Sounding the alarm: Physicians' role in talking to patients about firearm access and suicide risk

Jill Harkavy-Friedman, Ph.D. October 25, 2024



Plan for today

- Overview of Suicide
- 2. Relationship between gun ownership and suicide
- 3. Who may be at risk for death by suicide with a firearm
- 4. Public Perceptions
- 5. Policy and prevention
- 6. SAFETY Study: Parental LMC in ED



Language Do's and Don'ts

Avoid

"Committed suicide"

Say

"Died by suicide"

"Ended his/her life"

"Killed himself/herself"

"Failed" or "successful" attempt

"Suicide attempt" or "death by suicide"

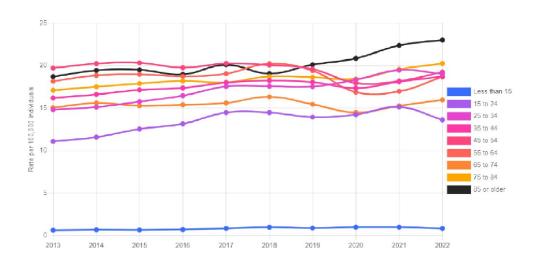


Scope of the Problem of Suicide in the U.S. in 2022

- •49,476 people died by suicide (14.21/ 100k)
- 11th leading cause of death
- 3.85 times more men than women
 - White males account for 68.5% of suicide deaths
 - 61% of people reported they knew someone who thought about, attempted or died by suicide



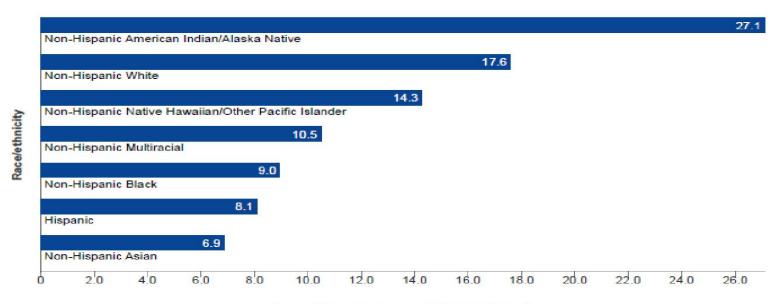
Variations in Suicide rates in U.S. by Age



https://afsp.org/suicide-statistics/



Suicide Rate by Race and Ethnicity 2022

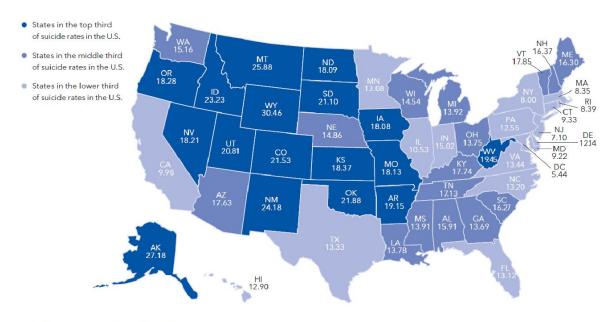


Age-adjusted rates per 100,000 population

 $https://www.cdc.gov/suicide/facts/data.html\#: \sim : text = Suicide \% 20 deaths \% 2C\% 20 plans \% 2C\% 20 and \% 20 attempts, died \% 20 by \% 20 suicide \% 20 in \% 20 20 22.$



Suicide Rates Across the United States, 2022



See full list of citations at afsp.org/statistics.



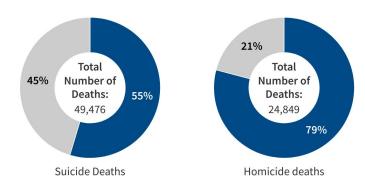
Firearm deaths: Suicide and Homicide in 2022

Figure 3

More than half of suicide deaths and homicide deaths involved a firearm in 2022

Percent of all suicide and homicide deaths involving a firearm, 2022

■ Firearm-related deaths ■ Deaths by other means



Note: The figure shows the share of suicide and homicide deaths that are due to a firearm as a share of all suicides and homicides by all means in 2022. Firearm death types are identified by the following ICD-10 codes: X93-95 (homicide), X72-X74 (suicide). Suicides, by all means, were identified using the ICD-10 113 Cause List; intentional self-harm (U03, X60-X84, Y87.0), and the homicides, by all means, were identified using the same 113 cause list; assault (homicide) (U01-U02, X85-Y09, Y87.1).

Source: KFF Analysis of CDC Wonder Data, 2022

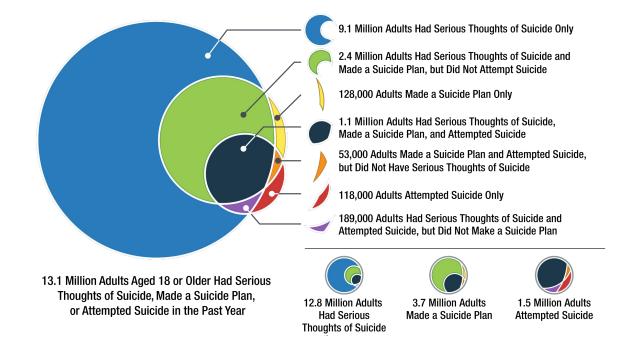
56% of firearm deaths were suicides

Centers for Disease Control and Prevention,
National Center for Health Statistics. National Vital
Statistics System, Mortality 2018-2022 on CDC
WONDER Online Database, released in 2024.
Data are from the Multiple Cause of Death Files,
2018-2022, as compiled from data provided by the
57 vital statistics jurisdictions through the Vital
Statistics Cooperative Program. Accessed at
http://wonder.cdc.gov/ucd-icd10-expanded.html on
Oct 22, 2024 3:32:39 PM



