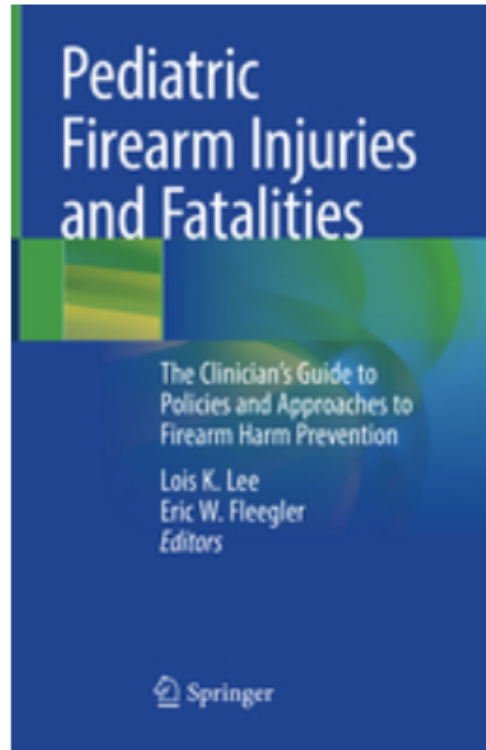


Pediatric Firearm Injuries and Fatalities: The Clinician's Guide to Policies and Approaches to Firearm Harm Prevention

Lois K. Lee, MD, MPH, FAAP, FACEP

Pediatrics in the Red Rocks
Arizona Chapter, American Academy of Pediatrics
July 21, 2023

Disclosures



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Pediatric Firearm Injuries and Fatalities

The Clinician's Guide to Policies and Approaches to Firearm Harm Prevention

Editors: **Lee**, Lois K, **Fleegler**, Eric W. (Eds.)



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NORWALK REFLECTOR

June 21, 2023 | Today's Paper | Submit News | Subscribe Today

Woman, unborn son, identified in fatal shooting



JOE CENTERS Jun 16, 2023 8:00 PM

NORWALK — A pregnant woman and her unborn son died Friday after she was allegedly shot by her 2-year-old son in Norwalk.

The woman has been identified as 31-year-old Laura Ilg.

The call came in about 1:30 p.m. about a woman being shot in her home on Woodlawn Avenue.

Norwalk police Chief Dave Smith said the pregnant woman was shot in the back with a 9 mm gun.



[Woman, unborn son, identified in fatal shooting | Norwalk Reflector In Norwalk](#)



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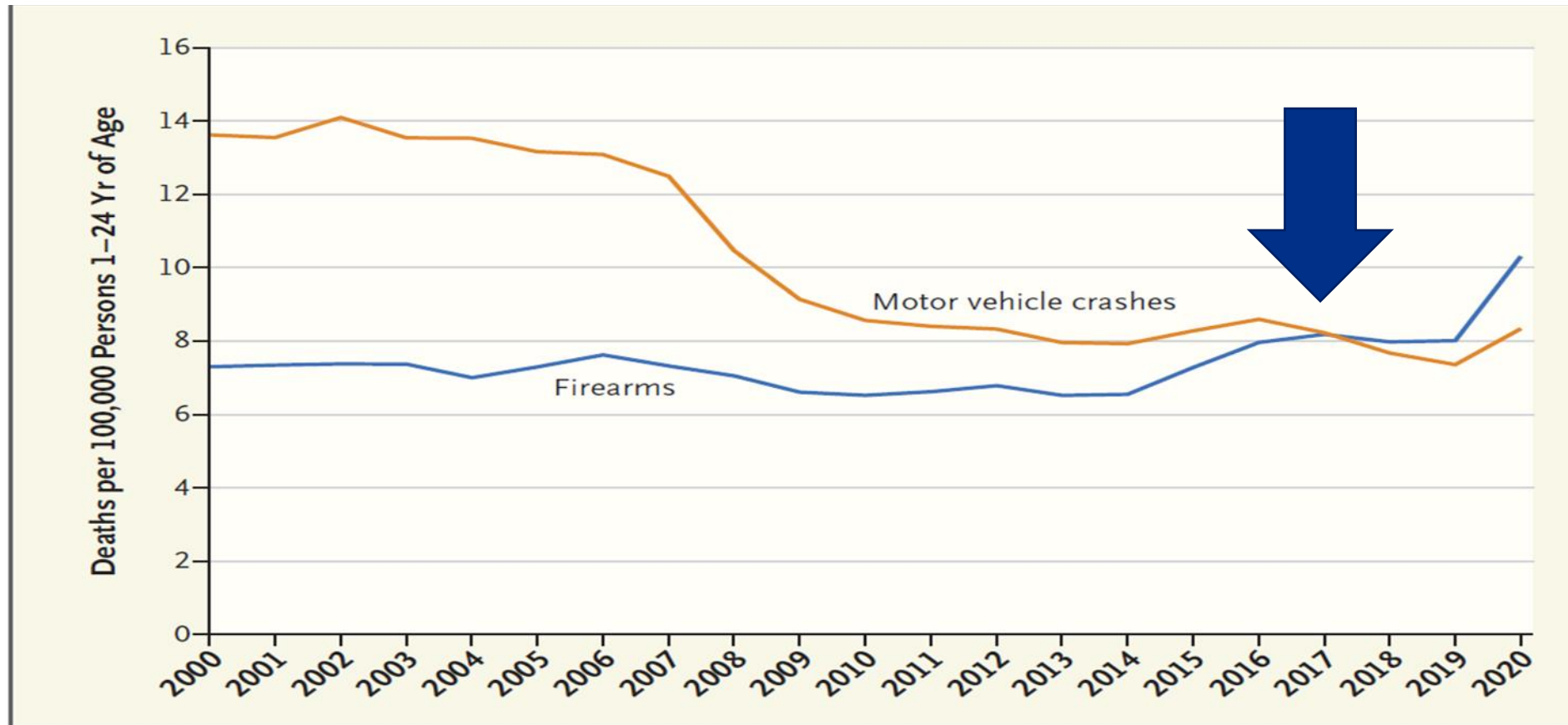
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Learning Objectives

1. Examine the epidemiology of firearm violence
2. Demonstrate how pediatricians can talk to families about firearm safety
3. Discuss areas for advocacy related to pediatric firearm injury prevention

Crossing Lines — A Change in the Leading Cause of Death among U.S. Children

Lois K. Lee, M.D., M.P.H., Katherine Douglas, M.D., and David Hemenway, Ph.D.



Mortality from Motor Vehicle Crashes and Firearms among Children, Adolescents, and Young Adults, United States, 2000–2020.

