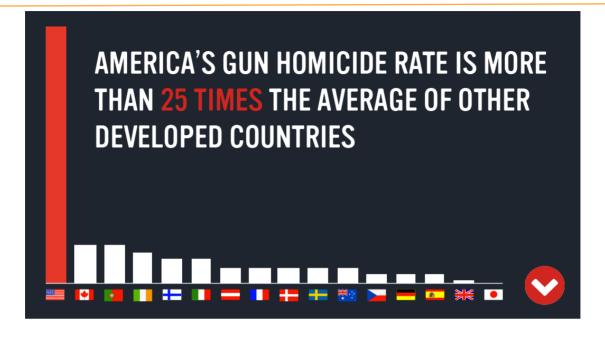




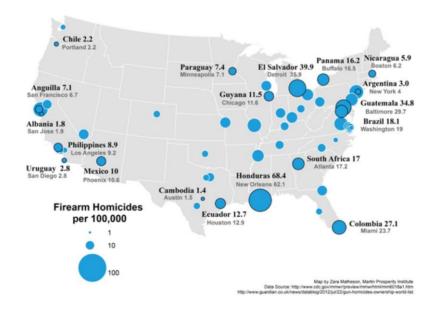


A Public Health Crisis: An American Epidemic



5

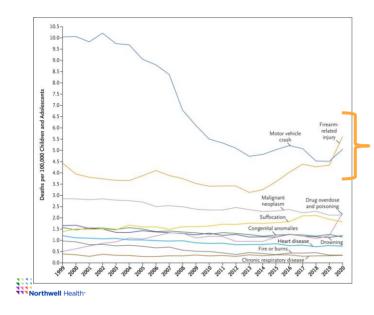
A Public Health Crisis



Northwell Health

6

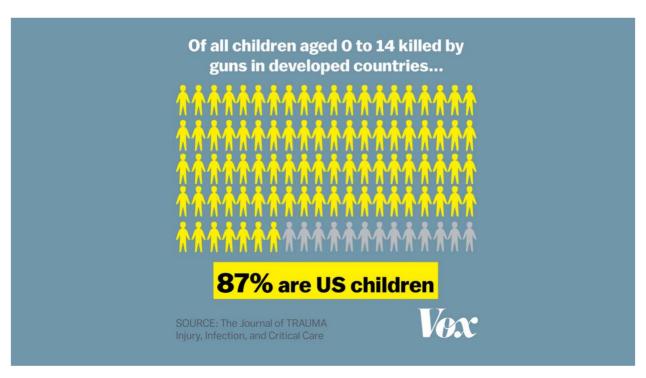
A Public Health Crisis: The Impact on Youth



In 2021, gun violence killed more than 49,000

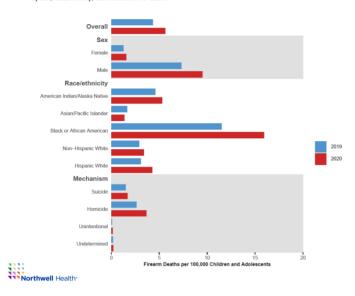
In 2020, **firearm-related injuries** became the *leading* **cause of death amongst children and adolescents**surpassing motor vehicle
accidents

7



A Public Health Crisis: The Disproportionate Impact

Figure S1: Rates of firearm mortality per 100,000 persons age 1-19 in the United States in 2019 and in 2020, by sex, race/ethnicity, and mechanism of death.



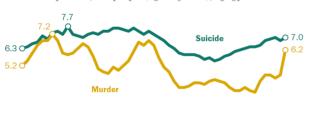
Gun violence is the top cause of death among young Black men in **America**

9

A Public Health Crisis: Suicide + Homicide on the Rise Again

U.S. gun suicide and gun murder rates have increased in recent years, but remain below past highs

Gun deaths per 100,000 people (age-adjusted), by type



Note: Gun murders and suicides between 1968 and 1978 are classified by the CDC as involving firearms and explosives; those between 1979 and 2020 include

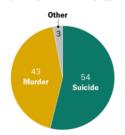
1968 '72 '76 '80 '84 '88 '92 '96 '00 '04 '08 '12 '16 '20

Source: Centers for Disease Control and Prevention.

