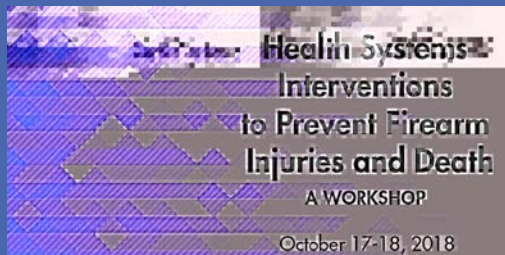


# PARTICIPATORY APPROACHES TO IMPLEMENTING FIREARM SAFETY PROMOTION IN PEDIATRIC PRIMARY CARE

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# Disclosures



National Institute  
of Mental Health

# Agenda



I am an implementation scientist. The goal of my work is **to reduce the know-do gap** and to improve the quality of health services to improve lives.

I hope to begin to answer Dr. Isham's question posed yesterday: "**How do we scale effective approaches** to firearm promotion in health systems?"

# WHY DOES THIS MATTER?

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Rate of youth suicide (ages 10-19) is **increasing** (CDC, 2018).

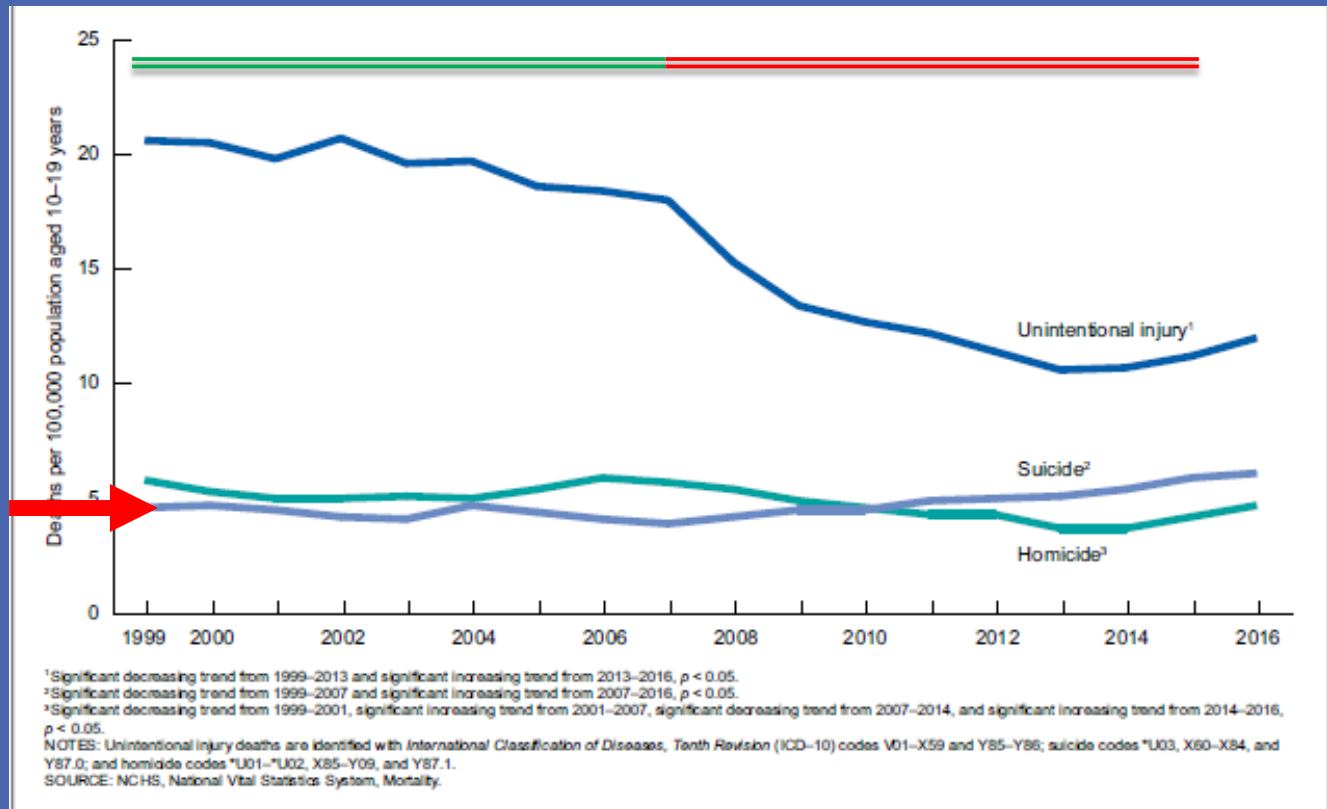


Figure 2. Injury death rates for children and adolescents aged 10–19 years, by intent: United States, 1999–2016

From 1999 to 2007, the suicide rate **decreased** 15% from 4.6 to 3.9 per 100,000 youth.

