What will we do about all these guns?

A Practical Primer for Pediatricians
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Overview

• What we know about firearm injury
• The who, why and where of firearm ownership
• What can be done to prevent firearm injury
  • Effective legislation
  • Safety planning with parents
What do we know about firearm injury?
In the US, motor vehicle crashes cause more deaths than firearms in children.

False
Firearm deaths = MVC deaths

- Children and adolescents (2014)
  - Firearm fatality rate 1.76/100,000
  - MVC fatality rate 1.75/100,000
- 5790 children are shot, 1300 die each year in the US.
  - 19 children are shot and 4 children die from firearms each day.
  - Most children die from single episodes of shooting than in mass shootings.

https://crashstats.nhtsa.dot.gov/Api/Public/Publication/Publication/812271
Firearm homicide and suicide

• In general, urban adolescent males die from firearm homicide, and rural adolescent males die from firearm suicide.
• The rate of firearm homicide in the most urban counties is almost exactly equal to the rate of firearm suicide in the most rural counties in the United States.
• Regardless of manner of death, the burden of firearm death is greatest for adolescent males.
• In Connecticut, nearly all pediatric firearm deaths are from homicide and suicide.

Unintentional firearm deaths and injuries

• The majority of pediatric unintentional deaths and injuries from firearms are “other-inflicted” rather than “self-inflicted”.

• Most occurred when the shooter was “playing with,” cleaning or loading the firearm, often a handgun.

• The shooters were:
  • Young (81% under age 25)
  • Male (92%)
  • Primarily friends (43%) or family (47%)
  • Brothers were the most common family shooter.

Firearm injuries are costly

*Behavioral health*

- Up to 30% of survivors of firearm injury meet criteria for PTSD or depression 6 months after injury.
- Also at risk for other associated behavioral health problems:
  - Substance use disorders
  - Difficulty staying in school
  - Problems with authority
  - Social relationship problems
  - Suicidality

Firearm injuries are costly

*Healthcare costs*

- From 2003 through 2013, the average annual admission cost for firearm injury was $622 million in the US.
- 25% of firearm injury hospitalizations were among the uninsured.
- Government insurance is the highest source for firearm injury reimbursement, and depending on healthcare access laws, many firearm injury admissions will not be covered by insurance in the future.

Rethinking the public health approach to firearm injury

• Maybe we should be focusing on:
  • Specific populations (firearm owners and their families).
  • Initiatives that reduce the likelihood of firearm injury (legislation that limits inappropriate access to firearms, rather than preventing someone from owning a firearm).
  • Creating shared responsibility and focusing less on blame (developing safety plans with parents who own firearms).
  • Creating systems in which it is difficult to make a fatal mistake (if a firearm is locked and unloaded, then one can’t fire it).
We need to find other partners for firearm safety initiatives

• The federal government is not going to be helpful in the near future.
• We should look to states for innovations, such as legislation, to reduce firearm injury.
• Because of its impact on healthcare costs, we should also look to the healthcare industry to develop, implement and evaluate initiatives to reduce firearm injury.
The who, why and where of firearm ownership
50% of the adult population in the US owns a firearm.

False
Who owns firearms in the United States?

• 30% of adults in the US own a firearm.

• Rate of firearm ownership is more often associated with:
  • Male gender
  • White
  • Rural zip codes
  • Less than HS education (especially if White)
  • Republican

  • Pew Research Center Social and Demographic Trends 2017: The Demographics of Gun Ownership
Who owns firearms in the United States?

- Of those who own firearms
  - 66% have more than one
  - 29% have more than five

- Of those firearms
  - 69% handguns
  - 22% rifles
  - 16% shotguns

Why do they own firearms?

• For those who own firearms, the major reason(s) include
  • Protection 67%
  • Hunting 38%
  • Sport 30%
  • Firearm collection 13%
  • Job requirement 8%

• 73% say they cannot see themselves ever not owning one.

• Of all adults who do not currently own firearms
  • 52% could see themselves owning one in the future
    • Pew Research Center Social and Demographic Trends 2017: The Demographics of Gun Ownership
Firearms do not make a home safer

- Firearms kept in the home are more likely to be involved in:
  - A fatal or nonfatal unintentional shooting
  - A criminal assault
  - A suicide attempt
  - Than to be used to injure or kill an intruder in self-defense.
    - Arthur L. Kellerman et al., *Injuries and Deaths Due to Firearms in the Home* J. Trauma 263, 263, 266 (1998)
Where are these firearms?

• Of all firearm owners:
  • 66% lock it up.
  • 44% unload it.
  • 43% store the firearm separate from its ammunition.
  • 26% would tell visitors with children that there is a firearm in their home.
  • 26% carry a firearm with them outside the home.
    • If they believe their community is “unsafe” 41% carry it with them.

• Pew Research Center Social and Demographic Trends 2017: The Demographics of Gun Ownership
What can be done to prevent firearm injury: Effective legislation
Legislation that restricts access to firearms reduces the likelihood of firearm injury.

True
Effective firearm legislation for children

• Child Access Prevention Laws are an effective way to reduce firearm injury in children.

