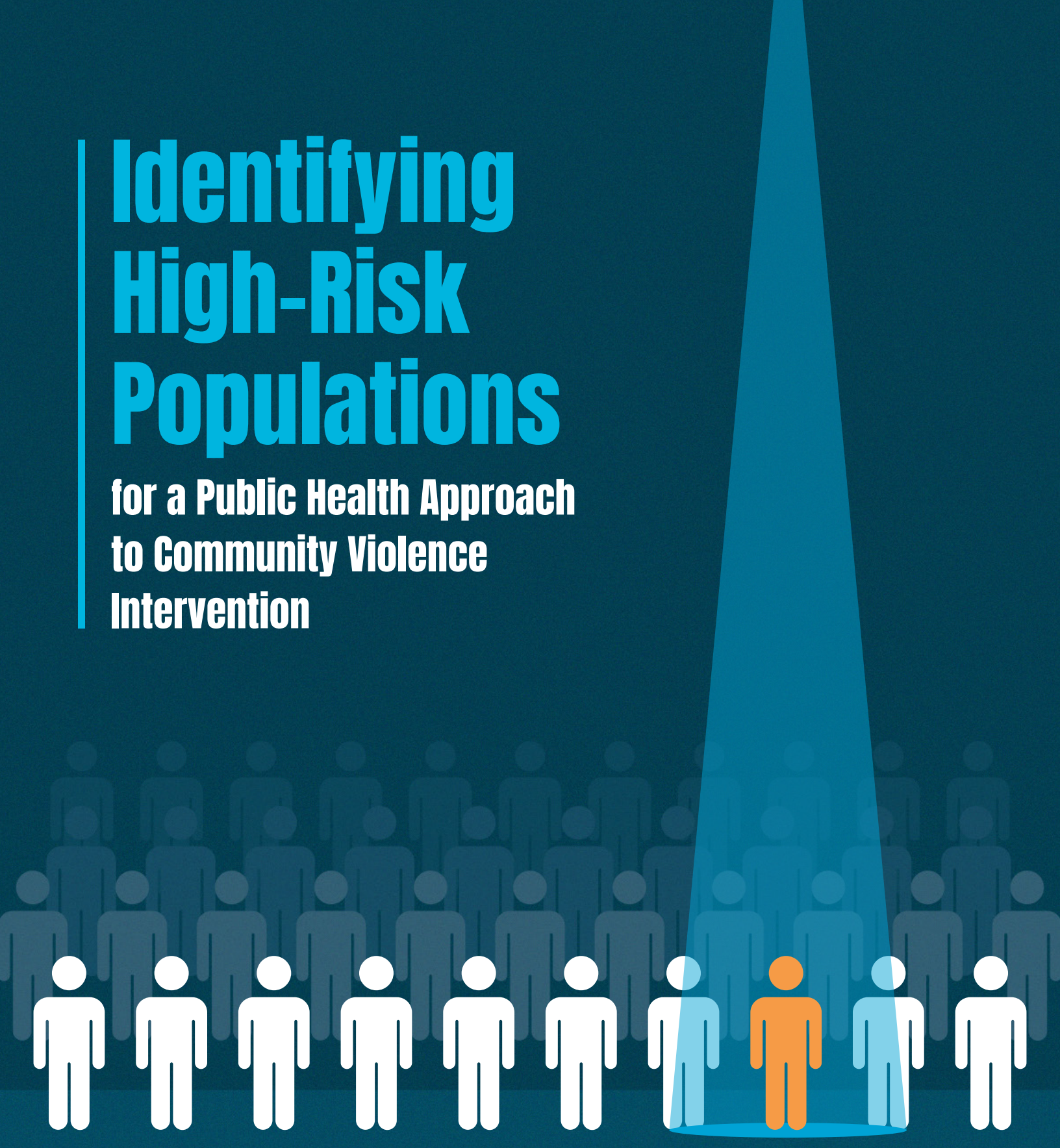
Identifying High-Risk Populations

for a Public Health Approach to Community Violence Intervention



February 2026

Crime and Justice Policy Lab
University of Pennsylvania

NICJR
National Institute for Criminal Justice Reform

Written by Mikaela Rabinowitz, Vaughn Crandall, and Shantay Jackson. The authors would like to express their appreciation to David Muhammad, Ruth Abaya, Jesse Jannetta, and Andrew Papachristos, who reviewed and provided feedback on earlier drafts.

Executive Summary

Community gun violence in U.S. cities is both rare and highly concentrated. Decades of research and practice show that shootings cluster within a very small number of people, places, and social networks. In many cities, less than 5% of street segments account for most shootings, and more than half of homicides involve social networks representing under 1% of the population. Effective violence reduction therefore requires identifying and engaging the individuals at very high risk (aka, very high risk individuals, or VHRI) of being involved in gun violence in the immediate future.

This brief is designed to support jurisdictions working to implement community violence intervention (CVI) approaches by improving their ability to identify VHRI for intervention. Toward that end, this brief provides 1) a concise synthesis of the research evidence on risk for involvement in community gun violence, and 2) guidance on how to implement structured processes to identify the people driving violence within their communities. Its central premise is that effective CVI work requires both an understanding of what research has established about risk nationally and a systematic approach for determining who is at highest risk in a particular community.

What Does Research Say About Risk?

A substantial body of research shows that community gun violence is highly concentrated among a small number of people, places, and social networks. Key findings include:

Geographic concentration: Shootings cluster at the level of street segments and intersections, not across entire neighborhoods.

Social network influence: Individuals' proximity to gunshot victims and their position within high-risk networks significantly increase the probability of involvement in violence.

Prior violent victimization: Surviving a firearm injury markedly elevates the likelihood of subsequent victimization, perpetration, or both.

Extensive criminal justice contact: Most individuals involved in shootings have substantial prior histories, including multiple arrests and prior supervision.

Adults age in their 20's and 30's: The majority of victims and suspects are adults in their late 20s to mid-30s, with youth under 18 comprising a small share of those involved.

Collectively, this research demonstrates that risk is identifiable and highly specific, enabling jurisdictions to focus resources on the relatively small population most likely to be involved in gun violence in the near term.

What are Common Processes for Identifying VHRI

While national studies provide a strong evidentiary foundation, each community must develop a precise, data-driven understanding of its own violence dynamics. This brief outlines several established analytic and operational processes that jurisdictions can use to translate general research into local identification of VHRIs.

Gun Violence Problem Analysis

Gun violence problem analyses (GVPAs) are retrospective analyses that help jurisdictions understand the underlying drivers of violence by examining recent shooting incidents and the people involved therein. These analyses clarify where violence has concentrated, who has been involved, and what common characteristics and dynamics appear across incidents. This information can provide a shared foundational understanding to guide CVI implementation and ensure that interventions are aligned with the local reality.

Real-Time Identification Approaches

Real-time processes enable practitioners to determine who is currently at highest risk and to intervene quickly. These approaches examine active conflicts and recent shootings, enabling organizations to prioritize individuals and groups most likely to be involved in retaliatory or near-term violence. Real-time identification ensures that CVI efforts remain responsive to rapidly evolving situations on the ground.

How Can Identification of VHRI Be Integrated into Service Delivery?

The brief also provides guidance for embedding risk identification into ongoing program operations. Recommended practices include integrating risk-factor questions into intake and screening tools and establishing processes for tracking client characteristics and comparing those to characteristics of VHRI identified in a local GVPA.