The rates are age-adjusted and are from the Web-based Injury Statistics Query and Reporting System, Centers for Disease Control and Prevention.¹

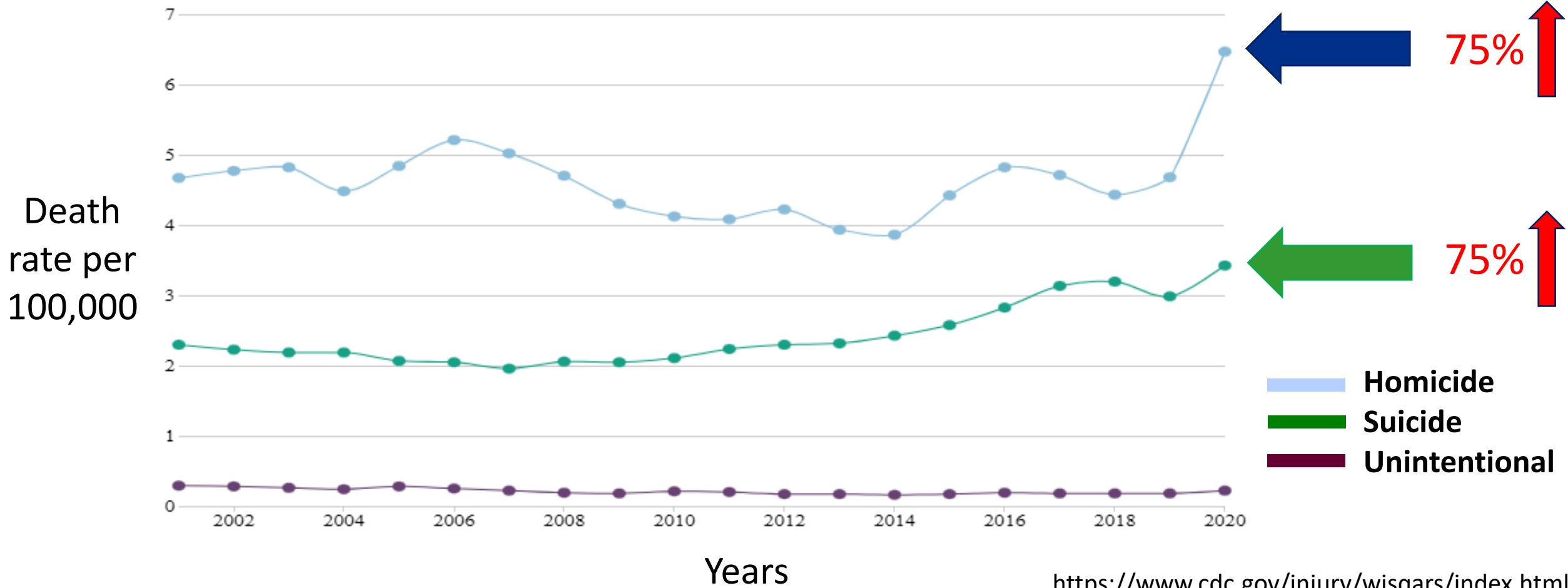
Lee LK, et al. NEJM. 2022.



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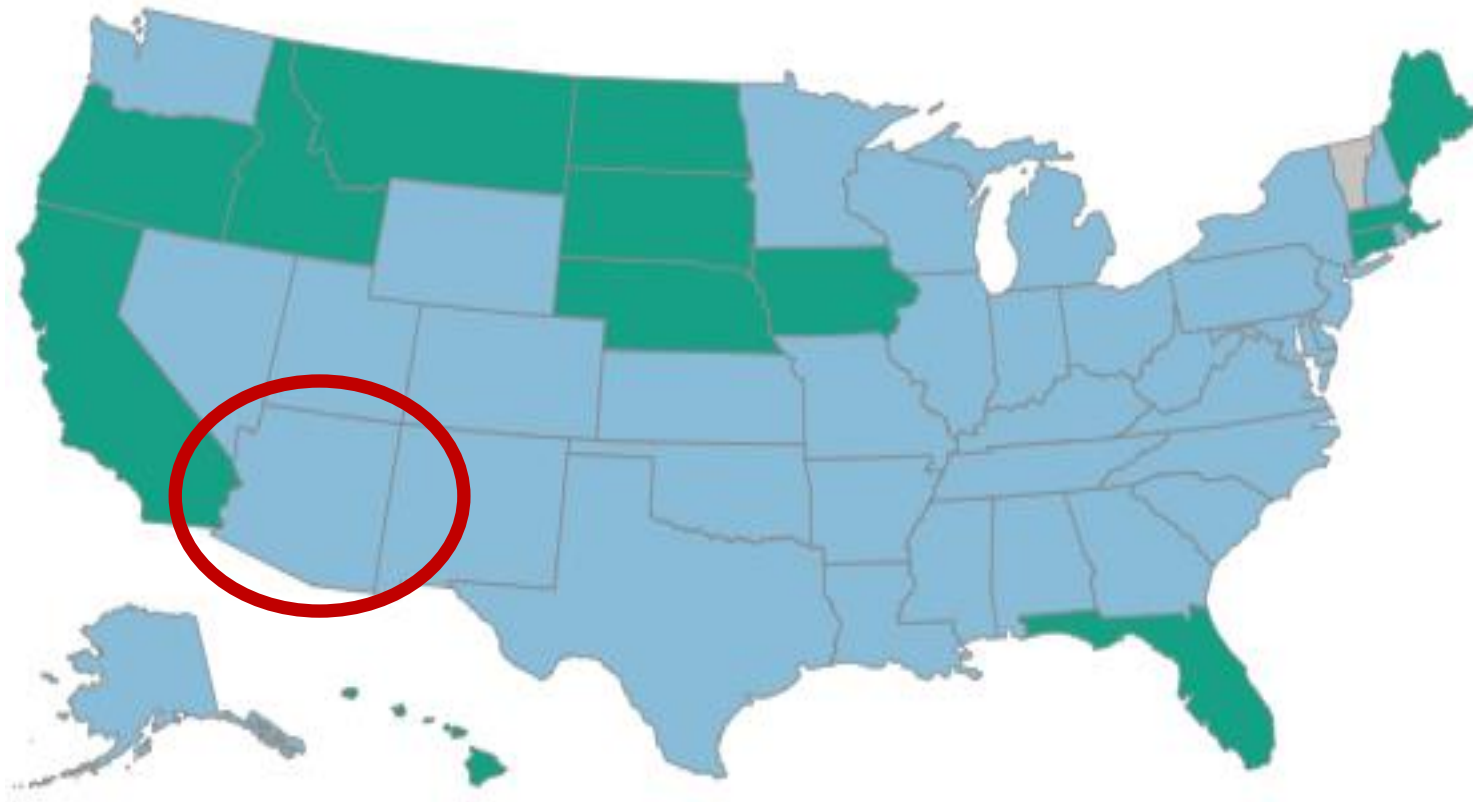
Firearm Deaths by Intent, 1-24 Years Old (2001-2020)