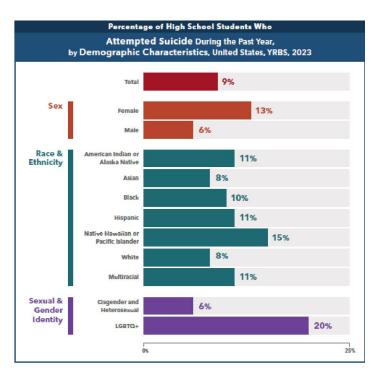
KFF

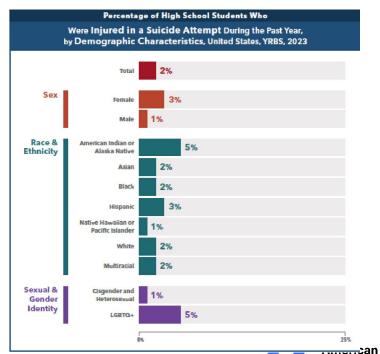
Adults Aged 18 or Older Who Had Serious Thoughts of Suicide, Made a Suicide Plan, or Attempted Suicide in the Past Year; 2023





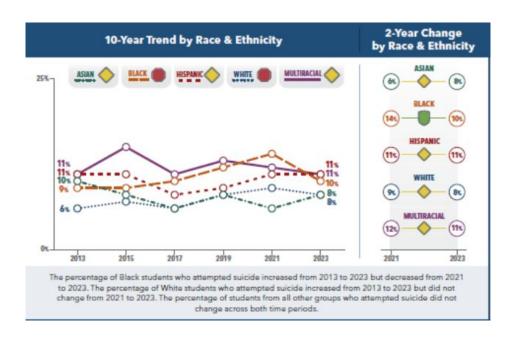
Suicide Attempts in High School Students







Suicide Attempts by Race and Ethnicity in 2023



Centers for Disease Control and Prevention *Youth Risk Behavior Survey Data Summary & Trends Report:* 2013–2023 U S Department of Health and Human Services; 2024



Model for Suicide

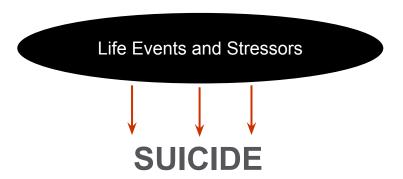


There's never one single cause for suicide

Suicide is complex and dynamic



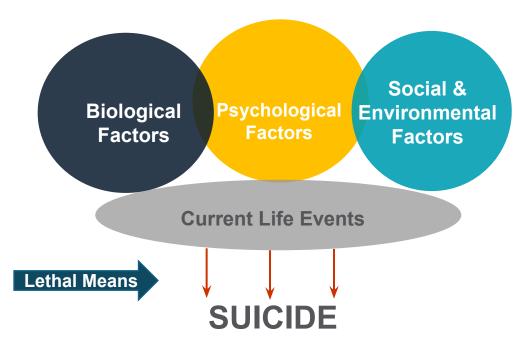
Interacting Risk and Protective Factors



Harkavy-Friedman, JM, Moutier, CY (2019) presented at the annual meeting of the American Association of Suicidology, Washington, DC.2018 National Academy of Sciences, Improving Care to Prevent Suicide among People with Serious Mental Illness – A Workshop, Speaker, Washington, D.C., September 2018. Proceedings published December 28, 2018, http://www.nationalacademies.org/hmd/Reports/2018/improving-care-to-prevent-suicide-among-people-with-serious-mental-illness-proceedings.aspx



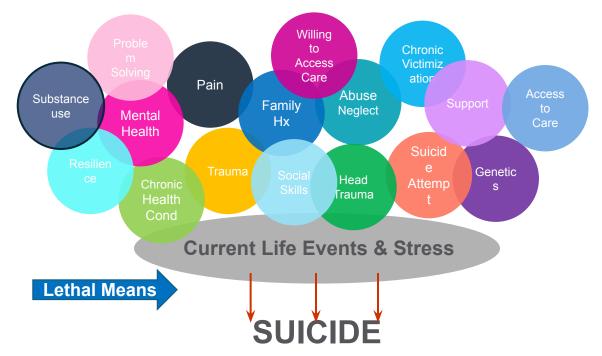
Interacting Risk & Protective Factors



Harkavy-Friedman, JM, Moutier, CY (2019) presented at the annual meeting of the American Association of Suicidology, Washington, DC.2018 National Academy of Sciences, Improving Care to Prevent Suicide among People with Serious Mental Illness – A Workshop, Speaker, Washington, D.C., September 2018. Proceedings published December 28, 2018, http://www.nationalacademies.org/hmd/Reports/2018/improving-care-to-prevent-suicide-among-people-with-serious-mental-illness-proceedings.aspx



Interacting Risk & Protective Factors



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Relationship Between Firearms Ownership and Suicide



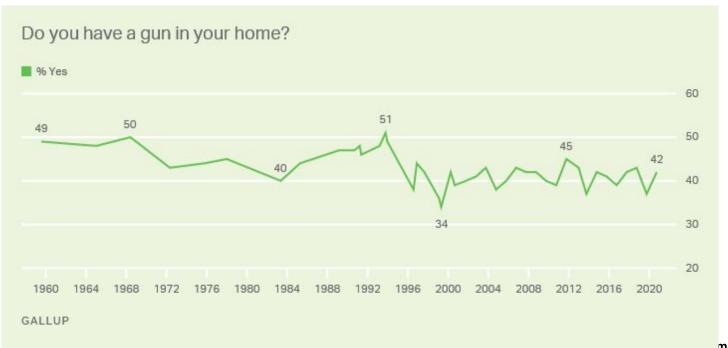
Gun Ownership

•40% U.S. adults say they live in a household with a gun

- 32% say they personally own a gun
- 40% male vs. 25% female are gun owners
- 47% rural vs. 30% suburban vs. 20% urban
- 40% increase in new gun purchases in 2020 and 30% in 2021
- https://www.pewresearch.org/politics/2023/08/16/for-most-u-s-gun-owners-protection-is-the-main-reason-th ey-own-a-gun/