Introduction

Several decades of applied violence prevention research and practice consistently demonstrate that gun violence in U.S. cities is highly concentrated in a small number of high-risk "micro" places and committed by and against a very small number of high-risk people. In many U.S. cities, the majority of fatal and nonfatal shootings are concentrated in less than 5% of all street segments and more than half of a city's homicides are connected to high-risk social networks that represent less than 1% of the city's population.[1]

This gun violence often takes the form of what is now known as community violence: **intentional acts of interpersonal gun violence** between individuals who may or may not know each other but are **not intimately related.** These acts tend to occur in public spaces, such as neighborhoods, streets, or parks, rather than within homes or other private locations. Community gun violence frequently leads to retaliation in high-violence places and amongst high-risk social networks, disproportionately driving a city's overall violence problem. The super concentration of risk and the social dynamics of violence – aspects of violence that make it similar to a contagious disease – are also core tenants of a public health approach.

The Centers for Disease Control and Prevention (CDC) defines a public health approach as following a general four step scientific model: 1) defining and monitoring the problem, 2) identifying risk and protective factors, 3) developing and testing prevention strategies, and 4) assuring widespread adoption of effective strategies. Over the last several decades, various violence reduction efforts across many U.S. cities gradually developed into the emerging field of community violence intervention (CVI). Effective CVI approaches proactively identify those individuals who are at the very highest risk of being involved in gun violence soon – in the next few days or few months – and intervene with those individuals, groups, and conflicts to reduce the risk of harm while providing a variety of treatments, resources, and supports.

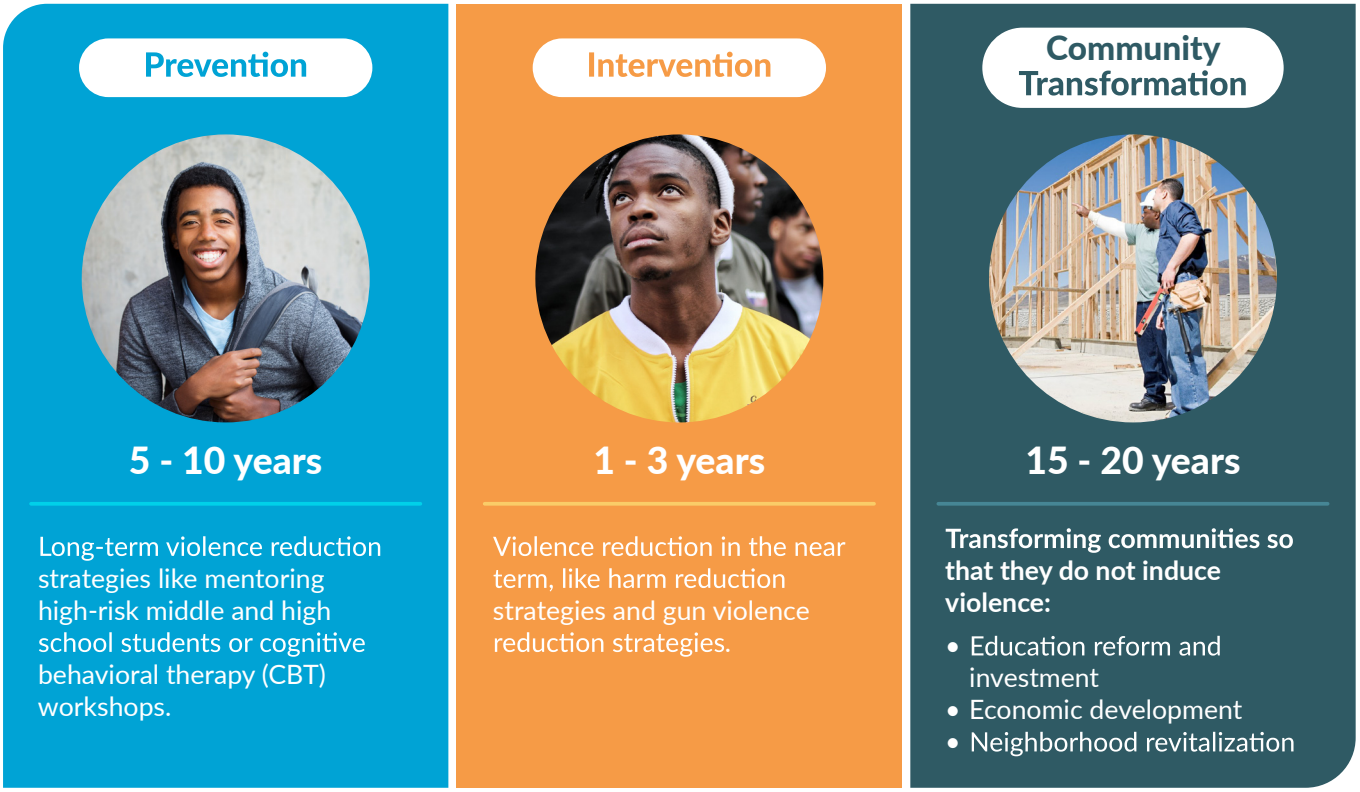
This brief, developed in partnership by the National Institute for Criminal Justice Reform (NICJR) and the Crime and Justice Policy Lab (CJP) at the University of Pennsylvania, aims to support these efforts by explaining why risk matters and what social science tells us about risk of involvement in community violence. It also offers practical guidance for how to identify individuals who are at very high risk for involvement in gun violence—often referred to as very high-risk individuals (VHRI).

Toward that end, this brief is organized into the following sections:

Why risk matters	Risk factors for community gun violence	Methods for identifying who is at risk	Incorporating risk factors into service delivery
This section explains why it is important to understand who is at the very highest risk for involvement in community violence and how that ties into a public health approach to violence reduction.	This section describes what current research says about the risk factors associated with involvement in community gun violence.	Here, we introduce common approaches in the field for identifying very high-risk individuals in a given community.	Finally, this section provides examples of how risk factors, once understood, can be incorporated into service delivery to ensure that the highest risk individuals are being served.

1 Lurie, S. (2019, February 25). Beyond broken windows: What really drives urban crime. Bloomberg. https://www.bloomberg.com/news/articles/2019-02-25/beyond-broken-windows-what-really-drives-urban-crime

Figure 1. *CVI is a Public Health Approach that Focuses on Reducing Gun Violence in the Immediate Future*



Why Does Risk Matter?

In public health, risk refers to the probability that a person or population will experience a specific adverse health event. Understanding what the primary risk factors are for a given outcome (such as violent victimization or perpetration) is essential for identifying who is most vulnerable to that outcome, in order to intervene and reduce the likelihood of its occurrence and transmission.

Public health has long recognized that the most efficient way to stop the spread of a disease is to identify the source and prevent transmission. When applying a public health approach to violence, the same logic applies: It is critical to first identify who is at greatest risk for having and spreading this disease, or more specifically, for engaging in gun violence as a victim, perpetrator, or both.

