had a reputation then as a well-regarded “peer-review” journal. Medical education at the time stressed disregarding papers showing observer bias and discounting those poorly designed, as they suffered from questions of credibility and compromised result reliability. For science to be truly independent and free from bias, it must be free from political and societal bias as well. It shocked me in preparing this report to see that on April 7, 2015, the “Annals” reported that they have collaborated with 8 health professional organizations, including the ACP, ACOS, ACOG, APHA, APA, AAFP, AAP, ACEP, and the American Bar Association **to effect anti-Second Amendment legislation** in this country based on their beliefs.

“The need for reasonable federal laws, compliant with the Second Amendment, about “assault weapons” and large-capacity magazines has been debated recently. We believe that private ownership of military-style assault weapons and large-capacity magazines represents a grave danger to the public, as several recent mass shooting incidents in the United States have demonstrated. Although evidence to document the effectiveness of the Federal Assault Weapons Ban of 1994 on the reduction of overall firearm-related injuries and deaths is limited, our organizations believe that a common-sense approach compels restrictions for civilian use on the manufacture and sale of large-capacity magazines and firearms with features designed to increase their rapid and extended killing capacity. It seems that such restrictions could only reduce the risk for casualties associated with mass shootings.”

<http://annals.org/aim/fullarticle/2151828/firearm-related-injury-death-united-states-call-action-from-8>

The “Annals”, has apparently become a mouthpiece for (unconstitutional) legislative activism.

They have broken with the principles which earned their good reputation and no longer serve as an independent instrument of science. I can only imagine what force(s) they now serve. Their statement language resembles the Bloomberg / Everytown playbook, often heard from Vermont anti-gun activists, but has no place inserting itself into and certainly not replacing the scientific method which relies on the elimination of bias, a cornerstone underlying valid and reproducible scientific research. I now better understand the anti-gun testimonial selection of an “Annals” article.

- 1. The data source selection suggests the authors have a preconceived “anti-gun” bias.** Their choice of obtaining data from “Everytown for gun safety” is highly suspect, as Everytown is one of the largest, most active, and well funded anti-gun activists operating today. Biased data selection compromises causality interpretations.

The authors chose the 2015 data set for focus and analysis (1 of 25 years).

“Everytown for Gun Safety developed a database of state IPV-related firearm laws over time (28). Using this database, we coded 4 categories of laws and their operative provisions (a total of 6 variables) as present or absent for each state during each of the 25 years from 1991 through 2015 (Appendix Table 1). Data on these provisions for all 50 states for 2015 are shown in Appendix Tables 2 and 3.”

Their 2015 data analysis favors the author’s preconceived expectation.

- 2. Biased data source selection: neglecting legitimate research which may not fit the author’s political agenda.** A March 1, 2017 study by Susan Sorrenson, “Guns in Intimate Partner Violence: Comparing Incidents by Type of Weapon”, was published in the Journal of Women’s Health: Data from the scenes of IPV in the fifth largest U.S. city, Philadelphia, during 2013. **Of the 35,413 IPV incidents, 8,439 (23.8%) involved a weapon; 6,573 (18.6%) involved hands, fists, or feet; and 1,866 (5.3%) involved an external weapon (i.e., a weapon other than hands, fists, or feet). Of the latter, 576 (30.9%) were guns, that is, 1.6% of all incidents involved a gun.”**

3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5361762/>

This study provides perspective as the “Annals” authors have you connecting IPV events to firearms, while in the Philadelphia study only 1.6% of IPV incidents involved a gun.

4. **The authors may have a political agenda, aligned with that of the “Annals” and ACP, and are working to influence legislation based on the outcomes of their studies.**

The authors report a number of challenges they faced which may affect the validity of their analysis.

“The chief potential threat to the validity of our findings is that states that have enacted laws requiring subjects of IPV-related restraining orders to surrender their firearms may differ from those that have not in ways that were not measured. Another important limitation of this research is that even if laws are written similarly, their enforcement may vary by county, city, or town within a given state. There may also be differences in how the judicial system in each state adjudicates IPV cases and in how state law handles protective orders in general. Our findings may also reflect the effect of laws other than IPV-specific ones. **Finally, to avoid the ecological fallacy, caution must be used in drawing inferences from this study with regard to the relationship between both the main exposure variable (state laws) and the covariates and IPH risk at the individual level.**” (emphasis mine)

The author’s caution regarding the ecological fallacy should also be adopted by anti-gun activists seeking to replace individual with capitated data to avoid arriving at incorrect assumptions.

Role of the Funding Source

The authors disclose that: “This research was funded by a grant from the Evidence for Action: Investigator-Initiated Research to Build a Culture of Health program of the Robert Wood Johnson Foundation. The funder had no role in the design and conduct of the study; collection, management, analysis, or interpretation of the data; and preparation, review, or approval of the manuscript.”

However, Evidence for Action (E4A), provides funding only for certain research initiatives. From their website, “E4A will support a “matching team” overseen by a grantee organization that meets the eligibility criteria noted below. The grantee’s primary role will be to link organizations working in and with communities with strong research partners **to rigorously evaluate the health impacts of program or policy interventions.**” (emphasis mine)

That means that as an inducement to obtain funding, researchers can focus their studies on public policy interventions, biased, but “win-win” for political activist “researchers”.

www.rwjf.org/en/library/funding-opportunities/2018/evidence-for-action--matching-service.html