

# NIJ-funded Research on Mass Shootings to Advance Evidence-based Policy and Practice

November 30, 2021 | 1:00 PM ET

**The webinar will begin shortly**

# Important Notification

The research projects presented here are supported by Awards 2019-R2-CX-0003, 2018-75-CX-0025, IAA 20RO0004 from the National Institute of Justice of the U.S. Department of Justice.

The opinions, findings, and conclusions or recommendations expressed here are those of the authors and do not necessarily reflect the positions or policies of the Department of Justice.

# Overview of NIJ research investment on mass shootings



**NIJ**

# **Estimating the Global Prevalence of Mass Public Shootings**

**Grant Duwe, Ph.D.  
November 2021**

**NIJ Webinar**

# Presentation Overview

- Provides preliminary results from our study (in progress)
  - “Estimating the Global Prevalence of Mass Public Shootings” by Grant Duwe, Nathan Sanders, Michael Rocque and James Alan Fox
- Study addresses the following key questions
  - What is the worldwide prevalence of mass public shootings?
  - What percentage of mass public shootings occur in the United States?
- Prior Research
- Data and Proposed Methodology
- Preliminary Findings

# Prior Research

- Widely divergent findings about U.S. proportion of cases
- Lankford (2016)
  - U.S. accounts for 31% of mass public shootings from 1966-2012
    - U.S. makes up 4% of world's population
- Lott and Moody (2019)
  - U.S. accounts for only 3% of mass public shootings from 1998-2012
    - Included terrorism and genocide
- Lankford (2019)
  - Most of L&M's dataset involved incidents with multiple offenders
    - Usually not considered mass public shootings
  - U.S. = 30% of single-offender attacks

# Limitations with Prior Research

- Sole reliance on news coverage as data source
  - Lankford (2016) → news archive and internet searches
  - Published lists have also relied strictly on news coverage
    - Lankford → NYPD Active Shooter
    - Lott and Moody → Global Terrorism Database
- News coverage-only data collection strategy = missing cases
  - Research using news reports and FBI's Supplementary Homicide Reports (SHR) have achieved more complete datasets
    - USA Today (Overberg et al., 2013)
    - Congressional Research Service (Krause et al., 2015)
    - Fox, Duwe and Rocque (FDR)
- Relatively large # of U.S. cases missing from Lankford and Lott/Moody datasets
  - Comparison with FDR data from 1976-2012 period
  - Implications for measuring prevalence of non-U.S. cases

# Defining Mass Public Shootings

- Mass Murder
  - Incidents in which 4 or more victims are killed within 24-hour period
- Mass Shooting
  - Any gun-related mass murder
- Mass public shooting
  - Incidents in which 4 or more victims are killed with a gun in a public location
  - Exclude cases in connection w/ other criminal activity, military conflicts or collective violence
    - Many of the cases included by Lott and Moody (2019) would be classified as mass murders/shootings but not as mass public shootings
    - Similar to definition used by Lankford (2016, 2019)



# The Lankford and Lott/Moody Datasets

- Lankford (2016)
  - 292 mass public shootings from 1966-2012
    - 89 in the U.S.
      - 84 from 1976-2012
        - 82 actually meet mass public shooting criteria
    - 203 non-U.S. cases
  - Dataset includes “...all known mass shooters who attacked anywhere on the globe from 1966 to 2012 and killed a minimum of four victims.” (p. 2)
- Lott and Moody (2019)
  - 1,491 incidents from 1998-2012
    - 43 in the U.S.
      - 42 actually meet mass public shooting criteria
  - “We are confident that we have all the public mass shootings for the U.S. and perhaps for Europe.” (p. 52)

# A Comparison of Three Datasets

- Fox, Duwe and Rocque (FDR) Dataset
  - 165 mass public shootings in U.S. from 1976-2020
- 1976-2012 period for U.S. mass public shootings
  - FDR = 124 mass public shootings
  - Lankford = 82
    - Missing 34% (N = 42)
- 1998-2012 period for U.S. mass public shootings
  - FDR = 67 mass public shootings
  - Lott and Moody = 42
    - Missing 37% (N = 25)