From 2007 to 2016, the suicide rate **increased** 56% from 3.9 to 6.1 per 100,000 youth.

Firearms are among the **most common** and **most lethal** method in youth, especially in males (CDC, 2018).

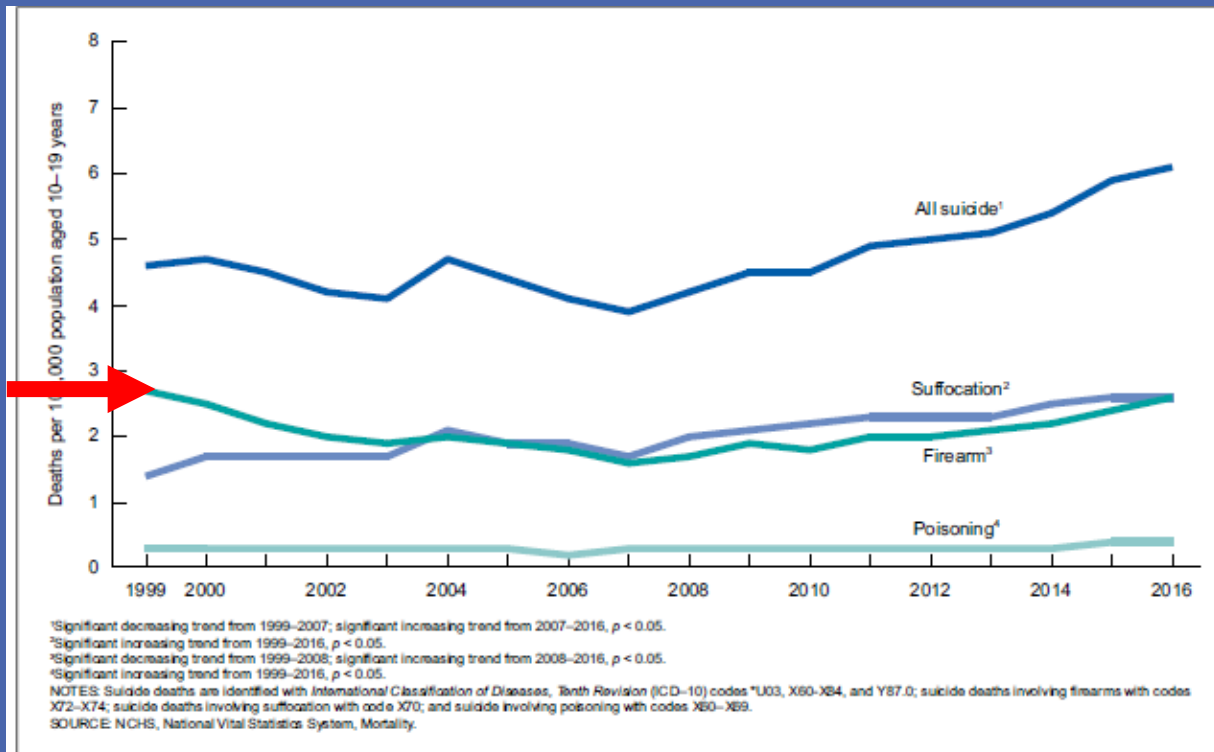


Figure 5. Suicide death rates for children and adolescents aged 10-19 years for leading methods: United States, 1999-2016

In 2016, the rate of suicide deaths was 6.1 per 100,000. **Firearms** are responsible for **half** these deaths.

# Firearm access is a **modifiable** risk factor for suicide

The risk of suicide is **2-5** times greater in homes with a firearm

**Safer storage** could result in saved lives.

Where could we **reach the most youth** if we wanted to intervene universally?