<https://www.cdc.gov/injury/wisqars/index.html>



Firearm and Motor Vehicle Deaths, 1-24 Years Old, 2020

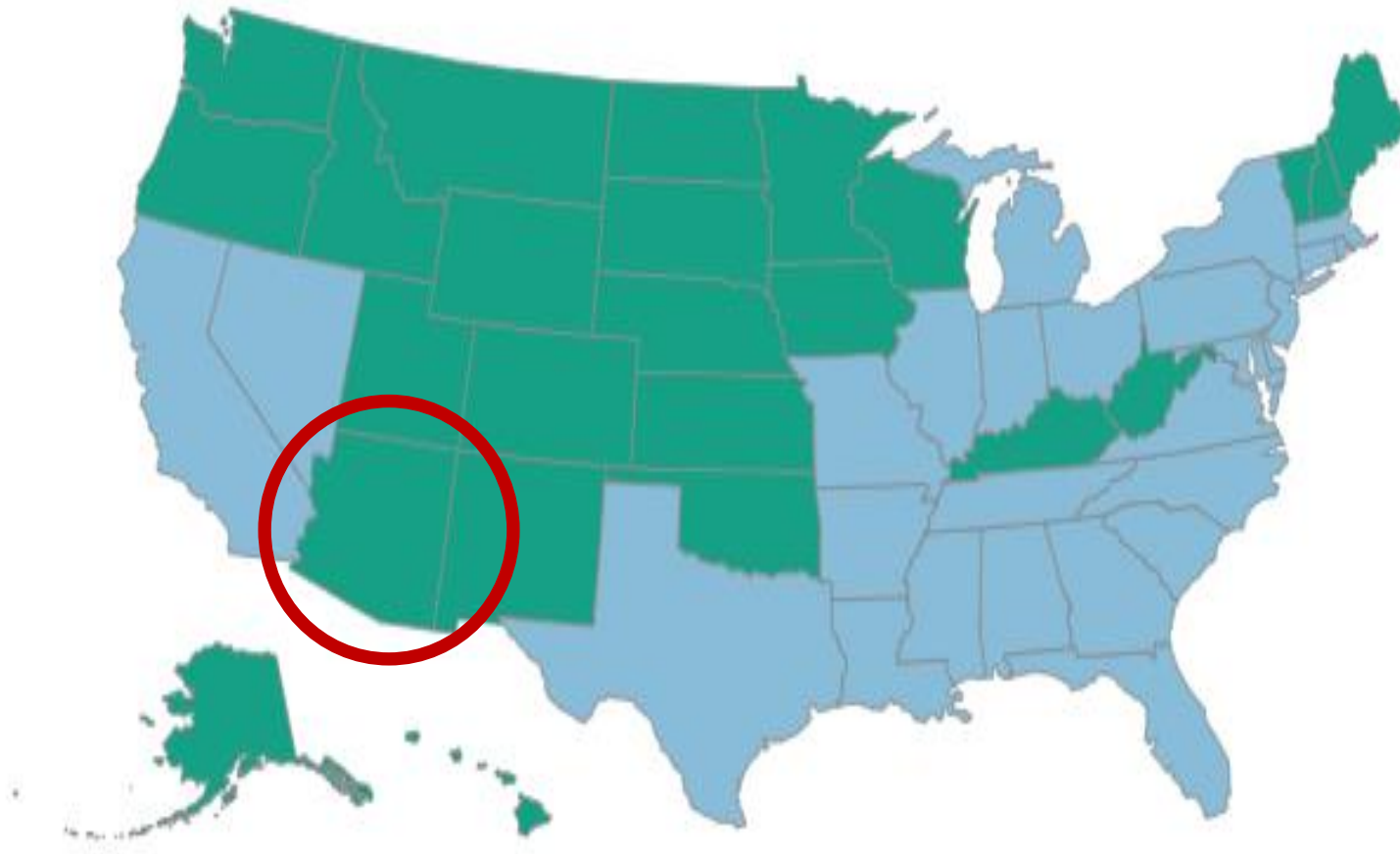


States Leading Cause of Injury Death

-  **Firearms**
10,186 deaths
-  **Motor Vehicles**
7,820 deaths



Firearm Deaths by Intent, 1-24 Years Old, 2020



States Leading
Cause of Firearm
Death, by Intent



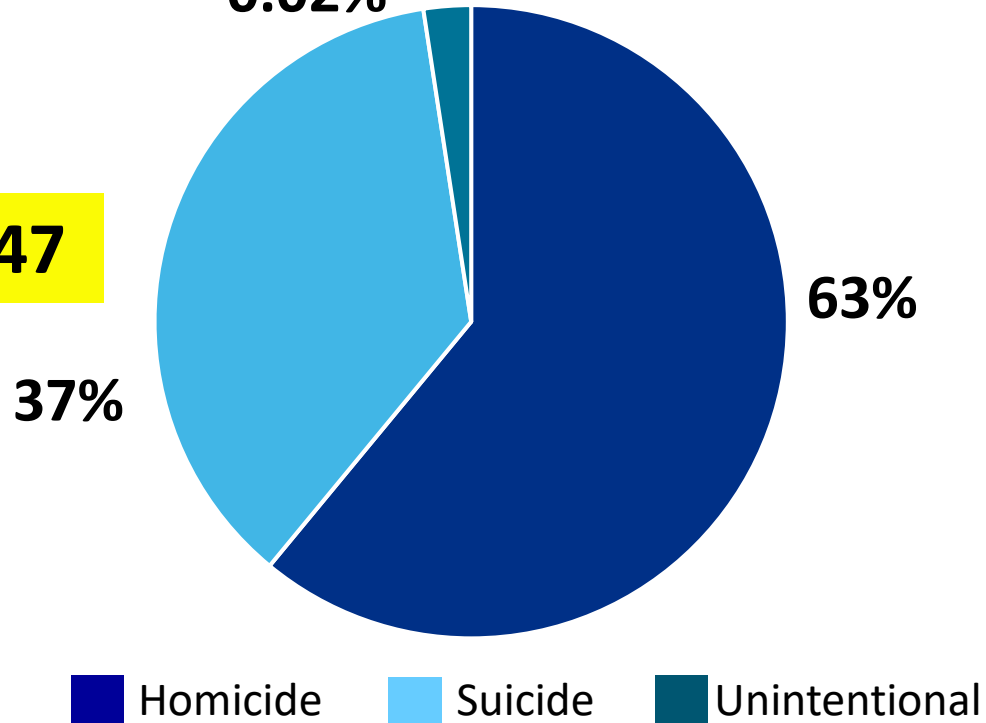
Arizona
Homicide 99
Suicide 111

Firearm Deaths and Injuries 1-24 Years Old, U.S. 2011-2020

479,579

Firearm Deaths
0.02%

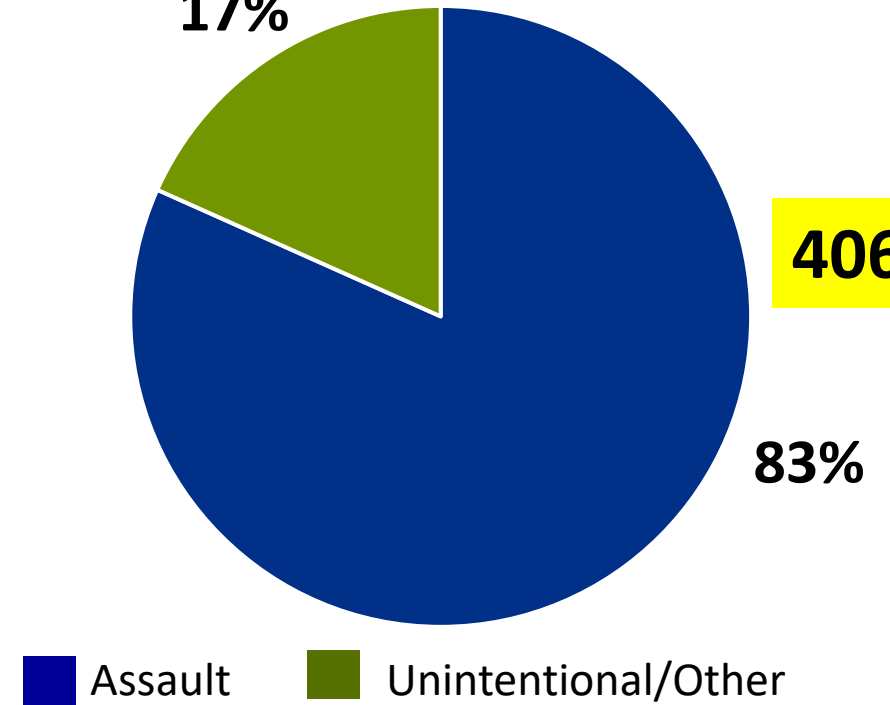
73,247



Firearm Injuries

17%

406,332



www.cdc.gov/injury/WISQARS



Pediatric Firearm Epidemiology

- Current trajectory:
 - >10,000 youth 1-24 years old will die by firearms
 - Every year
- 1 school bus full every 3 days