PEW RESEARCH CENTER

Suicides accounted for more than half of U.S. gun deaths in 2020

% of U.S. gun deaths, by type



Note: "Other" includes gun deaths that were unintentional, involved law enforcement or had undetermined circumstances. Source: Centers for Disease Control

and Prevention.

PEW RESEARCH CENTER

The Economic Toll of Gun Violence

- Gun violence costs U.S. more than \$1 billion a year in hospital bills alone, and nearly \$300 billion in other associated costs
- The initial costs of firearm injuries are **Three Times More Expensive** than other injuries, and **Five Times More Expensive** than motor vehicle injuries
- This doesn't account for the "hidden" costs of gun violence



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A Public Health Crisis: In Our Backyard and Frontyard

Wakes held for 10-year-old Uvalde, Texas school shooting victims

Hudson Valley: 3 Shot at High School Football Game: Gun violence leaves 1 dead, 5-year-old-shot

Patch

Buffalo shooting: At least 10 people reported killed at Tops supermarket

syracuse.com

Northwell Employee Shot and Killed in Parking
Lot next to Hospital
Long Island Press

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6

LKE

Healthcare's Audacious Goal - A Challenge to Us All

To chart a public health approach to end gun violence...

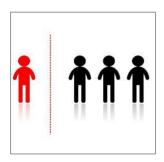
Our goal:

Flatten the gun violence curve so that firearm injury is no longer a driver of hospital admissions for injuries or deaths.



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How Can We Make an Impact?



Depolarize and destigmatize gun violence



Chart a public health approach to this epidemic



Lead by implementing system wide evidencebased strategies



Bring together patients, communities, and healthcare

Public Health Achievements



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Public Health Approach to Gun Violence

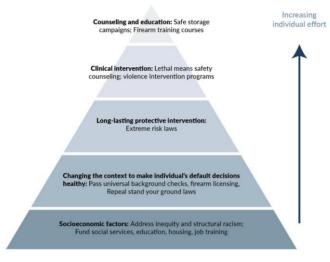
	COVID-19	FIREARM SAFETY AWARENESS COMMITTEENING	TOACO, ACONO, ACONO, ACONO AFECTION OF ORBALL HEALTH WE ASK EVERYONE	
	COVID-19	Gun Violence	Substance Use	
Agent	SARS-CoV-2	Bullet/Kinetic Energy	Alcohol, Drugs	
Vector	Respiratory Droplets	Gun	Online sales, to-go cocktails, dealers	
Environment	Air	Houses, Parks, Neighborhood, Guns	Stress, Isolation (using alone), Social Norms, Boredom	
Host	Humans	At-risk youth (African American, Hispanic), middle-aged Caucasian males, children in houses with firearms, elderly	Humans (mothers, fathers, sons, daughters, cousins, family, friends, community members)	

Harrison, Sathya, Kapoor 2022

Public Health Approach to Gun Violence

Health Impact Pyramid





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Public Health Approach to Gun Violence

SPECIAL ARTICLE

Proceedings from the Medical Summit on Firearm Injury Prevention: A Public Health Approach to Reduce Death and Disability in the US

Eileen M Bulger, MD, FACS, Deborah A Kuhls, MD, FACS, Brendan T Campbell, MD, FACS, Stephanie Bonne, MD, FACS, Rebecca M Cunningham, MD, FACEP, Marian Betz, MD, FACEP, Rochelle Dicker, MD, FACS, Megan L Ranney, MD, MPH, FACEP, Chris Barsotti, MD, FACEP, Stephen Hargarten, MD, MPH, Joseph V Sakran, MD, MPH, FACS, Frederick P Rivara, MD, MPH, FAAP, Thea James, MD, FACEP, Dorian Lamis, PhD, Gary Timmerman, MD, FACS, Selwyn O Rogers, MD, FACS, Bechara Choucair, MD, Ronald M Stewart, MD, FACS

