



**GUN DEATHS AND INJURIES:
A PUBLIC HEALTH PERSPECTIVE**

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**34,000 persons die per year
in US of Gun Deaths**

April 2016 update

Gun Suicide

John Lennon
December 8, 1980.
Shot at close range
with 4 hollow-point
bullets from a Charter
Arms Undercover .38
Special.

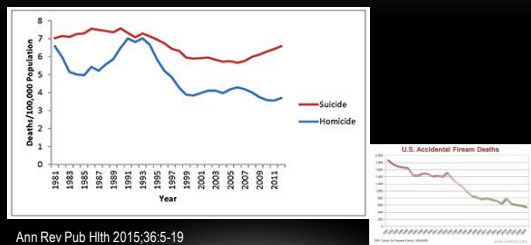
Kurt Cobain
April 1994

A PUBLIC HEALTH APPROACH

- Study gun related injuries to examine the gun user, the victim, the gun, and the setting.
- Identify factors associated with more / less risk of injury or death.
 - Risk factors are not "causes."
 - Risk factors do not predict morbidity in a particular case.
- Use lessons from other public health campaigns (e.g. tobacco, etc.)
- Develop, demonstrate, implement morbidity prevention strategies.

J Pub Hlth Pol 2001; 22:381-402.

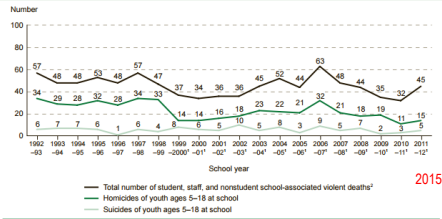
34,000 PERSONS DIE PER YEAR IN US OF GUN DEATHS
GUN DEATH RATES ARE DECLINING



Ann Rev Pub Hlth 2015;36:5-19

VIOLENT DEATHS IN US K-12 ARE FLAT

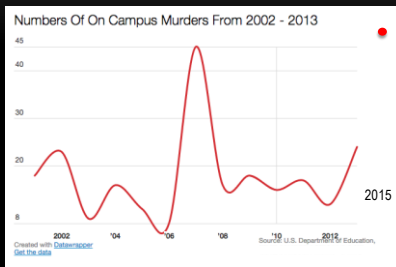
Figure 1.1. Number of student, staff, and nonstudent school-associated violent deaths, and number of homicides and suicides of youth ages 5–18 at school: School years 1992–93 to 2011–12



US Department of Education

Sandy Hook 2012 was 20 deaths

COLLEGE MURDERS-OCT 9, 2015



NRA BLOCKS RESEARCH

2 CDC N Engl J Med: guns in home associated with ↑ homicide & suicide.

Nat Instit Alcohol Abuse and Alcoholism in Am J Pub Health shows ↑ risk to assaulted gun carrier.



Sandy Hook

1992, 93.

2009

2012



1996

2011

2013

2014, 5

NRA successfully lobbies to instruct CDC: "None of the funds . . . may be used to advocate or promote gun control." Gun research ↓ 96%.

CDC research ban extended to Dept Health and Human Services agencies, (e.g. NIH).

NRA successfully lobbies to bar Bureau of Alcohol, Tobacco, Firearms and Explosives from using gun data to make conclusions about gun crimes.

GOP house block \$10 M for gun violence research.

1976 Consumer Product Safety Commission is barred from creating gun safety standards.

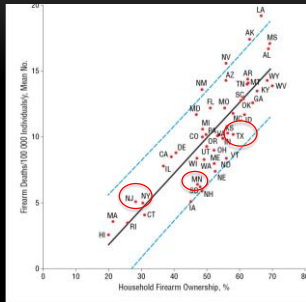
"I'm Sorry, but a Gun Is Not a Disease"



Meet Chris W. Cox
NRA-ILA's Chief Lobbyist

"Our concern is not with legitimate medical science."
"Our concern is they were promoting the idea that gun ownership was a disease that needed to be eradicated."