**Primary care** - the first line of defense for our health systems

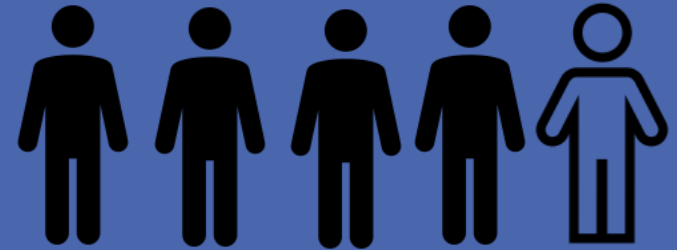


In the **year preceding** an attempt or death:

Only **1/3** of youth visit behavioral health



Over **75%** visit primary care



# EVIDENCE-BASED PRACTICE FOR FIREARM SAFETY PROMOTION

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# Safety Check is an evidence-based practice for increasing parental safe firearm storage

ARTICLE

Is Office-Based Counseling, Use, Timeouts, and Results From a Cluster

Shari L. Barkin, MD, MSHS, Victoria Welley, MIS, Er

\*Department of Pediatrics, Academy of Pediatrics, Elk Pediatrics, Burlington, Mas Pediatrics, University of Ver

Steffes, MSW<sup>b</sup>,

merican Burlington department of

Intervention group reported increased storing firearms with cable locks (9.7%) whereas the control group decreased safe storage behavior (-11.70%;  $OR = 2.0, p < .011$ ).

Screening

Firearm locks

Parents of young children (unintentional vs. intentional injury)

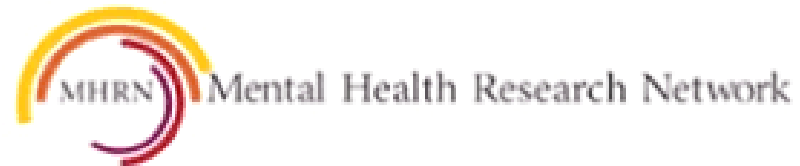
Bundled with other safety interventions

Primary outcome was self-reported safe storage – shared end point

# APPROACH

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Can we partner with health system stakeholders to understand **how best to implement** the Firearm Safety Check as a universal suicide prevention strategy in pediatric primary care?



# Henry Ford Health System

~ 50 primary care practices

~ 1 million lives served  
annually

12% under 18

38% ethnic minorities



# Baylor, Scott, & White Health

~ 60 primary care practices

~ 630,000 lives served  
annually

20% under 18

Rural and urban practices



# Two-pronged approach

Quantitative

Survey  
physicians and  
leaders of  
practices

Qualitative

Interviews with  
9 stakeholder  
groups

All research was  
approved by  
appropriate  
Institutional Review  
Boards



# QUANTITATIVE APPROACH

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Beidas, Jager-Hyman, Becker-Haimes, Wolk, Ahmedani, Zeber, Fein, Brown, Gregor, Lieberman, & Marcus (in review). Acceptability and Use of Evidence-Based Practice for Firearm Storage in Pediatric Primary Care.

# Physician Survey



\_\_\_\_\_ would be an **acceptable** suicide prevention strategy in my practice.

strongly disagree (1) | | | | | agree (6)

**Universal vs. high risk youth**

How **often** do you \_\_\_\_\_?

never (0) | | | | | sometimes (2) | | | | | always (4)

# Sample Characteristics

71 clinics (86%)

103 physicians (50%)

40 leaders of practices (70%)

60% female  
(n = 62)

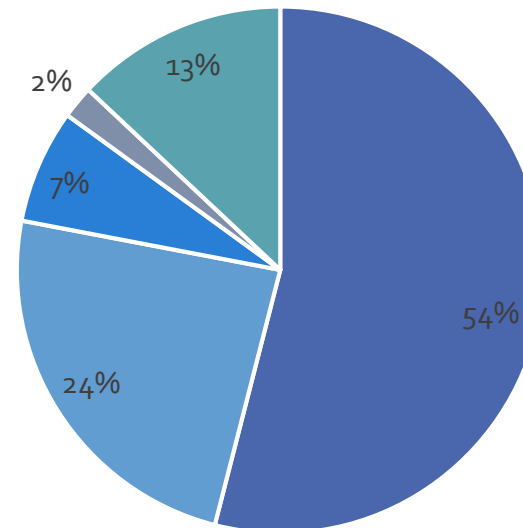
M age =  
44.1 years

M years  
practicing  
= 11.3 years

31% have a  
firearm in  
the home (n  
= 32)