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www.cdc.gov/injury/WISQARS



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U.S. Population: 330 Million People

**400+
Million
Guns**



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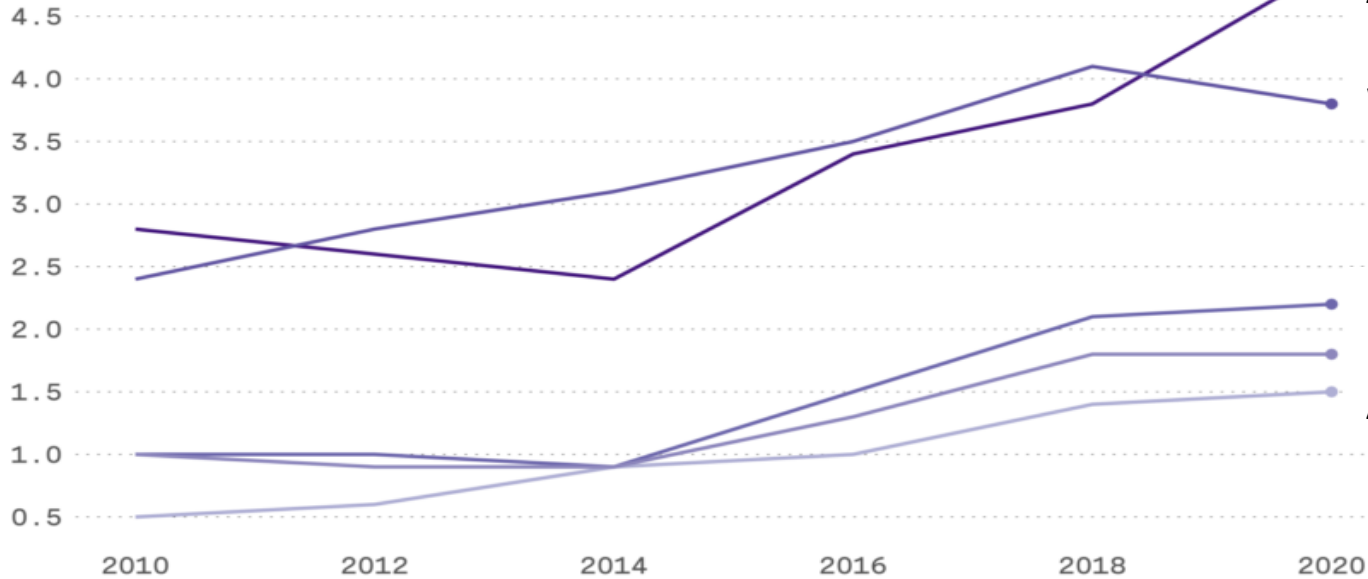
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Annual Teen Pediatric Firearm Suicide Rates

The Teen Firearm Suicide Racial Gap

The gap in rates between white teens and other groups narrowed between 2011-12 and 2019-20.

5.0 firearm suicides per 100,000 people



American Indian/
Alaska Native

75%

White

53%

Black

120%

Hispanic

80%

Asian

200%

Source: CDC WONDER data

* The data sources we used for this story treated Latino or Hispanic identity as an ethnicity within a racial group, meaning those who were categorized as Hispanic or Latino were first assigned a racial category. For the purposes of this piece, we've separated those who were identified as both white and Hispanic or Latino (a group that constitutes approximately 90% of Hispanic/Latino respondents) into their own category. The small number of Hispanic or Latino respondents who the data source identified with a race other than white have been categorized with the corresponding racial group (e.g. someone who selected both "Black" and "Hispanic" is counted in the "Black" group here).

THE
TRACE



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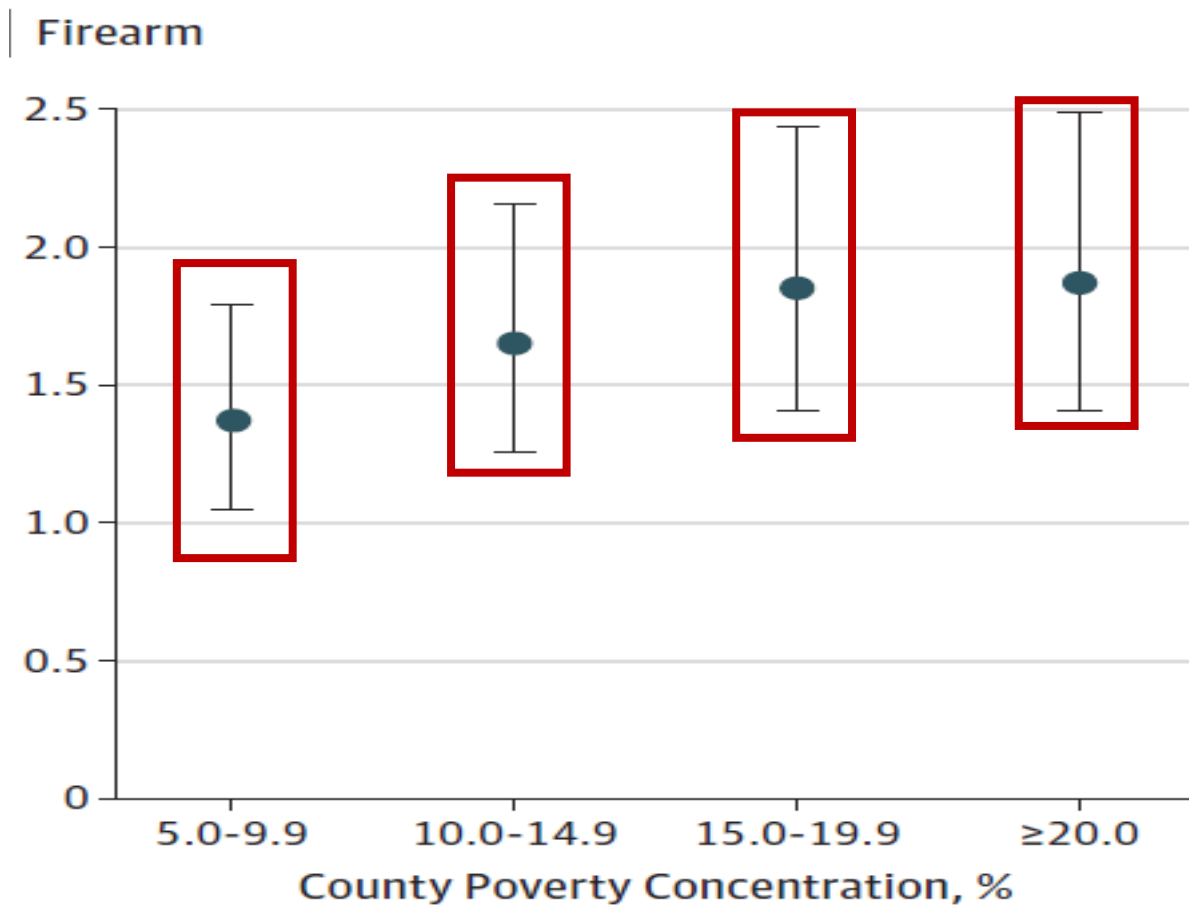