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Public Health Approach to Firearm Suicide

	Host Factors	Agent Factors (Firearm)	Physical Environment	Social Environment
Pre-Injury: Before the gun is fired (Primary Prevention)	Access to mental health services Screening to identify individuals at risk Lethal means counseling Education on physician burnout (for physician suicide prevention) Substance abuse treatment	Provide safe storage devices/encourage their use Develop smart gun technology (gun can only be fired by authorized user/owner) Store ammunition away from the firearm	Extreme Risk Protection Orders: remove firearms from home Lethal means safety (reduce home access to firearms) Provision of places for temporary storage of firearms outside of the home	Suicide hotlines Community support system for individuals in crisis Suicide prevention messaging to firearm owners in the community Education and tools to encourage physicians to counsel patients/families Screening algorithms for suicidial ideation on social media Waiting period for firearm purchase
Injury: When the gun is fired (Secondary Prevention)	Stop the Bleed bystander training	Modify ammunition so it is less lethal e.g. smaller caliber ammunition Smart gun technology: will not fire if pointed at head	Alarm systems to call 911 when gunfire detected	 Family/community support to interrupt attempt
Post Injury: After the victim is shot (Tertiary Prevention)	Post-injury access to mental health services	• N/A	Trauma system development	Community support for survivors and families Stop the Bleed training in communities

Figure 5. Haddon's Matrix describing potential injury prevention initiatives for firearm suicide prevention

Public Health Approach to Firearm Homicide

	Host Factors	Agent Factors (Firearm)	Physical Environment	Social Environment
Pre-Injury: Before the gun is fired (Primary Prevention)	Identify individuals at risk (SaFETy score) SaFERteens Brief intervention Substance abuse treatment Active shooter training Domestic violence screening Human trafficking screening Alcohol screening and brief intervention	Enhanced background checks Extreme risk protection orders Develop smart gun technology (gun can only be fired by owner) Regulate access high capacity, magazine fed, semiautomatic rifles Regulate access to large capacity magazine	Address the social determinants of health in urban communities Health landscape mapping Metal detectors Enhance school/workplace safety	Cure violence model to intervene in the community before violence occurs Community policing, gang units Job training: Employment opportunities Address school and cyber bullying Engage community to report potential event
Injury: When the gun is fired (Secondary Prevention)	Stop the Bleed bystander training	 Smaller caliber ammunition Reduce capacity of guns firing multiple bullets 	 Community gunshot monitoring systems to activate 911 	Community police presence
Post Injury: After the victim is shot (Tertiary Prevention)	Hospital-based Violence intervention programs Screening & Treatment for PTSD Alcohol screening and brief intervention	• N/A	Address the social determinants of health in urban communities Trauma system development and implementation Rapid access to EMS and trauma care	Case management afth hospital discharge Minimize media notoriety of mass shooters Hold firearm owner accountable if firearm was not stored safely

Figure 6. Haddon's Matrix describing potential injury prevention initiatives for intentional interpersonal injury by firearms.





nature



nature > comment > article

COMMENT | 03 October 2022

To prevent gun injury, build better research

From firearm suicide and homicide to unintended harm, a public-health approach can establish the knowledge and know-how needed to reduce suffering.

