Research Report

CENTER for VICTIM RESEARCH

MASS VIOLENCE AND TERRORISM VICTIMIZATION:

What We Know from Research- and Practice-Based Evidence

September 2020

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EXECUTIVE SUMMARY

Because of their inherently large scale, mass violence and terrorism (MVT) events pose distinctive challenges. These incidents can overwhelm local communities' response and victim assistance efforts and require a coordinated, cross-sector approach. Victims often need assistance recovering from the numerous harms they might experience as a result of the MVT event, including traumatic injuries; emotions such as shock, anxiety, anger, resentment, fear, and numbness; psychological disorders such as posttraumatic stress disorder (PTSD), depression, and prolonged grief; as well as unexpected financial costs such as funeral, burial, and travel expenses. Despite a growing body of research on this subject, many questions remain about how best to respond to MVT events and meet victim needs. This report by the Center for Victim Research summarizes existing evidence from research and practice and identifies where the field needs to grow to improve our nation's response to mass violence and terrorism victims.

Fast Facts

- Mass violence and terrorism victims include injured victims, families of deceased victims, representatives of minor or incapacitated victims, and individuals who were "present but not injured," as well as first and secondary responders.
- There is no broadly agreed-upon definition of "mass violence," which can affect how prevalence of victimization is measured and makes studies difficult to compare. Depending on the definition, estimates range from three to over 300 mass violence incidents in the U.S. each year and from approximately 30 to 1,800 victims injured or killed. These estimates largely focus on mass shootings and do not include victims who experience non-physical harms.
- Few clear factors place someone at risk of becoming a victim of mass violence and terrorism. Often MVT victims are unfortunately simply in the wrong place at the wrong time. Instead, much of the evidence around risk and protective factors for MVT focuses on institutional, structural, and broader societal-level factors.
- In addition to potential traumatic injuries, MVT victims face a range of psychological harms including posttraumatic stress disorder, depression, and prolonged grief.
- Psychological First Aid, which aims to prevent long-term psychological harm by reducing victims' distress, addressing their immediate needs, and building their coping skills, is among the most commonly recommended early interventions after an MVT incident.
- Trauma-informed cognitive behavioral and exposure therapies have been shown to help victims with psychological disorders, such as PTSD and depression, stemming from MVT events.
- The large scale of MVT events requires a coordinated, cross-sector response and advance planning to develop response and recovery protocols. However, few of these protocols have been evaluated for effectiveness.
- The field needs additional evidence about the most effective approaches to MVT response that can also be adapted to differing MVT event characteristics and community response and victim services capacity. In addition, more research is needed about the prevalence of MVT victimization, harms experienced by the larger communities where MVT events occur, and harms experienced by marginalized communities.

These findings point to an undeniable need for researchers, policymakers, and practitioners to focus their efforts on addressing the needs of individual MVT victims, while also developing community response and recovery protocols that are both effective and adaptable to community circumstances. As the field continues to develop, advancing the knowledge base on both of these topics will be key to improving response and supporting long-term recovery for victims and communities.

CENTER FOR VICTIM RESEARCH

The Center for Victim Research (CVR) is a national resource center funded by the Office for Victims of Crime (OVC) with the vision of routine collaboration between victim service providers and researchers to improve practice through the effective use of research and data. CVR's mission is to serve as a one-stop resource for service providers and researchers to connect and share knowledge to increase: 1) access to victim research and data, and 2) the utility of research and data collection to crime victim services nationwide. CVR is a collaborative partnership of researchers and practitioners from three organizations: the Justice Research and Statistics Association, the National Center for Victims of Crime, and the Urban Institute.

CVR's Evidence Syntheses

The purpose of CVR's syntheses of knowledge is to assess the *state of the field* in crime victimization and victim response to help researchers, service providers, and policymakers understand and prioritize what the field needs to improve victim services nationwide. To develop its syntheses, CVR staff focus on addressing a core set of questions, as follows:

1. Prevalence and detection of victims—How big is each crime victimization problem and how can we identify all crime victims who need help?
2. Risk and protective factors—What puts people at risk of each crime victimization and what, if anything, can protect against victimization experiences?
3. Harms and consequences—What harms and negative consequences of the crime experience do co-victims have to navigate?
4. Preventions, interventions, and victim services—How can we help victims recover and mitigate the negative consequences of crime experiences? Are there ways to help individuals become resilient to victimization in the first place?
5. Policy, practice, and research implications—With what we learn through these syntheses about reaching and serving crime survivors, how can victim researchers, policymakers, and service providers move the field forward to improve the response to crime victimization?

CVR developed its evidence synthesis framework following the Centers for Disease Control and Prevention's (CDC) evidence project, which recognizes the importance of integrating knowledge from the best available *research* and experiential *practice*, along with contextual evidence regarding what we know for each victimization topic. The primary focus of CVR's evidence syntheses has been reviewing materials available in the United States from the year 2000 to present, including journal articles, reports, fact sheets, briefs, and videos found in research databases and on topic-relevant organizations' websites. When appropriate, CVR researchers additionally included seminal pieces published *prior* to 2000. Each synthesis summarizes knowledge on the: 1) prevalence and detection of victims, 2) risk and protective factors, 3) harms and consequences, 4) preventions, interventions, and services, and 5) policy, practice, and research implications. More details on the methods CVR followed in building an evidence base for homicide co-victimization and other victimization areas are provided on CVR's website.

For this synthesis on mass violence and terrorism, CVR researchers initially identified over 500 potential source documents through database searches and websites of leading victimization organizations. Ultimately, 147 research sources and 98 practice sources met CVR's inclusion criteria and were reviewed for this synthesis (see References for details).

DEFINITION OF MASS VIOLENCE AND TERRORISM

For the purpose of this review, CVR defined mass violence and terrorism as intentional, high-profile, criminal acts of violence that victimize four or more people on U.S. soil and require the marshalling of extra-municipal resources.[1] The act may have terroristic intent but is not defined by it.[2] Our definition of victims of mass violence and terrorism includes not only those who experience physical harms, but also those who may experience psychological or other non-physical harms. It is well documented that incidents of mass violence and terrorism can (and are meant to) impact people with no personal connections to the event. Thus, interventions for first responders and service providers as secondary victims will be included in addition to those for immediate victims.

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Scope of Review

CVR researchers examined research and practice evidence on mass violence and terrorism victimization according to the previous definition; however, for this review, researchers did not specifically search for or intentionally synthesize evidence that addresses victimization by international terrorism, gang violence, domestic violence, bioterrorism, ecoterrorism, cyberterrorism, or natural disasters, though components of this review incorporate references to and may be applicable to these crimes in limited various ways. Some of these victimization experiences are to be covered in future CVR reviews, and some do not require extra municipal supports in response. For example, a public gang-related shooting that kills three or more people is an act of mass violence but may not require extra resources. Also of note, CVR previously synthesized information on homicide co-victimization evidence, or that regarding the experiences of people who lost a loved one to homicide (see Bastomski & Duane, 2019).

The way mass violence and terrorism has been defined in the existing evidence base has been influenced by centuries of historical and structural racism in the United States.[3] Racial stereotypes of low-income, Black communities as "violent" perpetuated the belief that mass violence in these communities was "expected" and, as such, it has been largely ignored (Leonard, 2017). For example, as described in this report, efforts to document mass violence often exclude events related to gangs, drugs, or other criminal activity, which largely disregards mass casualty events in urban neighborhoods (Lafraniere et al., 2016). Similarly, the media tends to overemphasize high-profile mass shootings in "unexpected" locations, ignoring the gun violence that harms many more people each year, particularly young Black men in under-resourced communities (Beard et al., 2019; Lafraniere et al., 2016; Marvel et al., 2018). Further, the way blame is ascribed in media reports of mass and school shootings often reflects racist characterizations: white perpetrators are more likely to be described as mentally ill, whereas Black perpetrators are more often portrayed as having violent tendencies (DeLeon, 2012; Duxbury et al., 2018). The operationalization of "terroristic intent" in media coverage and investigations of mass violence events can further reflect racist characterizations and lead to negative consequences for marginalized groups (e.g., Arab-Americans victimized by hate crimes following the 9/11 attacks; the idea that "all terrorists are Muslim" still being pervasive in the United States) (Corbin 2017; Disha et al., 2011). In this report, we document how mass violence can be psychologically damaging for entire communities, even for individuals not directly affected by it (Lowe & Galea, 2016); this is particularly true for Black communities facing mass trauma from not only gun violence but also the threat of police brutality, as well as other marginalized communities who may be targeted based on their association with a perpetrator's religious or ethnic group. Contemporary research on mass violence and terrorism should remain conscious of how structural racism and widespread prejudice may influence the prevention, response, and coverage of mass violence events.