Percent of Homes with a gun: 1960-2020







Changes in Gun Ownership: 2019-2021

- Number of guns increased from 393.3M to 436.4M
 22.8M bought in 2020 and 19M bought in 2021
 77.49M gun owners in U.S.
- 30-50% of new gun owners are women
- Increases in gun ownership across all ethnic & racial groups
- Average number of guns per guns owner is 5
- https://www.marineapproved.com/qun-ownership-statistics-in-america/ accessed 10/27/22



Reasons reported for gun ownership

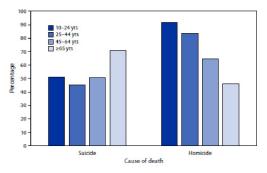
- •72% self-protection
- •32% hunting
- 30% nonspecific recreation or sport
- 15% antique or a family heirloom
- 7% related to their line of work



Who Dies by Suicide with Guns: Age

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Suicides* and Homicides[†] Involving a Firearm Among Persons Aged ≥10 Years, by Age Group — National Vital Statistics System, United States, 2020[§]







Gun Ownership and Suicide

Cause of Death	Owners		Nonowners		Adjusted Hazard Ratio (95% CI);
	Deaths*	Crude Rate†	Deaths*	Crude Rate†	
All causes	10,863	382.94	1,447,118	820.91	0.80 (0.79-0.82)
Male	9,343	409.60	697,731	910.11	0.81 (0.79-0.83)
Female	1,500	271.78	739,924	747.99	0.72 (0.68-0.76)
Suicide	1,354	47.73	16,540	9.38	3.67 (3.46-3.89)
Male	1,132	49.63	11,376	14.84	3.34 (3.13-3.56)
Female	219	39.68	5,107	5.16	7.16 (6.22-8.24)
Suicide by firearm	1,200	42.30	5,491	3.11	9.08 (8.48-9.73)
Male	1,003	43.97	4,575	5.97	7.82 (7.26-8.43)
Female	194	35.15	900	0.91	35.15 (29.56-41.79)
Suicide by other methods	154	5.43	11,049	6.27	0.68 (0.58-0.80)
Male	129	5.66	6,801	8.87	0.64 (0.55-0.76)
Female	25	4.53	4,207	4.25	1.01 (0.68-1.50)

Studdert D, et al., Handgun Ownership and Suicide in California. N Engl J Med 2020;382:2220-9. DOI: 10.1056/NEJMsa1916744



Among gun owning households with children

- •~ 20% of gun owners store at least one gun in the least safe manner (loaded and unlocked)
- •30% store all guns in the safest manner
- •Gun storage practices do not vary across most demographic characteristics of gun owners However:
 - -Female gun owners are more likely to store at least one gun loaded and unlocked
 - -People in the South are more likely to store guns unlocked and loaded
 - -Those who own firearms for protection more likely to store loaded and unlocked
- •7% of US children (4.6 million) live in homes in which at least one firearm is stored loaded and unlocked
- Azrael D, Cohen J, Salhi C, Miller M. Firearm Storage in Gun-Owning Households with Children: Results of a 2015 National Survey. J Urban Health. 2018 Jun;95(3):295-304. doi: 10.1007/s11524-018-0261-7. PMID: 29748766; PMCID: PMC5993703.



Whose Gun is Used for Suicide?

- Adult males: 88% used their own gun
- Adult women: 52% used their own gun and 32% used their partner's gun
- Youth ages 18–20: 42% used their own gun, 43% used a family member's and 8% used a friend's
- Children under 18: 19% used their own gun (usually a long gun) and 79% used a family member's gun

12% of gun owners and 27% of non-gun owners worry about having a gun in the home



Who May be at Risk for Suicide with Firearms



Who may be at Increased Risk

- Who: Nationally-representative survey of 2646 firearm owners
- What: Survey assessed suicide risk factors, and demographic characteristics
- Measured SIB, depression, pain, alcohol use, opioid use, ACES, veteran status
- How: A Latent Class Analysis
- SIB: 9.6% of firearm owners were at increased risk of suicide with
 - 25% reporting suicide ideation
 - 6.6% reporting suicide planning
 - 1.8% reporting previous suicide attempts
- Ross CS, Gradus JL, Siegel MB, Alcorn T, Garverich S, Lincoln A. Distinct groups of firearm owners with differential risk for suicide in the United States: A latent class analysis. Prev Med. 2022 Aug 28:107185. doi: 10.1016/j.ypmed.2022.107185. Epub ahead of print. PMID: 36041545.



Risk Groups

	1	2	3
Size N (%)	129 (4.9%)	144 (5.5%)	88 (3.3%)
High suicide risk (SBQ-R 7 and higher)	25.2%	16.5%	56.7%

Ross CS, Gradus JL, Siegel MB, Alcorn T, Garverich S, Lincoln A. Distinct groups of firearm owners with differential risk for suicide in the United States: A latent class analysis. Prev Med. 2022 Aug 28:107185. doi: 10.1016/j.ypmed.2022.107185. Epub ahead of print. PMID: 36041545.