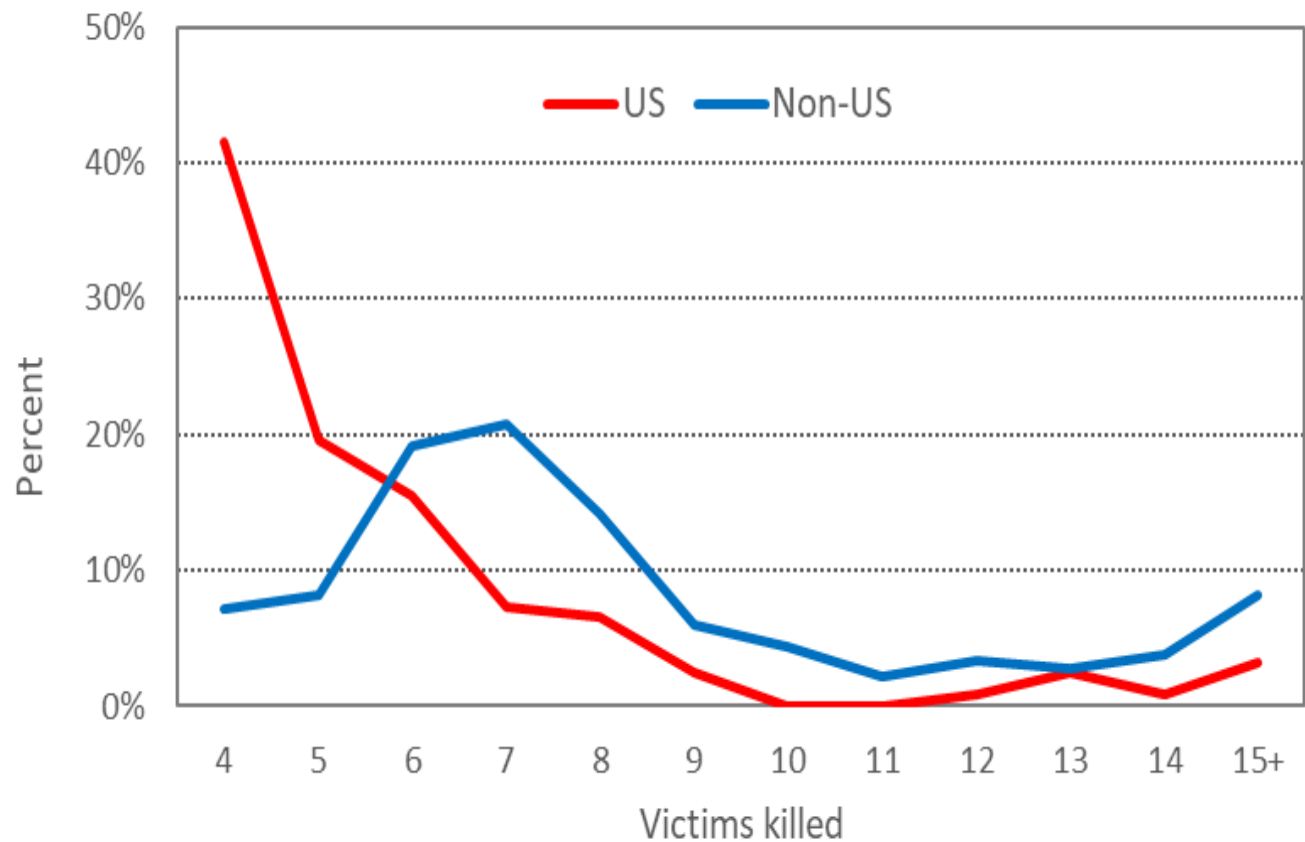
# Missingness Is Not Random

Victims	Lankford				Lott and Moody			
	Hit	Miss	Total	Miss %	Hit	Miss	Total	Miss %
4	21	30	51	58.8	8	19	27	70.4
5	16	8	24	33.3	8	5	13	38.5
6	18	2	20	10.0	8	1	9	11.1
7	8	1	9	11.1	6	0	6	0.0
8	7	1	8	12.5	4	0	4	0.0
9	3	0	3	0.0	2	0	2	0.0
12	1	0	1	0.0	1	0	1	0.0
13	3	0	3	0.0	3	0	3	0.0
14	1	0	1	0.0				
21	1	0	1	0.0				
23	1	0	1	0.0				
27	1	0	1	0.0	1	0	1	0.0

# Implications for Non-U.S. Mass Public Shootings

- Lower-severity mass public shootings in the U.S.
  - More numerous (a heavy-tail distribution)
    - 77% involve between 4 and 6 fatal victims
    - Extreme cases (10+ victims) are more rare...and more newsworthy
  - Underrepresented in both Lankford and Lott/Moody datasets
    - Both datasets undercounted U.S. mass public shootings overall
  - Less newsworthy
    - Results reflect well-established disadvantages of relying only on news coverage
- What are the Implications for Non-U.S. Cases?
  - Combined, Lankford (2016) and Lott/Moody (2019) identified 218 non-U.S. mass public shootings from 1976-2012
    - Do most involve less than 7 fatal victims?

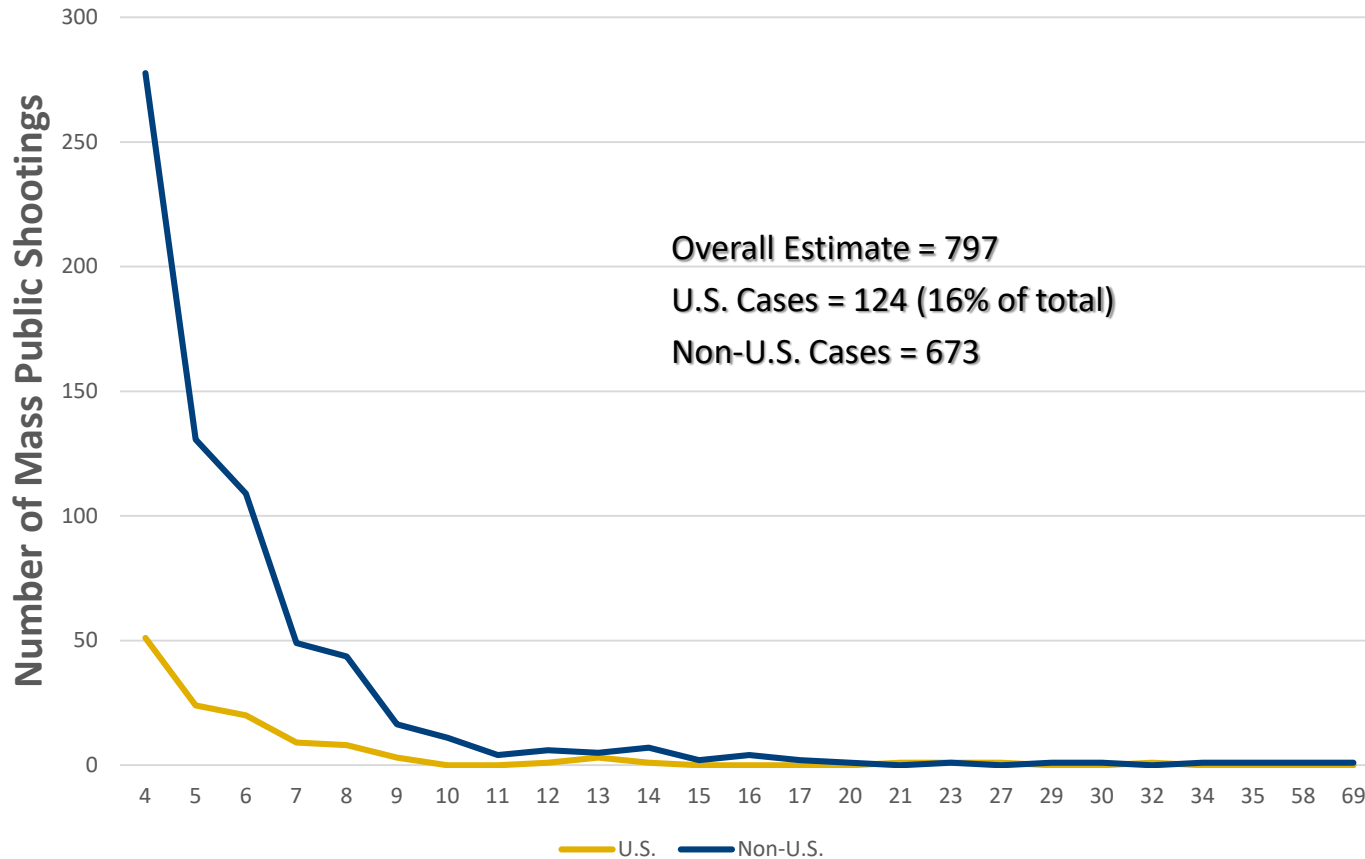
## Comparison of U.S. and Non-U.S. Cases by Victim Count



