

Pediatric Firearm Injuries and Fatalities: A Guide to Policies and Approaches to Firearm Harm Prevention

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Midwest Injury Prevention Alliance
Annual Conference
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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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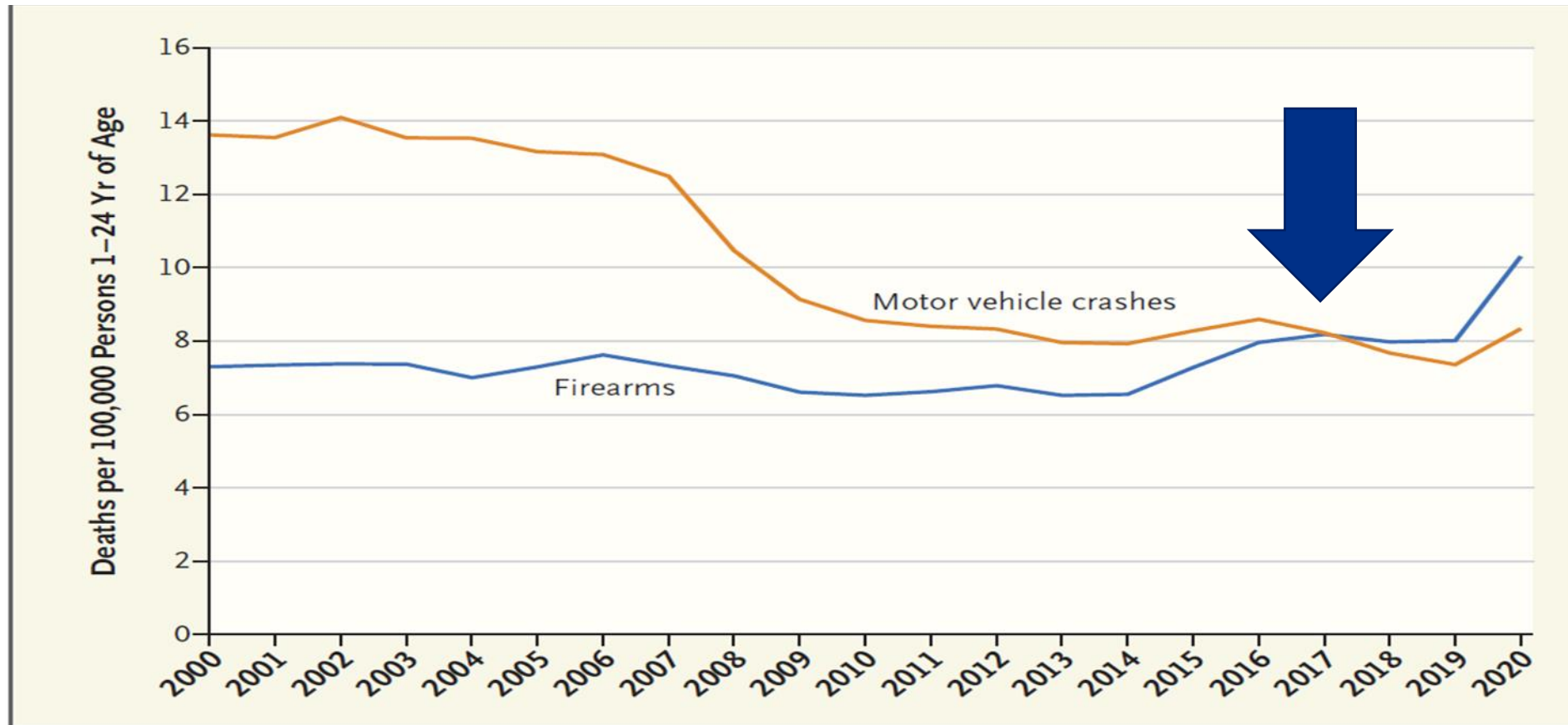
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Learning Objectives

1. Describe the epidemiology of firearm violence
2. Examine different approaches to injury prevention from firearms
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