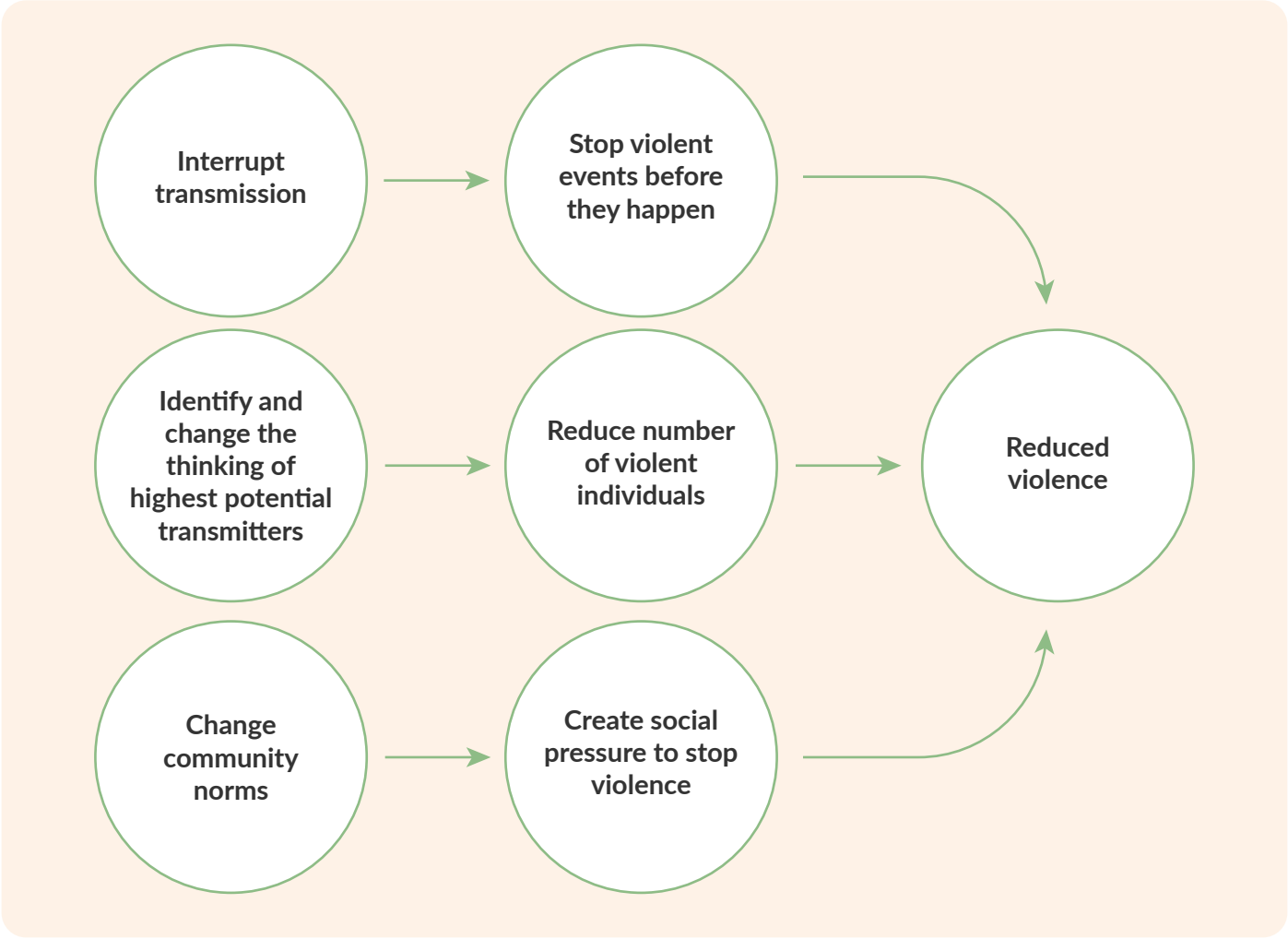
The general public is more familiar with this approach given the universal precautions that were taken during the height of the COVID-19 pandemic. People who were over the age of 65 or who had certain underlying, preexisting health conditions were informed of their heightened risk, and that if they contracted the virus their likelihood of serious illness was exponentially greater than others. This public health approach of informing those of their risk level so they can take greater precautions is also true in violence reduction. These high-risk COVID populations were also given prioritized access to vaccines and treatments, similar to how those identified as being at very high risk of being involved in gun violence should be prioritized for violence intervention strategies and services.

While Cure Violence was not the first CVI model to recognize the importance of identifying people who are already engaged in violence to stop its spread, it was one of the first emerging CVI models to frame violence as a contagious disease and apply this epidemiological approach (see figure 2). A—if not the—critical contribution of this framing was the recognition that violence, like disease, spreads from person to person

through direct contact and interaction. Those already "infected" with violence are the ones most likely to spread it, largely by engaging in violent acts that contribute to cycles of retaliation. Those who are closest to them are most likely to catch this disease through participation in these retaliatory incidents.

Accordingly, any effort to stop the spread of violence must start by identifying people who are already engaged in it and reducing the likelihood that they will spread it to other people. To identify these individuals, it is necessary to understand what factors put them at risk for this disease. In other words: What puts some people at higher risk for engaging in community gun violence than others? Who is most likely to be involved right now, and who is likely to be next?

Figure 2. *Cure Violence Theory of Change*



While it may seem obvious that the most efficient way to stop the spread of a disease is to identify people who already have it and prevent them from transmitting it to others, for decades, violence reduction policy has (and often continues to) focused on preventing new people from becoming involved in violence years or even decades in the future, instead of preventing transmission between those who are currently involved in violence and the people close to them. (Figure 1, illustrates this distinction.)

What Does Research Say About Risk for Involvement in Shootings?

Several decades of research on shootings have resulted in a sizeable body of evidence identifying key risk factors for involvement in serious gun violence. **Contrary to some common misperceptions, only a very small fraction of people in any city is at very high risk of being involved in gun violence. Often less than one half of 1% of a city's population is involved in gun violence each year.** For those who are the very highest risk of gun violence, the most common risk factors are outlined in this section.

Community Gun Violence Tends to Concentrate in Small Areas

Community gun violence tends to be highly concentrated in specific geographic locations as well as within particular social networks.

Importantly, research has made clear that neighborhoods are not sufficiently small geographic units for understanding the specific locations where crime and violence are concentrated. Thus, while place matters, neighborhoods—or zip codes or census tracts—are generally too large to be useful as units of analysis for identifying specific individuals at high risk for involvement in violence.[2] Even in neighborhoods with high levels of violence, most violence occurs in a few very small places. Commonly known as "hot spots," the specific geographic locations where gun violence is concentrated tend to be extremely localized "microgeographic units," "micro zones," or "micro locations" as small as single intersections, street segments, or street address clusters.[3]

While identifying these micro locations is not sufficient to understand which specific people are at highest risk for intervention purposes, they can be the focus of place-based problem-solving efforts that can also contribute to public safety.[4]

People's Social Networks Greatly Influence Their Risk

Social networks are also a major risk factor for people's involvement in community gun violence. These networks, which reflect a person's relationships with other people and organizations, influence almost all aspects of a person's health and well-being.[5]

Understanding the role of social networks is essential to addressing violence. As Papachristos et al explain:

> "There are several reasons why the risk of gunshot victimization is related to one's social network. First, interpersonal violence tends to occur between the people who know each other suggesting that the context of social relationships is important in understanding the dynamics of gun violence. Second, the normative conditions surrounding gun use are transmitted through processes of peer influence, especially among young men with criminal histories. Third, guns themselves are durable objects that often diffuse through interpersonal connections, suggesting that obtaining a gun—a necessary precursor to using a gun—must also occur through interpersonal relationships."[6]

2 Braga, A. A., Andresen, M. A., & Lawton, B. (2017). The law of crime concentration at places: Editors' introduction. Journal of Quantitative Criminology, 33(3), 421–426. https://doi.org/10.1007/s10940-017-9338-3

3 Braga, A. A., Andresen, M. A., & Lawton, B. (2017). The law of crime concentration at places: Editors' introduction. Journal of Quantitative Criminology, 33(3), 421–426. https://doi.org/10.1007/s10940-017-9338-3

4 While this brief is primarily focused on identifying very highest risk people, and using that identification to focus effective interventions, there is a separate and related body of work on place-based interventions that seek to change environmental conditions of hot spots. For more information see Hohl, B. C., Kondo, M. C., Kajeepeta, S., MacDonald, J. M., Theall, K. P., Zimmerman, M. A., & Branas, C. C. (2019). Creating safe and healthy neighborhoods with place-based violence interventions. Health Affairs, 38(10), 1687–1694.
Hou, F., Marzbali, M. H., Maghsoodi Tilaki, M. J., & Abdullah, A. (2025). Rethinking urban greening: Implications of crime prevention through environmental design for enhancing perceived safety in Baitashan Park, Lanzhou. Urban Science, 9(1), 9.