• Mandate the safe storage of firearms to prevent access by minors and impose criminal liability on adults who fail to prevent access.

• May lead to safer storage of firearms, and are associated with reduced rates of youth suicides and unintentional injuries in children.

  • Parikh K et al Pediatric Firearm-Related Injuries in the United States. Hospital Pediatrics 2017: 7-16.
Connecticut Child Access Prevention Laws

• “Prohibits any person from storing or keeping a loaded firearm on his or her premises or under his or her control if he or she knows or reasonably should know that a minor (person under age 16) is likely to gain access to the firearm”.

• “A person who violates this safe storage requirement shall be held strictly liable for damages when a minor obtains the unlawfully stored firearm and causes injury to or the death of any person”.

• “By law, all handguns sold in Connecticut must be equipped with a reusable locking device constructed of material sufficiently strong to prevent it from being easily disabled”.

• Summary of Connecticut State Gun Laws 2013
Effective firearm legislation for adults

• Connecticut law allows police to confiscate firearms for up to one year if a judge issues a “risk warrant”.
  • A civil court action that does not create a criminal record
  • Based on a law enforcement affidavit showing probable cause that someone will harm himself or herself or others.

• From 1999 to 2013, Connecticut courts issued 762 risk warrants.
  • 92% were men.
  • 61% risk to self.
  • 32% risk to someone else.

• It has been estimated there was 1 suicide prevented for every 11 firearms seized.
  • Swanson J et al. IMPLEMENTATION AND EFFECTIVENESS OF CONNECTICUT’S RISK-BASED GUN REMOVAL LAW: DOES IT PREVENT SUICIDES? LAW AND CONTEMPORARY PROBLEMS [Submitted: August 24, 2016]
Effective firearm legislation for adults

• The higher the rate of firearm ownership in a state, the more likely a woman will be killed by her partner in cases of domestic violence (DV).

• Federal legislation prohibits firearm possession by persons convicted of an DV-related felony or misdemeanor or those who are subject to permanent DV-related restraining orders.

• Although the federal statute prohibits certain DV offenders from possessing firearms, it does not explicitly require them to surrender firearms already in their possession.

Effective firearm legislation for adults

• To close the loophole in federal law, some states have passed laws to remove firearms by persons deemed to be at risk for perpetrating DV.

• These states also have lower DV firearm homicide rates.
  • Connecticut authorizes law enforcement to remove firearms and ammunition at the scene of a DV incident if the firearms or ammunition are in the possession of the suspect or in plain view (5 states).
  • Connecticut authorizes a court that is issuing a DV protective order to require the perpetrator to surrender firearms until the order is heard in court (16 states).
    • http://lawcenter.giffords.org/gun-laws/policy-areas/who-can-have-a-gun/domestic-violence-firearms/
Effective firearm legislation for adults

• Raising the age to 21 years old

• In an examination of the background and legal status of firearms offenders incarcerated in the 13 states with the weakest standards for legal firearm ownership, the largest segment of offenders were those between 18 and 20 years of age.

Florida legislation

• Bans bump stocks.
• Raises the age for long gun purchases from 18 to 21 years old.
• Institutes a 3 day waiting period for background check.
• Allows police to temporarily seize guns from people believed to pose a danger to themselves or others (ERPO).
Brady Center State Scorecard: A word of caution

- Brady Center Gun Law Score scores all 50 states based on comprehensive policy approaches to restricting access to firearms and ammunition (e.g. background checks on gun sales, reporting lost or stolen firearms, restricting the purchase of weapons among high-risk populations).

- Although it is not a validated score, investigators have used the Brady Gun Law Scores to account for variability in state-based firearm legislation when studying rates of firearm-related injuries.
Brady Center State Scorecard: A word of caution

Laws that restrict access to firearms

Lower rates of firearm ownership

Fewer firearms in a community

Fewer firearm injuries and deaths

<table>
<thead>
<tr>
<th>State</th>
<th>Brady Score</th>
<th>% Adults owning firearms</th>
<th>Firearm fatality rate per 100K</th>
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<tr>
<td>CT</td>
<td>A-</td>
<td>16.1%</td>
<td>4.6</td>
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<tr>
<td>RI</td>
<td>B-</td>
<td>5.8%</td>
<td>4.1</td>
</tr>
</tbody>
</table>

We need a better, validated method to evaluate the effectiveness of state legislation.
What can be done to prevent firearm injury: Safety planning with parents
I ask parents and caregivers about firearms in their homes.
What can we do to reduce the risk of firearm injury

• We can just ask parents.
• Parents who own firearms are okay with pediatricians asking about firearms.
  • Self administered survey of 1363 parents in IL, MO
  • 12.8% of parents said pediatrician asked about firearms.
  • 36% parents had firearms; of these
    • 71.1% said pediatricians should ask about safe storage.
    • 22% would ignore advice to not have firearms for safety reasons.
    • 13.9% would be offended by such advice.
    • Garbutt et al. What parents are willing to discuss with their pediatricians about firearm safety? A parental survey. J Pediatrics 2016; 179: 166-171
Physicians are unsure if they should ask about firearms

- Cross sectional survey of pediatric emergency medicine providers (n=185).
  - 35% reported providing counseling on firearm injury prevention to parents.
  - 30% were unsure of the legality of discussing firearm safety with caregivers in their respective states.
There is no law that says physicians cannot ask about firearms

• In 2011, Firearms Owners Privacy Act was passed in Florida.
  • It targeted pediatricians who asked parents about firearms in the home.
  • Under its provisions, physicians could be punished with a fine of up to $10,000, and could lose their medical licenses for discussing firearms with patients.