Chethan Sathya , Fatimah Loren Dreier & Megan L. Ranney

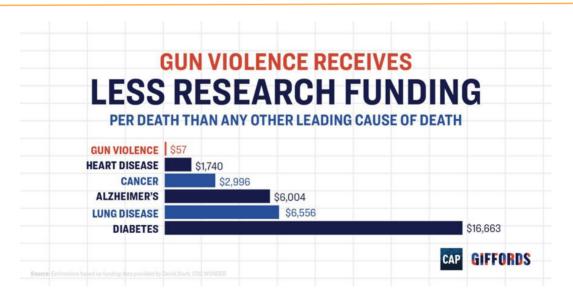






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The Research Opportunity: A Long-Standing Gap



Knowledge Gaps



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Data Infrastructure



Community Engaged Research

ACADEMY



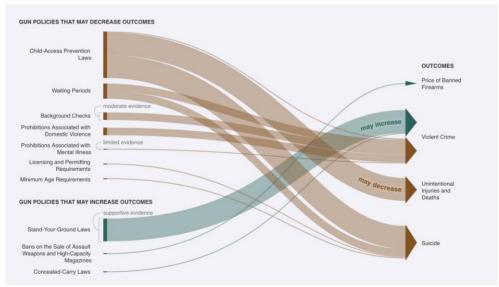
COMMUNITY



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Firearm Policy Research





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The Funding Opportunity: Groundswell of Recent Momentum



Nearly \$1 billion in funding for mental health training and care expansion – a historic investment.



A thaw in the freeze on federal funding for gun violence and injury prevention research

The CDC and NIH have awarded grants for firearms research for the first time in more than 20 years



Biden Should Push States and Cities to Use **Stimulus Money for Gun Violence Prevention**

As we build back from one public health crisis, we must take steps to address another By Joseph V. Sakran, Chethan Sathya, Corey Ciorciari on March 7, 2021

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The Funding Opportunity: The Bipartisan Safer Communities Act

\$800 million

In grants for Health Surveillance and Program Support:

\$190 million

Public Health and Social Services Emergency Fund

Shift the Paradigm – Reframe as a Public Health Issue

SCIENTIFIC AMERICAN.

Gun Violence Is an Epidemic; Health Systems Must Step Up

There are tools that hospitals can use to reduce the number of firearm injuries that come through the doors. We are piloting one such project

By Michael Dowling, Chethan Sathya

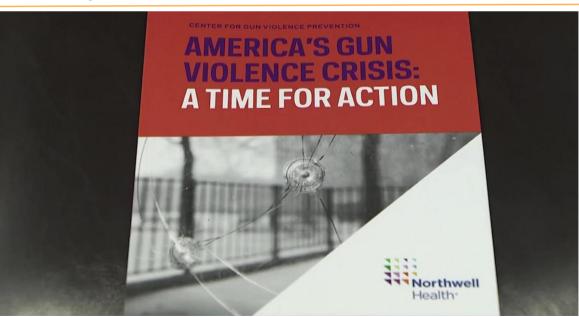
Doctors, Talk to Your Patients about Guns

Firearm injuries and deaths are a public health crisis, no less than smoking, unhealthy eating and the use of addictive substances

By Chethan Sathya, Sandeep Kapoor on April 15, 2021

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Our Journey



The Gun Violence Prevention Forums



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NORTHWELL HEALTH CENTER FOR GUN VIOLENCE PREVENTION

Goal: Chart a public health approach to address gun violence – for our patients, their families, and our communities

- · Northwell Health Center for Gun Violence Prevention
- Awarded \$1.4M grant from National Institutes of Health
- Second Annual Gun Violence Prevention Forum



- National Academies of Sciences, Engineering and Medicine Joint Workshop
- · Launched national Ad campaign and shared assets nationally with 150 systems (over 1000 hospitals)
- Awarded additional grants to fund anti-violence initiatives
- · Various partnerships with local and national organizations



2020

NIH HOSPITALS UNITED.COM

• Fourth Annual Gun Violence

Prevention Forum

• First Annual Gun Violence

Prevention Forum



- Launched the Gun Violence Prevention Learning Collaborative for Health Systems and Hospitals
- Awarded \$500K State Grant to implement Hospital-Based Intervention Program
- Third Annual Gun Violence Prevention Forum