# Estimating the Global Prevalence of MPS

- Evidence strongly suggests LLM combined Non-U.S. dataset missed lower-severity cases
  - 40% of MPS had < 7 fatal victims
- Assume LLM captured all of the extreme cases (10+ victims)
  - LLM = 49 Non-U.S. cases with 10+ fatal victims
  - FDR = 9 U.S. cases with 10+ fatal victims
    - U.S. = 15.5% of all mass public shootings with 10+ victims
- Develop initial estimate of missingness for cases < 10 victims
  - Assume that victim count distribution for non-U.S. is similar to that observed for U.S.
    - 4 victims = 41% of all cases
    - 5 victims = 19% of all cases
    - 6 victims = 16% of all cases
    - 7 victims = 7% of all cases
    - 8 victims = 6% of all cases
    - 9 victims = 2% of all cases

# Estimated Global Prevalence of Mass Public Shootings, 1976-2012



# Next Steps

- Develop additional, more refined estimates using hierarchical Bayesian models
  - Uses series of heavy-tailed distributions (power law, lognormal, etc.) to help estimate missingness in non-U.S. cases
  - Similar to prior work that forecasted the severity of mass public shootings in the U.S. (Duwe, Sanders, Rocque and Fox, 2021)
- If additional estimates are similar, what's the take-away?
  - U.S. is not like rest of the world when it comes to MPS
  - MPS are also not a uniquely American phenomenon
  - MPS incidence is still 4X higher relative to population size
    - MPS is most visible manifestation of violence in a nation that has long been more violent than comparable countries.



# IMPROVING THE UNDERSTANDING OF MASS SHOOTING AND OTHER MASS ATTACK PLOTS

NIJ-funded Research on Mass Shootings to Advance Evidence-based Policy and Practice

November 30, 2021

John S. Hollywood

Senior Operations Researcher, RAND Corporation



Center for Quality Policing  
Justice Policy Program

## Three Top Takeaways

### Power to Prevent

- Everyone can prevent
- 2/3 of our foiled plots found from public reporting
- Most cases handled outside of justice system

### Relentless Follow-Up

- Multi-organizational teams needed
- Key steps: assess, determine next steps, follow up, and reassess regularly

### Prepare and Train

- “Heroes are made because they prepare”
- Need advance planning, resourcing, and training for all partners
- Need to prepare for actions after the attack is over



Justice Policy Program

# Outline

- Objectives
- Methodology
- Organizing the findings – the mass attack defense chain
- Findings to *prevent, mitigate, and follow up afterwards*
- For policymakers and executives
- Conclusions

# Objectives

## Improve prevention

- Characterize how plots have been discovered and what we can learn when plots reached execution

## Improve immediate response

- Characterize what factors and types of events have led to lower casualties

## Improve actions after attacks end

- Characterize actions to support victims, bystanders, and responders, and improve community resilience and learning

## Improve understanding

- Capture findings in an educational toolkit

## Improve understanding of needs

- Inform and support development priorities

# Methodology

## Case Review

- 600+ foiled and executed plots, with 100+ cases considered; over 60 fields tracked and coded