1 This definition largely aligns with that used by OVC. However, OVC's definition (and the definition used by its Antiterrorism and Emergency Assistance Program), focuses solely on the burden faced by jurisdictions in responding to these incidents and not on a certain number of victims.

2 As our definition focused more on the scale of the event rather than the intent of the perpetrator, we did not specifically focus on evidence speaking to hate crimes or hate-motivated attacks (e.g., attacks linked to white nationalist sentiment). This pattern is deserving of significant attention and further research but is beyond the scope of this synthesis review.

3 Learn more about structural racism here: https://www.urban.org/features/structural-racism-america.

PREVALENCE AND DETECTION OF MASS VIOLENCE AND TERRORISM VICTIMS

Key Takeaways

- There is no broadly agreed-upon definition of "mass violence" or a "mass shooting," which affects how the prevalence of mass violence and terrorism (MVT) victimization is measured and makes relevant studies difficult to identify and compare.
- Most studies examining MVT define a victim as someone who was physically injured or killed in the attack, but practitioners often use a broader definition that includes individuals who were present at the event but were not injured or killed, family members of deceased victims, and people who suffer psychological or other non-physical harms.
- Most studies focus on measuring the number of MVT events, rather than the prevalence of MVT victimization.
- MVT events are relatively rare compared to other types of homicides and violent crimes.
- Mass shootings are the most common and most closely tracked type of MVT, and they continue to increase in number and scope.
- Tracking and connecting with MVT victims after an event can be very difficult, especially if the attack is in a public forum and involves victims from multiple geographic regions.

National Estimates of Mass Violence and Terrorism Victimization

There is no broadly agreed-upon definition of "mass violence" or a "mass shooting," which can affect how prevalence of victimization is measured and makes studies difficult to compare. Furthermore, the studies that do measure the extent of MVT victimization typically define a victim as someone who has been physically injured or killed in the attack, which results in a systematic undercounting of the number of people who experience harm from these incidents, whether the harm is direct or a result of mass violence in the community.

Because all of the evidence reviewed for this synthesis was published before the COVID-19 pandemic began, it does not address how the pandemic might have affected mass violence and terrorism prevalence and response. It is an open question whether the closures of schools, workplaces, and large entertainment venues associated with the pandemic reduced the number of mass violence events that occurred in public places. The pandemic may also raise questions for jurisdictions and service providers about how to adapt mass violence response protocols when mobility, face-to-face interaction, and resources are limited. For example, the widespread proliferation during the pandemic of practices such as virtual mental health treatment could help increase MVT response capacity for rural communities and other communities with limited resources.

Because of these definitional issues, the true extent of MVT victimization in the US is unknown. Table 1 describes several common data sources and definitions as well as the estimated annual number of mass violence events and victims for each definition. Mass shootings are the most common and most closely tracked type of MVT event. Most definitions require at least four victims, although the type of harm required to be considered a victim varies. Several definitions use only fatalities in their victim definition, while others include physical injuries. The underlying data sources used to compile the prevalence statistics also vary; more information about each source is available in Appendix A. These definitional differences result in large discrepancies in prevalence estimates, from approximately three to over 300 mass violence events per year on average. This estimate, along with the estimates for number of victims per incident, corresponds to between approximately 30 and 1,800 victims per year (see Table 1).

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As the most commonly studied type of mass violence event, mass shootings have the most information available

about historical trends. Several studies have found that the incidence of mass public shootings and school shootings has increased over the last few decades (Ali & North, 2016; Duwe, 2020; Langman, 2016). Based on data from the FBI's Supplementary Homicide Reports, there were an average of 5.3 mass public shooting incidents per year between 2009 and 2018, compared with 4.3 per year between 1999 and 2008 (Duwe, 2020). However, other research found no increase in the rate of mass killings in general or specific types of mass killings (e.g., mass shootings) over a shorter ten-year timespan between 2006 and 2016 (King & Jacobson, 2017).

TABLE 1. COMPARISON OF MASS VIOLENCE AND TERRORISM DEFINITIONS AND PREVALENCE ESTIMATES

Source Name	Federal Bureau of Investigation Supplementary Homicide Reports	Congressional Research Service	Mother Jones	Everytown for Gun Safety	Gun Violence Archive	Global Terrorism Database
MVT Type Measured	Mass shooting	Mass shooting	Mass shooting	Mass shooting	Mass shooting	Terrorism
Number of Victims (excluding perpetrator)	Four or more	Four or more	Three or more	Four or more	Four or more	No minimum
Type of Harm	Fatalities	Fatalities	Fatalities	Fatalities	Fatalities or injuries	Threatened or actual physical injury
Location	Public	Public	Public	Anywhere	Anywhere	Anywhere
Other Criteria	Occurs in the absence of other criminal activity	Victims selected indiscriminately	Excludes crimes of armed robbery, gang violence, or domestic violence in a home			
Prevalence Estimate	158 mass shootings from 1976-2018	78 mass shootings from 1983-2012	117 mass shootings from 1982-2019	223 mass shootings from 2009-2019	2,087 mass shootings from 2014-2019	2,836 terrorist attacks in the US from 1970 and 2017
Average Incidents per Year	3.7	2.8	3.3	20.3	347.8	60.3
Average Victims Killed per Incident	7.2	7.0	8.1	5.7	1.1	1.3
Average Victims Injured per Incident	10.7	6.1	12.3	4.2	4.2	--
Source	Duwe, 2020	Bjelopera et al., 2013	Follman et al., 2020	Everytown for Gun Safety Support Fund, 2019	Gun Violence Archive, 2020	Global Terrorism Database, 2020

The number of victims shot or killed in mass public shootings has also increased over time. An average of 171.6 victims were shot each year between 2009 and 2018, compared to 41.8 victims shot in the ten years prior (Duwe, 2020). An average of 48.3 of those victims died from their injuries each year from 2009 to 2018, compared to 26.2 victims who died each year from 1999 to 2008 (Duwe, 2020). Additionally, over half of "high-fatality" mass shootings (i.e., at least eight fatalities) between 1966 and 2019 occurred in the last decade (Lankford & Silver, 2020). However, a study using a different data source found no increase in the fatality rate in the decades after 2000 compared to before 2000 (Ali & North, 2016). Although specific estimates of the number of victims with physical injuries from other types of MVT events are lacking, the average number of victims killed or injured varies by the type of attack — the lowest average number of victims resulting from stabbing incidents, followed by shootings, blasts, and intentional vehicle attacks (Goolsby et al., 2019).

Victim Detection

The definition of an MVT victim may vary depending on the agency or jurisdiction that is responding to an MVT event. Although most research on the extent of MVT victimization counts only those who were injured or killed, the Federal Bureau of Investigation (FBI) has been applying the federal definition of a crime victim under the Victims' Rights and Restitution Act in a broader way. The FBI definition includes injured victims, families of deceased victims, representatives of minor or incapacitated victims, and individuals who were "present but not injured." In addition, the FBI also considers individuals or businesses who experience financial harm due to the MVT event (whether from physical damage or inability to operate due to being within the perimeter of a crime scene) to be victim entities.[4]

Most states define victims in a similar way when considering who is eligible for compensation after an MVT incident (National Mass Violence Victimization Resource Center [NMVVRC], 2018a). However, MVT victims who were present but not injured have not always been recognized by state and local authorities for purposes of accessing information, crime victim compensation, counseling, and other services. Some states also consider first responders to be victims (NMVVRC, 2018a), as well as individuals who live in the larger communities in which the event occurred (Office of the Assistant Secretary for Preparedness and Response [ASPR] Office for At Risk Individuals, Behavioral Health, and Human Services Coordination, 2008).