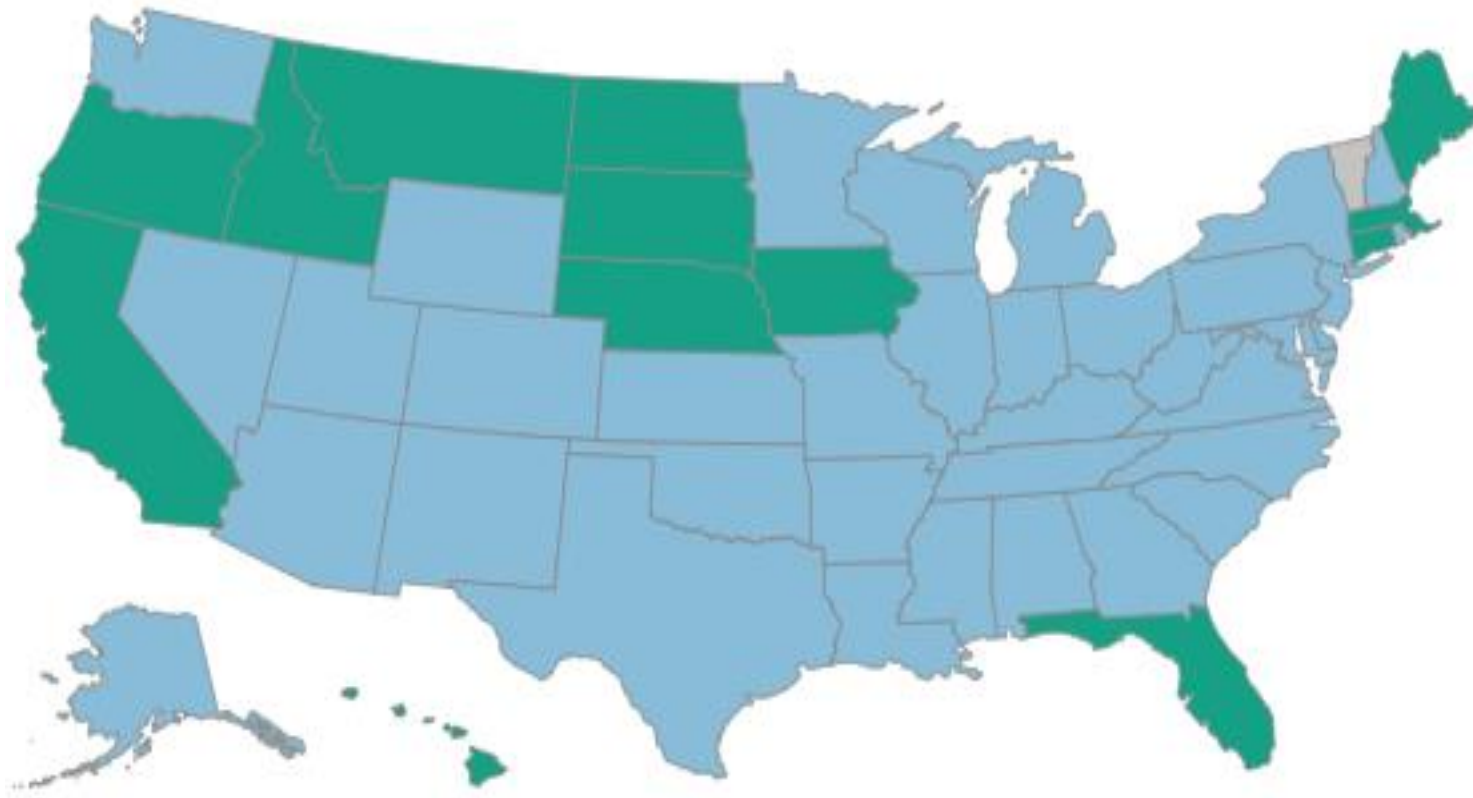
Lee LK, et al. NEJM. 2022.



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Firearm and Motor Vehicle Deaths, 1-24 Years Old, 2021