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Age-Adjusted
Fatality Rate
Per 100,000

Pediatric Firearm Suicide and County Poverty

Adjusted
Incidence
Rate Ratio



2021

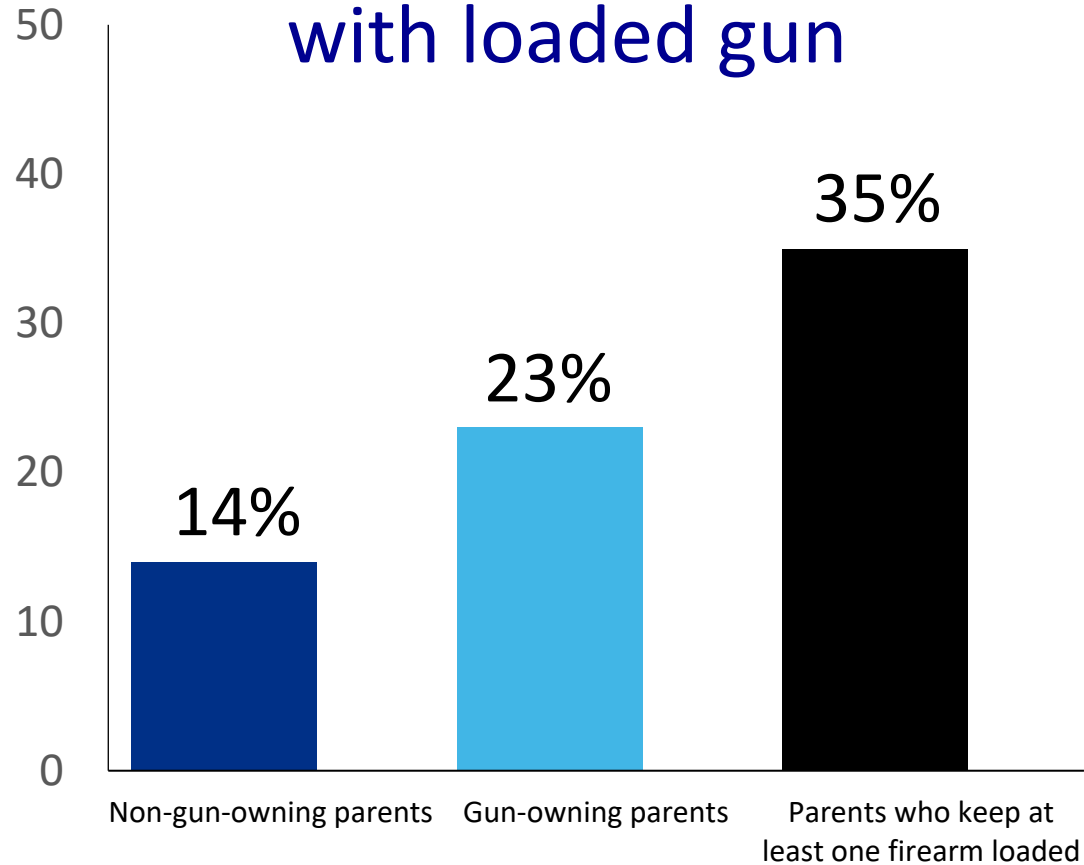
JAMA Pediatrics

Association of Pediatric Suicide With County-Level Poverty
in the United States, 2007-2016

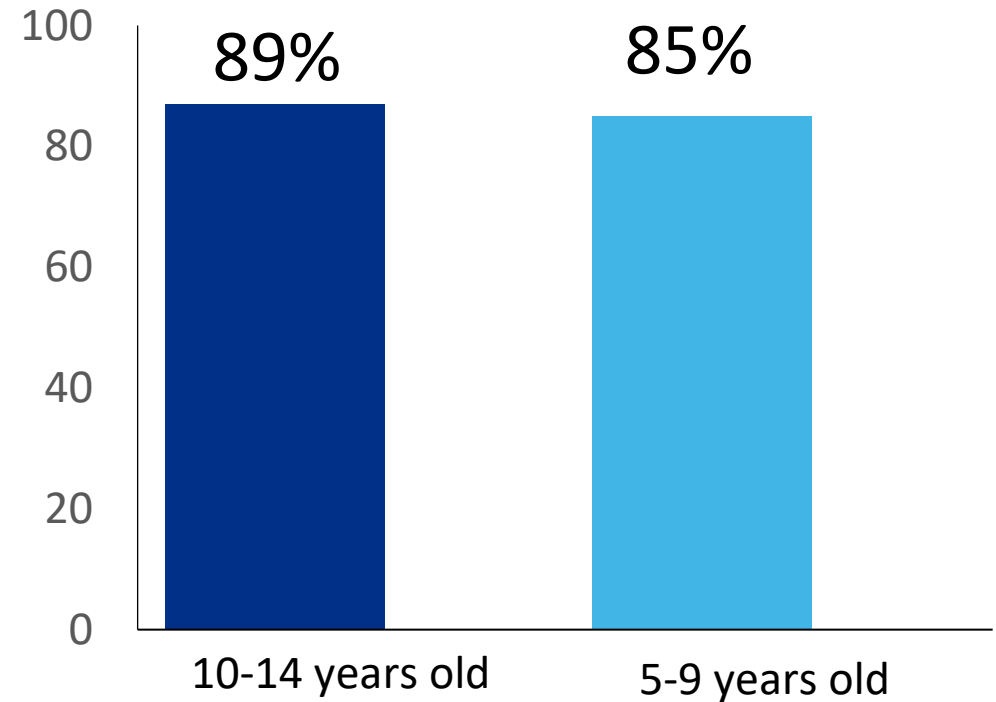
Jennifer A. Hoffmann, MD; Caitlin A. Farrell, MD; Michael C. Monuteaux, ScD; Eric W. Fleegler, MD, MPH;
Lois K. Lee, MD, MPH

Parental Perceptions

Trust child (4-12 years old) with loaded gun



Parents believing their child would act "responsibly"*



*not touch, leave area, tell adult

Firearm Storage in Firearm-Owning Households With Children

Storage	Loaded & unlocked	Loaded & locked or unloaded & unlocked	Unloaded & locked
%	15%	41%	44%
40% of households with children have ≥ 1 firearm ~30 million children			
4.6 million children where firearms are loaded, unlocked			

Miller M, Azrael D. JAMA Network Open. 2022.



How was the gun stored?