Victim detection and tracking after large scale events can be difficult in both the short- and long-term. Victims at both extremes of the physical injury spectrum (i.e., victims without injuries or victims of attacks using high-impact explosives/weapons that result in severe body fragmentation or complete destruction) can be particularly challenging to identify, highlighting the need for the responsible law enforcement agency to have a process for identifying victims in the short term and developing a comprehensive victim list. For example, the FBI's Victim Services Response Team often includes a sub-team of analysts and agents that collect and verify information on potential victims via media releases and special websites (K. Turman, personal communication, July 21, 2020). Additionally, having informational materials in various forms and languages can help connect victims to services and supportive organizations. In order to determine who had been a victim of 9/11, the World Trade Center Health Program used a mix of fliers and postcards to alert victims and responders that they may be entitled to benefits and services (WTC Health Program, 2017).

Tracking victims long-term can also be difficult, as people often move, and agencies can lose contact with victims. It may be important to track victims over time to address ongoing physical or mental health concerns or to provide updates regarding legal changes in the case, financial compensation, mental health resources, or development of resiliency centers or other services specific to the MVT incident.

4 OVC considers only individuals to be victims, not businesses. OVC's Antiterrorism and Emergency Assistance Program (AEAP) does not fund business losses or other related losses (see page 22 for more about the AEAP)

RISK FACTORS AND PROTECTIVE FACTORS FOR MASS VIOLENCE AND TERRORISM VICTIMIZATION

Key Takeaways

- Few clear factors place someone. Often MVT victims are unfortunately simply in the wrong place at the wrong time.
- Counterterrorism tactics and risk assessments to predict potential MVT events aim to protect the public generally from MVT but do not focus on specific victims; rather they focus on upstream prevention and profiling of potential perpetrators.
- MVT events can happen at any place and time, but some locations appear more vulnerable, such as large event venues, transportation centers, and shopping centers.
- Certain structural factors of physical locations can mitigate or exacerbate the impact of an MVT event. For example, the layout of a building can affect how susceptible it is to a mass shooting.
- Broader societal characteristics, such as high income inequality and more permissive gun laws, have also been associated with higher rates of mass shootings.

Individual-Level Factors

None of the evidence CVR's team reviewed examined individual-level risk or protective factors for MVT victimization experiences.[3] Rather, most documents on individual risk focused on perpetrator threat assessment, which includes collecting information about facts that bring the potential perpetrator to the attention of authorities, the subject of interest, attack-related behaviors, possible motives, and potential targets (Bjelopera et al., 2013). The only potential factor that may put people at a higher risk of experiencing an act of MVT in the evidence we reviewed was attending a mass gathering (DHS, n.d.). However, because of their role, members of national victim response teams are often called to respond to various events, exposing them to re-traumatization. No evidence CVR reviewed focused on individual-level factors protective against MVT victimization.

Institutional- and Societal-Level Factors

Much of the evidence around risk factors for MVT focuses on institutional or structural factors. Counterterrorism and prevention-oriented organizations consider "soft targets"—sites that are inherently open to the general public, such as transportation centers (e.g., train or bus terminals), parks, restaurants, shopping centers, and special event venues—to be more vulnerable to MVT events (DHS et al., 2013). Targets that are more noticeable or visible, more populous, close to the attackers, and less protected by security or logistic factors are most at risk of a public mass violence attack (Freilich et al., 2020). To protect against MVT victimization, vulnerabilities can be somewhat reduced by building design: creating a controlled perimeter, hardening of the building exterior and interior, and creating controlled access to the building (DHS et al., 2013).

Most (61.4%) mass public shootings between 1976 and 2018 occurred in public places other than a school or workplace, 27.2% occurred in a workplace, and 11.4% occurred in a school (Duwe, 2020). Although the most common locations for mass public shootings are businesses or other public locations, followed by high schools and colleges, public entertainment venues where many people congregate tend to have the largest number of total victims (Goolsby et al., 2019). Multi-victim school shootings (though they may have fewer than four victims) are more likely to occur in high schools and colleges than in elementary and middle schools. Between 1966 and 2015, two-thirds (67.6%) of multi-victim school shootings occurred in high schools and colleges (Langman, 2016).

Other institutions may be uniquely vulnerable to MVT events. For example, houses of worship often lack

3 However, there is evidence regarding what individual-level factors make people more or less likely to experience psychological harms such as PTSD from MVT events. This evidence is discussed in the Harms and Consequences section on page 13.

emergency response and recovery plans (DHS et al., 2013) and may face additional challenges in the aftermath of an MVT event. Health care facilities are also vulnerable because they are repositories for critical research (e.g., vaccine research, stem cell research), sensitive information, radioactive materials, and other dangerous pharmaceuticals and narcotics. Research conducted at these facilities may attract the interest of groups or individuals with opposing ideological beliefs (DHHS et al., 2014).

Some recent research evidence also suggests that broader, societal-level characteristics are related to MVT events, specifically to mass shootings. For example, higher levels of income and higher levels of income inequality predict higher rates of mass shootings, but the combined effects of these two factors are also significant. In other words, counties with both high levels of income and income inequality are the most susceptible to mass shootings (Kwon & Cabrera, 2018). Additionally, counties with increasing levels of income inequality are more likely to experience mass shootings (Kwon & Cabrera, 2019). The researchers suggest that income inequality is associated with stress and anxiety, which may in turn lead to more aggression and potential for mass shootings.

More permissive gun laws and higher levels of gun ownership have also been associated with higher rates of mass shootings (Fridel, 2020; Reeping et al., 2019). Studies of the effects of the Federal Assault Weapons Ban of 1994 find that mass shooting fatalities were less likely to occur during the period in which the ban was active, from 1994 to 2004 (DiMaggio et al. 2019, Lemieux et al., 2015).

Finally, although the conventional wisdom sometimes suggests that MVT events spur similar "copycat" attacks, mass shootings are no more or less likely to occur based on how much time has passed since the last mass shooting (King & Jacobson, 2017).

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On June 17, 2015, nine worshippers were murdered in a racially-motivated mass shooting at the Emanuel African Methodist Episcopal Church in Charleston, South Carolina.

HARMS AND CONSEQUENCES OF MVT VICTIMIZATION

Key Takeaways

- The most immediate harms following an act of mass violence and terrorism are bodily injury and mental distress. Most MVT harm research focuses on the effects of gunshot wounds and trauma-related mental health concerns, including post-traumatic stress disorder (PTSD).
- In addition to physical and mental injuries, MVT victimization can also have financial consequences. MVT survivors often become responsible for hospital bills they were not prepared for, while communities and city governments may face unexpected reconstruction costs or additional demands on law enforcement budgets.
- Harms generated by MVT victimization are not limited to victims immediately involved in an attack. MVT events also affect first responders, family members of those involved, and residents of the community spaces affected by the event. Further, the large scale of MVT events and the associated media attention can distress individuals far beyond the immediate community, even nationwide.
- The presence of malicious intent, potentially random targeting, and the large, public scale of MVT events can affect how MVT victims and co-victims heal and grieve. Grief can look different for survivors of MVT events than for other victimization types.

Types of Harms

MVT victimization results in harm that may occur both during or immediately after the event and for months or even years after an MVT event. Primary victims, secondary victims, other family members, community members, first responders, and media viewers can all be negatively affected by a single MVT incident. Research and practice evidence regarding MVT consequences can largely be split into harms that are 1) physical, 2) psychological, 3) financial, and 4) communal, with some additional MVT-specific harms.

Physical Harms

Traumatic Injuries

Bodily harm is the most immediate consequence of being victimized in an MVT event. MVT events in the United States typically involve firearms and explosives, and injuries from these events can largely be grouped into three categories: blast, blunt, and penetrating trauma (Powers et al., 2019). Injury patterns largely reflect the nature of the MVT event; in a mass shooting, gunshot wounds and hemorrhages are a major concern, while limb trauma and shrapnel wounds are more common when explosives are used.

The prevalence and potential of wounds to the chest and torso make MVT victimization particularly dangerous. A review of twelve mass shootings found that 58% of victims were shot in the head or chest, and also noted that no fatalities were related to the loss of limbs (Smith et al., 2016).

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Other Physical Harms

Major physical injuries, such as loss of limbs or mobility, are a visible result of MVT victimization, but more hidden physical effects such as headaches, digestive issues, body aches, and other pains can also follow MVT victimization. Following an MVT event, victims may experience sleep difficulties, poor concentration, irritability, a feeling of being on the lookout for danger, and general nervousness

(National Child Traumatic Stress Network [NCTSN], n.d.; OVC, 2001). Hypervigilance and fear following MVT victimization contributes significantly to these symptoms.