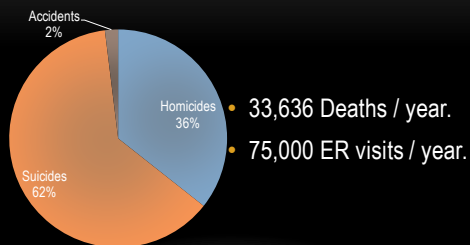
MORE GUN HOUSEHOLDS: MORE GUN DEATHS.

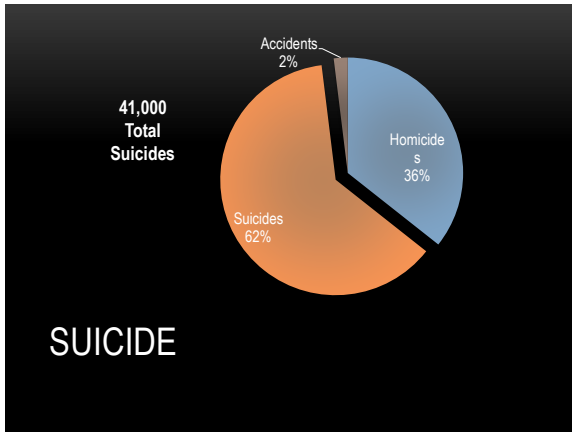


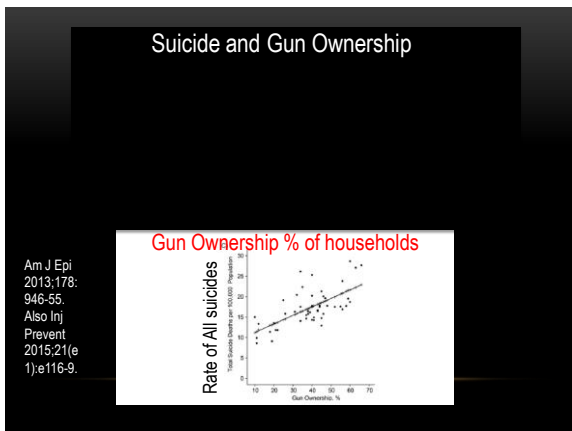
"The only way to stop a bad guy with a gun is with a good guy with a gun,"
NRA Executive Vice President
Wayne LaPierre.

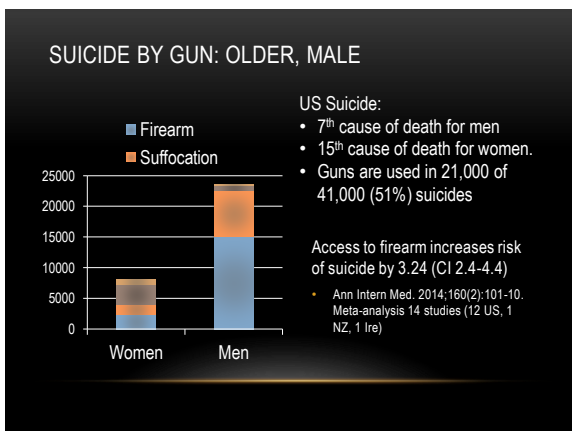
JAMA Intern Med. 2013;doi:10.1001/jamainternmed.2013.1286

GUN DEATHS









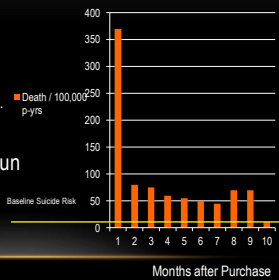
HIGHER RISK OF SUICIDE IN GUN OWNING HOUSEHOLD NOT EXPLAINED BY MORE MENTAL ILLNESS IN THE HOUSEHOLDS.

- People in homes with guns are **no more likely** to have anxiety, mood disorders, substance dependence, or suicidal ideation or planning.
- Having made a suicide attempt over the past year was the only mental health factor more common in people who lived in a home **without** firearms.