10-14 year olds

Suicide	Locked	Unlocked
Unloaded	15%	38%
Loaded	5%	42%

Unintentional	Locked	Unlocked
Unloaded	3%	10%
Loaded	13%	75%

15-19 year olds

Suicide	Locked	Unlocked
Unloaded	20%	39%
Loaded	6%	35%

Unintentional	Locked	Unlocked
Unloaded	10%	17%
Loaded	7%	66%

National Violent Death Reporting System/CDC



PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

2022

Firearm-Related Injuries and Deaths in Children and Youth: Injury Prevention and Harm Reduction

Lois K. Lee, MD, MPH, FAAP, Eric W. Fleegler, MD, MPH, FAAP, Monika K. Goyal, MD, MSCE, FAAP, Kiesha Fraser Doh, MD, Danielle Laraque-Arena, MD, FAAP, Benjamin D. Hoffman, MD, FAAP, and the Council on Injury, Violence, and Poison Prevention

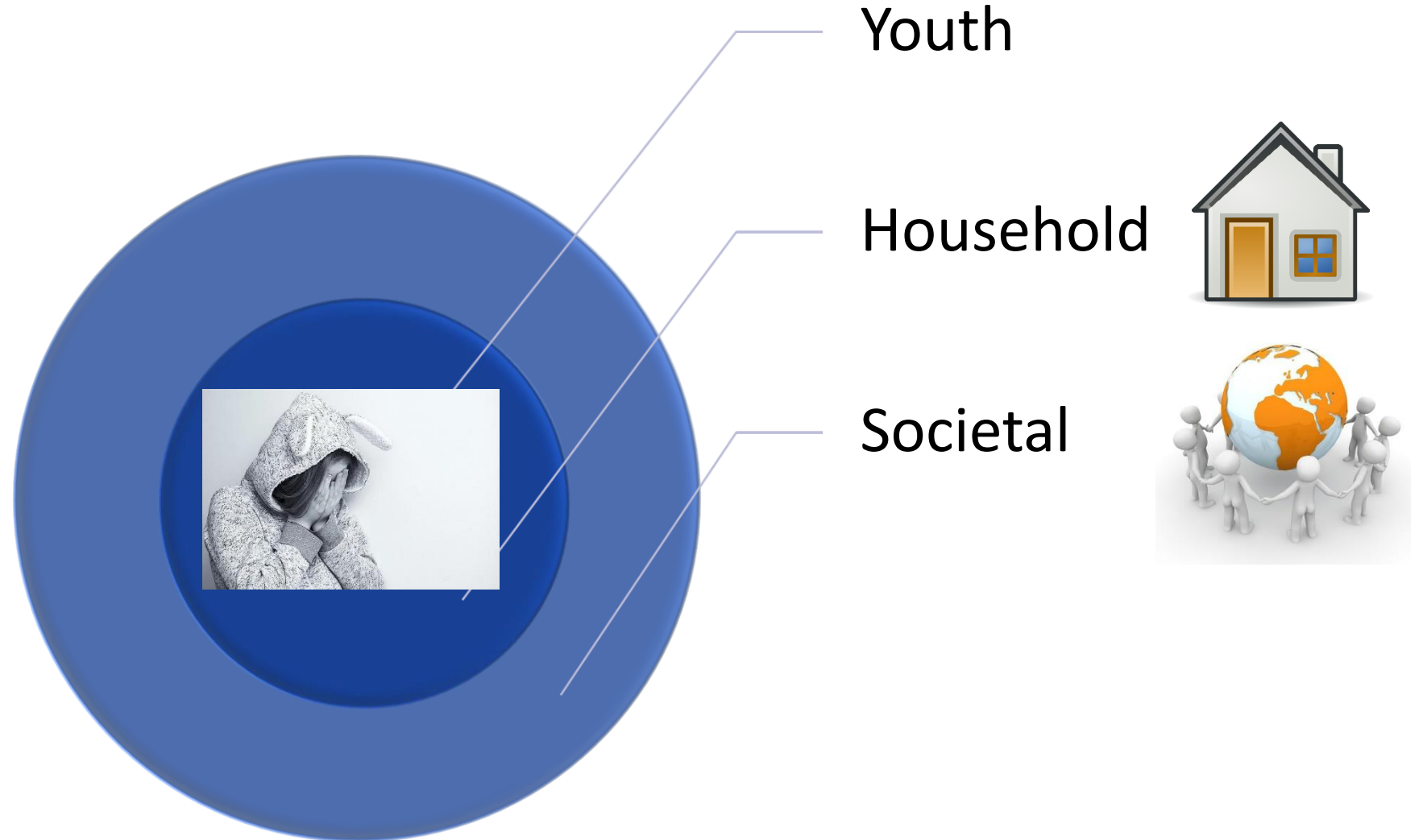


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Layers of Protection from Unauthorized Firearm Access



GUN SAFETY and CHILDREN



Children as young as
3 years may be strong
enough to **pull the
trigger** on a handgun.

Does storage matter?

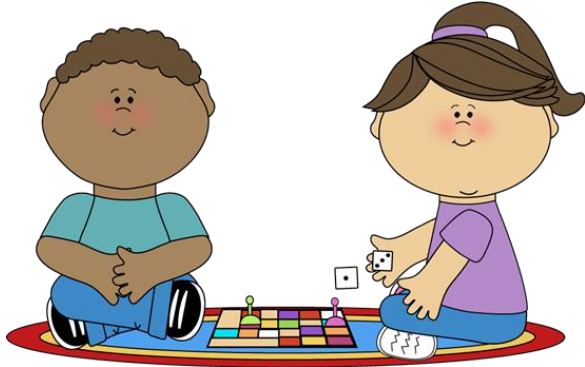
- Each element of safe storage associated with lower rates
 - Adolescent suicide
 - Unintentional injuries and fatalities
- Safe storage
 - (1) Firearm unloaded
 - (2) Firearm and ammunition separated
 - (3) Storing firearm and ammunition locked away



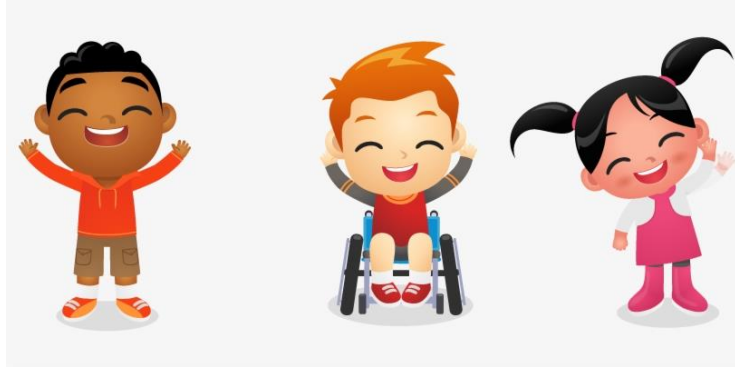
Grossman D, et al. JAMA 2005.

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AAP Bright Futures: Safety Issues



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3 years old

- Car safety seats
- Pedestrian safety
- Falls out windows
- **Guns**

9 and 10 years old

- Safety belt and helmet use
- **Guns**
- Swimming
- Substance use
- Knowing child's friends
- Supervision

11-14 years old

- Safety belt and helmet use
- Riding in motor vehicle
- **Guns**
- Interpersonal violence
- Bullying

Asking in a Pediatric Office

- 1246 parents surveyed
 - 66% agree pediatrician should ask about guns in home
 - 75% agree pediatrician should advise on safe storage
 - 71% of gun owners agree

13% had discussed firearms with pediatrician

Asking in a Pediatric Office

“If a pediatrician advised me to not have any firearms in the home for child safety, I would...”:

	Overall	Gun Owners
Think it over	48%	49%
Follow the advice	35%	14%
Ignore the advice	11%	22%
Be offended	8%	14%

83% (Overall) and **63%** (Gun Owners) are indicated by red brackets encompassing the 'Think it over' and 'Follow the advice' rows.

Garbutt J, et al. J Pediatrics. 2016.