MVT victimization may also be linked to chronic illnesses and long-term care needs, although more research is needed in this area. Research increasingly demonstrates a link between exposure to MVT trauma and seemingly unrelated health care needs (immediately following an MVT event or for years afterwards), including cardiovascular issues, musculoskeletal issues, and neurological illnesses (ASPR Office for at Risk Individuals, Behavioral Health, and Human Services Coordination, 2008).

Psychological Harms

Injuries and related physical illnesses are a major consequence of MVT victimization, but the psychological harms associated with MVT events can be equally significant. Shootings and other mass violence and terrorism events are extremely frightening and stressful. Memories of these events, trauma memories, are stored in a different part of the brain than any other type of memory, and people must completely re-define themselves in the aftermath of a traumatic event (OVC, 2015). Immediately after an MVT event, victims often experience emotions such as shock, anxiety, anger, resentment, fear, numbness, and a feeling of worry about the safety of self and others (OVC, 2001). These emotions, recurrent thoughts or images of the traumatic experience, and the feeling that the violent event will happen again contribute to the significant psychological harms MVT victims experience.

Shootings and other mass violence and terrorism events are extremely frightening and stressful. Memories of these events, trauma memories, are stored in a different part of the brain than any other type of memory, and people must completely re-define themselves in the aftermath of a traumatic event (OVC, 2015).

According to the National Child Traumatic Stress Network (n.d.) and OVC (2001), common psychological reactions in victim-survivors of all ages following an MVT event include:

- General emotional distress;
- Increased activity or a decrease in concentration;
- Increased irritability or anger, sadness, withdrawal;
- Changes in attitudes or expectations about the future;
- Changes in sleep and eating patterns and a lack of interest in usual activities;
- Hypervigilance about imagined potential threats;
- Increased sensitivity to sound;
- Avoidance;
- Grief and complicated (prolonged) grief; and
- Major depression and anxiety disorders, including posttraumatic stress disorder (PTSD).

Both adult and youth survivors of mass violence and terrorism events may turn to avoiding people, places, or things that are reminders of the event, or begin feeling emotionally numb, detached, or estranged from others (NCTSN, n.d.). These avoidance and withdrawal reactions contribute to maladaptive coping behaviors, which in turn increase the harms of MVT victimization.

These emotional responses and related psychological harms can change over time, and most victims will recover from MVT-related psychological symptoms on their own. Estimates from individual studies vary, but on average, about 30% of victims will develop clinically significant psychiatric disorders such as PTSD, depression, or a substance use disorder after experiencing mass casualty events (Friedman, 2005). Research has found multiple trajectories of responses to trauma resulting from mass violence. For example, in a study of female college students after a campus mass shooting, most victims (60%) experienced a minimal increase in post-traumatic stress symptoms immediately following an MVT event that decreased gradually over time, an additional 30% experienced a large increase in symptoms followed

by a sharp decrease, 8% experienced a moderate increase in symptoms followed by a moderate decrease, and 2% experienced chronic dysfunction (Orcutt et al., 2014).

Post-Traumatic Stress Disorder (PTSD)

Multiple studies point to PTSD or PTSD-related symptoms arising in victims of MVT events as one of the most prominent long-term psychological harms of MVT victimization. Estimates vary depending on the event but generally range between 10% and 25%. For example, about 10% of New York City public school students were identified to have probable PTSD six months after the 9/11 terror attacks (Hoven et al., 2005), while other studies found 12-23% of students met the criteria for a probable PTSD diagnosis following campus mass shootings (Littleton et al., 2011; Miron et al., 2014).

Not everyone has the same likelihood of developing PTSD after experiencing an MVT event, and much of the literature surrounding MVT victimization focuses on examining the factors that make someone more or less likely to develop chronic PTSD symptoms. Risk factors include the extent of prior exposure to trauma (Miron et al., 2014), the degree of exposure to the traumatic event (Montgomerie et al., 2015; Wilson, 2014), traumatic loss (Chemtob, 2011), and pre-existing emotion regulation strategies such as rumination and catastrophizing (Jenness et al., 2016). Conversely, social supports and coping self-efficacy act as protective factors (Smith et al., 2017).

In addition to characteristics about the individual, research has found that characteristics about the MVT event itself can impact whether people develop significant PTSD. Specifically, people are more likely to develop PTSD following an MVT event if they were directly involved in the event, closer in proximity, or have close relationships with people involved (Galea et al., 2005).

For those who do develop it, PTSD can be a major consequence of MVT victimization. Post-violent stressors and adversities, also known as ongoing stresses, can deplete coping and emotional resources and interfere with recovery from PTSD. New or additional traumatic experiences and losses exacerbate distress. Media exposure can also affect symptoms of PTSD—being approached by reporters, repeated exposure to the event, and consuming incorrect information as investigations develop can hurt a survivor's ability to navigate their post-traumatic stress (NCTSN, 2014c).

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Complicated Grief

Many MVT victims may also experience complicated or prolonged grief (also termed prolonged grief disorder or persistent complex bereavement disorder) if they lost a loved one during the event, which can negatively affect recovery for them and their families (also see Bastomski & Duane, 2019). Complicated or prolonged grief symptoms include yearning for the loved one, difficulty accepting the death, and a sense of loss that impacts thoughts about self or the future, which can last for months after the loss (Spuij et al., 2012). Individuals often find grieving more difficult if the loved one was lost in a traumatic way; their mind stays on circumstances of death, how the loss could have been prevented, and what their loved ones' last moments were like (NCTSN, n.d.). According to a study surveying 704 adults who experienced loss during the 9/11 attacks, 43% of the group screened positive for "complicated grief" even three years after the attacks (Neria, 2007). Similarly, qualitative studies of the long-term effects of 9/11 found that persistent grief was consistently brought up by people who had lost a loved one, and that the public nature of the loss created additional barriers to the grieving process (Bauwens, 2017). Individuals also described negative changes to relationships with family and friends as a result of the ongoing grief, including a loss of support and growing tired of discussing it over time. These themes represent long-term difficulties family members affected by MVT events may experience, though more research is needed in this area.

Financial Harms

MVT victimization can be linked to a number of financial harms, including hospital costs, funeral costs, legal fees, structural damage, strain on municipal budgets, lowered workforce participation, and costs associated with mental health services. Paying for hospital bills and funeral costs can put additional strain on MVT survivors and make recovery more difficult. Families whose loved ones did not survive an MVT event may experience complications to their grief and recovery processes as they navigate sudden financial responsibilities in funeral arrangements and settling affairs. Further, there may be emergency expenses that MVT co-victims and family members face related to sudden travel or caretaking responsibilities after a loved one is harmed by MVT victimization. Victims and family members may also incur costs to travel to attend prolonged court proceedings if the perpetrator faces trial, as well as to secure help with other matters, such as insurance payments or employment protections. In addition to drawing on a variety of donation funds that are often coordinated following an MVT event, MVT victims may be able to offset some costs by accessing victim compensation funds.[4]

While there is no systematic data on the costs that damages from MVT events incur on municipal budgets, rebuilding costs and covering overtime needs for first responders may be significant. Business owners may also incur costs from physical damage to their properties, or from lost business when their homes or businesses are not accessible because they are within the perimeter of a crime scene.

Experiencing an MVT event can also lead to reductions or impairments in workforce participation. One 2017 study following the 2013 Boston Marathon bombing and the 2012 Sandy Hook school shooting analyzed daily activity diaries from a random, representative sample of Americans and found a reduction in hours worked after both events (Clark & Stancanelli, 2017). The psychological harms of MVT events can also cause functional impairments for victims in their social and work lives. In a study of adults who sought treatment for mental distress following 9/11, PTSD symptoms were associated with higher levels of social-occupational impairment, which includes number of missed work days, reduced productivity level, and increased conflict with coworkers, among other relational measures (Malta, 2009). There is additional evidence across social disciplines that terrorism significantly impacts local, state, and even national economies, but those studies are beyond the scope of this more limited review.

Communal Harms

Unlike many other victimization types, entire communities may be affected by mass violence and terrorism victimization at the local, state, and national levels. MVT events are public in nature and often happen in an environment significant to the community in which they occur (e.g., public park, shopping mall, school). The scale of MVT events generates community attention, and the recovery following MVT events is not isolated to immediate victims, survivors, and their families. Communal harms of MVT victimization may include collective psychological harms such as loss of sense of safety, collective grieving, and strong public fear.