States Leading Cause of Injury Death



Firearms

10,186 deaths

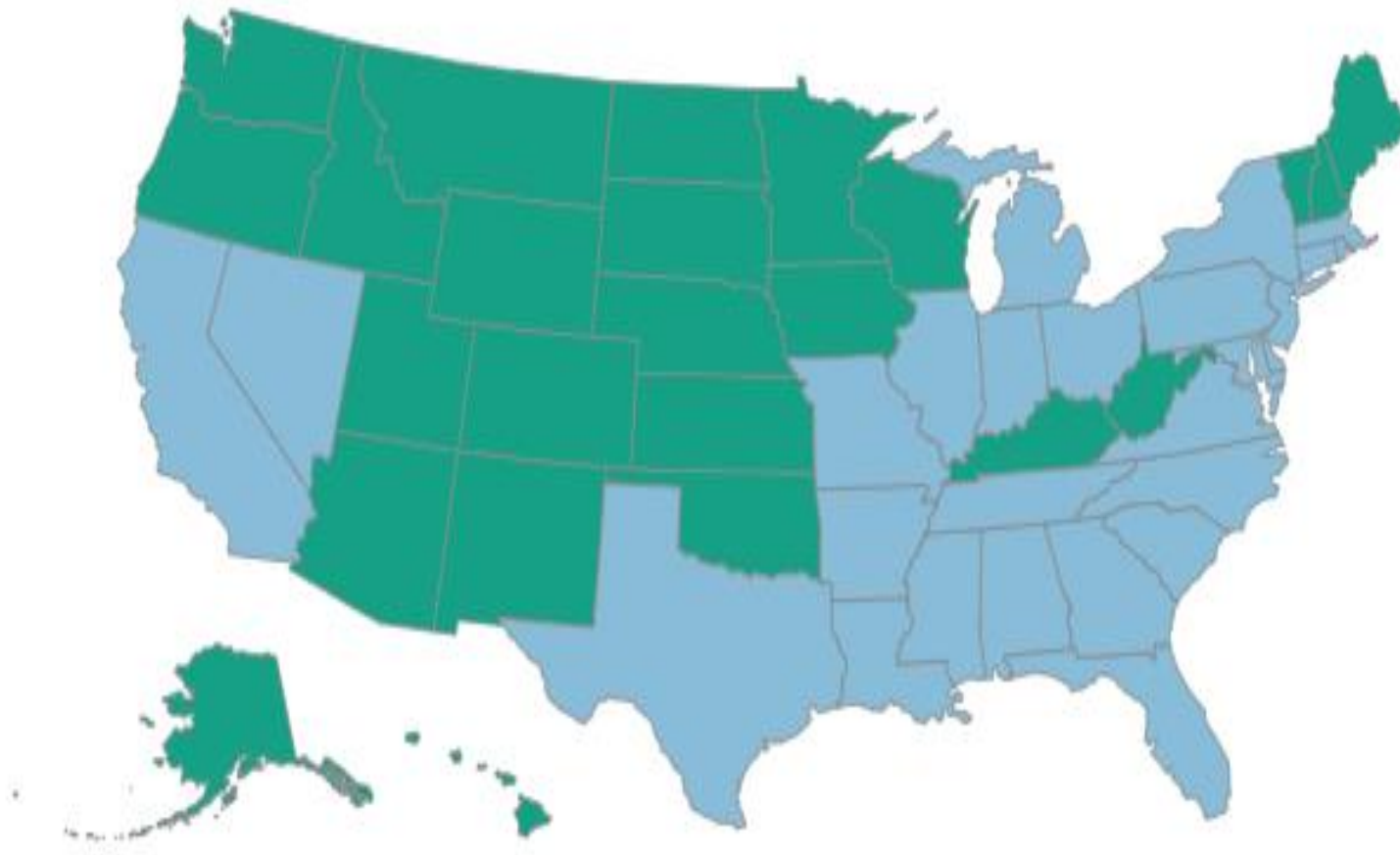


Motor Vehicles

7,820 deaths



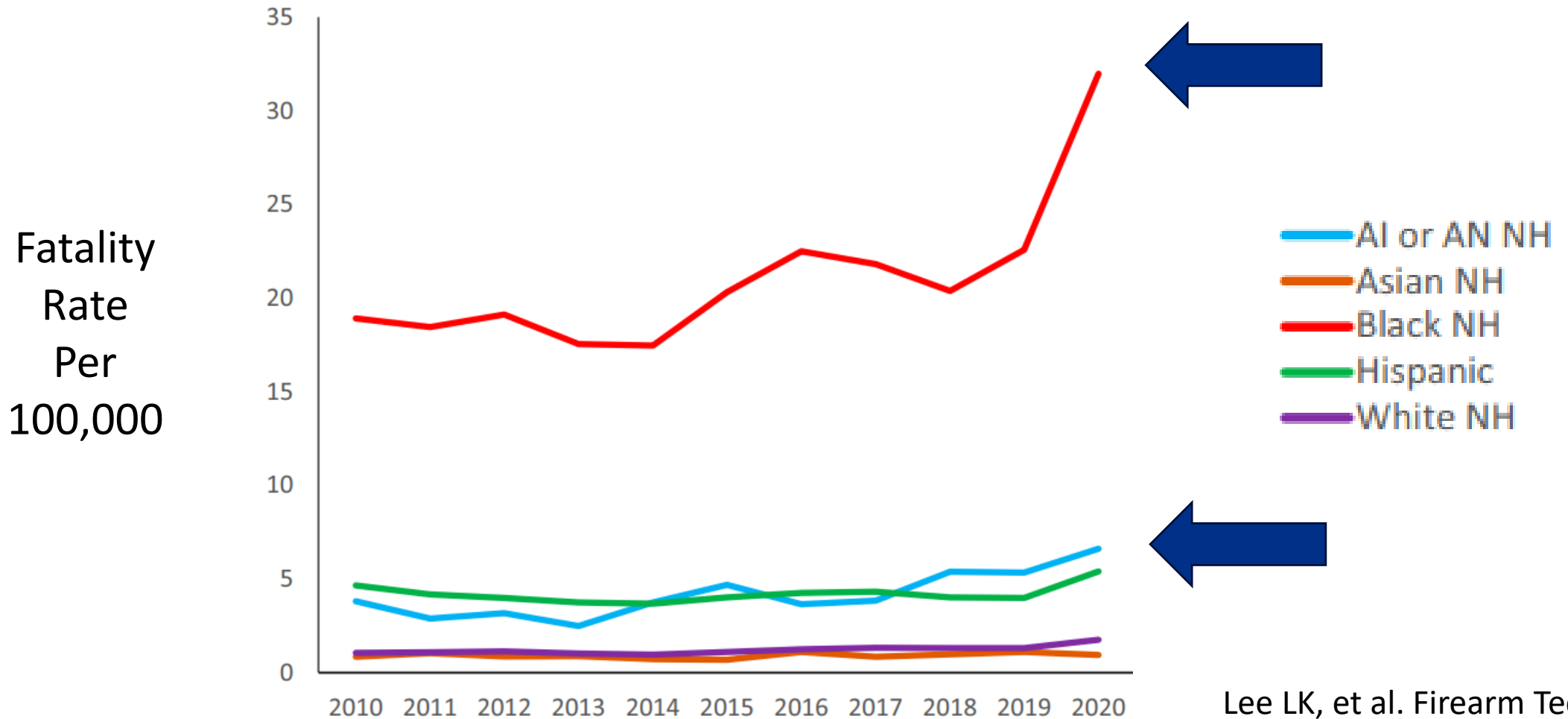
Firearm Deaths by Intent, 1-24 Years Old, 2021