13% youth  
suicide by  
firearm in  
practice

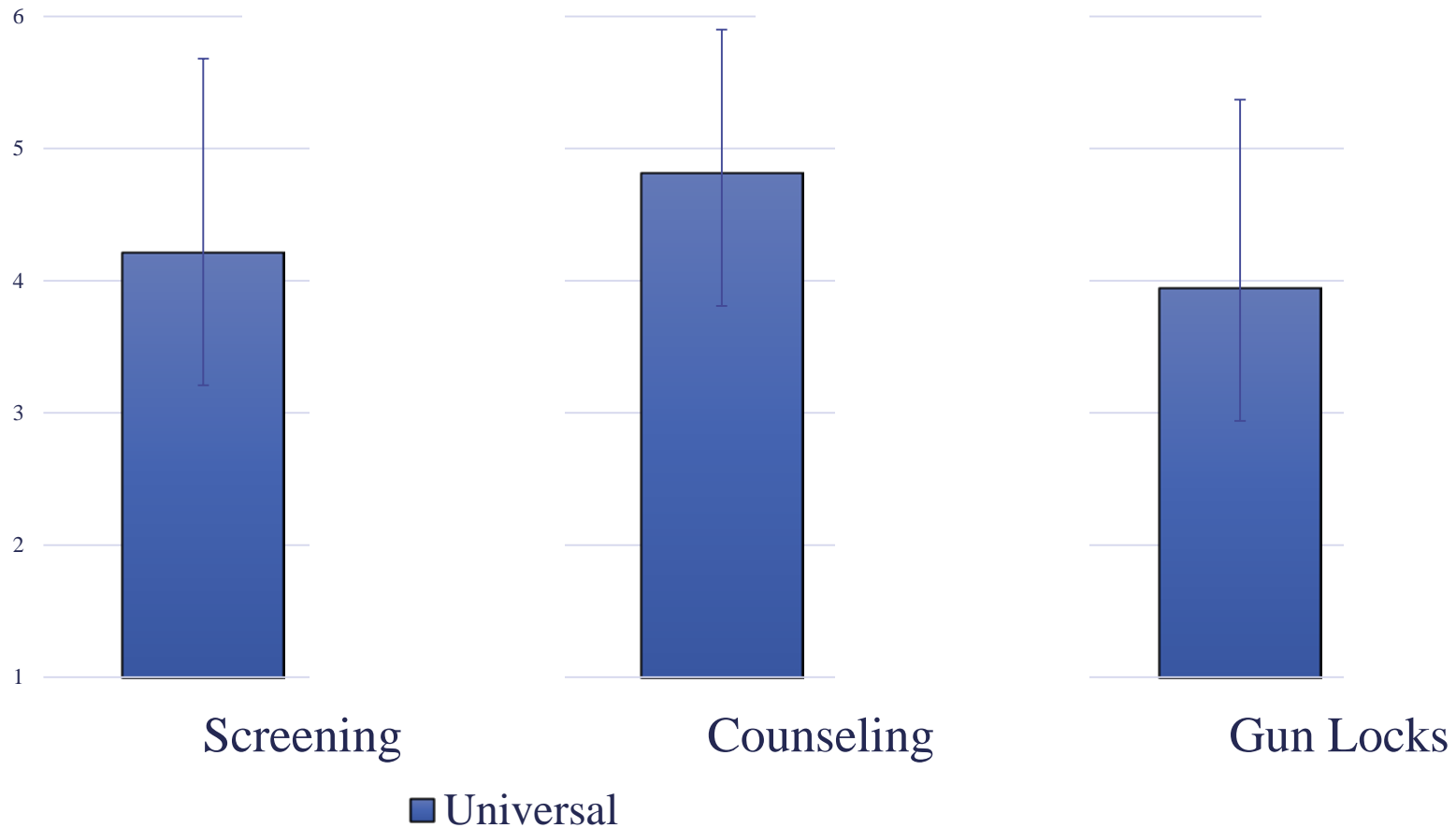
Ethnicity/Race



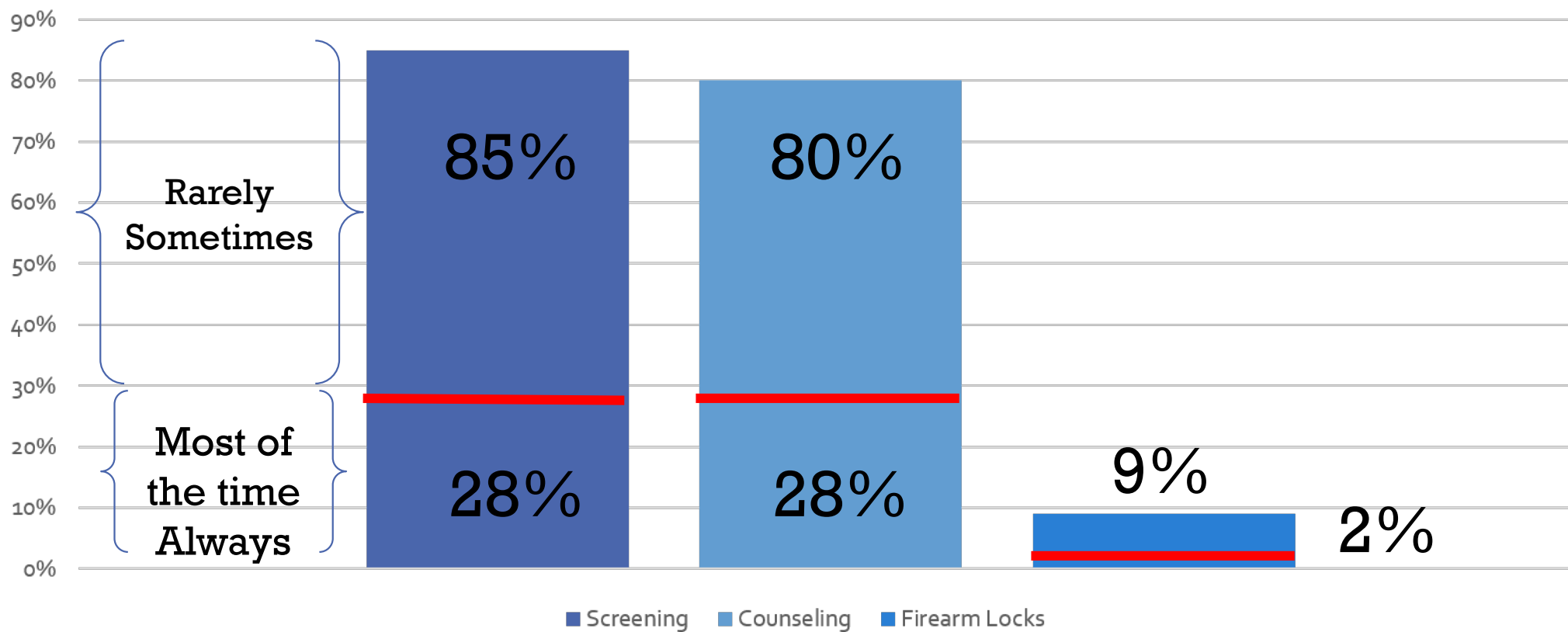