However, communal harms may also include

- harms to community resources, including the need to provide burial and remembrance for a significant number of casualties,
- damage to buildings,
- disruption from heavy law enforcement involvement,
- strained or overwhelmed medical and mental health resources,
- closed workplaces and schools,
- evacuations, and
- months-long municipal clean-up

(OVC, 2001; American Red Cross, n.d.).

4 See page 21 for more information about victim compensation

Other MVT-Specific Harms

Impact of Media Coverage

Sensational, fast-breaking news can harm families of MVT victims as they learn about an event all at once and try to contact their loved ones. Timely, accurate, accessible, and official information is essential following an MVT event, while inaccurate reporting can contribute to anxieties and grief. Given that details are often initially unknown and tend to emerge as the event unfolds, initial information can be inaccurate or incomplete, which can cause significant stress for people who want to obtain details about what happened. For both children and adults, constant and unpredictable media coverage can increase fears and anxiety. The more time children spend watching coverage of an event, the more likely they are to have a negative reaction. The continuous reporting that often follows large-scale MVT events, whether at the local or national level, means children may be unable to avoid coverage and may not understand the repetition of coverage. This may lead them to think the event is continuing or happening again, limiting their ability to begin healing. Graphic images and stories of chaos are especially upsetting and challenging for children to understand (NCTSN, 2014c; OVC, 2001).

In this digital age, media outlets are often not the only source circulating violent or triggering imagery following an MVT event. Cell phone recordings and even security camera footage may "go viral" or be otherwise repeatedly played online. Social media can also spread unreliable information or even allow strangers to attack MVT victims and their families. Some MVT victims may even have to deal with online "trolls" or "truthers" who deny the event ever occurred. The impact of these additional public and uncontrollable reminders of MVT violence on its survivors, both children and adults, needs further research and inquiry.

First Responder Victimization and Harms

First responders to MVT events include law enforcement officers, emergency medical services (EMS) personnel, paramedics, and firefighters. These groups face their own set of harms, including direct victimization if responding to an event with an active shooter or active explosion. However, first responders' health is more likely to be affected by secondary threats such as environmental hazards, airborne particles, structural collapse, and psychological stress (Thompson, 2014). First responders as individuals are not immune to trauma; MVT events may cause traumatic stress that exceed their ability to cope without support. Studies have found first responders' rates of PTSD following an MVT event ranging from 1.3% to 22.0%, with some initial patterns suggesting that PTSD rates vary depending on the scale of the event and the extent of the first responders' personal connection to it (Wilson, 2015). Mental health clinicians experience similar effects, with secondary traumatic stress symptoms remaining high among clinicians supporting victims of the 9/11 terror attack for up to 30 months after the event itself (Pulido, 2012). This study may indicate that the burden of exposure to multiple victims' semi-unique traumatic experiences (as opposed to the single experience of a family member or other individual) may amplify secondary trauma among clinicians. Furthermore, when the same first responders see multiple events of MVT, they may further experience re-traumatization, given the impact of cumulative trauma on PTSD and other mental health concerns.

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Vulnerabilities for Harms Associated with MVT

Trauma Exposure

Trauma exposure is the degree to which an individual experiences, witnesses, or is confronted with actual or threatened death or serious injury to self or others. Research suggests that the greater the exposure to trauma, the more severe the psychological disturbance; experiencing multiple traumatic events can magnify their harms for an individual. Several studies have found that both degree of exposure to an MVT event and level of prior trauma exposure are significant predictor of developing psychological disorders, particularly PTSD and depression (Brooks et al., 2016; Miron et al., 2014; Orcutt et al., 2014; Shultz et al., 2014; Stein, 2010). Trauma exposure is important to understand both to identify individuals who may be more vulnerable to the harms of MVT victimization and to consider how these events may have cumulative effects on first responders.

Age

Age is a factor in the recovery process following an MVT event. Young kids may not understand MVTs and, as mentioned previously, feel a sense of constant fear or anxiety if they perceive the threat to be continuous. Further, youth and teen reactions to both MVT victimization and MVT events are strongly influenced by how adults around them respond to the event. A 2014 study of 460 families in the Boston area following the Boston Marathon bombing found that the association between child traumatic exposure and child post-traumatic stress was particularly strong among children of caregivers who were highly distressed themselves (Kerns et al., 2014). Medical and clinical professionals should be prepared to recognize the signs and symptoms of adolescent PTSD in young victims of MVT and to face barriers to recovery such as re-exposure to traumatic media content and development of unhealthy coping behaviors (McLaughlin & Kar, 2019).

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In contrast, older adults are more likely to be resilient in the face of life challenges because of a tendency toward positive outlooks, a sense of personal mastery, and the ability to engage in coping with the stressor and finding meaning in the event (American Psychological Association [APA] Task Force on Resilience in Response to Terrorism, n.d.). However, certain events, such as losing a child or grandchild during an MVT event, may affect older adults more severely.

Access to Material and Political Resources

Marginalized communities and regions with fewer municipal resources experience more significant challenges to recovery following an MVT event. For example, indigenous and native communities face unique risks experiencing and responding to MVT events given their lack of readily available emergency infrastructure, barriers to collaborating across law enforcement channels, and delays in allocating response resources to reservation areas (ASPR Office for at Risk Individuals, Behavioral Health, and Human Services Coordination, 2008).

Additionally, MVT events may result in the mass criminalization of a given ethnic group associated with the perpetrator(s); this must be addressed by specialized response strategies (OVC, 2003). This ethnic criminalization can negatively impact healing and recovery for MVT victims, co-victims, and affected community members. Evidence shows that a majority of people who commit acts of mass violence and terrorism, particularly mass shootings, are a majority non-marginalized group (i.e., non-Hispanic white men) (Duwe, 2020), so this phenomenon is particularly nuanced and largely a product of wider political narratives around racial, ethnic, or religious othering.

PREVENTION, INTERVENTIONS, AND VICTIM SERVICES

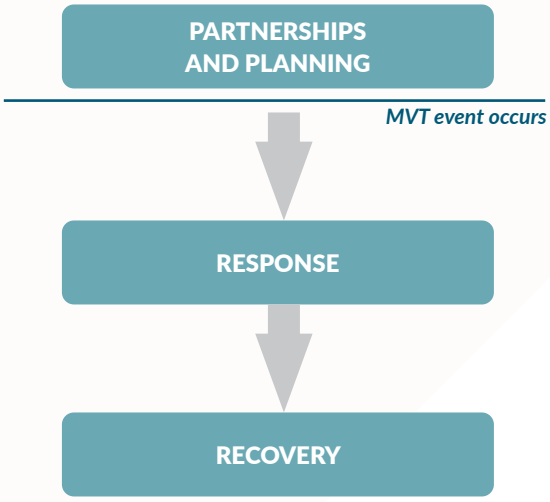
Key Takeaways

- MVT events are uncommon and unpredictable. For this reason, most practice evidence on MVT prevention focuses on threat assessments of potential perpetrators, trainings, and drills; these are not interventions for MVT victims.
- Given the unpredictable nature of MVT, OVC and others have created victim-centered toolkits with suggested protocols for preparedness, response, and recovery to complement existing state and local emergency response plans. However, these protocols have not been evaluated for effectiveness.
- Practitioners focus on post-MVT event preparedness like developing protocols for patient triage and tracking, victim compensation, and family assistance centers, and on establishing lines of communication between different agencies.
- Psychological First Aid, which aims to stabilize victims and address their immediate needs, is among the most commonly recommended early interventions after an MVT incident.
- Trauma-informed cognitive behavioral and exposure therapies have been shown to help victims with psychological disorders, such as PTSD and depression, stemming from MVT events.
- Because MVT events often overwhelm local services, MVT survivors may have a harder time accessing victim services immediately following the event, particularly in rural areas.

Prevention

MVT events are uncommon and unpredictable. For this reason, many practice documents focus on MVT prevention through threat assessment, which is intended to help identify those who are most at risk for perpetrating violence (DHS et al., 2013; DOE et al., 2013; Secret Service National Threat Assessment Center, 2018). As this work does not focus on the victimization experience, it is largely outside the scope of this synthesis. Instead, this report focuses on the three phases presented in OVC's *Helping Victims of Mass Violence and Terrorism Toolkit:* partnerships and planning, response, and recovery (see Figure 1). While this framework is not intended to prevent MVT events, it provides guidance for mitigating the harm caused by MVT events and improving response to victims of these events.