States Leading Cause of Firearm Death, by Intent

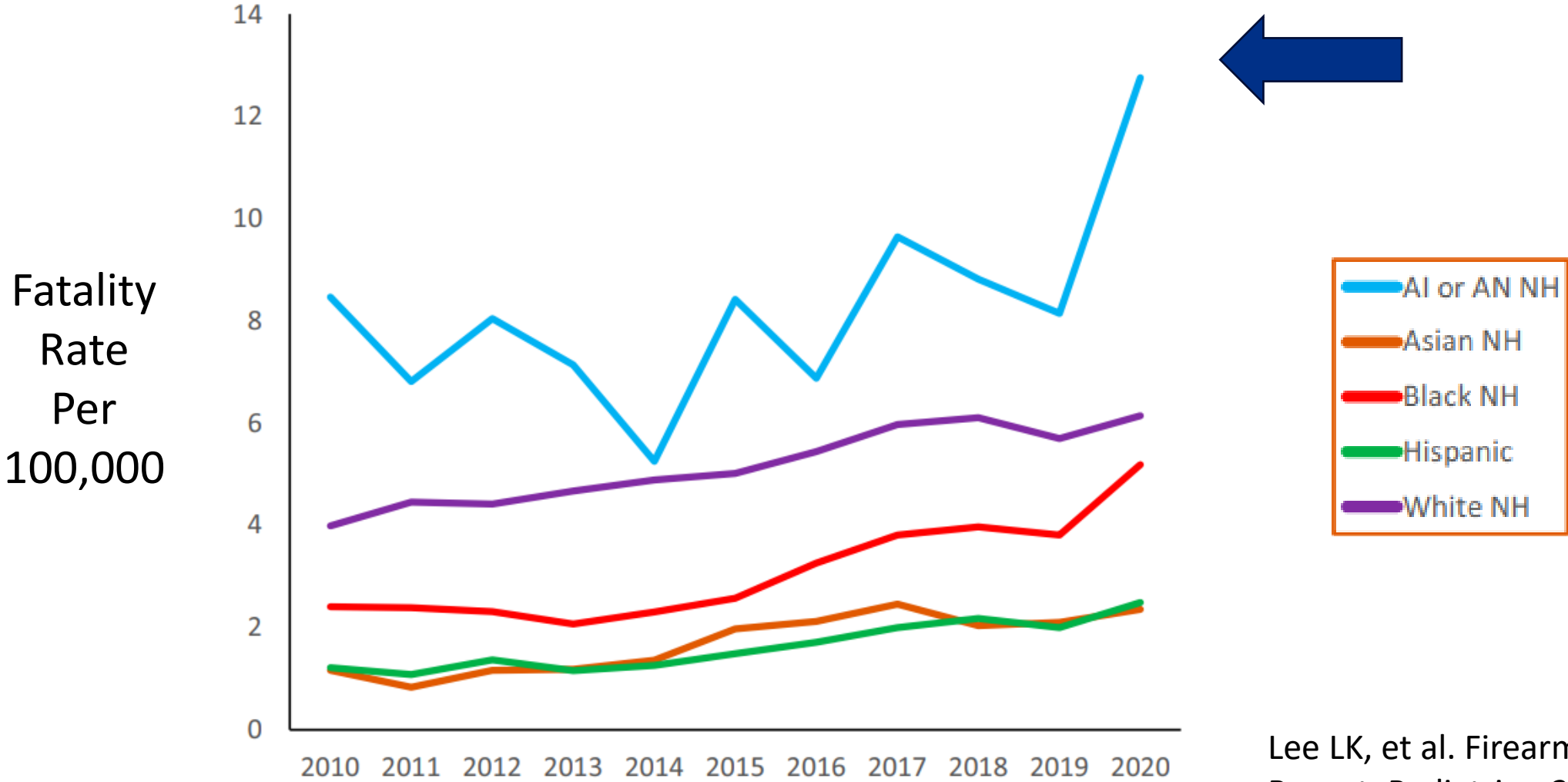
-  Homicides
-  Suicides

Firearm Homicide Rates 5-24 Years Old, 2010-2020