Latent class mo	del variable	es	
Current	4	•	•
depression	1	2	3
(CESD-R-10	46.2%	15.1%	90.9%
depression			
past week)			
Chronic pain			
(past 3	58.8%	34.1%	80.1%
months)			
PTSD	42.5%	10.3%	70.5%
indicated	12.070	10.070	70.070
Report 4 or			
more			
adverse	37.2%	19.6%	77.1%
childhood			
experiences			
Female (%)	37.1%	15.3%	56.6%
Self-ID sexual			
minority	18.3%	3.9%	22.6%
(%)			
Conflict	12.8%	21.3%	12.6%
veteran (%)			
Average			
monthly	38.60	00.44	8.93
alcohol	±	99.41 + 5.97	\pm
drinks	23.40	± 5.97	20.19
(mean +			
stdev) Pain			
medication	11.0%	15.5%	46.7%
medication misuse2	11.0%	15.5%	46.7%
Family history of	8.2%	6.0%	23.7%
suicide	0.270	0.070	23.7%
suicide			

	1	2	3
Region (%)	•	_	Ū
Northeast	8.8%	8.9%	15.1%
Midwest	13.8%	29.1%	16.9%
South	47.9%	41.5%	53.5%
West	29.6%	20.5%	14.5%
Firearm practice I regularly go	es (percent	who strong	ly agree or
shooting or to a gun range	53.0%	49.8%	53.0%
I frequently attend gun shows	10.4%	29.2%	30.3%
I participate in online gun forums	7.5%	14.1%	21.5%
		Δ	merican

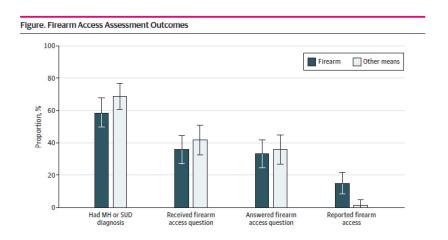


People will tell you if they have a gun

- In primary care, 83.4% of patients answered the question about firearm access, and 20.9% of patients who responded to the firearm question reported having access.
- In mental health, 91.8% of patients answered the question, and 15.3%reported having access.



People who die by suicide



Richards, JE, et al., Patient-Reported Firearm Access Prior to Suicide Death *JAMA Health Forum.* 2021;2(8):e211973. doi:10.1001/jamahealthforum.2021.1973



Reducing Firearm Suicides



Lethal Means Counseling: Matthew Miller

Once you have the deck, insert this video

https://vimeo.com/291479923



Why do gun owners sometimes store firearms away from the home?

- •They are travelling out of state and want to keep firearms secure while they are away
- •A teenager in the home is in crisis and at risk for suicide
- •The grandkids are visiting for a week
- •A couple is divorcing, and arguments are getting heated
- •A family member is experiencing mental health or substance use concerns
- •The homeowner is listing the home for sale and wants firearms to be secure while showings occur



Limiting Access to Firearms

- Risk for suicide with a firearm is 3x higher in a home with a gun
- Israel study: when guns left on military base, 40% reduction in suicides
 - -no increase during the week or with other methods
- Laws that limit access to guns in high-risk period reduce suicide deaths with firearms
 - -little or no increase with other methods



Lethal Means Limiting Access Tools

https://lock2live.org/



https://coloradofirearmsafetycoalition.org/gun-storage-map/





Lethal Means Counseling (LMC)

- Reduce physical distance to lethal means
- Reduce psychological or cognitive distance to means
- CALM
- Safety Planning



SAFETY Study: Parental LMC in ED

- •Who: Parents of youth seen in 4 ED's for suicidal ideation and behavior
- •What: Provided LMC and lock boxes and/or gun locks
- •When: in ED with 2-year follow-up
- •Results:
- •3x improved medication storage
- Behavioral change persisted after 2 years
- •2x caregivers improved firearm storage
- Behavior change for firearms did not persist after 2 years



SAFETY Study Takeaway

- People change behavior after LMC
- Those with firearms may need reinforcement over time
- Challenges
 - Obtaining contact information from families in the ED
 - Providing supplies to the sites
 - Lack of uniformity in data systems
 - •Differences in patterns of behavioral healthcare delivery across sites
- The strategies to address challenges
 - •Laminated 'cheat sheets' and hang tags for clinician badges reminding them of the key points of the intervention
 - Contracting with a distribution center to coordinate shipping



Clinicians' Response to LMC

- Increased their comfort with and depth of LMC conversations with families
- Had these conversations more frequently
- •While some clinicians anticipated the protocol would be a time burden, this concern proved unfounded as clinicians viewed the additional time commitment as minor and worthwhile.
- •Providing lockboxes was universally thought to facilitate conversations with parents.
- •All clinicians planned to continue conducting LMC after the study ended
- Many incorporated LMC into their regular practice beyond the study setting



Policy and Firearms



Policies Associated with Suicide Rate Decrease

- Background checks
- Waiting periods
- Permit prior to license
- Age limits
- Extreme Risk Protection Orders
- Voluntary no sale laws
- Restrictive laws in bordering states
- •Population and citizens characteristically favors restrictive gun laws

Impact depends on the combination of laws



Laws Associated with Suicide Rate Increase

- Pre-exemption (allows resale instead of destruction of guns turned in voluntarily to law enforcement)
- Permissive laws in bordering states
- Population and individuals favor permissive gun laws

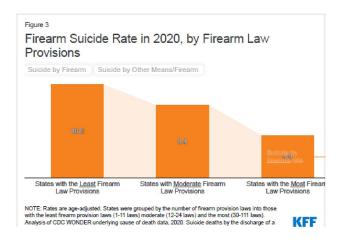


Other Firearms Policies

- Transfer process
- Ammunition
- Possession
- Storage
- Trafficking
- Liability of firearm manufacturers



Firearm Laws and Suicide





Prevention

Prevention does not mean there will be no risk

- Anticipate (Avert)
- Stave off (Preclude)
- Help (Avoid)



A&D

Thank you

Contact our PR Department at: pr@afsp.org

JHarkavyFriedman@afsp.org











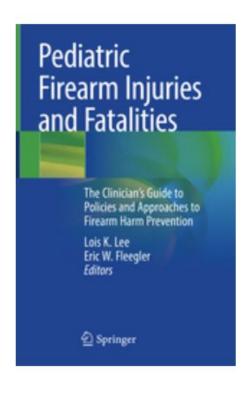
Role of physicians in talking to patients about firearm safety and access

Lois K. Lee, M.D., MPH Boston Children's Hospital, Harvard Medical School Chair, American Academy of Pediatric, Council on Injury, Violence, and Poison Prevention

Association of Health Care Journalists Fall Summit
October 25, 2024



Disclosures



© 2021

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.)