Injury Prevention. 15(3):183-7. 2009 Jun. Household survey of 9282 adults. Multivariate logistic regression analyses controlled for age, sex, race/ethnicity, educational attainment and poverty.

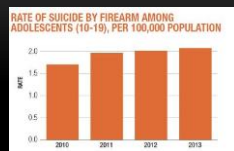
SUICIDE AFTER GUN PURCHASE:

- Suicide leading cause of death of handgun buyer during 1st year after purchase.
 - N Engl J Med 1999; 341:1583-9.
- Background checks delaying acquisition of a gun in some studies decrease death by suicide.



TEEN SUICIDE: **ACCESS** NOT **IMPULSE**

- 80% of teen suicides are at home.
- Handguns used in most teen suicides.
- **A home with a handgun is 10 times more likely to have a teen suicide.** Most guns owned by parents.
- Teen gun suicide trys are 80-90% lethal.
 - Youth Suicide by Firearms Task Force. <http://www.pbs.org/thesilentepidemic/riskfactors/guns.html>
 - Suicide & Life-Threatening Behav. 2010;40:609-11.
- Children committing gun suicide **do not have more suicide risk factors (e.g., suicidal thoughts).**



CDC 2015



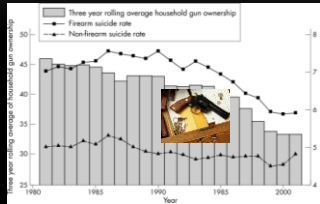
Adolescent gun suicide risk factors are more likely to report in-home firearm access as those without risk factors. AMA Psychiatry 2015;72:152-9.

WHEN GUNS LEAVE HOUSEHOLDS: FEWER PEOPLE, ESPECIALLY TEENS, SUICIDE.

When there are guns in the home, women's risk of suicide **increased 5 fold**.

Each 10% decline in percent of homes with children and guns, is associated with 8.3% drop in child firearm suicide.

- Inj Prev. 2006 June; 12(3): 178-182. Multivariate population study, US.
- See also: J Trauma 2007;62:1029-35.

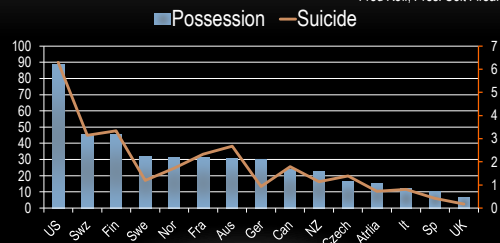


NB: Studies suggest that handguns are a greater risk than long guns and that guns stored unlocked are a greater risk than guns stored locked.

PREVALENCE OF GUNS AND PREVALENCE OF GUN SUICIDE.