FIGURE 1. OVC MVT PLANNING AND RESPONSE MODEL



Partnerships and Planning

The most common planning and preparedness strategy is development of disaster response and crisis preparedness protocols, which have been implemented to marshal resources, reduce casualties, and protect people against the aftermath of an MVT event (DHHS et al., 2014). Given the scale of disruption, destruction, and collateral damage caused by MVT events, many of the protocols for multisystem response are not MVT-specific but instead repurposed disaster response protocols (ASPR Office for at Risk Individuals, Behavioral Health, and Human Services Coordination, 2008). These protocols are often developed by practitioners with experience responding to one or more MVT events and have not been evaluated in the research literature. Further, they often do not often address how to prepare for the psychological and mental health impact of the MVT, such as training practitioners or preparing the workforce to address symptoms related to MVT events.

Response protocols are key to responding to MVT events, but they need to be developed in advance. In

the short term, service providers, states, and localities should develop protocols for organizations to account for personnel and visitors, facilitate medical assistance, contact family members, coordinate with law enforcement and emergency medical services, create a communications outlet, establish a Family Assistance Center, and coordinate retrieval of belongings (DHHS et al., 2014; DHS, n.d.). In the long term, stakeholders should develop protocols for organizations to ensure continuity of the operations plan, help prepare to reopen the affected facility, offer grief counseling and other mental health services, connect employees to an Employee Assistance Program, and process worker's compensation claims (DHHS et al., 2014; DHS, n.d.).

Response and recovery efforts can be enhanced by establishing additional MVT-specific victim assistance protocols that account for the unique characteristics of MVT events. Collaborating with other communities that have experienced an MVT event and developed response protocols may be helpful in ensuring that MVT-specific aspects are incorporated. These protocols should be integrated into existing local, state, and federal crisis response plans and adaptable to a range of criminal events and disasters as well as any unforeseen, unmet, and emerging needs during the response and recovery phases (OVC, 2015).

Partnerships among service providers, states, and localities are a key component to building and implementing victim assistance protocols. These partnerships should include creation of a multidisciplinary planning committee, identification of roles and responsibilities, identification of resources and gaps, and creation of memorandums of understanding between organizations related to MVT response (OVC, 2015). Relationships between victim assistance programs and other emergency or disaster response agencies should be formalized and in place before an attack occurs (Naturale et al., 2017).

The inherently large scale of MVT events also requires service providers, states, and localities to build capacity for a range of victim services, including both medical and mental health services. Victim assistance programs should anticipate the need for increased staff capacity and train all clinicians on disaster and trauma-informed care (Naturale et al., 2017). Similarly, public and behavioral health departments need to build capacity in healthcare system preparedness, healthcare system recovery, emergency operations coordination, fatality management, information sharing, medical surge, responder safety and health, volunteer management to adequately respond to MVT events (DPBH, 2018).

Another preparedness strategy is conducting assessments for the aforementioned "soft" MVT targets like transportation centers, parks, restaurants, shopping centers, and special event venues. These assessments identify procedural and structural vulnerabilities to MVT attacks so that they can be addressed (DHS et al., 2013). For example, capacity assessments are often used in schools to evaluate student and staff capabilities (e.g., first aid certification, search and rescue training, counseling and mental health expertise, ability to assist individuals with disabilities), equipment and supplies, and services and material resources of community partners (DOE et al., 2013). Risk assessments to identify structural vulnerabilities against explosive, ballistics, or chemical attacks, such as Integrated Rapid Visual Screening, are also used (DHS, 2011), and structural features in schools such as bulletproof glass, bollards, and security cameras have been recommended and are largely viewed positively by parents, teachers, and support staff (Jagodzinski, 2019).

Response and Recovery

During the Event

While there is no literature that states that an act of MVT is less likely to happen because people are trained to respond to it, individual responses and training may be a factor in reducing casualties. One example of this is "Run Hide Fight," which states that the first course of action should be to run out of the building, the second option should be to hide, and the third option should be to consider trying to disrupt or incapacitate the

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shooter (DOE et al., 2013). However, this strategy has not been evaluated for effectiveness and also relies on organizations to sufficiently disseminate the information. Notably, a study of a "Run Hide Fight" policy in a hospital setting found that only about half (49.3%) of employees surveyed identified the appropriate response in the event of an active shooter scenario and less than half (47.9%) agreed that they had received adequate training on how to respond to an active shooter incident (Darais & Wood, 2019). Another commonly discussed intervention during MVT events is the presence of school resource officers or other armed onsite personnel, which is typically proposed under the assumption that this reduces casualties via reduced response time (Anklam et al., 2014), although there is not strong evidence for effectiveness.

Response Phase

The response phase occurs in the 48 hours immediately after an MVT incident, when law enforcement, first responders, victim service providers, and others implement the protocols developed during the planning and preparedness phase. The response phase protocols include protocols for committee meetings, the Incident Command System (ICS), communication, Family Assistance Centers (FACs), victim identification, family notification, volunteer management, and donation management (OVC, 2015).

FAMILY ASSISTANCE CENTERS

Distinct from disaster services centers, FACs provide services and information to the family members of those killed, injured, or otherwise affected by an MVT event. Although the specific needs of those impacted by an MVT event will vary widely, the FAC model presumes that the provision of information, coordination of access to services, and collection of information necessary for victim identification in the immediate aftermath of an event is essential. The model is situational, scalable, and needs-focused (FBI, n.d.).

FACs allow victims streamlined access to multiple partner agencies, resources, and information. They may provide referrals to local and regional services for mental health counseling; health care and childcare; crime victim compensation; and assistance with legal matters, travel, creditors, work-related issues, financial planning, insurance benefits, tax policies, Social Security and disability, and FEMA, among others. FACs should have a website for online access as well as a physical location (OVC, 2015).

The physical location should be nearby the MVT site but not so close as to interfere with the investigation. Common locations for FACs include fire stations, churches, municipal buildings, schools, hotels, conference centers, and local businesses. Hotels have proven to be particularly effective FAC locations because they can easily provide food, lodging, and parking in a single location (NMVVRC, 2018c).

A well-organized FAC is critical to supporting victims and their families. Examples of FAC plans such as those for Los Angeles County (Los Angeles County Department of Mental Health, 2014) and the District of Columbia (Government of the District of Columbia, n.d.) provide examples of what the plan should outline, including the roles and responsibilities of involved agencies, as well as checklists and considerations for activating, operating, and demobilizing the FAC.

The way a FAC treats victims during the acute phase of their experience may impact the victims' coping ability and capacity to trust agencies managing future prosecution (FBI, n.d.) (or other activities if the perpetrator is killed during or in the aftermath of the event). Assigning a "victim services navigator" to each victim or family within the FAC or other victim services programs can help support victims and families by allowing them to build a relationship with one person over time (Naturale et al., 2017). However, this may not always be feasible, particularly in jurisdictions with limited victim assistance capacity (e.g., rural jurisdictions), so in the absence of victim services navigators, it is important to develop processes for ensuring continuity of information and services across multiple points of contact.

EMERGENCY SERVICES AND HEALTH CARE SYSTEM RESPONSE

Hospitals and emergency services should prepare special protocols and develop systems to respond to mass violence events, with a focus on coordination across agencies. For example, the integrated law enforcement officer-emergency medical services Rescue Task Force model allows early arriving law enforcement and medical personnel to operate jointly at an active threat scene. An evaluation of this model found that a simulation of the model resulted in appropriate clinical care, but operational metrics such as correct communication between emergency medical services personnel and law enforcement officers, maintenance of protective

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formation, and inappropriate single patient evacuation could be improved (Bachman et al., 2019).

Depending on where an MVT event takes place, individual health care facilities may be ill-equipped for a massive influx of patients, especially in rural areas. There is growing research advocating for the civilian adaptation of military trauma practices, particularly the focus on point-of-injury hemorrhage control and the use of integrated trauma systems, as a response to MVT events (Elster, 2013; Reeping, 2020). Trauma systems connect multiple types of health care facilities, including prehospital providers, trauma centers, other hospitals, rehabilitation facilities, and follow-up care providers to facilitate efficient distribution of care for victims of natural and manmade disasters. Based on a systematic review of articles evaluating the impact of trauma systems on disaster preparedness, the four most valuable aspects of trauma systems are streamlined communication, standardized triage protocols, established transport protocols, and training and simulation infrastructure (Bachman et al., 2014). This review also found that most (five out of seven) retrospective evaluations of trauma system response to disaster or mass casualty incidents reported quicker response times and more even distribution of patients to hospitals (Bachman et al., 2014). However, other studies have found mixed results on the relationship between statewide disaster readiness and statewide trauma systems (Mann et al., 2004; Trunkey, 2009).