Northwell Health's Center for **Gun Violence Prevention:** https://www.northwell.edu/cent er-for-gun-violence-prevention



Contact Us: CGVP@northwell.edu 32

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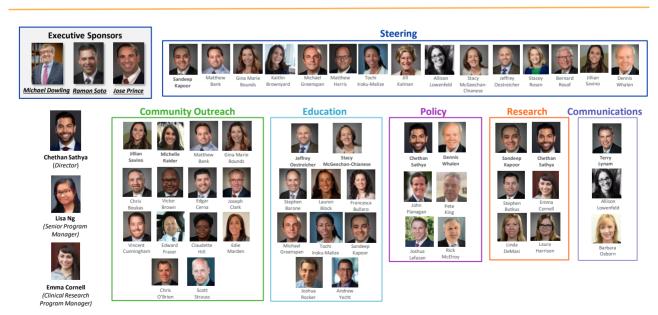
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CENTER FOR GUN VIOLENCE PREVENTION STRATEGY



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Center Committee Members



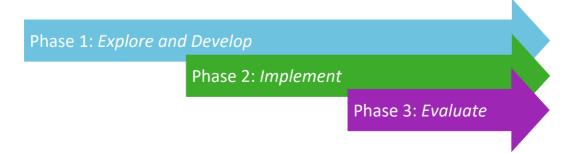
External Partners



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Learning Collaborative for Hospitals and Health Systems

- Builds on our <u>call to action</u> to address this crisis through a public health lens
- Grassroots platform for sustained dialogue to depolarize the issue
- Mobilizes all levels of the healthcare industry to <u>develop best practices and explore partnerships</u> and opportunities for system levels work-flows

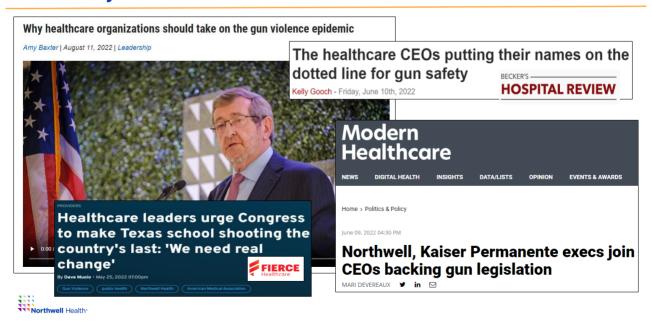


Learning Collaborative



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Health System Collaboration



Public Awareness







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Our Research



Bloomberg

NIH National Institutes of Health Northwell Health



The "We Ask Everyone. Firearm Safety is a Health Issue" research study is the first of its kind in the US and seeks to significantly reduce firearm injury and death





community and hospital-based gun violence intervention programs in communities across the state that have experience in shootings and firearm-related murders over the past year. Go announced \$100,000 in new grants to Family Services of West Lifestyle to expand their youth engagement and anti-violence (Westchester and the Bronx. Governor Hochul announced the f Vernon Boys and Girls Club this morning, joining Representativ host of violence prevention experts and community leaders.

Continuing the State's collaboration with communities facing in the funding will allow nonprofit organizations and hospitals to I workers, violence interrupters and social workers who will work through mediation, mentoring and community engagement, an experienced by victims of violence and their families.