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

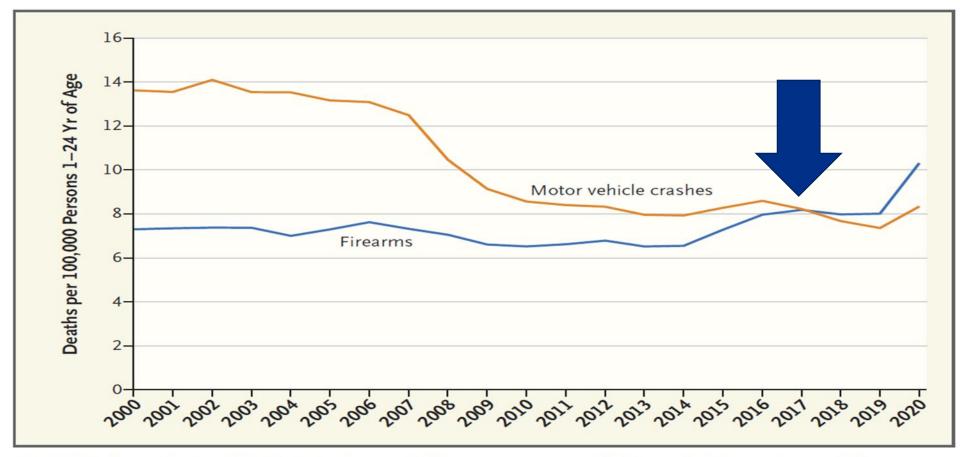


www.cdc.gov/injury/WISQARS





Firearm and Motor Vehicle Crash Fatality Rates, Youth 1-24 Years Old, United States 2000-2020



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

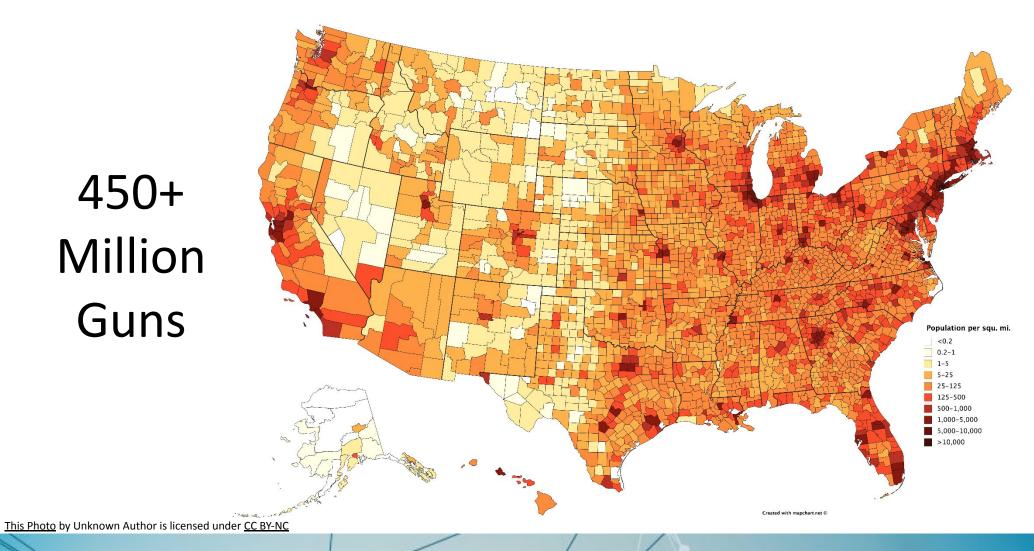
The rates are age-adjusted and are from the Web-based Injury Statistics Query and Reporting System, Centers for Disease Control and Prevention.¹ Lee LK, et al. NEJM. 2022.





U.S. Population: 330 Million People

450+ Million Guns







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			

40% of households with children have > 1 firearm ~30 million children

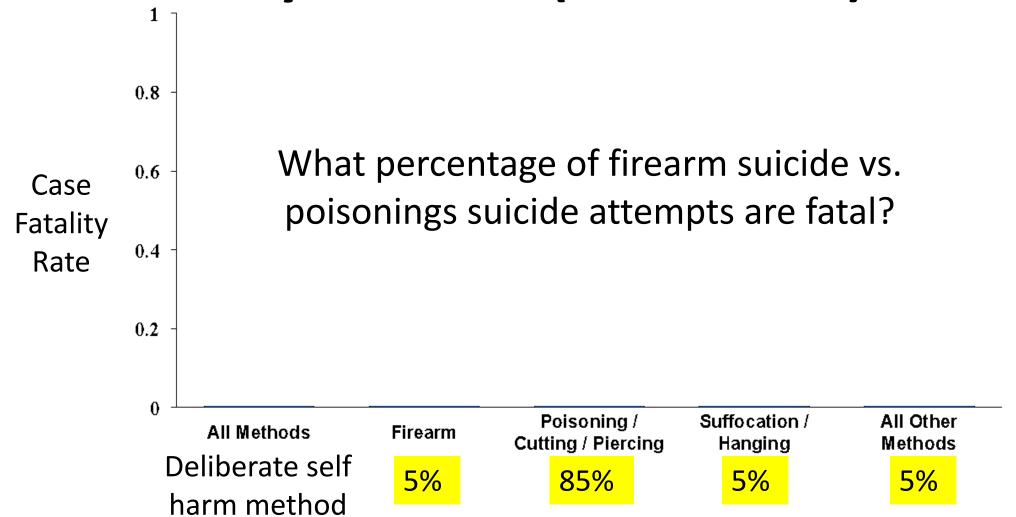
4.6 million children where firearms are loaded, unlocked