Individual hospitals can also develop plans for handling the immediate response within their facility. For example, the "15 'til 50 Plan" (15 minutes until 50 patients) is a plan that guides hospital activity through the initial surge of patients back into normal operations by rapidly deploying staff, supplies, and equipment. The goal of the plan is to prepare hospital personnel to respond to MVT or other mass casualty events by familiarizing them with their roles and responsibilities (Riccardi & Stone, 2016).

First responders and other health care providers should be prepared to screen everyone who was at the scene, even those without obvious injuries. In some cases (especially in incidents involving bomb blasts), victims with hearing loss, traumatic brain injury, and other less visible injuries may not realize right away that they are injured (Naturale et al., 2017). Recommendations for MVT first responders from the literature, some of which are drawn from military combat casualty care practices, include giving MVT injuries rapid attention, focusing on hemorrhage control, forming an integrated command center, allowing police to triage and transport victims to hospitals without waiting for EMS personnel, providing systematic trainings for both police and EMS triage, quickening response by bringing EMS personnel into the "warm zone" to administer medical support, adopting a coordinated approach for hospitals, preparing hospitals for multiple waves of victims, providing a hotline for family and community members to access information, and discouraging "good Samaritan" response that may create congestion and impede evacuation and treatment (Elster et al., 2013; Reeping, 2020).

Recovery

The recovery phase occurs after the response phase and may continue for months or often years. During the recovery phase, agencies implement recovery protocols to assist victims, first responders, and communities affected by an incident in recovering effectively. Recovery phase protocols include protocols for committee meetings, criminal justice system victim support, Community Resiliency Centers (CRCs), volunteer management, donation management, and planning and preparedness grants and emergency funding assistance (OVC, 2015).

During the recovery phase, the FAC may transition into a CRC that provides ongoing services to victims, family members, first responders, and other community members. The timeframe for the transition can range from one week or up to three months after the event, depending on the scope of event (OVC, 2015). The existence of the CRC should be widely publicized, as well as the services it offers and who is eligible for those services. CRCs aim to meet longer-term victim needs such as vocational rehabilitation, job placement assistance, resources for schools and employers to support victims, services for those coping with vicarious trauma, and

ongoing mental health support (NMVVRC, 2018a). The CRC can also disseminate information through workshops for victims (e.g., Psychological First Aid, how to identify trauma cues) and a strong social media presence (NMVVRC, 2018b). Establishing a website and virtual options for accessing the CRC is critical, especially for MVT events in which victims and survivors may not live in the local community where the incident occurred and may not be able to physically access the CRC (e.g., Las Vegas), or for victims and survivors who are apprehensive about entering the CRC either due to stigma or trauma-related symptoms.

Interventions

Individual-level intervention services that support long-term recovery from the harms victims may experience as a result of MVT events tend to fall into one of two areas: services to address psychological harms and assistance through criminal justice processes and victim compensation. This section describes the existing evidence about these interventions, as well as barriers that victims may face in accessing them.

Addressing Psychological Harms

Interventions for addressing and mitigating psychological harms are typically divided into early psychological interventions, which are provided as soon as possible to prevent longer-term psychological harm and are usually sufficient for most people experiencing mild or moderate distress, and more long-term interventions, which are provided only to those victims who develop long-term adjustment difficulties. Although there have been a few rigorous evaluations of long-term interventions in victims of mass violence and terrorism, few evaluations have been conducted for early interventions, and those that have lack methodological rigor (e.g., smaller sample size, no comparison group). In this section, we review the evidence on interventions for MVT victims experiencing psychological harms.

EARLY PSYCHOLOGICAL INTERVENTIONS

Early psychological interventions are typically defined as "any form of psychological intervention delivered within the first four weeks following mass violence or disasters" (National Institute of Mental Health [NIMH] 2002, p. 1). Key aspects of early intervention include providing Psychological First Aid and Skills for Psychological Recovery; conducting needs assessment; monitoring the recovery environment; disseminating information; providing technical assistance, consultation, and training; fostering resilience and coping; implementing triage; and providing treatment. Service providers should expect victims to recover normally and should not assume that a victim has a clinically significant disorder in the early post-incident phase unless they have a preexisting mental health condition. Follow up should be offered to those at high risk of developing long-term adjustment difficulties, such as those with previous victimization experiences or mental health concerns (NCTSN, 2011; NIMH, 2002).

Psychological First Aid and Skills for Psychological Recovery

Both Psychological First Aid and Skills for Psychological Recovery are evidence-informed, modular approaches considered best practice for all ages in the immediate aftermath of disaster and terrorism. Their goal is not to treat long-term psychological disorders, but rather to help prevent these disorders by reducing the initial distress caused by traumatic events and building skills to foster short and long-term adaptive functioning and coping. The skills include identifying and prioritizing needs, building problem solving skills, promoting positive activities, managing distressing physical and emotional reactions, promoting helpful thinking patterns, and rebuilding healthy social connections.

These interventions are designed for delivery in diverse settings by mental health and other disaster response workers such as first responder teams, school crisis response teams, and disaster relief organizations. They can be provided to children, adolescents, parents, families, and adults exposed to disasters or terrorism, and first responders and other relief workers immediately after MVT events (NCTSN, 2006; NCTSN, 2011; NCTSN, 2014b). One of the benefits of these interventions is that they do not need to be administered by licensed mental health professionals—anyone with training in these interventions can provide them, making it easier to increase service capacity. Although these interventions

have not been systematically evaluated, an initial study of Psychological First Aid suggested that it was beneficial for recipients' ability to calm themselves, control their emotions, and strengthen family relationships (Schafer et al., 2016).

Psychological Debriefing / Critical Incident Stress Debriefing

Psychological debriefing has several variants, the most common of which are Critical Incident Stress Debriefing and Critical Incident Stress Management. This type of intervention typically takes place within days of the event, is administered in groups, and focuses on reciting the events and sharing thoughts and feelings about the trauma. There is no evidence that psychological debriefing interventions reduce the risk of long-term effects such as PTSD (Litz & Gray, 2002; NIMH, 2002) and some evidence that such interventions may be potentially harmful (e.g., Pender & Pritchard, 2009; Wei, Szumilas, & Kutcher, 2010).

LONGER-TERM INTERVENTIONS

Several evidence-informed principles for successful interventions to address psychological harm following an MVT event have been suggested, including that the intervention should promote a sense of safety, promote calming, promote a sense of self-efficacy and collective efficacy, promote connectedness, and promote hope (Hobfoll et al., 2007).

Trauma-Focused Cognitive Behavioral and Exposure Therapies

Cognitive behavioral therapy has been shown to reduce the incidence, duration, and severity of PTSD and depression in trauma survivors (Litz & Gray, 2002; National Institute of Mental Health, 2002). Trauma-focused cognitive behavioral and exposure therapy models with the strongest evidence include:

Cognitive Processing Therapy (CPT), which focuses on cognitive restructuring by identifying and modifying problematic beliefs related to the trauma. CPT is unique from other CBT treatments for PTSD, as it provides more concentrated and intense focus on dysfunctional cognitions such as denial, guilt, and self-blame (Resick et al., 2002). CPT has shown positive engagement and reduction in PTSD among a range of populations, including very complex and traditionally hard-to-reach populations (Schulz et al., 2006).

Prolonged Exposure (PE), which involves repeated recounting of trauma measures (imaginal exposure) and teaches individuals to gradually approach trauma-related fears, memories, situations, and other triggers that are often avoided after experiencing a traumatic event. Extensive research supports the effectiveness of PE in reducing symptoms of posttraumatic stress disorder in a range of hard-to-reach populations (Foa et al., 2020).

Eye Movement Desensitization and Reprocessing (EMDR), which includes repetitive eye movements in addition to imaginal exposure (Rothbaum et al., 2005).