5 Zhang, J., & Centola, D. (2019). Social networks and health: New developments in diffusion, online and offline. Annual Review of Sociology, 45, 91–109.

Research has shown the strong predictive power of social networks. For example, an analysis of gun violence victimization and social networks in Boston's Cape Verdean community found that "a 1% increase in the number of one's friends who are gunshot victims increases one's own odds of victimization by approximately 144%."[7] Similarly, an analysis on the relationship between social networks and gunshot victimization in Chicago found that 70% of nonfatal gunshot victims in the city were part of networks that comprised less than 6% of the total population.[8]

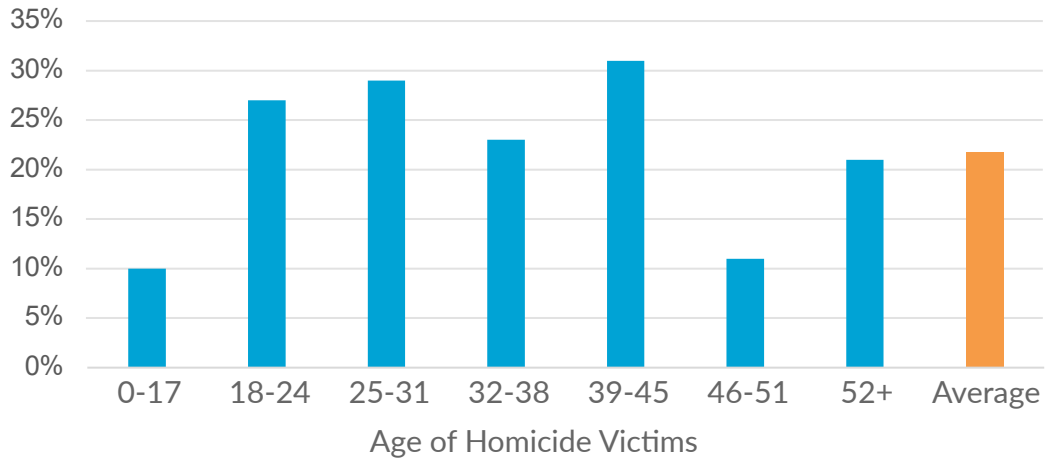
Victims of Violence Are at Greater Risk of Future Victimization

People who have been the victims of violent crime are also at elevated risk for future victimization. One study found that individuals hospitalized for a firearm injury had 21 times greater risk for another firearm injury than people hospitalized for other reasons and four times greater risk of dying due to gun violence. They were also almost three times more likely to be arrested for involvement in gun violence.[9] Another analysis found that up to 10% of people who survive gunshot wounds will be shot again within five years.[10]

In one large US city, a problem analysis conducted by NICJR found that one-quarter of homicide victims had been admitted to the public trauma hospital for a violent victimization within six to seven years prior to being killed (Figure 3). More than half of these incidents were prior gunshot wounds.

> ***One study found that individuals hospitalized for a firearm injury had 21 times greater risk for another firearm injury than people hospitalized for other reasons and four times greater risk of dying due to gun violence.***

Figure 3. *Almost One-fourth of Homicide Victims in Washington, DC Were Victims of Prior Violent Assaults*



6 Papachristos, A. V., Braga, A. A., & Hureau, D. M. (2012). Social networks and the risk of gunshot injury. Journal of Urban Health, 89(6), 992–1003.

7 Papachristos, A. V., Braga, A. A., & Hureau, D. M. (2012). Social networks and the risk of gunshot injury. Journal of Urban Health, 89(6), 992–1003.

8 Papachristos, A. V., Wildeman, C., & Roberto, E. (2015). Tragic, but not random: the social contagion of nonfatal gunshot injuries. Social Science & Medicine (1982), 125, 139–150.

9 Rowhani-Rahbar, A., Zatzick, D. Wang, J., Mills, B.M., Simonetti, J.A., Fan, M. D., & Rivara, F.P. (2015) Firearm-related hospitalization and risk for subsequent violent injury, death, or crime perpetration: A cohort study. Annals of Internal Medicine, 162(7), 492–500.

10 Shayan, M.; Lew, Daphne; Mancini, Michael; Foraker, Randi; Doering, Michelle; & Mueller, Kristen L. (2023) A systematic review of recurrent firearm injury rates in the United States. Preventive Medicine, 168, Article 107443.

Most People Involved in Shootings Have Extensive Prior Criminal Justice System Involvement

The majority of people who are involved in shootings have extensive prior criminal histories. Data collected for gun violence problem analyses in cities across the US indicate that most people who are involved in fatal or nonfatal shootings—as victims or as suspected perpetrators—have multiple prior arrests, including arrests for violent conduct, as well as prior terms of incarceration and community supervision. An NICJR problem analysis from another city shows that not only do most suspects and most victims have prior criminal histories, but those who do also tend to have had extensive contact with the justice system, including multiple prior arrests, supervision, and incarceration. (Table 1).[11]

Table 1. *In One City, Almost 70% Of Homicide Victims and 80% Of Suspects Had Prior Criminal Justice System Contact*

	Victims	Suspects	Victims and suspects
% of homicide victims/suspects known to CJ system prior to incident	69.5%	80%	75.7%
Of those known to criminal justice system:			
Average number of prior arrests	13.2	10.2	11.9
Prior probation/parole	74.4%	67.1%	71.2%
Active probation/parole	35.4%	31.3%	33.6%
Prior incarceration	73.2%	60.9%	67.8%
Convicted of felony	72.0%	60.9%	67.1%

11 On the other hand, the vast majority of people who come into contact with the criminal justice system do not go on to be involved in shootings or any other gun violence.

The Vast Majority of Victims and Perpetrators of Shootings are Adults

Despite common public perception that young people are the primary drivers of serious gun violence, research has repeatedly shown that the vast majority of people involved in shootings are adults. In analyses across the country, NICJR and CJP have found the average age of individuals involved in homicides and nonfatal shootings to be in the late 20s through the mid-30s (Table 2).