Lee LK, et al. Firearm Technical Report. Pediatrics. 2022

Firearm Suicide Rates 10-24 Years Old, 2010-2020



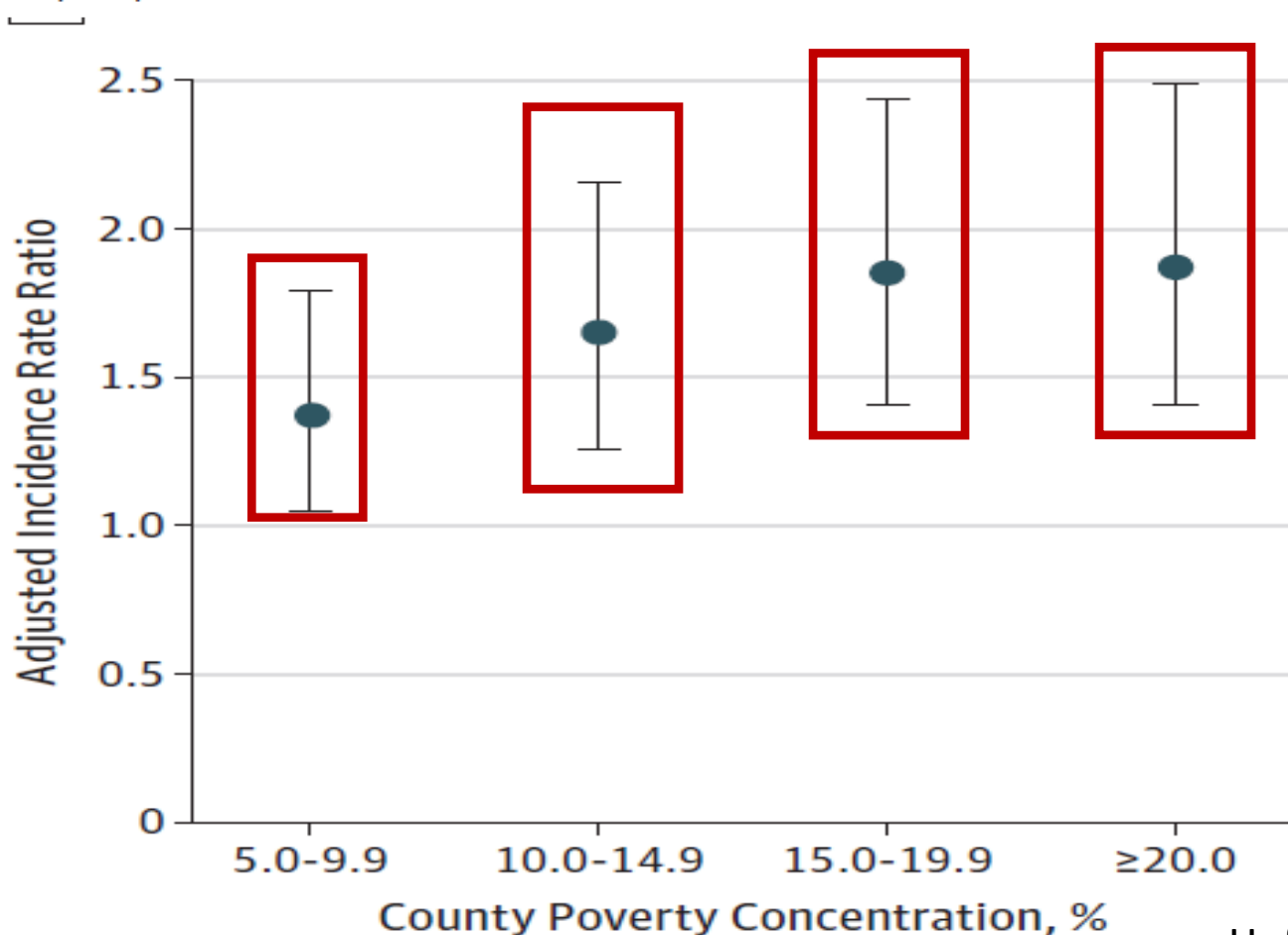
Lee LK, et al. Firearm Technical Report. Pediatrics. 2022