Intervention Effectiveness

- Counseling AND safety device provision effective
 - Increasing safe gun storage
- Pediatricians recommended safe storage to parents of 2-11 year olds
 - 21% increase in the use of gun locks compared to controls



Rowhani-Rahabar A, et al. Epidemiol Rev. 2016. Barkin S, et al. Peds. 2008. Albright J, et al. JABFM. 2003.



Who should I counsel?

- Patients and parents
- Everybody! Families with:
 - Young children
 - Teenagers
 - Mental health disorders
 - History of domestic violence
 - History of substance use disorder
 - Family member in law enforcement, security, military



How to Prepare

Clinician attitude
critical – focus on
well-being and
safety

Respectful
conversations

Acknowledge
cultural norms

Most gun owners
want to promote
safety

Intervene when
risk is increased or
teachable moment

Emphasize
education, not just
information
gathering

Wintemute G. Ann Int Med. 2016.



How should I counsel?

- HEADSS/SHADDS
- Start with pills
- Then discuss firearms in the home
 - How are the gun and ammunition stored?
 - Homes of family members and friends
- Adolescents
 - Guns in the home
 - Weapon carrying



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What do you ask?

- “Are there any firearms kept in or around your home?”
- “Tell me about your firearm safety practices.”
- “Tell me how you secure your firearms.”
 - “Do any of the firearms belong to you personally?”
 - “How do you store your firearms and ammunition?”
 - “Do any family members/close friends have firearm in the home?”



Firearm Counselling for Families



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- Provide feedback and education
- Ideally with at risk children the firearm would be stored outside of the home environment
 - Mental health concerns
 - Young children
- But some families can't remove firearms from the home
 - Secure storage



Things to store securely and out of reach when you have children that live in or visit your home:



Medication



Furniture Polish



Laundry Detergent
Packets



Firearms

#SaferStorage

T4CIP
TRAINEES FOR CHILD INJURY PREVENTION



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Practice **safer storage** in your household by storing your firearm:

Unloaded



**Separately from
ammunition**



**Locked up, away,
and out of sight**



#SaferStorage

T4CIP
TRAINEES FOR CHILD INJURY PREVENTION



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Asking Saves Kids (ASK)

Ask About Firearms Before a Playdate

If it's not safe, invite their child over to your home instead

 healthychildren.org
Powered by pediatricians. Trusted by parents.
from the American Academy of Pediatrics

American Academy of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN®



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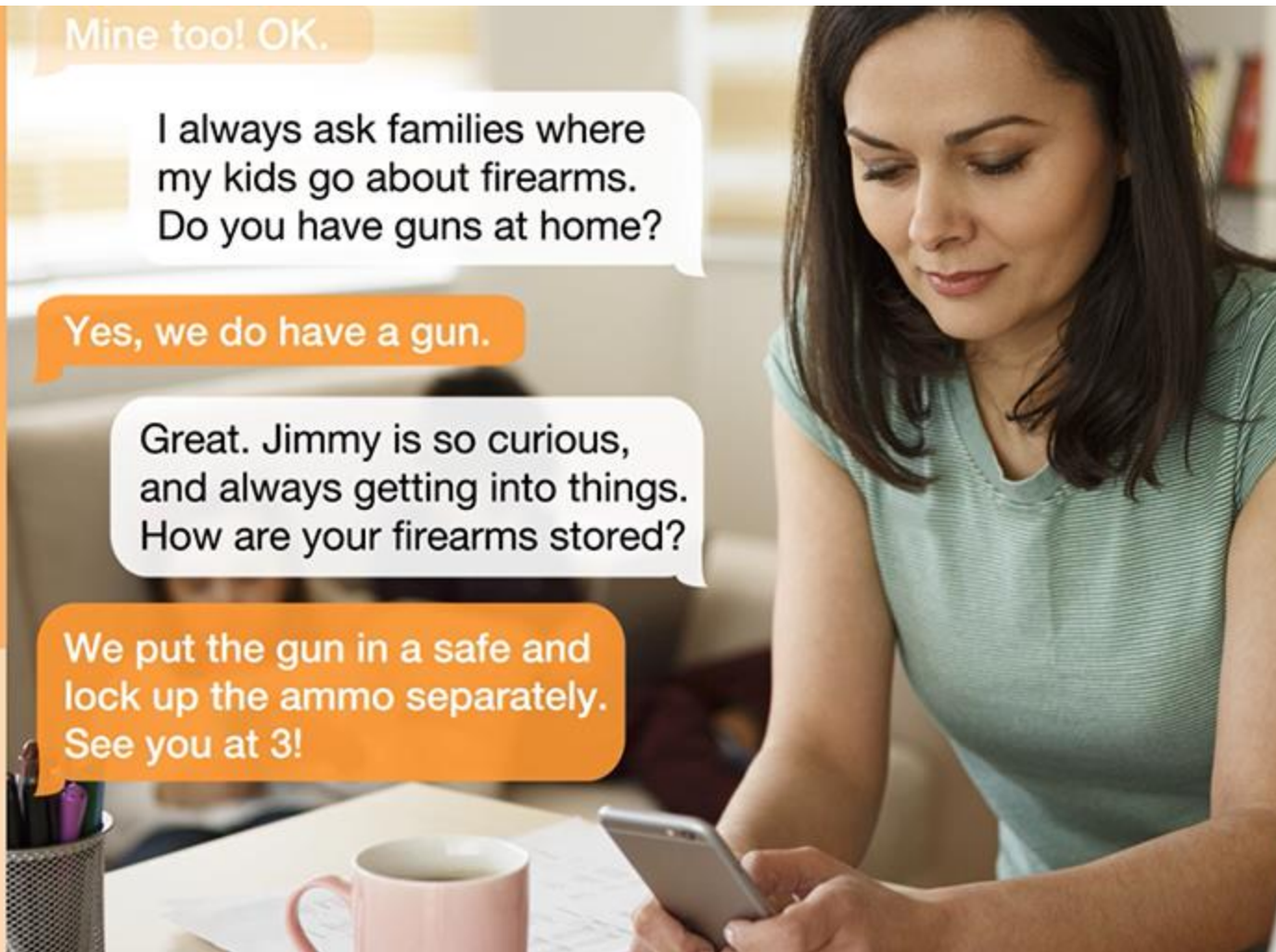
Mine too! OK.

I always ask families where my kids go about firearms. Do you have guns at home?

Yes, we do have a gun.

Great. Jimmy is so curious, and always getting into things. How are your firearms stored?

We put the gun in a safe and lock up the ammo separately. See you at 3!