Table 2. *The Average Age of Homicide and Nonfatal Shooting Victims and Suspects is Late-20s Through Mid-30s*

	Austin 2024	Baltimore (W. District) 2022	Green Bay 2022	Indiana-polis 2025	Knoxville 2025	Oakland 2023	Portland 2022	Washington, DC 2023
Homicide victims	33.6	32.7	28.9	32.2	36.9	34.6	36.8	33.4
Homicide suspects	27.9	32.0	27.4	27.7	35.7	32.2	31.5	29.0
Nonfatal shooting victims	n/a[12]	30.6	28.9	29.7	29.9	32.0	33.1	29.3
Nonfatal suspects	n/a	29.1	27.4	27.2	28.1	31.0	29.1	26.4

Table 3. *In Most Places, Fewer Than 10% Of Homicide or Nonfatal Shooting Victims and Suspects Are Under 18*

	Austin 2024	Green Bay 2022	Indiana-polis 2025	Knoxville 2025	Oakland 2023	Portland 2022	Washington, DC 2023
Homicide victims	7.0%	2.7%	10.2%	3.7%	8.6%	3.2%	6.7%
Homicide suspects	10.9%	9.3%	9.8%	4.7%	2.1%	9.2%	9.6%
Nonfatal shooting victims	n/a	2.7%	10.9%	8.3%	9.5%	4.7%	12.7%
Nonfatal suspects	n/a	9.3%	11.9%	9.0%	2.1%	7.8%	25.8%

12 Data on nonfatal shooting victims and suspects was not available for this GVPA.

What Are Common Approaches in the Field for Identifying VHRI?

While all prior research is valuable for understanding common patterns among, and risk factors for, involvement in shootings, it is also important that communities understand the specific characteristics of individuals who are at high risk for involvement in violence in their communities. Over time, practitioners and researchers have developed several approaches for doing so. Broadly speaking, these approaches fall into two categories:

1. **Retrospective analyses** of prior nonfatal shooting and homicide incidents and associated individuals in order to identify people with similar characteristics who may be at risk of involvement in similar incidents in the near future; and
2. **Real-time identification processes** for understanding who is at immediate risk, often as violent incidents occur.[13]

Gun Violence Problem Analysis

A gun violence problem analysis (GVPA) is a structured process for identifying and understanding the underlying drivers of shootings in a specific community.[14] A GVPA seeks to answer four primary questions regarding gun violence:

1. Where is gun violence happening?
2. Who is involved in homicides and nonfatal shootings?
3. What are the specific proximate circumstances that lead to homicides and nonfatal shootings?
4. What are the primary characteristics or risk factors of those involved in gun violence?

In-depth analysis of local violence can help to answer these questions, reveal opportunities for intervention, and lay the foundation for an effective violence reduction strategy (or strategies). The most common analytic approaches are described here.

13 Many of these approaches require collecting qualitative and/or quantitative data from law enforcement agencies. Establishing data sharing agreements and processes that allow the collection of these data but do not require CVI workers to share data back with law enforcement can take time and often requires both independent third-party researchers and relationship building between law enforcement and CVI partners.

14 While some GVPAs include gun violence incidents other than fatal and nonfatal shootings (such as non-injury shots fired or armed robberies), including too broad a set of incidents can undermine the GVPA's utility for understanding shootings, since the dynamics of shootings tend to differ from those of other kinds of gun violence.

GIS Coding and Mapping

Geographic information system (GIS) mapping is the most common method for identifying the micro locations where shootings are concentrated. Drawing upon basic incident data by location, this approach is used to visualize where crime and violence cluster, identify environmental risk factors, and examine how geographic features shape criminal activity. GIS mapping can reveal patterns of repeat victimization, highlight high-risk areas, and support data-driven decision making.

Review of Prior Nonfatal Shooting and Homicide Incidents (aka, "Incident Review")

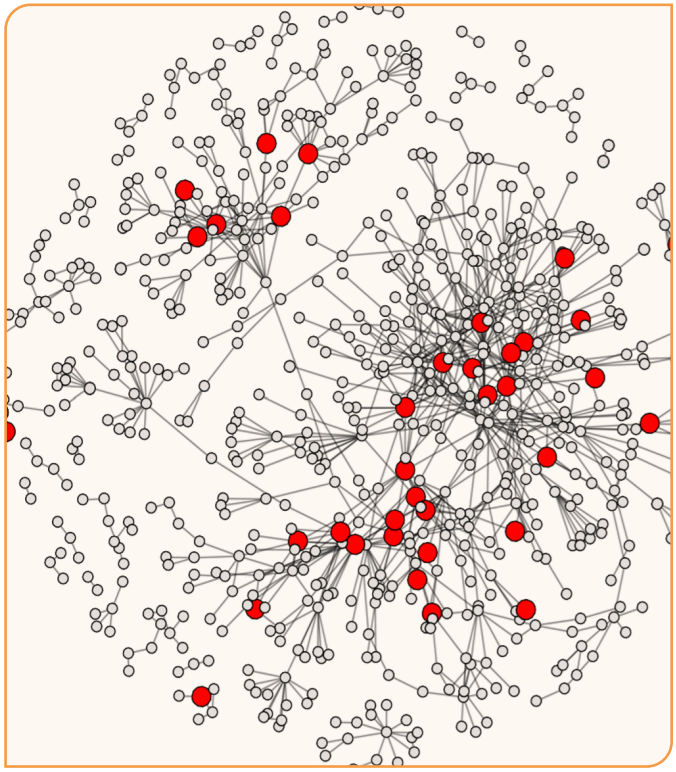
An incident review is a process of interviewing police investigators and/or CVI practitioners about each homicide and nonfatal shooting case in a given jurisdiction within an extended period, usually two to three years. These interviews focus on understanding dynamics related to nonfatal shooting and homicide incidents that are not usually formally documented in a record or case management system. The information gleaned through these interviews often includes detailed insights about the relationships between victims and suspects, precipitating events surrounding the incident, nexus with any other criminal activity, and social networks of victims and suspects. Collected data are anonymized, coded, and analyzed to understand patterns, dynamics, motives, and context of violence over a set period. Care must be taken to protect highly sensitive information.

Social Network Analysis

A social network analysis (SNA) is a tool for examining relationships between individuals and high-risk social networks. An SNA maps social connections of individuals involved in violence and relationships within and between high-risk social networks and serious violence. Because violence often clusters within networks, an SNA can show how direct or indirect ties to victims and perpetrators increase the risk of victimization. The social network graph in Figure 4 comes from Papachristos et al.'s analysis of the social relationships between individuals involved in gun violence in Boston's Cape Verdean community. In this image, the red nodes (or dots) represent individuals who were gunshot victims and white nodes represent people who were not. The lines indicate connections/relationships between people. The clustering of red nodes within certain parts of the network shows the concentration of gunshot victimization among people who are connected to each other.

While this example is sophisticated and requires both detailed data and SNA software, a simpler process can also be used to manually map the relationships between people in high-risk social networks.