## Expert Interviews

- Dozens of federal, state, and local

## Literature Review

- 200+ journal articles, guidance, policies

## Drafting and programming

- Reflects expertise on educational approaches

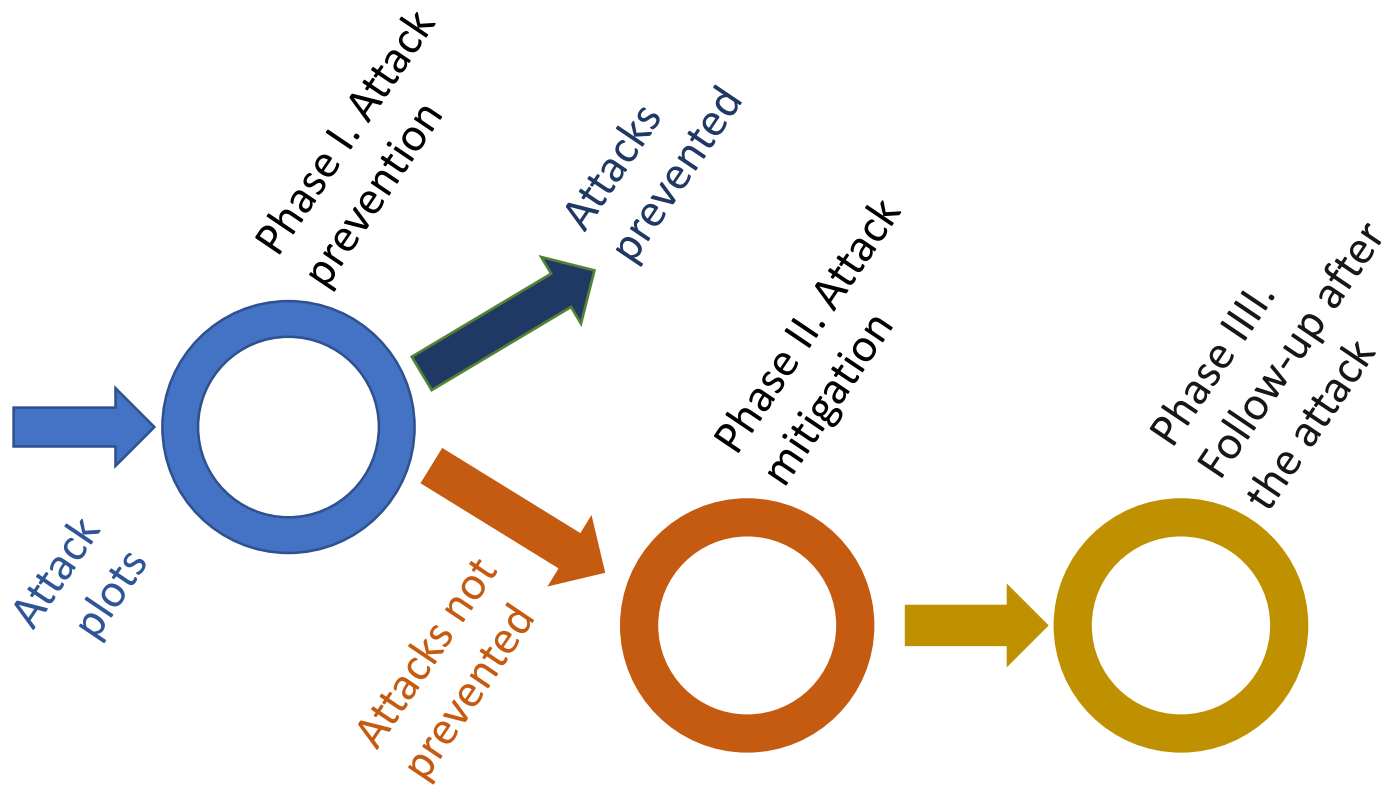
## Advisory Panel

- Feedback from a dozen SMEs, followed by academic QA

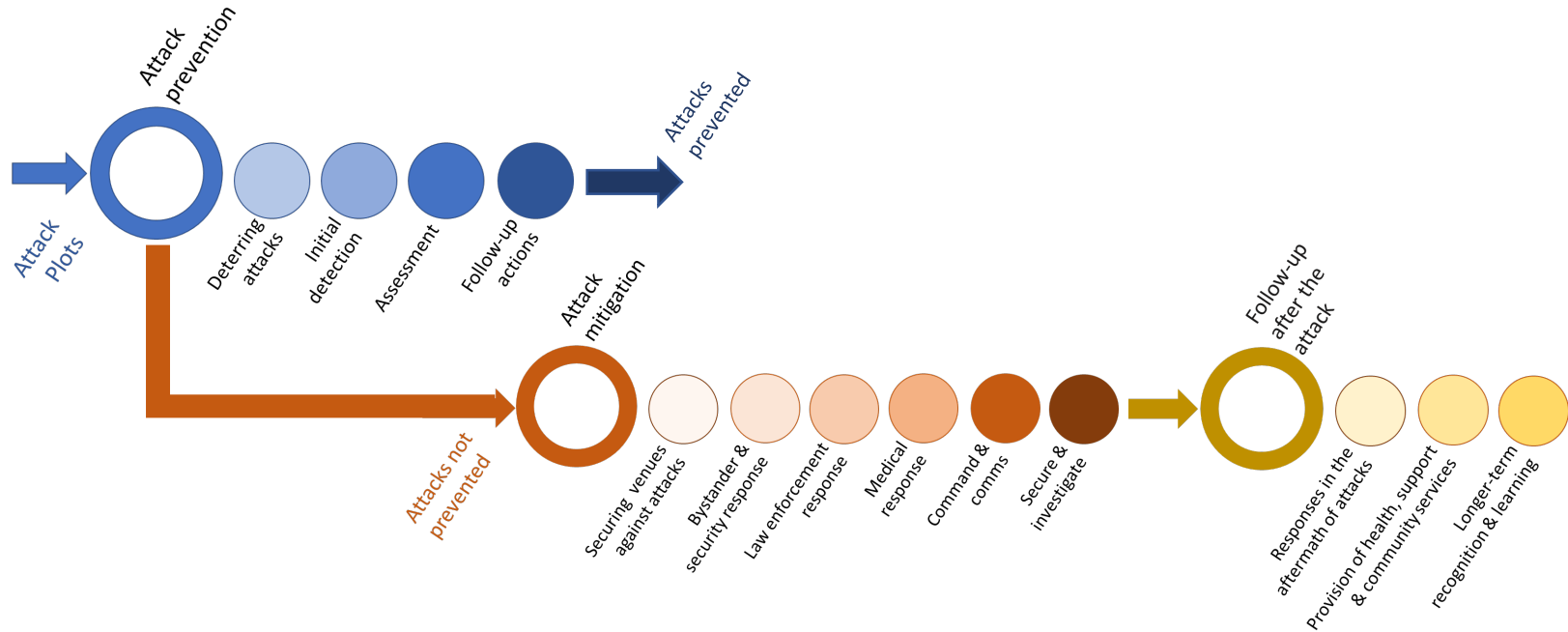