**Guns Don't Kill People
People Kill People**

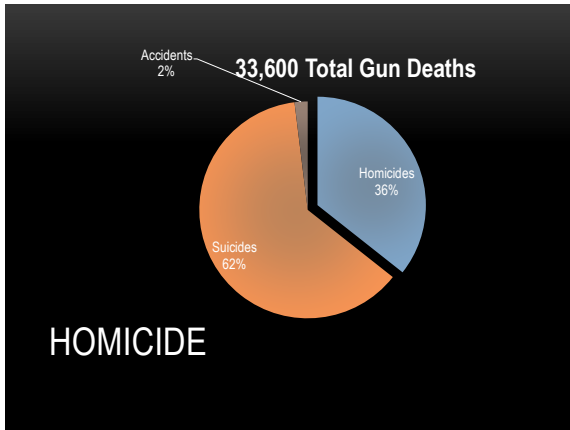
Fred Roff, Pres. Colt Firearms

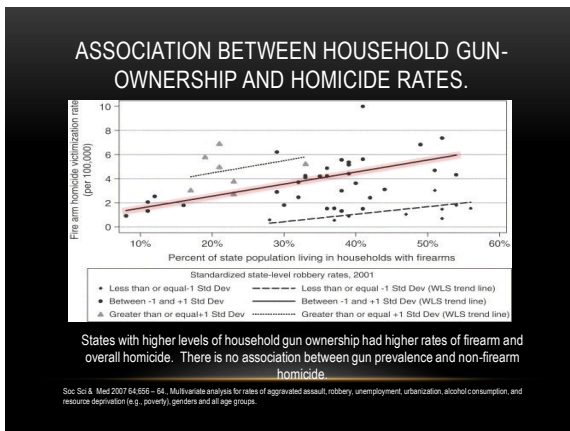


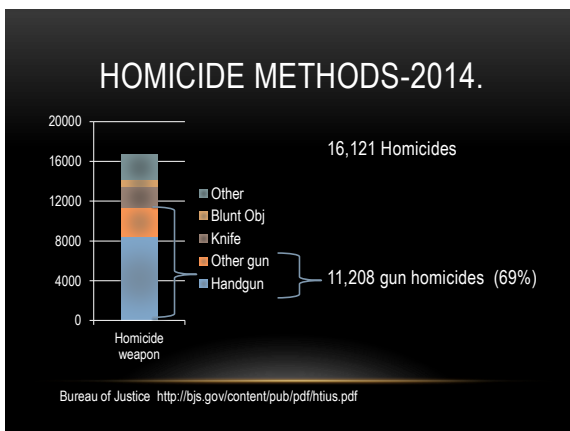
Data compiled by Gunpolicy.org. Gun possession is per 100 left axis. Gun suicide are /100,000 persons on right axis.

BOTTOM LINE: SUICIDE

- Suicide is 2/3rds of gun deaths.
- The biggest risk factor for suicide by gun is having a gun in the house.
- The availability of a gun increases the lethality of a suicide attempt.







ASSOCIATION BETWEEN HOUSEHOLD GUN-OWNERSHIP AND HOMICIDE RATES.

- .9% increase in homicide for every 1% increase in home gun ownership **after controlling for**
 - violent crime rates,
 - non violent crime rates.
 - incarceration rates,
 - income inequality,
 - race.
- Access to gun increases risk of
 - Homicide by 2.0 (Odds Ratio 1.6-3.0)
 - Suicide by 3.24 (OR 2.4-4.4)
 - Ann Intern Med. 2014;160(2):101-10. Meta-analysis

• Am J Public health
2013;103:2098-2106

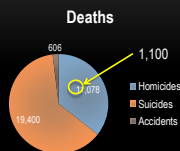
GUNS AND INTIMATE MURDER

- Gun owners are **8 times more likely** to threaten their partners with a gun than non-gun owners.
 - threaten to shoot them
 - threaten to shoot a pet or person the victim cares about,
 - cleaning, holding or loading a gun during an argument,
 - shooting a gun during an argument.
- J Am Med Women Assn. 2005; 60:62-8. 8,000+ men in a batterer intervention program in MA, 1999-2003. See also *Evaluation Review*. 2006; 30:283-95.

GUNS AND INTIMATE MURDER

- Gun in the home: **3 times more likely** a person will be murdered by a family member or intimate partner.
- Gun intimate assaults: **12 times more likely to result in death** than non-gun assaults.

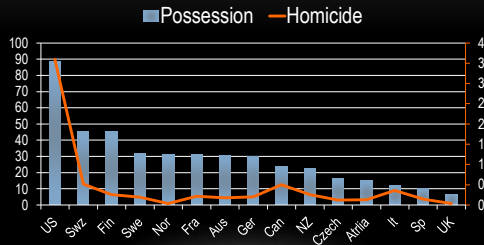
• <http://www.silentwitness.net/sub/violences.htm>



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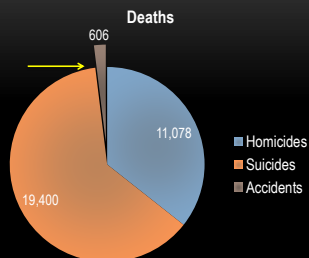


Data compiled by Gunpolicy.org. Gun possession is per 100 left axis.
Gun homicide are /100,000 persons on right axis.