Figure 4. *Social Network Analysis of High-Risk Individuals within Boston's Cape Verdean Community*[15]



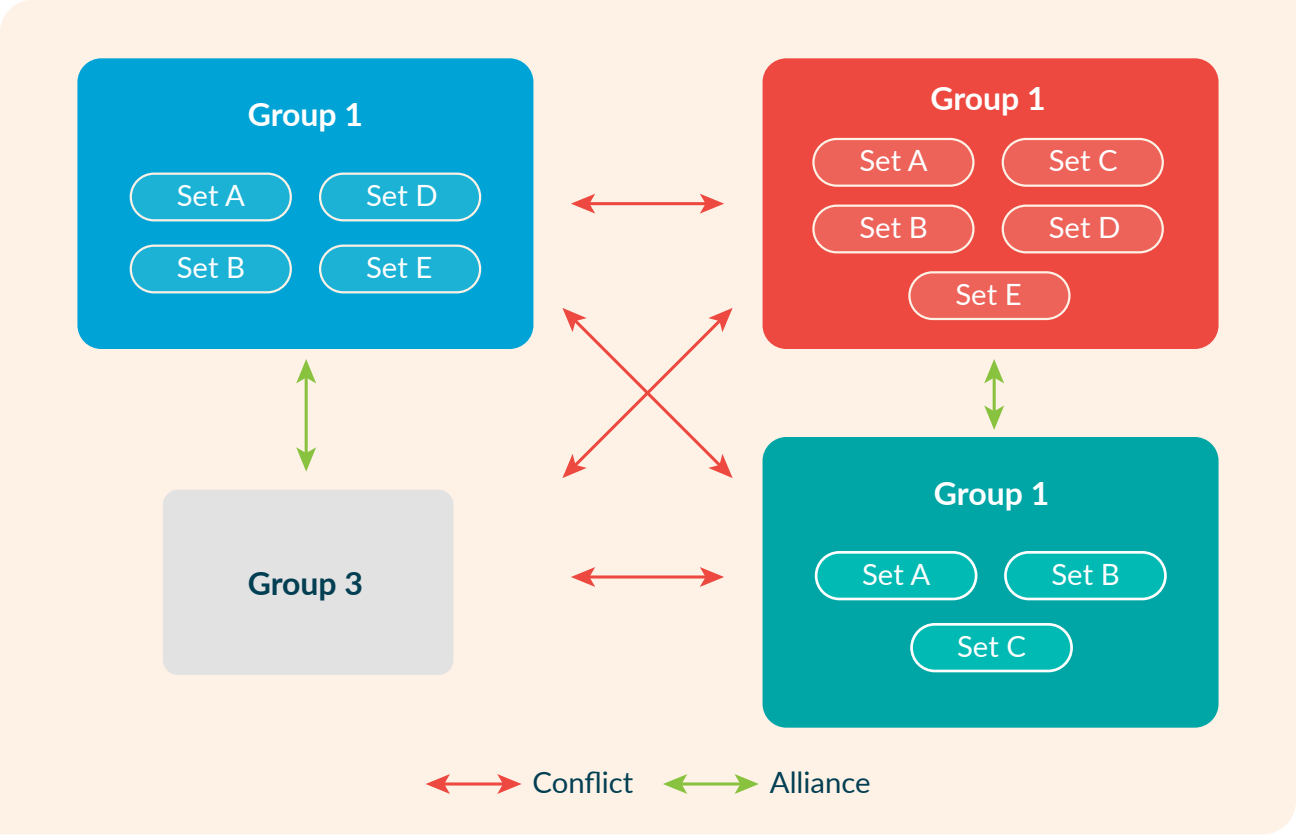
15 Papachristos, A. V., Braga, A. A., & Hureau, D. M. (2012). Social networks and the risk of gunshot injury. Journal of Urban Health, 89(6), 992–1003.

Group/Network Audit

A group/network audit is a qualitative data collection process that involves interviews and/or focus groups with frontline CVI practitioners or law enforcement to gather insights about high-risk groups and social networks. This type of audit helps shed light on the relationships between those groups and their participation in local violence. Group/network audits can be used to understand overall risk among social networks in general as well as for particular members.

A more intensive group/network audit can also include a detailed review of the dynamics of an extended conflict between different groups and/or social networks. This involves identifying an initial incident that led to active conflict between the groups, as well as related incidents, involved parties, and related dynamics. By tracking the origin, development, and connections across related violence incidents, people, and networks, CVI workers can better predict where future violence may emerge and proactively work to prevent those flare ups. As with other data collection methods, interview and focus group data are coded and summarized in a process that ensures anonymity, and public-facing documents should not provide the names of specific groups.

Figure 5. *Sample Group Audit Showing Local Groups and Group Relationships*



Demographic and Criminal History Review

Finally, problem analyses can include a demographic and criminal history review. Reviews are conducted by examining and coding demographic details and criminal justice backgrounds of victims and suspects involved in homicides and shootings during the specified timeframe. Demographic factors such as age, gender, race, and ethnicity are analyzed, and criminal histories are anonymized, coded, and aggregated. This can be particularly useful to assess the alignment between CVI client populations, CVI investments, and the population directly impacted by violence.

Real-Time Identification Approaches

Problem analyses are very useful to lay the foundation for an effective strategy, but they are historical in nature. To understand violence dynamics in real-time, cities also need a similar set of tools and approaches to understand who is at highest risk of violence now. There are many ways to identify VHRIs in real-time amid service delivery processes; some major methods are described below.

Conflict Mapping

Conflict mapping is a process by which CVI workers conduct a structured assessment of the most violent active conflicts in a given neighborhood or community. As part of this process, CVI workers trace back the dynamics of a current conflict by identifying specific incidents associated with that conflict, ranging from slights to fights to shootings, as well as the individuals connected to the incidents and those people's relationships to each other. With this information, CVI workers are better able to proactively intervene with conflict participants and help mitigate the intensity of the conflict.

Shooting Reviews

Shooting reviews are structured meetings that analyze recent shooting incidents to understand violent conflicts and cycles of retaliation. Shooting reviews are intended to identify individuals and social networks at the greatest risk of being involved in retaliatory violence in order to intervene in real time. They have often been held by police departments and justice system partners and have more recently been adapted by CVI organizations. This process can be especially valuable for cities seeking to unify multiple stakeholders and agencies into a cohesive, city, or county-wide violence reduction strategy. Figure 7 provides an overview of the shooting review process.

Figure 6. *Overview of Shooting Review Process*

Hospital Violence Intervention Programs

Hospital violence intervention programs (HVIPs) are collaborative initiatives between healthcare professionals and community service providers to identify individuals who have suffered violent injuries and who are considered likely to engage in retaliatory violence and/or are at risk for revictimization. Recognizing that a violently injured patient's hospital stay is a critical window to positively influence recovery and prevent cycles of retaliation or repeat victimization, these interventions begin in a hospital setting and most often engage young men who are connected to violent social networks. Patients are typically identified through emergency department visits and trauma admissions, though practitioners may use additional screening tools to identify victims who are at particularly elevated risk of being revictimized or seeking retaliation. Services typically include crisis intervention, linkages to community-based services, mentoring, home visits, follow-up assistance, mental health services, and long-term case management.

Shooting Scene Response

In a shooting scene response, CVI practitioners are deployed to a homicide or nonfatal shooting scene to engage victims and families, control rumors, gather information, and prevent retaliation. Shooting scene response usually requires a notification system to alert key personnel that a shooting or homicide has taken place and provide basic information such as the location, victim(s), and context. In Los Angeles, shooting scene response leverages the Mayor's Office of Gang Reduction and Youth Development (GRYD), along with the Los Angeles Police Department and community-based organizations that train and employ community intervention practitioners. Recent evaluations of GRYD's Triangle Response found that it reduced the likelihood of subsequent retaliation shootings by as much as 43%.[16]

16 Brantingham, J.P., N. Sundback, B. Yan, K. Chan. (2017) Estimating the Impact of GRYD IR on Retaliatory Gang Crime. GRYD Intervention Incident Response and Gang Crime 2017 Evaluation Report. City of Los Angeles.

How Can Identification of VHRI Be Integrated into Service Delivery?