• In 2014, a three-judge panel of the 11th U.S. Circuit Court of Appeals upheld its constitutionality.

• In 2017, in a 10-1 decision, the full panel of the 11th U.S. Circuit Court of Appeals found that the act violated the First Amendment rights of physicians.

• At least ten other states have introduced similar bills, though none have passed.
How should you ask about firearms?

• Ask in the context of asking about other safety issues
• The “5 L’s.”
  • Is it **Locked**, either up in a safe or with a trigger lock?
  • Is it **Loaded**?
  • Is there anyone feeling **Low** (sad, depressed) in the house?
  • Are there **Little** children in the house?
  • Has the owner **Learned** how to safely store it?

How should you ask parents about firearms?

• 6th L: Ask the child where it is **Located**?
  • 39% of parents erroneously believe their children do not know where their firearm is stored.
  • 22% of parents wrongly believe their child never handled their firearm.

  • Parikh K et al Pediatric Firearm-Related Injuries in the United States. Hospital Pediatrics 2017: 7-16.
How should parents ask other parents about firearms?

**Be Smart: A conversation about kids, guns, and safety**

Every year, nearly 300 children age 17 and under gain access to a gun and unintentionally shoot themselves or someone else, and nearly 500 more die by suicide with a gun. Many of these deaths are entirely preventable with responsible gun storage. We know we can keep our kids safer by introducing these five easy steps to parenting and everyday life:

1. **S**ecure guns in homes and vehicles.
2. **M**odel responsible behavior.
3. **A**sk about unsecured guns in other homes.
4. **R**ecognize the risks of teen suicide.
5. **T**ell your peers to be SMART.
What to do to secure firearms

- Ammunition and firearm stored separately
- Gun lock (cable)
- Trigger lock
- Gun safe

Barkin S et al. Is Office-Based Counseling About Media Use, Timeouts, and Firearm Storage Effective? Results From a Cluster-Randomized, Controlled Trial PEDIATRICS 2008; 122 (1) : e15-25
Firearm Disposal

• Gun Buy Backs (Goods for Guns)
  • Remove unwanted, improperly stored firearms from homes.
  • Since 2011, Gun Buys Backs in New Haven have recovered 690 firearms and 500 rounds of ammunition since 2011.

• Survey of caregivers (n=241) turning in firearms:
  • 27% reported that they had children living with them or regularly visiting the house.
  • They were more likely to report that they turned in the firearm due to the concern that their children would get access to the firearm.
  • They were also less likely to have kept the firearm locked.
Who else should we be asking about firearms?

• In general, adolescents may be around a lot of firearms.
• Survey of high school students:
  • 5% report recently carrying a firearm.
  • 20% would have no difficulty in buying a firearm.
We should especially be asking adolescents who are assaulted

• An emergency department visit for non-fatal assault injury places an adolescent at 40% higher risk of subsequent firearm injury.

• Especially if they tell you that:
  
  • “Someone used a gun on me.”
  • “Someone pulled a gun on me.”
  • “Someone pulled a knife on me.”
  • “I saw someone get shot.”
  • “I heard gunshots.”
  • “I was a fight and put somebody in the hospital.”
  • “I drank and then I fought.”


Hospital-Based Violence Intervention Programs (HVIP)

• Capitalize on the opportunity to intervene when victims of violence interface with the healthcare system to reduce the risk of future firearm injury.

• Collaboration with a healthcare system to reduce firearm injury

• Components include
  • Case management
  • Violence mediation strategies

• The American College of Surgeons Committee on Trauma now recommends that Level-1 trauma centers provide injury prevention services in the form of an HVIP.

• There is now a HVIP (Street Outreach Worker Program) at Yale-New Haven Health.
Summary

• Firearms cause as many deaths as MVCs in children and adolescents.
• Adolescent males suffer the most firearm deaths.
• Firearms are often accessible and loaded and owners are not likely to get rid of them.
• We can reduce the risk of firearm injury by:
  • Passing effective legislation at the state level.
  • Asking about firearms and safety planning for safe storage and disposal.
BeSmart Resources

- Angela.Montgomery@yale.edu
- Alyson.cahill@gmail.com
- http://besmartforkids.org/
Effective firearm legislation to reduce mass shootings

- From 2009-2016 in the U.S., there have been 156 mass shootings.
- There were 1,187 victims:
  - 848 killed, and 339 people injured.
- 66% of shooters killed themselves.
  - 17% of shooters were shot and killed by law enforcement.
- 54% were related to domestic or family violence.
- 34% the shooter was not permitted to own a firearm.
- 42 % the shooter had a history of:
  - Acts, attempted acts, or threats of violence.
  - Violations of protective orders
  - Substance use disorders