New York City Violence Interrupters

- . CAMBA (Brownsville in Violence Out): three positions \$120,000
- CCI (RISE/Brooklyn, Save Our Streets/The Bronx, and Neighborhood Safety Initiatives/Harlem): six positions, \$420,000
- The Central Family Life Center (Staten Island): three positions, \$136,800 East Fiathush Village: two positions, \$120,000
 Elite Learners (Brownsville, Prospect Lefferts Gardens, Brookdale Hospital, Kings
- County Hospital):11 positions, \$660,000 Garden of Gethsemane Ministries (Harlem): two positions, \$50,000
- Gateway Community Empowerment (Brooklyn): one position, \$36,000
- . Jewish Community Center of Greater Coney Island: three positions, \$175,695
- LIFECamp (community-based program/Queens and Jamaica Hospital): six positions, \$240,000

- Guns Down, Life Up (NYC Health + Hospitals/Lincoln):three positio
 Kings Against Violence Initiative (Kings County Hospital): three pos
- \$180,000
- Southside United (Brooklyn): two positions, \$92,000
- Street Corner Resources (community-based program/Harlem and Harlem Hospital): six positions, \$300,000

Urban Youth Alliance International (The Bronx): three positions, \$156.975

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We Ask Everyone about Firearm Injury Risk

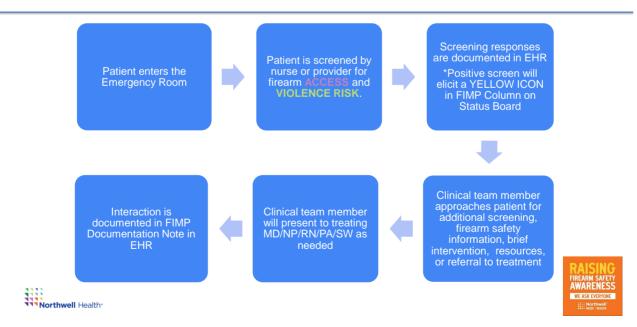
- Implementation of Firearm Injury and Mortality Prevention (FIMP) strategies into healthcare settings as part of usual care
- Universal Screening for firearm injury risk among youth and adults in ED
- Develop intervention/resources (gun locks, safe storage counselling, violence intervention, MI)
- Limited-efficacy study of behavior change, outcomes





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ED Workflow



Screening

ACCESS: Do you have access to a firearm within or outside your household?

Yes No

VIOLENCE RISK: In the past 6 months, have you heard guns being shot or had someone pull a gun on you?

Yes No





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ACCESS: 5 "L"s of Firearm Safety

Locked: Are there any unlocked firearms stored in your household?

Loaded: Are there any firearms stored in your household that are loaded?

Little children: Are there any children in your household?

feeling Low: Has anyone in the household been feeling low/depressed/been struggling?

Learned operator: Have you attended a firearm safety workshop or class?













ACCESS: Resources

Gun Locks
Lockbox Information
Gun Buyback Programs (up to \$200)
Ammunition Disposal Options
Behavioral health Resources
Firearm Safety Courses







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VIOLENCE RISK: Resources

Referrals to Behavioral Health and Substance Use Treatment

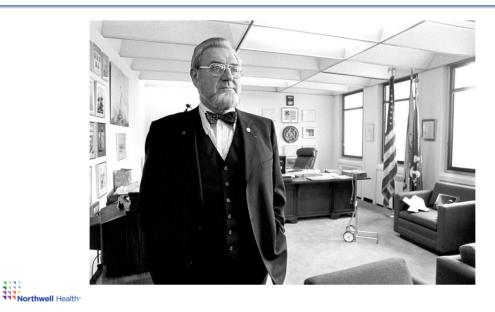
- Northwell Providers
- Community Providers

Violence Prevention Programs
Employment Programs
Suicide Prevention Hotline
Domestic Violence Resources





"We can wait no longer to act"
-C Everett Koop 1992





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CENTER FOR GUN VIOLENCE PREVENTION TAKING ACTION





Gun Violence Prevention Forum:

https://www.preventgunviolence.com





Gun Violence Learning Collaborative for Health Systems and Hospitals:

https://www.northwell.edu/center-for-gunviolence-prevention/learning-collaborativefor-health-systems-and-hospitals





Northwell Health's Center for Gun Violence Prevention:

https://www.northwell.edu/center-for-gun-violence-prevention





Contact Us: CGVP@northwell.edu



@drchethansathya

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