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



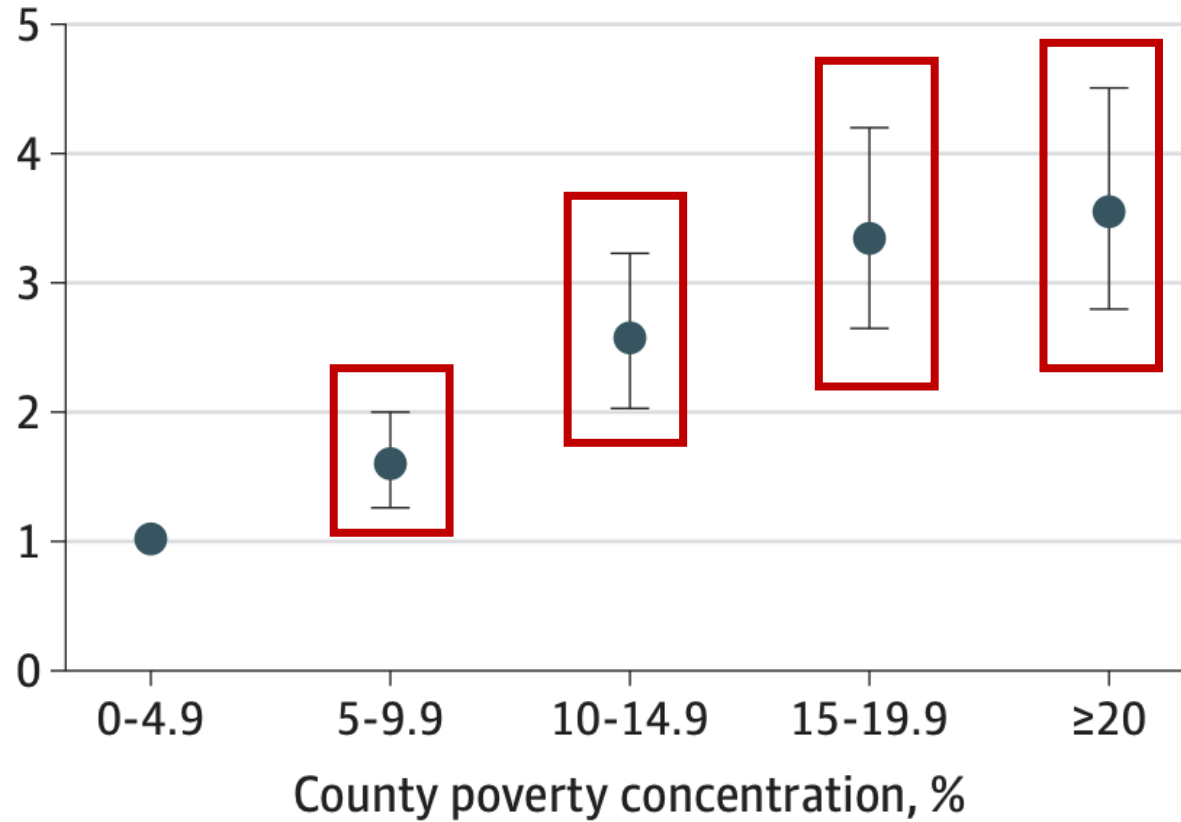
Increased firearm suicide mortality incidence rate with increasing county level poverty

Models control for year, individual demographics, county urbanicity, a county youth demographic composition. Data are reported compared with the lowest poverty concentration (0%-4.9% of the county population living below the federal poverty level). Error bars indicate 95% CIs.

Pediatric Firearm Homicide and County Poverty

Adjusted Incidence Rate Ratio

Homicide mortality



Association of County-Level Poverty and Inequities With Firearm-Related Mortality in US Youth

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

JAMA Pediatrics

2022

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.



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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Levers for Change

Human Factors



Communication

Agent



Product Design

Environment



Built Environment



Cultural Change



Regulations



(Social) Legislation

GUN SAFETY and CHILDREN



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



How was the gun stored?

10-14 year olds

	Locked	Unlocked
Suicide		
Unloaded	15%	38%
Loaded	5%	42%
Unintentional		
Unloaded	3%	10%
Loaded	13%	75%

15-19 year olds

	Locked	Unlocked
Suicide		
Unloaded	20%	39%
Loaded	6%	35%
Unintentional		
Unloaded	10%	17%
Loaded	7%	66%

National Violent Death Reporting System/CDC



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



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

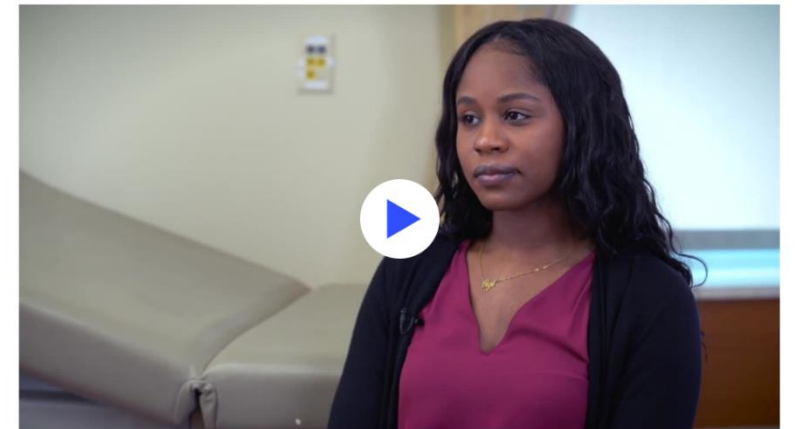
[Home](#) / [Patient Care](#) / Gun Safety and Injury Prevention