## Formal publication

- Professional editing and programming

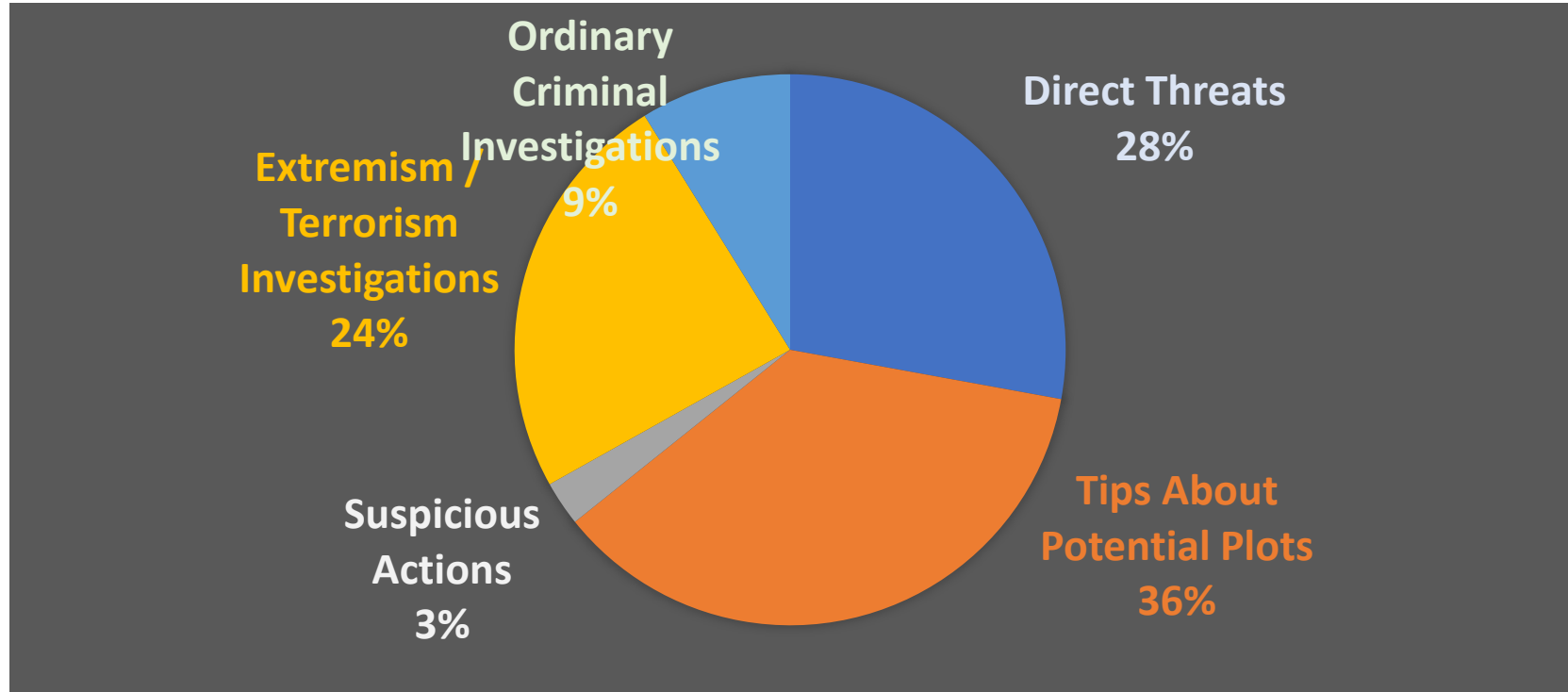
# Organizing Findings: The Mass Attack Defense Chain (Top Level)



# The Mass Attack Defense Chain (Full)



# Power to Prevent: From 600+ Cases, What Led to Plots Being Foiled?





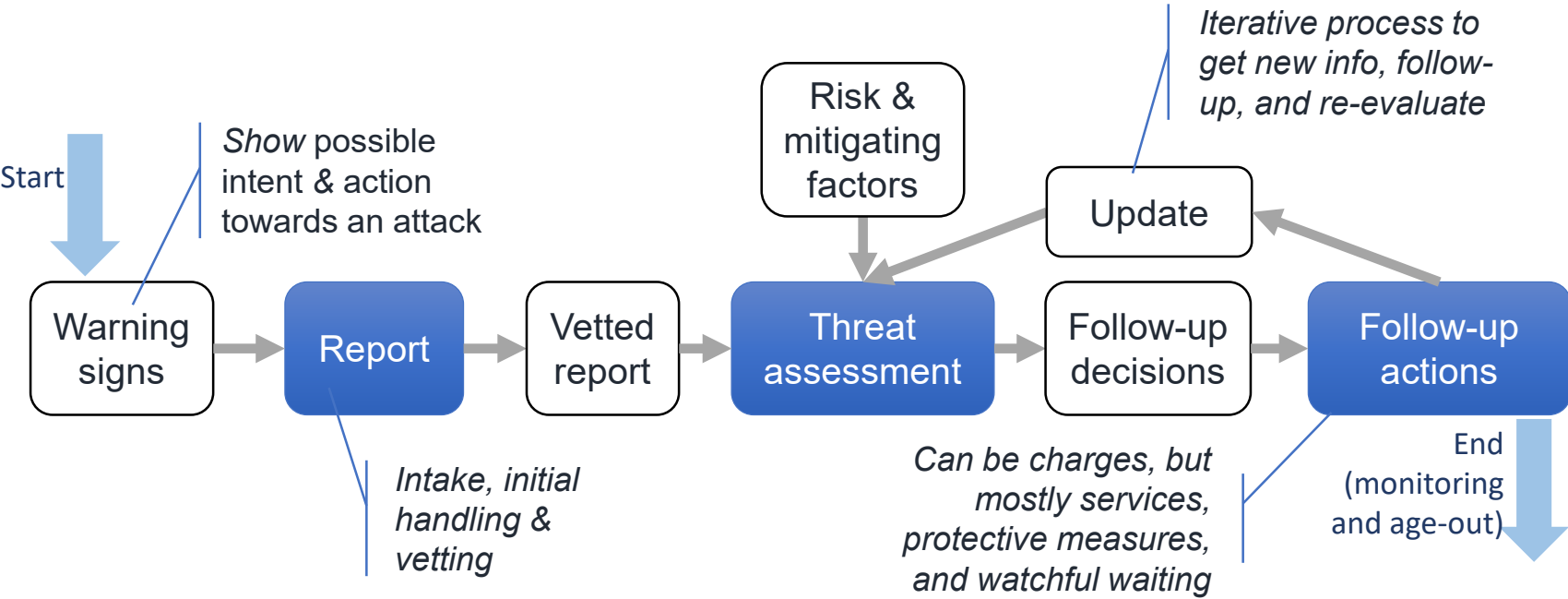
# Top Warning Signs: The Something in “See Something, Say Something”