■ White ■ Asian ■ Black or African American ■ Other ■ Elected not to disclose

# Physician Acceptability

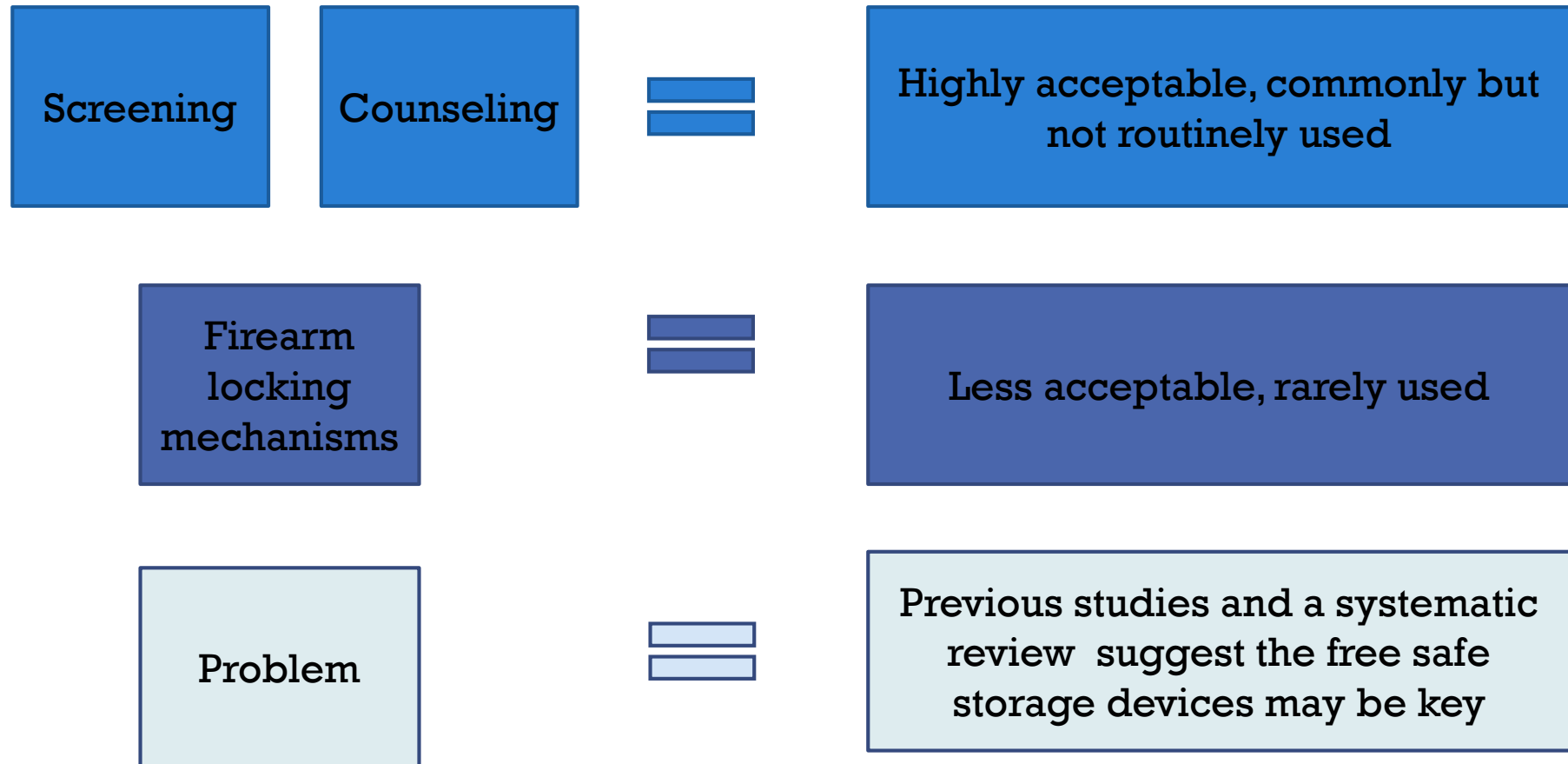
PCP Acceptability of Safety Check Interventions