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/>

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



Bipartisan Safer Communities Act



PIMA COUNTY



F · A · I · R



GUN SHOW



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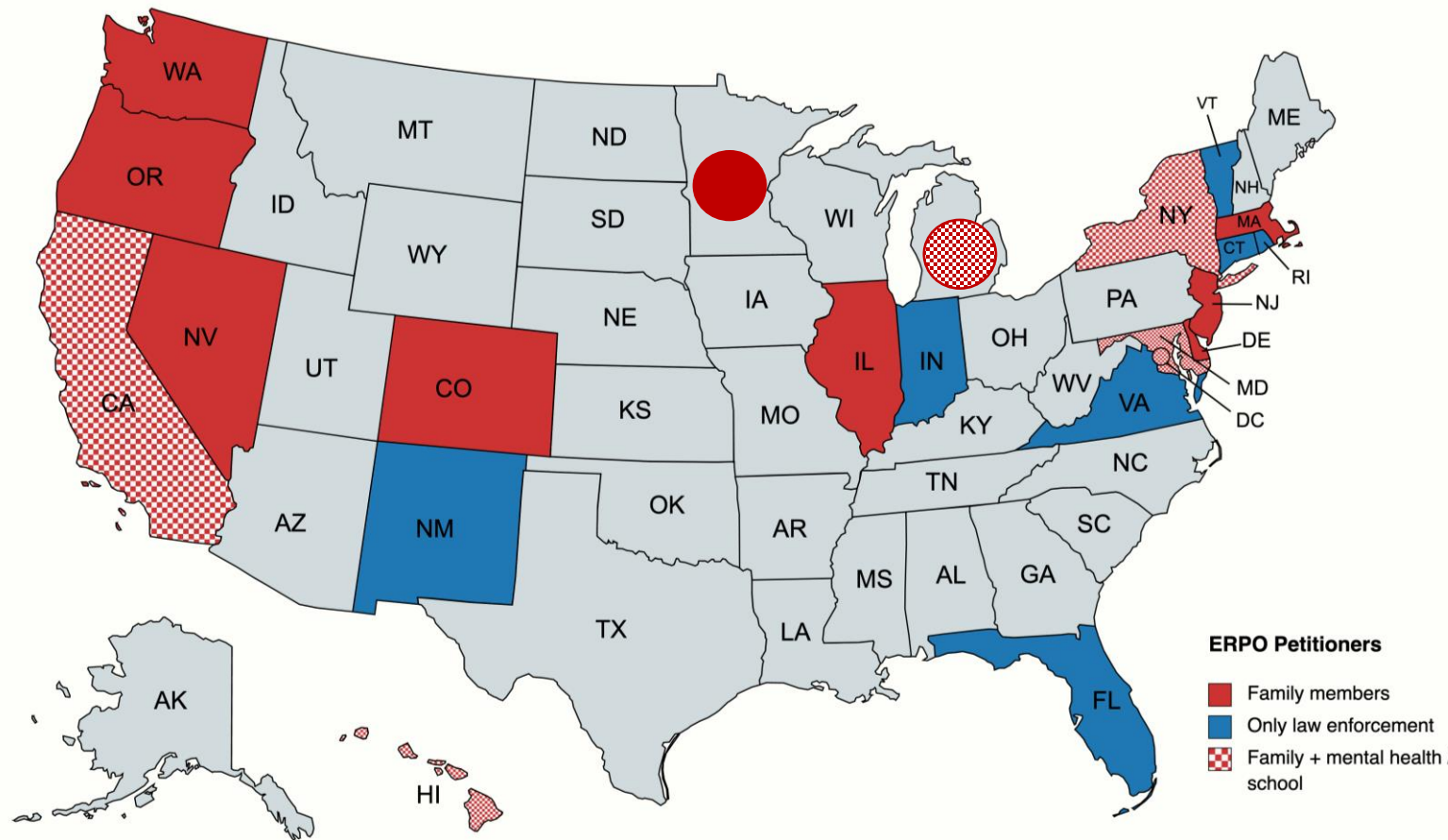
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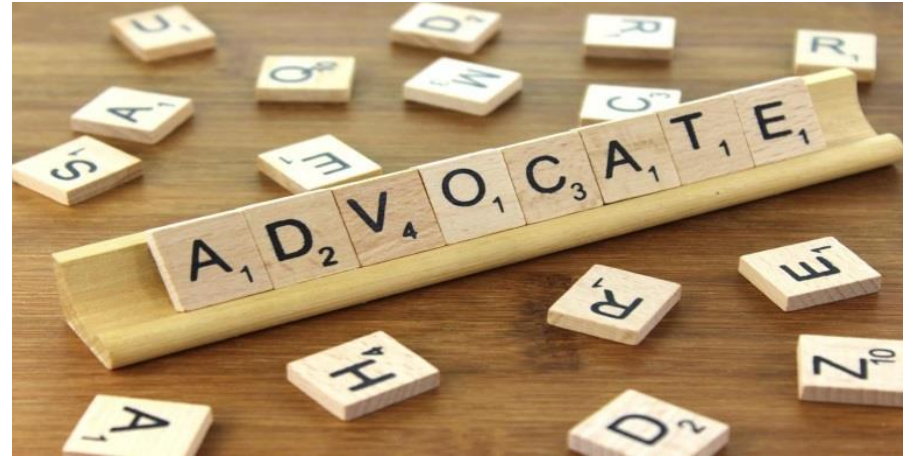
Extreme Risk Protective Orders (ERPO)