- Inspired by past attacks** to be infamous, too
- Inspired to fulfill an extremist cause** (esp. if kicked out of a group for being too violent)
- Belief that **someone(s) is so harmful or threatening that they have *no choice* but to attack**

- Written plans** for an attack
- Trying to recruit others**
- Trying to learn how to kill many people** (in person, online)
- Coordinating with known violent extremists**
- Seeking arsenals of weapons & ammunition** (without a benign reason, like hunting)
- Travel** for training or to target
- Site probing / breaching**

# Relentless Follow-Up: A Model for Using Warning Signs, Threat Assessment, and Follow-Up Actions



# Prepare and Train: Mitigating Casualties from Mass Shootings and Other Mass Attacks

**Overall: Need a Coordinated Response for Mitigation**, which requires advance planning, coordination, and training, among all response partners

## Securing venues

- Distance, movement, & physical barriers
- *Don't let shooters surprise a crowd at close range without ways to escape*

## Bystander & security response

- Basic strategy of Run, Hide, and Fight
- Value and risks of intervening in different types of situations

## Law enforcement & medical response

- Need multi-organizational planning and training of all participants

## Command & communications

- Learn, train & implement the Incident Command System & NIMS

**For Leaders: Need to Support Planning, Coordination, and Training** which requires direction, ongoing follow-up and resourcing (and if necessary, seeking resources)

# Post-Attack Priorities: Planning and Training is a Necessity

- In the immediate aftermath of the attack:
  - ✓ Search and apprehension of attackers
  - ✓ Investigate attackers and potential co-conspirators
  - ✓ Immediate mental health and emotional support
  - ✓ Family assistance centers/ post-event victim welfare
  - ✓ Public communications and public relations
  - ✓ Near term debriefs
- Provision of health, support, and community services:
  - ✓ Mental health and emotional support for victims/survivors
  - ✓ Victim services, family assistance, and long-term services
  - ✓ Mental health and emotional support for first responders
  - ✓ Long-term responder and family support and services
- Longer-term recognition and learning
  - ✓ Recognition: awards for acts of valor; ceremonies for victims and heroes
  - ✓ Memorials and anniversary events/VIP visits
  - ✓ After Action Reports

# For Policymakers and Executives

- Can use internal authorities
- Can use external tools at local, state, and federal level

## Improvements for Procedures & Training

- Public education on reporting
- Finding pre-attack site surveillance & gun diversion
- Wellness checks
- Threat assessment
- Coordinated response
- Coordinated post-attack actions

## Resources are Available

- Commonly known – federal grants
- Others that are less known – state and local sources, relevant philanthropies

# Online Toolkit



## What You Need to Know Now

The key takeaways to improve your own prevention efforts



## Research Findings

New and already-established findings to inform prevention priorities



## Tools & Programs

Learn about solutions from agencies



## Policy & Program Needs

From leadership and elected officials to address challenges



## Case Examples

Cases to illustrate possible solutions, successes, and challenges



## For Further Reading

Additional resources and references

## AUDIENCES – “TOOLKIT FOR EVERYONE”



Law Enforcement  
& Service  
Providers



Policy Makers



Public


# Conclusions – Coming Soon




And remember top  
three –

- ✓ Power to prevent
- ✓ Relentless follow-up
- ✓ Prepare and train

The screenshot shows the RAND Corporation's website for the Mass Attacks Defense Toolkit. The header includes the RAND logo, the tagline "OBJECTIVE ANALYSIS. EFFECTIVE SOLUTIONS.", a search bar, and a "RAND Campaign" button. The navigation bar features "Mass Attacks Defense Toolkit" and three tabs: "Prevent", "Mitigate", and "Post-attack". The main content area has a sub-header "MASS ATTACKS DEFENSE TOOLKIT" and a large heading "Preventing mass attacks, saving lives". Below this is a sub-headline "The Mass Attacks Defense Toolkit can help make you a better defender against mass attacks." and a "Start now →" button. A grey rectangular placeholder is visible on the right side. Further down, it states "FUNDED BY THE NATIONAL INSTITUTE OF JUSTICE". The main text describes the toolkit's purpose: "The RAND Corporation has created this toolkit to help reduce the likelihood of mass shootings and other public attacks, and reduce the casualties of completed attacks. Whatever your role or level of experience, this toolkit will make you a better defender against mass attacks." It then details the toolkit's development: "From studying 600 mass attack events and plots, interviewing dozens of expert interviews, and reviewing hundreds of references, we have identified the Mass Attack Defense Chain, a series of defenses that work together to reduce the probability of mass attacks and their impacts." The bottom section, titled "A toolkit for everyone", lists seven categories of users: "Communities and the public in general", "Law enforcement", "Fire and EMS medical responders", "School officials", "Agency and community service providers", "Building and venue security personnel", and "Policymakers". A quote on the right reads: "Heroes are made because they prepare for an incident. People never rise to the occasion; they fall back on their training." At the bottom, there is a link: "See the recommendations for policymakers and executives →".