BOTTOM LINE: HOMICIDE

- Guns in homes
 - highly correlated with the risk they will be used for any homicide.
 - the most powerful predictor of domestic intimate violence becoming a homicide.
- As in suicide, the availability of a gun potentiates the lethality of homicidal impulse.

14,675 wounded but survive (1/5 under 19 years old). NCIPC

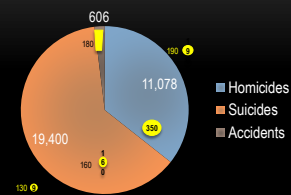


GUN ACCIDENTS

GUN ACCIDENTS

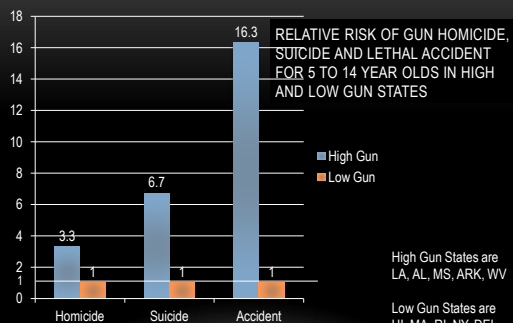
- Fatal gun accidents are 1% of lethal home accidents (poisonings 43%, falls 34%, burns 9%).
- BUT:** 14,675 wounded but survive (1/5 under 19 years old). NCIPC
- AND:** Preventable
 - Accidental lethal shootings 8 X more common in the 4 states with the most guns compared to the 4 states with the fewest guns
 - Acc Anal Prev 2001;33: 477-84.
 - Adults with a gun in the home have a 4 fold higher risk of dying of an accidental gunshot.
 - Acc Anal Prev 35(2003)711-716

Deaths



Children (<14 Years) Deaths per year

CHILDREN



J Trauma 2002; 52:267-75.

GUN DEATHS FOR CHILDREN

- 5 to 14 year olds: US unintentional gun death rate **11 times higher than combined rates of 22 other high-income countries.**
 - J Trauma 2011;70:238-43.
- 2011: 2,886 children treated in ER for unintentional gun injury.
 - NCIPC (recent data suggests this is too conservative.)
- 0 to 4 year olds: gun deaths **17 times more common in high gun states** than low gun states.
- 5 to 14 year olds: gun deaths are **14 more common in high gun states** than low gun states.
 - Acc Anal Prevent 2001;33: 477-84

BOTTOM LINE: CHILD GUN DEATHS

- Guns in the home are the most powerful predictor of lethal gun accidents, suicides, and homicides of children.



Kokapo—a rara avis

GUNS FOR SELF DEFENSE

IT IS NOT 2.55 MILLION DEFENSIVE GUN USES / YEAR!



Bureau of Justice
<http://bjs.gov/content/pub/pdf/htius.pdf>

Cato Institute. Tough Targets. 2012.
 8 years of news clippings.

- 277 reports where intended victim disarmed criminal.
- 25 armed rape attack victims got upper hand.
- 65 armed carjack victims prevailed.
- 11 out of 4,699 where criminal took gun away from a defender.

SELF-DEFENSIVE GUN USE (SDGU)

127 of 14,000 (.9%) personal contact crimes, intended victim had a gun.

After any protective action,

- 4.2% of unarmed victims were injured
- 4.1% of armed SDGU victims were injured. P=NS.
- In crimes where there was an intent to steal property,
 - 56% of victims who took protective action lost property,
 - 39% of SDGU victims lost property
 - 35% of victims who used a weapon other than a gun lost property.
- Preventive Med. 2015; Apr 21. National Crime Victimization Surveys 2007–2011. Multivariate analyses controlled for age, gender of offender and victim, if offender had a gun, urbanicity, and thirteen types of self-protective action.

CARRYING A GUN: PROTECTION IN AN ASSAULT?