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

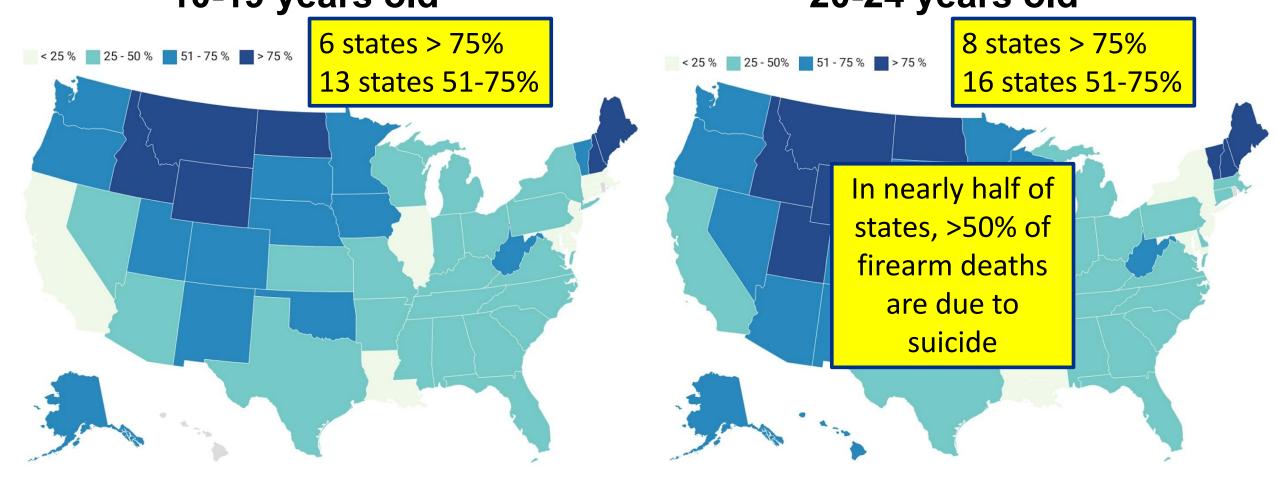




Deliberate Self-Harm and Case Fatality Rate by Method (1996-2000)



Firearm Suicide Deaths, United States 2016-2021 10-19 years old 20-24 years old

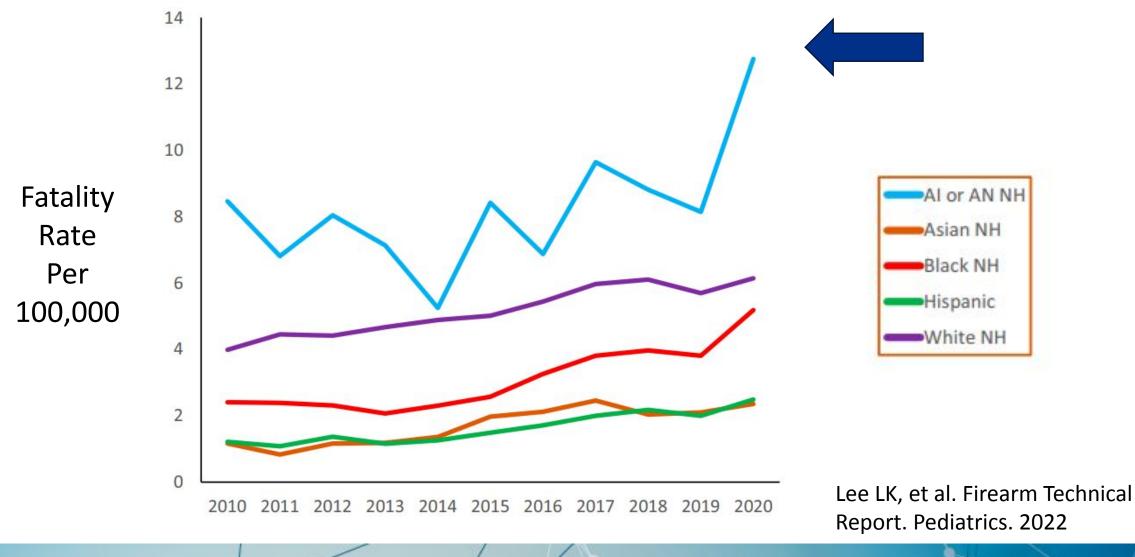


McKie K, et al. JAMA Peds. 2024.





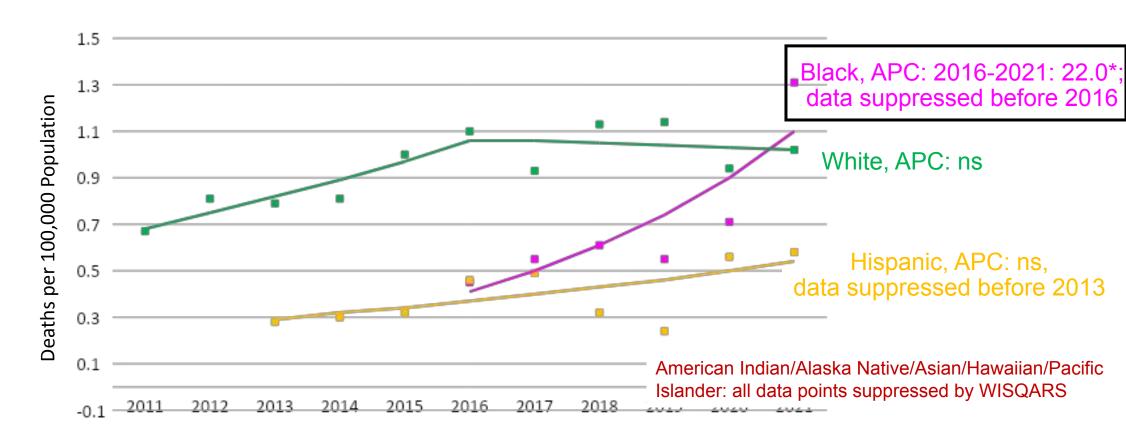
Firearm Suicide Rates 10-24 Years Old, 2010-2020