OBJECTIVE ANALYSIS.  
EFFECTIVE SOLUTIONS.

Search  RAND Campaign

Mass Attacks Defense Toolkit  Prevent  Mitigate  Post-attack Recommendations About

MASS ATTACKS DEFENSE TOOLKIT

## Preventing mass attacks, saving lives

The Mass Attacks Defense Toolkit can help make you a better defender against mass attacks.

[Start now →](#)

FUNDED BY THE NATIONAL INSTITUTE OF JUSTICE

The RAND Corporation has created this toolkit to help reduce the likelihood of mass shootings and other public attacks, and reduce the casualties of completed attacks. Whatever your role or level of experience, this toolkit will make you a better defender against mass attacks.

From studying 600 mass attack events and plots, interviewing dozens of expert interviews, and reviewing hundreds of references, we have identified the Mass Attack Defense Chain, a series of defenses that work together to reduce the probability of mass attacks and their impacts.

### A toolkit for everyone

- ✓ Communities and the public in general
- ✓ Law enforcement
- ✓ Fire and EMS medical responders
- ✓ School officials
- ✓ Agency and community service providers
- ✓ Building and venue security personnel
- ✓ Policymakers

Heroes are made because they prepare for an incident. People never rise to the occasion; they fall back on their training.

[See the recommendations for policymakers and executives →](#)

# Questions?

John Hollywood

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Center for Quality Policing  
Justice Policy Program





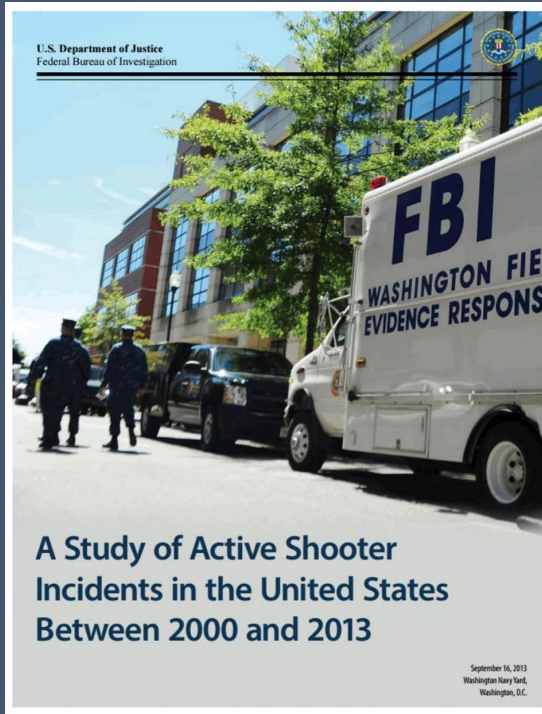
# Active Shooter IV Project

November 30, 2021

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FBI – BAU1  
Behavioral Threat Assessment Center  
SSA Karie Gibson, Psy.D., LP

# Active Shooter: Phase I



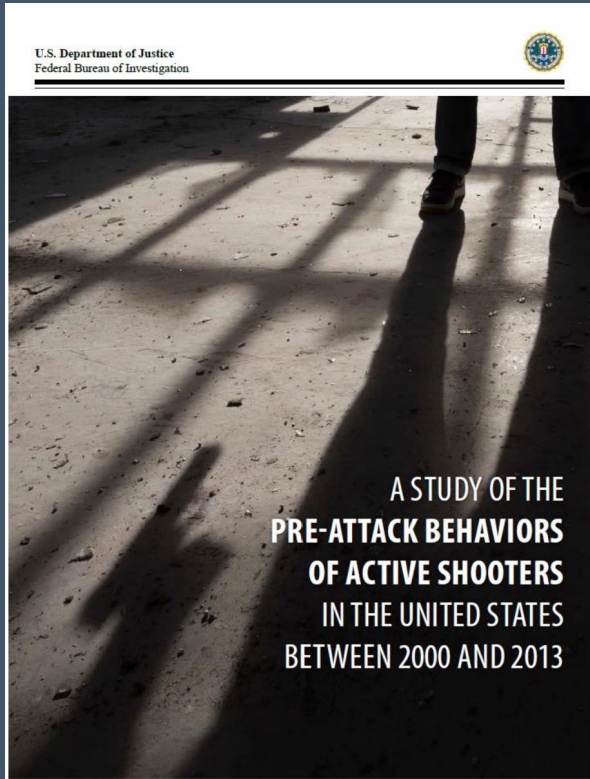
## PHASE I (2014): 160 events

- Incidents during 2000-2013
- Actively killing or attempting to kill
- Using a firearm
- In a populated area

*“What happened during and after the shooting?”*

Relied on incident reports and open sources

# Active Shooter: Phase II



## PHASE II (2018): 63 active shooters

- Demographics
- Weapons
- Stressors and concerning behaviors
- Grievances, targeting, pre-attack communications
- Substance abuse and mental health