- Persons carrying a gun were 4.46 ($P < .05$) **times more likely to be shot** in an assault than those not carrying.
- Among gun assaults where the victim carrying a gun had a chance to resist, this odds ratio **increased to 5.45 times more likely to be shot.** ($P < .05$).
 - Am J Public Health. 2009 Nov;99(11):2034-40.

CONCEALED CARRY LAW: ARIZONA

Arizona Senate Bill 1108 (SB-1108) allows adult citizens to carry concealed weapons without a permit and without completion of a training course.

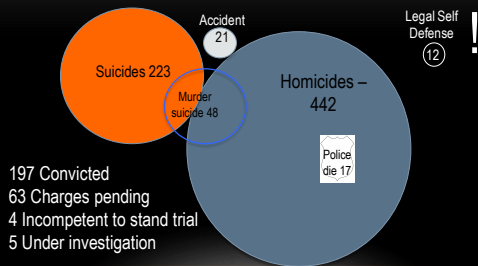
After the law passed in 2010,

- gun-related homicides \uparrow 27% (RR= 1.27; 95% CI 1.02-1.58).
- J Trauma Acute Care Surg 2014;76:569-74. Retrospective cohort study of 24 months before and after law.



CONCEALED CARRY DEATHS

763 DEATHS 38 STATES AND DC, 2007-2015 INCOMPLETE
(544 INCIDENTS: 29 MASS (4 OR MORE) SHOOTINGS WITH 139 VICTIMS)



Violence Policy Center Data as of 2/5/2015

BOTTOM LINE: GUNS FOR SELF PROTECTION FROM HARM.

- An armed citizen is more likely to suffer harm to him/her-self or those in his/her household than he/she is to benefit from gun protection.
- Concealed carry weapons are becoming a part of

THE DOCTOR'S OFFICE

AMERICAN ACADEMY OF PEDIATRICS (PARAPHRASED)

- Pediatricians should counsel parents to guard access to their guns inside and outside the home.
- Pediatricians should ask about presence and availability of firearms ...and urge parents who possess guns to prevent access to these guns by children.
- Clinicians should counsel parents of all adolescents to remove guns from the home or restrict access to them. This advice should be reinforced for patients with mood disorders, substance abuse problems (including alcohol), or a history of suicide attempts.



MINNESOTA LAWS:



(IN A D- CLASS)

Gun Dealers

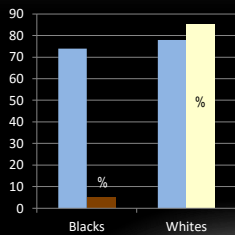
Gun Owners

- | | |
|---|---|
| <ul style="list-style-type: none"> • No dealer license. • Dealers not required to retain records for guns /ammo sales. • No mandatory theft reporting, • No ID stamps on semi-auto handguns. • No bar on bulk sales of handguns. • No background checks on gunshows or interpersonal sales. • No mandated sale of locks with handguns. | <ul style="list-style-type: none"> • No permit to purchase or license to posses, no fingerprinting. • No duty to report thefts. • No ban on assault rifles, large clips. • No disarming of prohibited handgun possessors. |
|---|---|

GUN VIOLENCE IN MINNESOTA: BEYOND THE HEADLINES

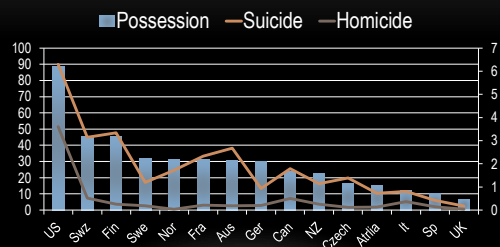


■ # of homicide victims ■ % of pop



CDC data <http://minnesota.publicradio.org/features/2013/04/gundeaths/index.shtml>

PREVALENCE OF GUNS AND PREVALENCE OF GUN DEATH.



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Gun homicide and suicide are /100,000 persons on right axis.

Thank you!

SLIDES AVAILABLE ON MY U WEBSITE
OR BY EMAILING ME MILES001@UMN.EDU