<https://www.aap.org/en/news-room/campaigns-and-toolkits/gun-safety/>



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Firearm secure storage options

Option	Features
Store firearm outside home	Safest: Especially if not for home protection
Cable/Trigger lock	Key/combination \$10-\$50
Lock box	Key, combination, keypad, biometrics \$25-\$350. Instant access
Safe	Key, combination, biometrics – multiple guns. \$200-\$2500
Personalized “smart” guns	Only authorized user; not in US
Transfer possession	Family member, friend, law enforcement, gun range, gun store
Extreme risk protective order	By court order

Patient Care

Gun Safety and Injury Prevention

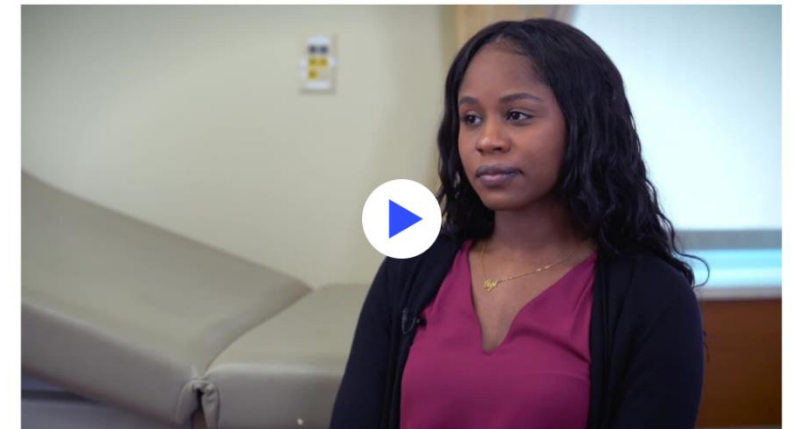
[Home](#) / [Patient Care](#) / Gun Safety and Injury Prevention

From Secret to Safer

[Home](#) / [Patient Care](#) / [Gun Safety and Injury Prevention](#) / [Safe Storage of Firearms](#) / From Secret to Safer



A provider uses the good, better, best approach to counsel a family with firearms less interested in having a firearm safe storage conversation (toddlers to school age children).



<https://www.aap.org/en/patient-care/gun-safety-and-injury-prevention/safe-storage-of-firearms/from-secret-to-safer/>

CALM and Safer Online Courses

ONLINE COURSE

**CALM for Pediatric Providers:
Counseling on Access to Lethal
Means to Prevent Youth Suicide**

PediaLink
The AAP Online Learning Center



CALM for Pediatric Providers: Counseling on Access to Lethal Means to Prevent Youth Suicide

MOC

AVAILABLE:
07/28/2022 - 07/27/2025

[DESCRIPTION & LEARNING](#)
[COURSE DETAILS](#) | [TECHNICAL](#)

FORMAT:

Online Course

ONLINE COURSE

**Safer:
Storing Firearms
Prevents Harm**

PediaLink
The AAP Online Learning Center



AAP Policy Statement

- Educate clinicians
- Hospital intervention programs
- Community intervention programs
 - Resources for violence intervention programs
 - Greening of neighborhood spaces
- Regulate firearms as a consumer product
 - Like motor vehicles
- Legislation



State Gun Law Strength and Gun Violence Rate

NATIONAL FAILURES



Arizona:
Gun law strength:
8.5
Among the
weakest

Gun violence rate:
18.3/100,000
Worse than
average

<https://everytownresearch.org/rankings/>



Bipartisan Safer Communities Act



PIMA COUNTY



F · A · I · R



GUN SHOW



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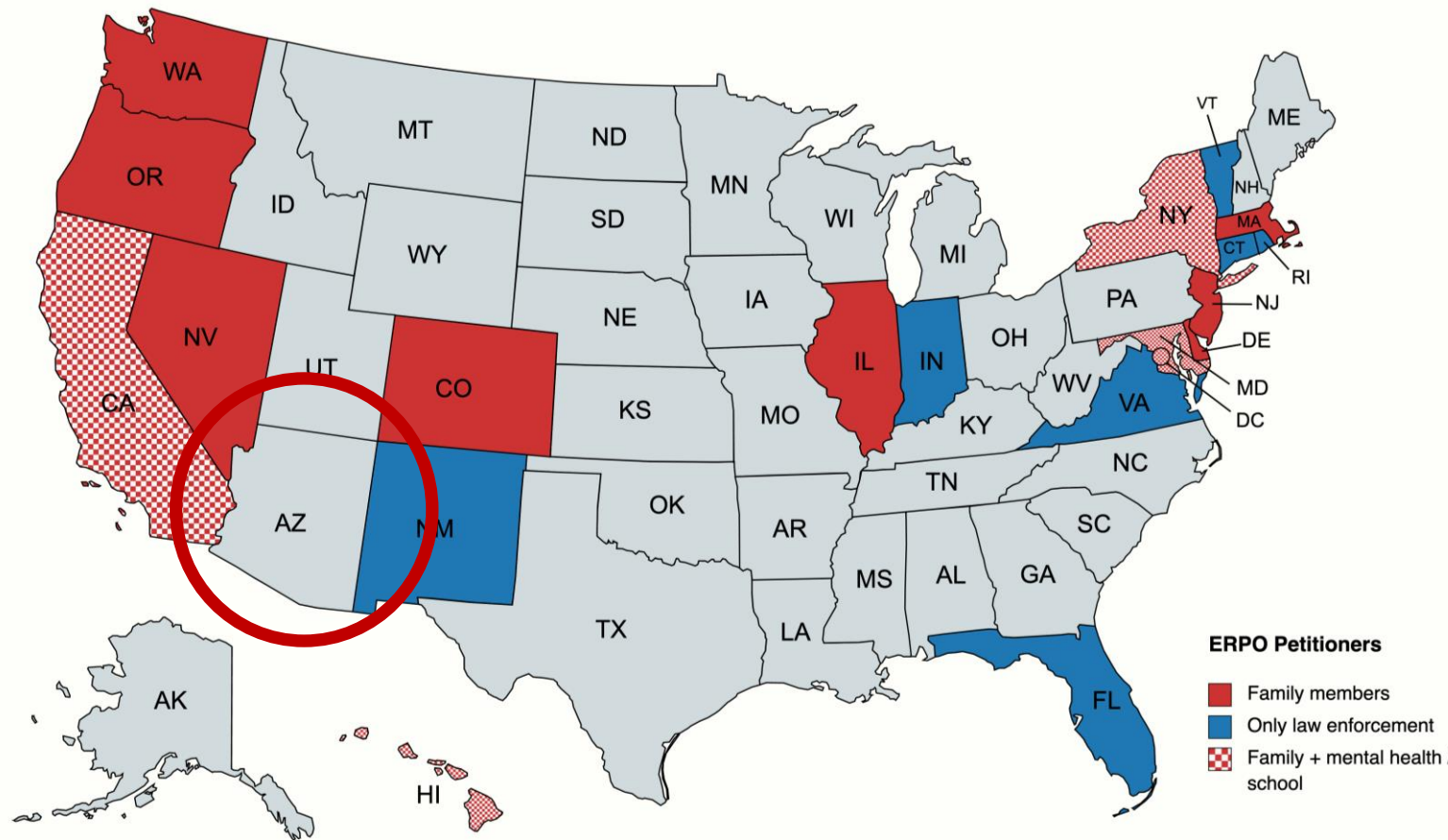
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Extreme Risk Protective Orders (ERPO)



19 States + D.C.

RESEARCH ESTIMATES ONE LIFE IS SAVED FOR EVERY
10- 20 RISK- WARRANTS ISSUED (Connecticut)

Policy—Where do we go from here?

1. Increase research funding
2. Firearm Secure Storage Laws
3. Universal Background Checks
4. Extreme Risk Protection Order (ERPO) laws
5. Repeal PLCAA (Protection of Lawful Commerce in Arms Act)
6. Regulate firearms for safety



National Institutes
of Health



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Take Home Points

- Firearms are the LEADING cause of death in U.S. youth
- Firearms are a health disparity problem
- Pediatricians play an important role in firearm safety anticipatory guidance
 - Risks of having a firearm in the home
 - Safer storage options
 - Asking Saves Kids (ASK)