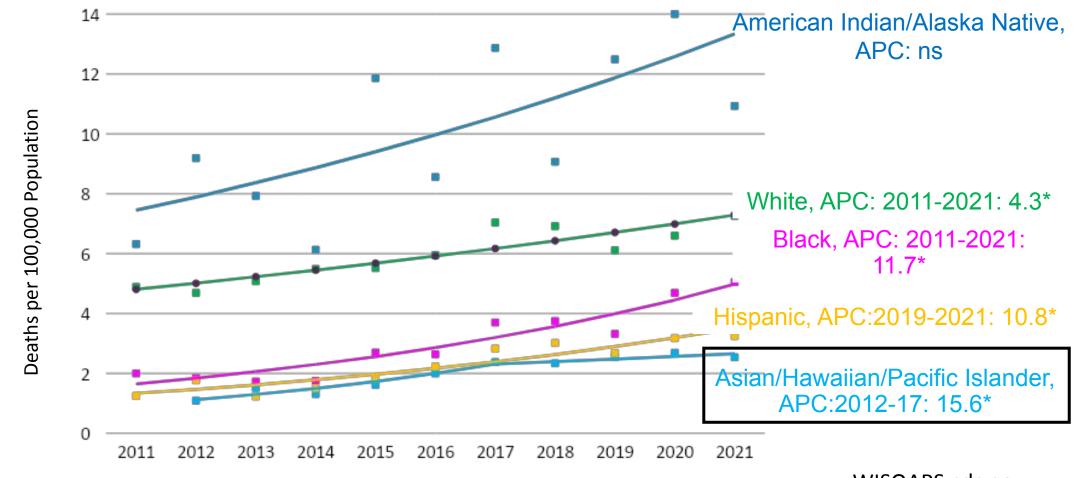
Firearm Suicide Rates 10-24 Years Old, Females, By Race and Ethnicity, 2010-2021



WISQARS.cdc.gov



Firearm Suicide Rates 10-24 Years Old, Males, By Race and Ethnicity, 2010-2021







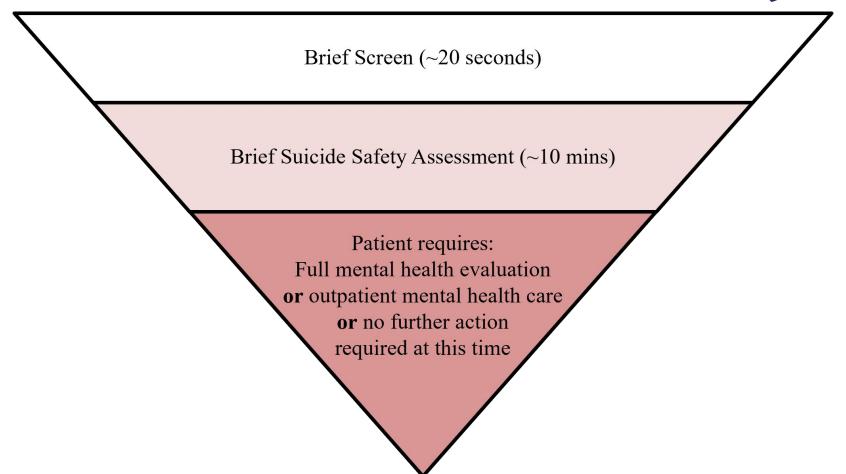
Blueprint for Youth Suicide Prevention

- Educational resource
- Designed for:
 - Clinicians, public health professionals, educators, advocates
- Strategies to support youth via:
 - Clinical pathways
 - Community partnerships
 - Policy and advocacy
- Co-authored by AAP and AFSP, in collaboration with experts from NIMH
- Endorsed by 19 medical/public health organizations



www.aap.org/suicideprevention

Blueprint is Based on a 3-Tiered Universal Suicide Risk Clinical Pathway



Lethal Means Counseling is Part of the AAP Clinical Pathway for Suicide Prevention

Brief Screen

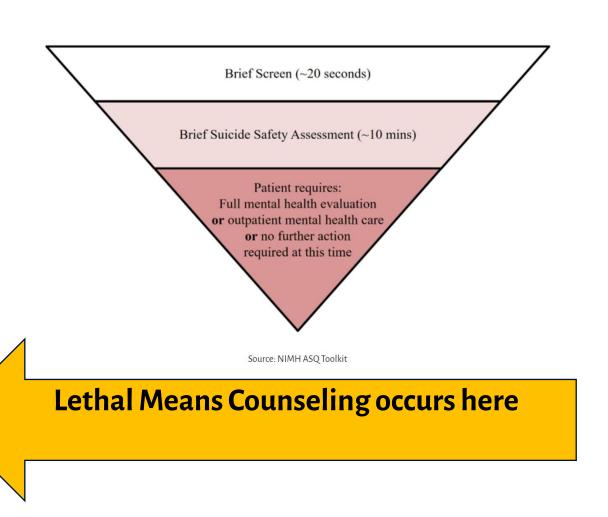
- Universal screening for all patients age 12+
- Targeted screening for youth 8-11 with behavioral health symptoms