# Physician Use



# The state of affairs



Source. Barkin et al., (2008). *Pediatrics*; Carbone et al., (2005); *Archives of Peds & Adol Med*; Grossman et al., (2000) *Pediatrics*; Rowhani-Rahbar et al., (2016) *Epid Rev*

# QUALITATIVE APPROACH

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Wolk, Van Pelt, Jager-Hyman, Ahmedani, Zeber, Fein, Brown, Gregor, Lieberman, & Beidas (in review). Stakeholder perspectives on implementing a firearm safety intervention in pediatric primary care as a universal suicide prevention strategy: A qualitative study.

# Qualitative Approach



70 semi-structured interviews  
with 9 stakeholder groups

In addition to the 12 gun  
owner constituents, we  
collected gun ownership  
information from three of our  
stakeholder groups

Parents  
(58%)

Physicians  
(14%)

Nurses and  
nurse  
practitioners

Leaders of  
primary care  
(29%)

Leaders of  
behavioral  
health

Leaders of  
quality  
improvement

Third party  
payers

Leaders of  
national  
bodies (AAP)

Gun owner  
constituents



# Interview

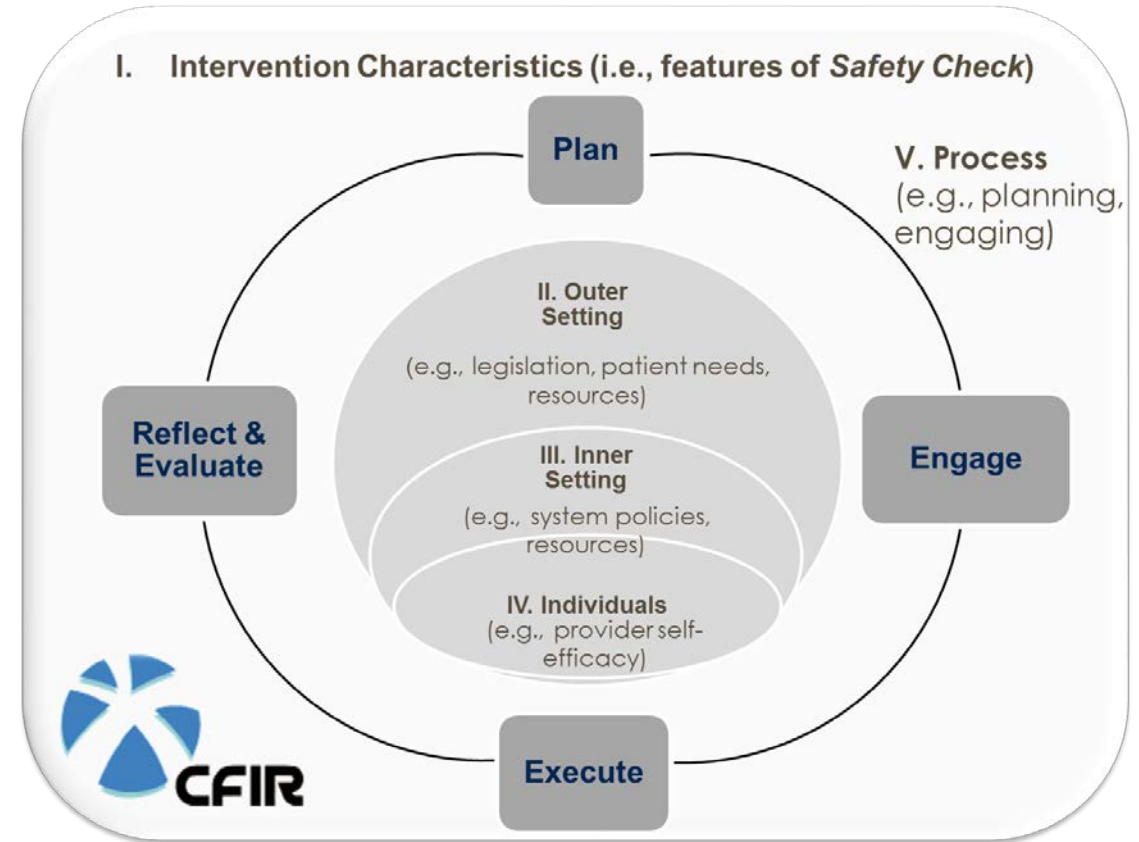
Role of pediatric primary care in suicide prevention