21 States + D.C.
(Michigan &
Minnesota 2024)

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

So now what can we do?



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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MOMS 
DEMAND
ACTION
FOR GUN SENSE IN AMERICA

WEAR 
ORANGE

JUNE 11,
2022 
MARCH
FOR OUR
LIVES 


EVERYTOWN
FOR GUN SAFETY™

momsdemandaction.org

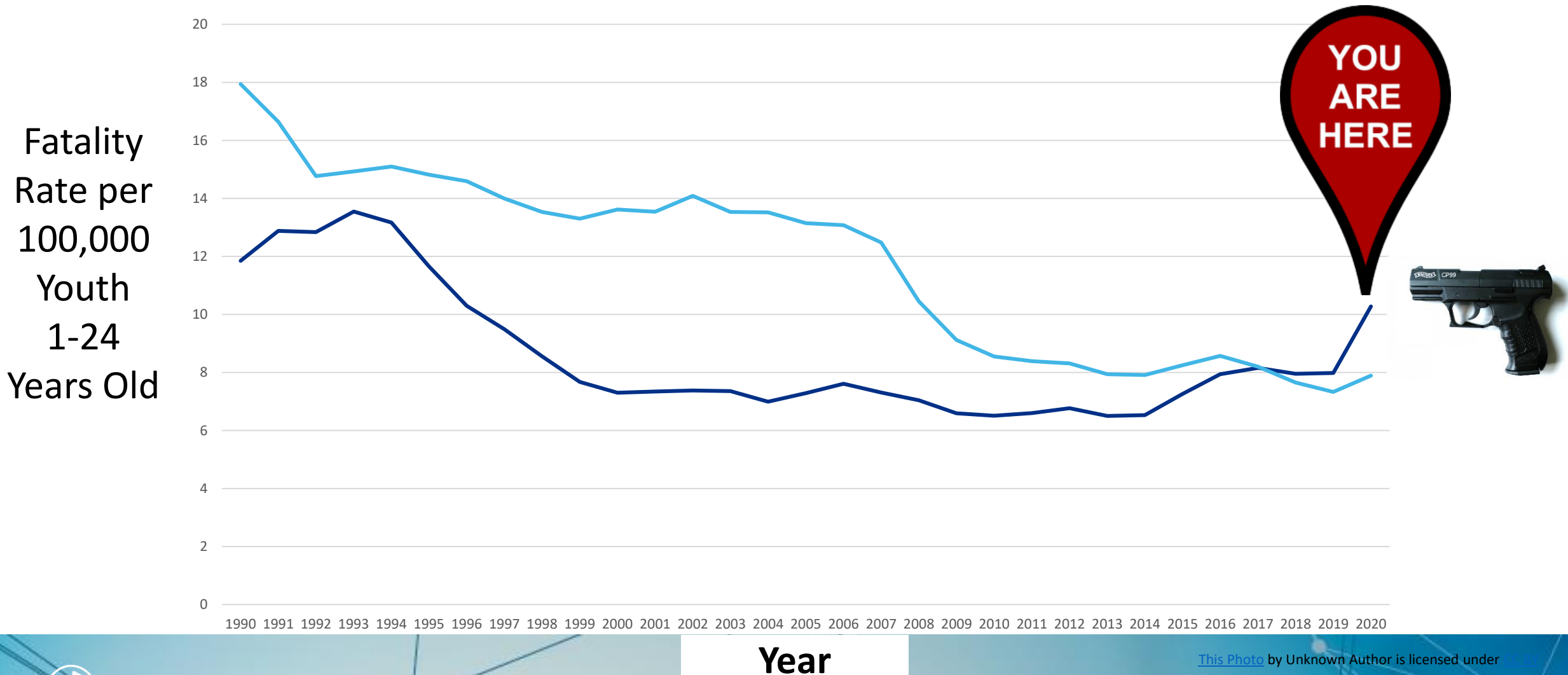


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Firearm and Motor Vehicle Crash Fatality Rates, Youth 1-24 Years Old, United States 1990-2020



**YOU
ARE
HERE**





Take Home Points

- Firearms are the LEADING cause of death in U.S. youth
- Firearms are a health disparity problem
- A multi-pronged scientific approach—like what is used for motor vehicles-- can be applied for firearm injury prevention