Brief Suicide Safety Assessment

- Assess level of risk
- Guide next steps for care

Provide Care based on Level of Risk

- Emergency mental health evaluation
- Further evaluation needed
- No action required at this time



For full details, see the AAP/AFSP Blueprint for Youth Suicide Prevention: <u>www.aap.org/suicideprevention</u>

PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

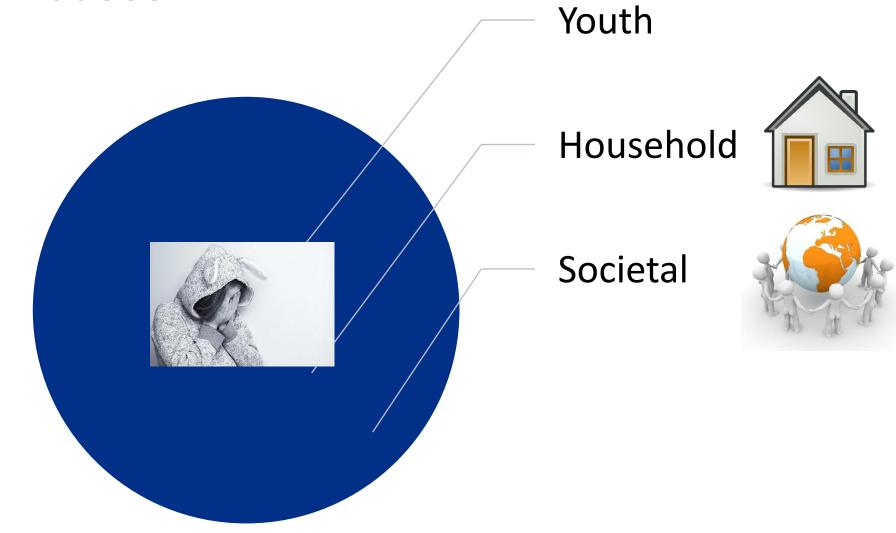
2022

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



Layers of Protection from Unauthorized Firearm Access





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





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



This Photo by Unknown Author is licensed under CC BY



How should I counsel?

- 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







What do you ask?

- "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?"



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





Practice safer storage in your household by storing your firearm:

Unloaded

Separately from ammunition

Locked up, away, and out of sight







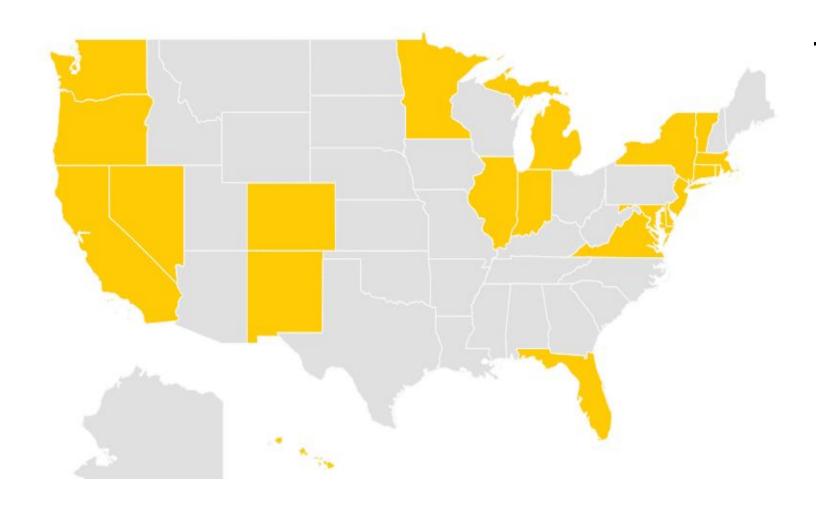
#SaferStorage



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	
Transfer possession	Family member, friend, law enforcement, gun range, gun store	
Extreme risk protection order	By court order	

Extreme Risk Protection Orders



2024: 21 States + D.C.

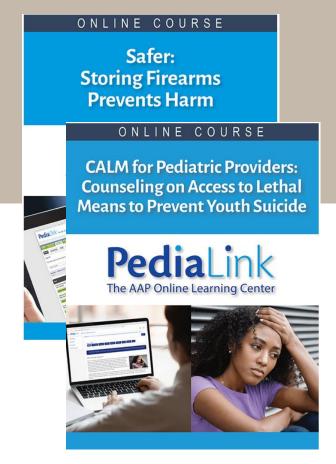
- One suicide prevented for every 10-20 risk-warrants issued (CT)
- Lower firearm suicide rate 14% (CT) 8% (IN)
- 21 cases prevented mass shooting (CA)

Swanson et al. Law & Contemp Prob. 2017 Kivisto et al. Psychiatric Services. 2015 Wintemute et al. Ann Internal Med. 2019



AAP Resources

- <u>Blueprint for Youth Suicide Prevention</u> describes clinical and community strategies to address youth suicide prevention, including information on <u>safety planning and lethal means safety counseling</u>
- <u>Gun Safety and Injury Prevention</u> page includes professional tools and resources, including a <u>video series designed to support health professional help families take steps towards secure storage</u>
- Gun Safety Campaign Toolkit offers social media graphics, videos, and more related to firearm safety.
- <u>Safer: Storing Firearms Prevents Harm</u> course describes universal firearm injury prevention guidance for pediatric providers and is available for free, offering MOC credit
- <u>CALM</u> course provides training on how to counsel about firearm safety and is free, offering MOC credit



Firearm Safety for Families







tudies show children are naturally curious, even about a firearm they've

children are ous, even Firearms are in a lockbox safe, unloaded. Ammunitic locked away separately

firearms are stored outside the home







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