Firearm culture in the communities served by health systems

Acceptability and feasibility of the three intervention components

Barriers and facilitators to implementation

Perspectives on whom should implement the components

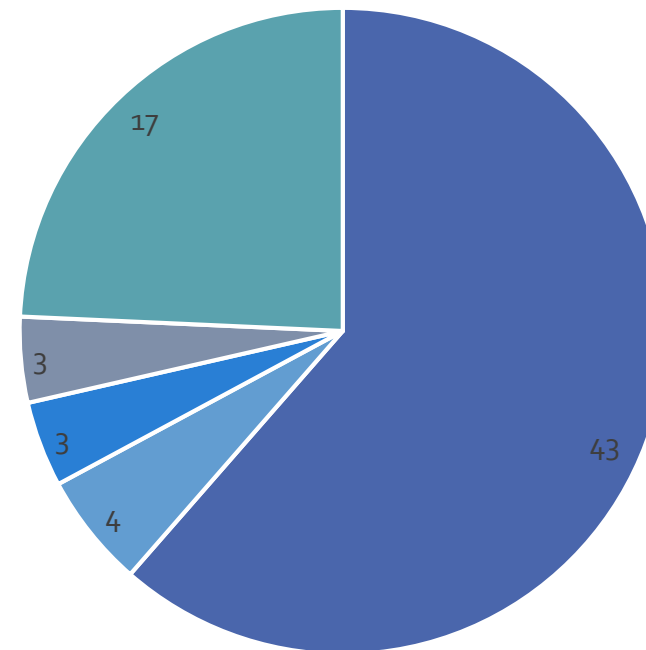


# Sample Characteristics (N = 70)

56% male (n = 39)

M age = 47 years

Ethnicity/Race



■ White ■ Asian ■ Black or African American ■ Other ■ Missing

# Outer setting themes

Firearm culture



Politically divisive topic that can raise concerns around Second Amendment rights and illegal ownership.

Recent **high-profile gun-related incidents** are making it **easier** for clinicians to initiate these questions.

# Inner setting themes

The need for  
system buy-in and  
alignment with  
priorities

Leader of Primary Care Practice: I think the [health system] is really good about standardizing things, and rolling it out...but **at that top level, if that level is not sold on it, then nothing will happen.**

# Characteristics of individuals involved

Knowledge

Self-efficacy

The need for a non-judgmental stance

Screening

Counseling

Firearm locks



# Intervention characteristics

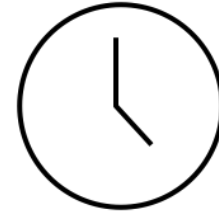


High acceptability and feasibility around screening and counseling; suggestions to use the **electronic health record** for screening and **providing written resources** for safe storage recommendations.

Concerns about **financing, storing, and distributing** firearm locks; as well as liability. Suggestions about referring patients to get free locks in the **community**.