*“How do active shooters behave before they attack?”*

Subtle behaviors verified in full investigative files



# Active Shooter: Phase III

## PHASE III (2020): 63 active shooters & 63 persons of concern

*“How do active shooters differ from individuals who display concerning behavior but do not commit mass violence?”*

- Differences in concerning behaviors and stressors
- Variation in bystander responses
- Law enforcement investigative files



### Possible Attackers? A Comparison Between the Behaviors and Stressors of Persons of Concern and Active Shooters

Karie A. Gibson and Sarah W. Craun  
Federal Bureau of Investigation, Washington, DC

Kristen Solik  
Federal Bureau of Investigation, Washington, DC

Understanding the behaviors and stress assessment teams as they evaluate person who commit an attack, which means that from other high-risk persons of concern shooters were matched on age and gender a federal law enforcement threat assessment internal stressors, and behaviors that d Logistic regressions highlight that concern some than active shooters' behaviors. Act concerned about their anger as compare shooters were more likely to have ext discussed with a focus on being operative

**Public Significance Statement**  
Threat assessment teams are tasked with concern that a person will go on to cons suggestions to help manage or mitigate this job is, as only a few variables help persons of concern who do not commit direction.

**Keywords:** active shooters, preattack indi teams

Active shootings, sometimes called mass shootings, loom large in the public consciousness. The years 2016 and 2017 saw a markedly high number of casualties, due in part to the Las

Karie A. Gibson and Sarah W. Craun, Behavioral Analysis Unit, Behavioral Threat Assessment Center (BTAC), Federal Bureau of Investigation, Washington, DC; Amanda G. Ford, Oak Ridge Institute for Science and Education, Oak Ridge, Tennessee; Kristen Solik, Behavioral Analysis Unit, Federal Bureau of Investigation, Washington, DC; James Silver, De



### (In)action: Variation in Bystander Responses Between Persons of Concern and Active Shooters

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Federal Bureau of Investigation, Washington, DC

Amanda G. Ford  
Oak Ridge Institute for Science and Education,  
Oak Ridge, Tennessee

Kristen Solik  
Federal Bureau of Investigation, Washington, DC

James Silver  
Worcester State University

Bystander awareness of concerning behaviors and the willingness to speak up is required for the prevention of targeted violence. This analysis determined if there are any differences in bystander behavior among those around active shooters as compared to high-risk persons of concern assessed by a threat assessment team. Active shooters were matched to high-risk persons of concern on age and gender. Variables measuring subject isolation, bystander action once concerning behaviors were noticed, and how these behaviors were acted upon were analyzed. Active shooters were less likely to be verbally contacted and more likely to have at least one person who did nothing when noticing a concerning behavior. High-risk persons of concern were more likely to have bystanders notice their concerning behaviors via writing. The implications for threat assessment teams and the general public for the prevention of targeted violence is discussed.

**Public Significance Statement**  
The public is often inspired "if you see something say something" as a way to prevent public attacks. This article reveals how bystander behaviors were different among those persons of concern who did not commit an attack as compared to the bystanders aware of the concerning behaviors of active shooters.

**Keywords:** bystanders, intervention, active shooters, persons of concern, threat assessment teams

As active shooter incidents continue to occur

Sarah W. Craun and Karie A. Gibson, Behavioral Analysis Unit, Behavioral Threat Assessment Center (BTAC), Federal Bureau of Investigation, Washington, DC; Amanda G. Ford, Oak Ridge Institute for Science and Education, Oak Ridge, Tennessee; Kristen Solik, Behavioral Analysis Unit, Federal Bureau of Investigation, Washington, DC; James Silver, Department of Criminal Justice, Worcester State University.

Kristen Solik is now at the Automobile Club of Southern California, Los Angeles, California.  
Correspondence concerning this article should be addressed to Sarah W. Craun, Federal Bureau of Investigation, CARGROSSBAU-1 Range Road, Quantico, VA 22135.  
Email: swcraun@fbi.gov

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# Active Shooter: Phase IV

NIJ & FBI's Active  
Shooter IV Project:

Interviewing  
Surviving Shooters



Initial Case File Findings &  
Interview Preparational Resource

## PHASE IV: 72 active shooters (adjudicated)

- 13 subjects from AS II
- 67 potential interviews to complete
- 60 prison locations
- Interview protocol expanded from AS II to include findings from AS III

*“Offender interviews will allow a better understanding of the thought processes, motivations, planning/preparation, and tactics used.”*

# Active Shooter: Phase IV

**Update: 16 cases coded/reconciled**

## **Sample Findings:**

- 1) Majority showed desire to obtain weapons 6 months or more before incident
- 2) Majority felt rejected and disenfranchised within the year leading up to the attack
- 3) The shortest amount of time between grievance and attack was 3-5 months with most being 25 or more months
- 4) Most common concerning behavior reported was offender's mental health issues
- 5) Most common concerning behavior that was observable but did not raise concern was the offender's behavioral leakage

# Active Shooter: Phase IV

**NIJ & FBI's Active  
Shooter IV Project:**

**Interviewing  
Surviving Shooters**

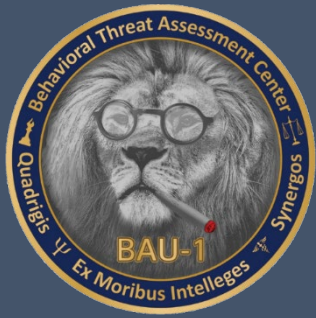


**Initial Case File Findings &  
Interview Preparational Resource**

## **Plan:**

- Ongoing coordination with prisons
- Interviews to begin in 2022
- Coding to continue with revised protocol
- Full-time researcher assigned





# Thank You

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FBI-BAU1

Behavioral Threat Assessment Center

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