Despite the sizeable body of research on gun violence and related risk factors, there are not, as of yet, established tools for assessing individuals' risk.[17] Common criminal justice risk assessment instruments (RAIs) are oriented toward assessing people's risk for general recidivism, without differentiating between people who are at risk for engaging in violence and those who are likely to engage in lower-level conduct, such as individuals with intense drug addiction problems who are not at high risk for engaging in lethal violence.[18]

Despite the lack of reliable screening and assessment instruments, there are a number of steps that practitioners can take to ensure they are directing their services toward individuals who are at very high risk for involvement in gun violence. A simple but important step is embedding a review of risk factors into programs' intake, interview, and/or eligibility screening tools. Figure 8 shows the screening tool used by violence intervention programs funded by the City of Oakland's Department of Violence Prevention. Potential clients must respond affirmatively to a minimum number of questions to be enrolled in the program.

Figure 7. *Sample Intake Questions for Violence Intervention Program*

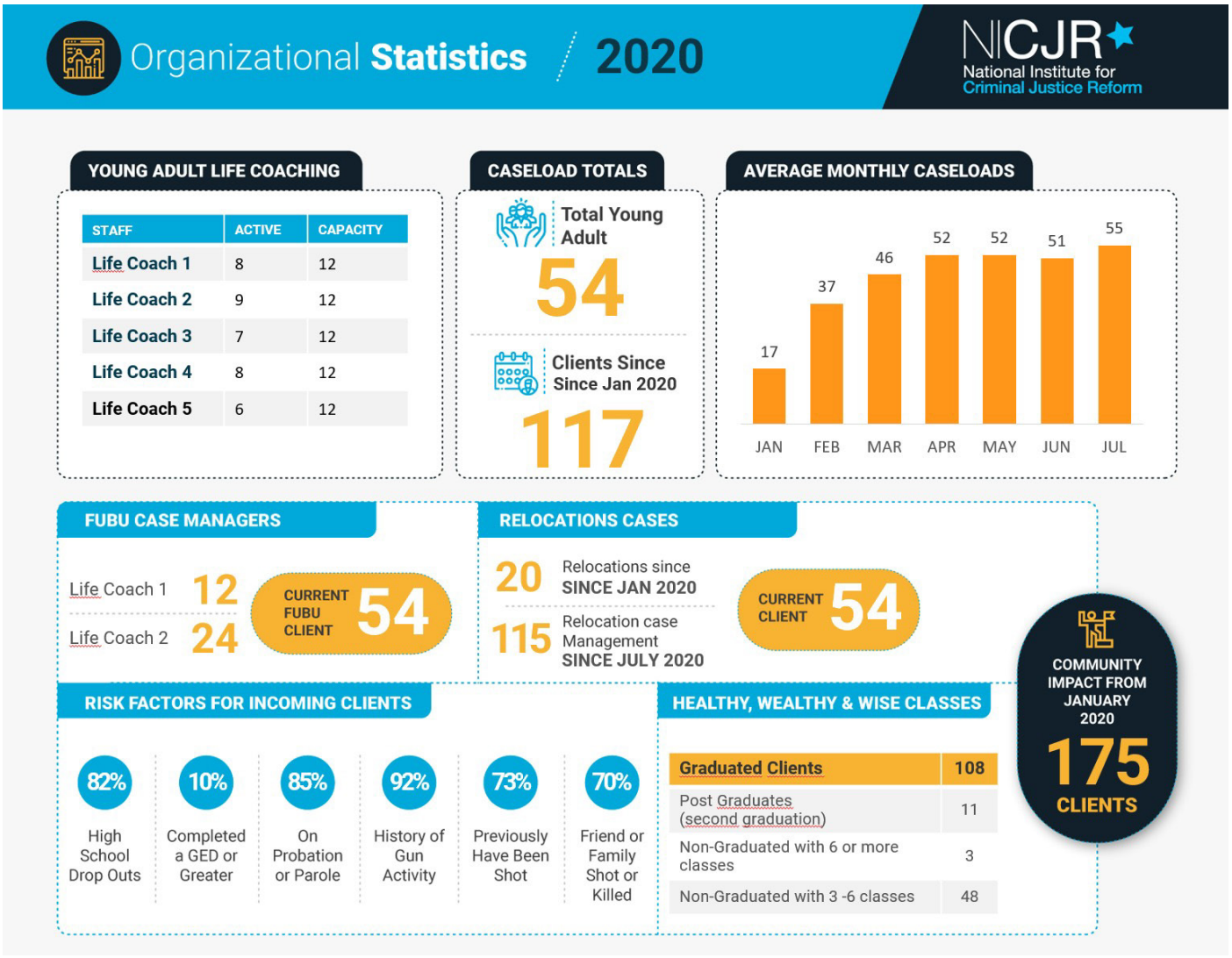
#	Question	Yes	No
1	Are there any neighborhoods of your City that are unsafe for you (because of network affiliation)?		
2	In the past year, have you been shot or stabbed?		
3	In the past year, have has someone pulled a gun on you?		
4	In the past year, have you been in a serious physical fight?		
5	In the past year, has a close friend or family member of yours been shot?		
6	Do many of your friends carry a gun, knife, or other weapon?		
7	When you were growing up (during the first 18 years of your life), did you witness or experience physical violence in the home often or very often?		
8	Have you previously been convicted of a violent offense? (assault, armed robbery, shooting, etc.		

It is also valuable for programs to establish processes for ongoing review of their overall client populations to ensure those who are being served reflect high-risk individuals in the community. Figure 8 is an example of a data visualization tool that includes data on client risk factors, along with information about the delivery of services to those clients.

17 There are a couple of tools for assessing a patient's risk for violent injury that are used in healthcare settings, including the SaFETy Score (Goldstick J.E., Carter P.M., Walton M.A., Dahlberg L.L., Sumner S.A., Zimmerman M.A., Cunningham R.M. (2017) Development of the SaFETy Score: A Clinical Screening Tool for Predicting Future Firearm Violence Risk. Annals of Internal Medicine. 166(10):707-714.) and the VRRAI (Kramer E.J., Dodington J., Hunt A., Henderson T., Nwabuo A., Dicker R., Juillard C. (2017) Violent reinjury risk assessment instrument (VRRAI) for hospital-based violence intervention programs. Journal of Surgical Research.). Both are valuable for the field but limited for broader use since they are specific to a hospital setting and focused primarily on reinjury.

18 NICJR, in partnership with the Health Alliance for Violence Intervention, is currently leading a nationwide HRI data collection and management effort that we hope will ultimately result in the development of an RAI for gun violence.

Figure 8. *Data Visualization Tracking Client Characteristics and Services Delivered*



While data visualizations like the one above are most readily supported by electronic case management systems, Excel or Google spreadsheets can also be used to track and analyze client characteristics.

If a community has engaged in a GVPA, it is especially valuable to compare client characteristics to those of individuals involved in shootings analyzed in the Gun Violence Problem Analysis. Figure 10 provides an example of a comparison of individuals involved in fatal and nonfatal shootings to those identified for CVI outreach and engagement.