# Other themes

Barriers



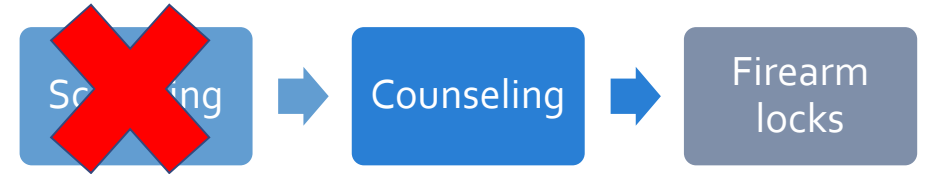
Facilitators



# Themes reinforced by gun owner constituents

Individuals in law enforcement, law, firearm advocacy groups, firearm safety course instructors, and firearm retailers

Intervention characteristics



Lack of trust

Public health platform is a disguise for firearm control

Partnership

Partner with firearm safety experts (e.g., safety course instructors) who are more credible to firearm owners



# IMPLICATIONS FOR HEALTH SYSTEMS

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# We have generated a list of implementation strategies

Creating a plan for whom on the medical team will be responsible for implementing each component of the Firearm Safety Check

Changing the clinic or health system policies to encourage the implementation of Firearm Safety Check

Integrating the intervention into the electronic health record

Training providers how to implement the Firearm Safety Check

Making changes to the workflow to make it easier to implement the intervention

Sharing information with providers and caregivers about the importance of the intervention and the problem it addresses

Marketing strategies targeting leadership and providers

Identifying and preparing provider and leader champions

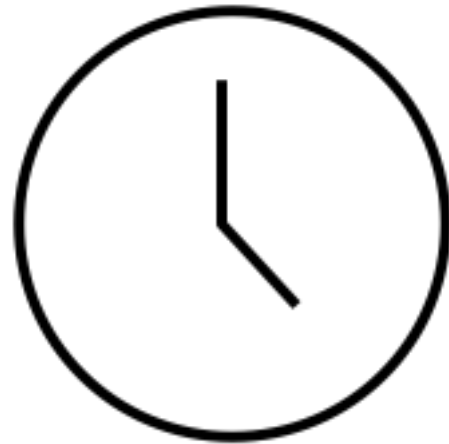
Identifying sources of funding to support implementation

We **all** want to keep youth **safe**. This is about **firearm safety** and not firearm control.

Expand **beyond** suicide prevention towards  
**universal** unintentional and intentional  
firearm injury prevention to make it most  
relevant



The Firearm Safety Check is **feasible**, **acceptable**, and **ready for implementation** (with some tweaks) in health systems



What are  
we waiting  
for?

# Intervention **adaptation** is needed



'Lock to Live': development of a firearm storage decision aid to enhance lethal means counselling and prevent suicide

Marian E Betz,<sup>1</sup> Christopher E Knoepke,<sup>2,3</sup> Bonnie Siry,<sup>1</sup> Ashley Clement,<sup>1</sup> Deborah Azrael,<sup>4</sup> Stephanie Ernestus,<sup>5</sup> Daniel D Matock<sup>3,6,7</sup>

We need to partner – this cannot be about docs vs. glocks.

FIREARM VIOLENCE

Reducing Suicides  
Health Profession  
Beyond Docs vs G

We must hear the voice of **all** stakeholders, **not just the ones we want to hear.**

etween  
DS—

# Future Directions: There is still **much to learn**

How best to **partner** with firearm owners around a shared agenda and **build trust**?

How to **adapt** the intervention to optimize effectiveness?

Should the intervention be **universal or targeted**?

**Effectiveness** trials with more rigorous endpoints including firearm injury.

Testing **implementation strategies** of scale-up of intervention



# GRATITUDE

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**Because without these people, we could not have achieved what I  
have shared today**



**Our Funder: NIH  
R21 MH109878**



**National Institute  
of Mental Health**

**Our Partners and  
Participants**



**The Children's Hospital of Philadelphia®**



**FIREARM SAFETY AMONG  
CHILDREN AND TEENS**

**Co-investigators and study  
staff**

- Brian Ahmedani, PhD
- Gregory Brown, PhD
- Joel Fein, MD, MPH
- Courtney Gregor, BA
- Shari Jager-Hyman, PhD
- Adina Lieberman, MPH
- Steven Marcus, PhD
- Amy Reed, BA
- Katherine Sanchez, PhD,  
LCSW
- Courtney Wolk, PhD
- John Zeber, PhD
- Nicole Zeld, BA

**In loving memory of Jeremy  
Shinefeld**