Table 4. *Example of Analysis Comparing Individuals Included in GVPA to Individuals Receiving CVI Outreach*[19]

Victims & Suspects of Citywide Fatal & Nonfatal Shootings 2017-2020 (n=348)[20]		
Characteristic	N	Percent
Sex		
Male	317	91.1%
Female	30	8.6%
Non-Binary	1	0.3%
Race		
Black	174	50.0%
Hispanic	113	32.5%
White	18	5.2%
Pacific Islander	11	3.2%
Other	32	9.2%
Age Category		
17 & under	13	3.8%
18 - 24	141	40.9%
25 - 34	110	31.9%
35 - 44	47	13.6%
45 - 54	23	6.7%
55 & over	11	3.2%
Known Group Association	148	42.5%

Recipients of Direct Communications, Focus Neighborhood 2022-2023 (n=232)		
Characteristic	N	Percent
Sex		
Male	222	95.7%
Female	10	4.3%
Non-Binary	0	0.0%
Race		
Black	207	89.2%
Hispanic	15	6.5%
White	1	0.4%
Pacific Islander	8	3.4%
Other	1	0.4%
Age Category		
17 & under	55	23.7%
18 - 24	83	35.8%
25 - 34	70	30.2%
35 - 44	12	5.2%
45 - 54	8	3.4%
55 & over	1	0.4%
Known Group Association	214	92.2%

An example of integrating identification of VHRI into service delivery:

In the City of Indianapolis, the Indianapolis Metropolitan Police Department (IMPD) holds a weekly shooting review to discuss every homicide that occurred over the previous seven days, as well as nonfatal shootings and other shots fired incidents that have a likelihood of retaliation. Attendees at the meeting include IMPD personnel, probation and parole officers, representatives from the Office of Public Health and Safety (OPHS), and occasionally federal agencies. Following the shooting review, OPHS holds a coordination meeting with CVI program managers and two HVIPs. At the coordination meeting, information is provided about recent incidents and participants dive deeper into conflicts, incidents, groups, and individuals to determine referrals to CVI workers. CVI program managers review the same information with frontline outreach workers and violence interrupters and give assignments for staff to pursue each individual discussed for enrollment in the Indy Peace Fellowship.

19 Barao, L., Braga, A., & Douglas, S. (2024). San Francisco's Violence Reduction Initiative Assessment: Interim Report. Crime and Justice Policy Lab, University of Pennsylvania. https://www.bscc.ca.gov/wp-content/uploads/2025/01/SF-VRI-Evaluation-Dr.-Braga-2024.pdf
20 Includes victims and suspects of fatal shootings 1/1/17 – 6/30/20 and victims and suspects of nonfatal shootings 1/1/19-12/31/19.

Conclusion

Efforts to reduce community gun violence require identifying those at the highest risk of both perpetration and victimization in order to focus interventions effectively. The concept of violence as a public health issue is now widely supported. Translating the public health approach to violence into targeted and effective interventions requires accurate identification of the groups and individuals who are most at risk for involvement in shootings.

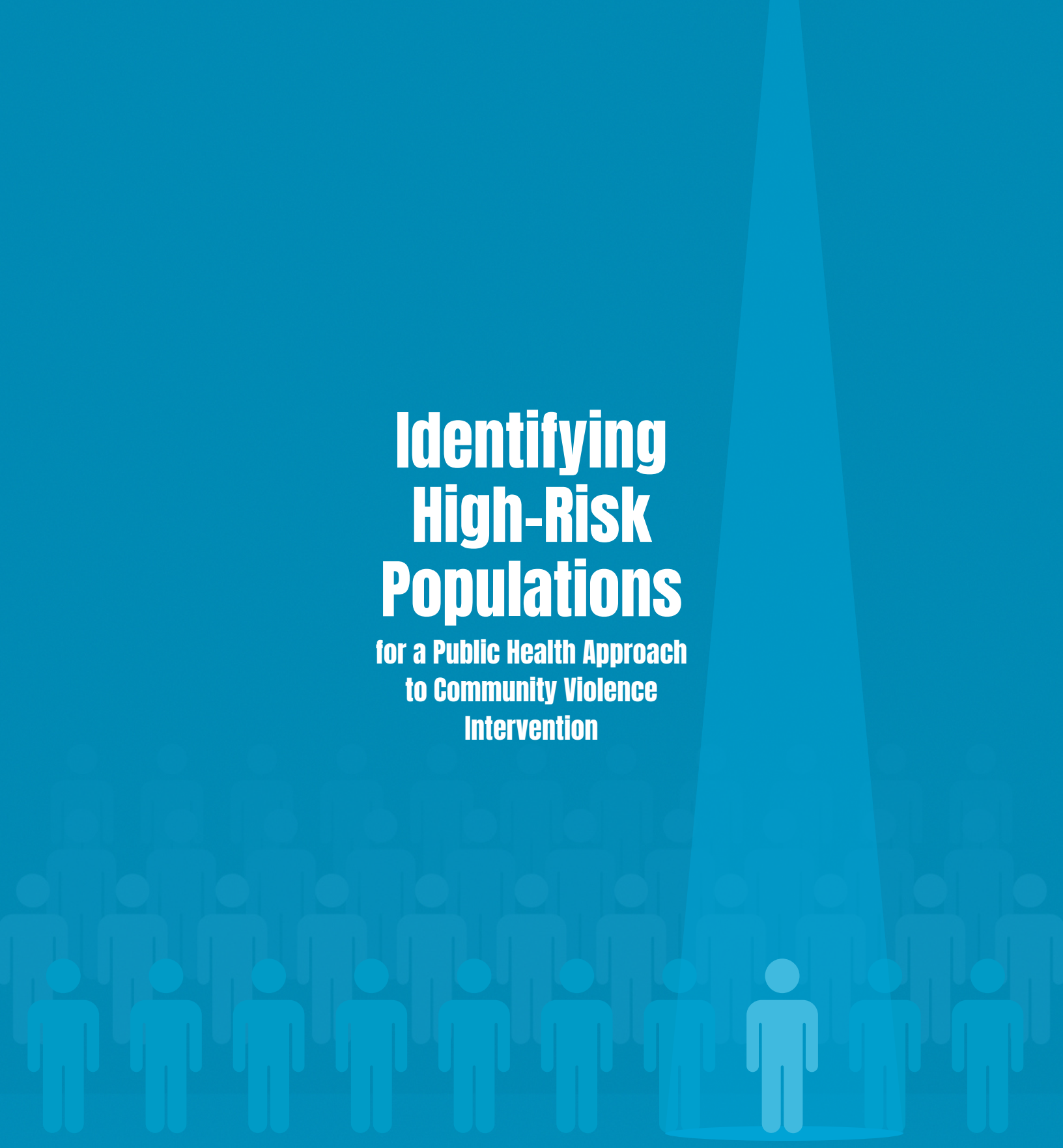
Research has established that community violence is highly concentrated both in terms of where the violence takes place and who is involved. Drawing from the retrospective and real-time identification approaches outlined in this brief, CVI stakeholders—including program managers, practitioners, researchers, and law enforcement partners—can work collaboratively to pinpoint where violence is taking place, identify who is involved, and develop an understanding of conflict dynamics.

Research has also illuminated consistent risk factors for gun violence, such as involvement in high-risk social networks, prior victimizations, prior contact with the criminal justice system, and connection to recent shooting incidents. Though there is a dearth of standardized assessment tools for identifying people at high risk of gun violence involvement, CVI practitioners can integrate questions related to known risk factors into their intake, screening, and eligibility processes. Doing so will help providers to better identify people eligible for their services and ensure that these individuals receive appropriate support and intervention.

By applying the collaborative and evidence-based practices outlined in this brief, jurisdictions working to reduce community gun violence can more effectively identify and engage those at the very highest risk of violence, ultimately saving lives.

Identifying High-Risk Populations

for a Public Health Approach to Community Violence Intervention



Crime and Justice Policy Lab
University of Pennsylvania

NICJR
National Institute for Criminal Justice Reform