Complicated Grief Treatment (CGT) is an evidence-based approach to address prolonged grief and promote the natural adaptive response process for adults. Well-established research supports the effectiveness of CGT in decreasing complicated grief for adults with complex bereavement disorder (Shear et al., 2005).

These types of therapies have been specifically studied in adults with PTSD resulting from mass violence or disaster in three randomized controlled trials (RCTs) (Bryant et al., 2011; Difede et al., 2007; Duffy et al., 2007). In all three studies, the trauma-focused therapy resulted in significant improvements in PTSD, and in two of the studies resulted in significant improvements in depression. In addition, several non-experimental studies have also found beneficial effects on PTSD and depression symptoms, as well as a reduction in coping strategies reliant on alcohol and drug use and an increase in coping strategies using social support (Levitt et al., 2007; Silver et al., 2005).

Grief Support Groups

Making social support available and accessible is important for all crime victims, but MVT victims in particular have found "survivor networks" to be a valuable component of recovery. In a study of survivors of the 1999 Columbine High School shooting, Schildkraut and colleagues (2020) found that survivors found the most effective support to come from others who had experienced the shooting, while community-level support faced mixed reactions, and external social support was "viewed as unhelpful." However, it is important to note that internal subgroups can sometimes form within a group of MVT victims (e.g., families of wounded victims vs. families of victims who died). Further, while support groups can help to address symptoms of grief and provide social support, they will not address PTSD or depression associated with trauma.

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INTERVENTIONS FOR FIRST AND SECONDARY RESPONDERS

As discussed previously, first and secondary responders may also experience psychological harms from responding to MVT events. Although they may benefit from the interventions described above, there have been some efforts to develop programs specifically for first and secondary responders. For example, Stress First Aid, which incorporates many of the same skills as Psychological First Aid, was developed for first responders that experience stress reactions following traumatic events. The goal of Stress First Aid is for first responders to assist one another in reducing negative impacts of stress (First Responder Center for Excellence, n.d.). Additionally, the FBI Victim Services Division has established the PREVAIL wellness and resilience program to help response team members prepare for and address the impact of difficult images and sounds they might encounter (K. Turman, personal communication, July 21, 2020). While early findings support the use of Stress First Aid, formal evaluations of these types of programs are needed, as well as evaluation specific to MVT events experienced by first responders.

Criminal Justice Assistance and Victim Compensation

Victims may encounter criminal justice agencies in the aftermath of an MVT event through response activities such as death notification by police and prosecutorial victim assistance units. However, without the appropriate approach and level of support, these encounters could cause additional stress and secondary victimization. See CVR's homicide co-victimization evidence synthesis for a discussion of these risks as well as of promising victim-centered approaches for criminal justice agencies (Bastomski & Duane, 2019).

But while these issues often overlap with issues faced by homicide co-victims, they may also be amplified for MVT victims due to the mass scale of the event. For example, death notifications are particularly difficult because they are often assigned to local police officers with no training or experience in this area and delivered to multiple families gathered in one location, resulting in every family hearing other families' reactions.

VICTIM COMPENSATION

In general, MVT victims may be eligible for financial support through state victim compensation funds, which exist to offset victims' expenses related to a crime.[5] For example, states may compensate victims and families for funeral and burial expenses, medical or mental health treatment, or transportation expenses related to the crime (NCVC, 2003). In most states, eligibility for compensation after an MVT event includes those who were physically injured, family members of deceased victims, victims who suffer mental harm as a result of an MVT incident, and anyone else present during the incident. In some states, first responders are also eligible (NMVVRCa, 2018).

However, the availability and eligibility criteria of victim compensation funds vary significantly by state, both in regard to the amount of funding available and the services and activities covered. Many do not cover emergency

5 See CVR's homicide co-victimization evidence synthesis for more information on victim compensation.

expenses such as family travel and lodging. In response to this, OVC and the FBI Victim Services Division established an MVT emergency fund that covers needs not covered by traditional victim compensation funds and can be applied consistently regardless of where the MVT event occurred (K. Turman, personal communication, July 21, 2020). In addition, the Antiterrorism and Emergency Assistance Program (AEAP) is another resource specifically created to provide supplemental emergency and longer-term victim support to jurisdictions where a criminal mass violence or domestic terrorism incident occurred. This support can include funding for victim compensation, but also typically covers victim assistance services. OVC can award funding once the applicant (typically a local or state agency, but may be a nonprofit organization) has determined the costs associated with responding and submitted a request for assistance (OVC, n.d.). However, one barrier related to this program includes the length of time that it can take for these criteria to be met, and jurisdictions often do not receive funding for some time after the MVT event. Further, jurisdictions often need assistance in applying for AEAP funds, given lack of experience in grant writing or obtaining government funding in the past.

Other challenges to victim compensation in the context of MVT events can include difficulty identifying victims, differing levels of support for MVT victims over other non-MVT victims, and vicarious trauma experienced by victim compensation staff (NMVVRCa, 2018). In addition, false assumptions among the general public about how victim compensation is distributed may cause distress for victims and their families, as was reported by some family members of victims who died on 9/11 (Bauwens, 2017).

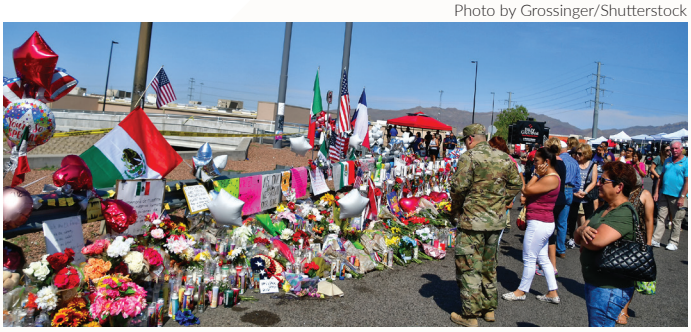
Vulnerable Populations and Barriers to Accessing Services

MVT events are difficult to predict, and there are not necessarily specific groups that are more vulnerable than others to becoming MVT victims. However, some groups may face additional challenges in responding to and recovering from MVT events, and certain individuals are more likely to experience negative mental health impact.

INDIGENOUS AND NATIVE COMMUNITIES

Indigenous and native communities face unique risks experiencing and responding to MVT events (DPBH, 2018). Responses to disasters and mass violence can be slower because knowledge of tribally specific cultural beliefs and practices is scarce but essential for successfully assisting tribal communities and individuals. Public health planners and emergency responders will be better prepared to support tribes if they have advance training and preparation and cultural and linguistic understanding. Additionally, before 2013, federally recognized American Indian and Alaskan tribal governments did not have the option to request a Presidential emergency declaration.

Photo by Grossinger/Shutterstock



More than 40 people were killed or injured on August 3, 2019 in a racially-motivated mass shooting in El Paso, Texas. The shooting is being investigated as both an act of domestic terrorism and a hate crime.

RURAL COMMUNITIES

The scale of MVT events may overwhelm local expertise and resources demand for local services in even well-prepared communities (OVC, 2003), but rural communities may be more likely to already face a lack of resources and services such as trauma-informed therapy. Even if services are available, individuals in rural communities often face difficulty accessing them. Federal support in the form of resources and experience, as well as assistance with accessing services, can help provide consistency in the local response.

OTHER GROUPS

Other important groups to consider during MVT response include friends and others not directly related to victims in close-knit communities, people within similar groups as the victims (in the case of hate crimes), victims with disabilities, and undocumented victims (OVC, 2000). Undocumented victims may be fearful about applying for compensation or victim services (NMVVRC, 2018a). In addition, victims who do not live in the same area as where the MVT event occurred tend to be underserved because they do not have access to FACs/CRCs or other resources established in the community to respond to the MVT event. Connecting with these individuals virtually can provide a unique way to access needs.

IMPLICATIONS FOR RESEARCH, POLICY, AND PRACTICE

This CVR review of research, practice, and contextual evidence on mass violence and terrorism experiences points to five key implications for victim-centered research, policy, and practice, as follows:

(1) The field would benefit from effort to develop a consensus MVT definition and central repository of prevalence data measuring the extent of such MVT victimization.

To date, the field lacks clear consensus on both the definition of mass violence as well as the full extent of victimization. Differing definitions create challenges in identifying and comparing prevalence statistics and measuring them over time. In addition, every study we identified measuring the extent of MVT victimization counted only those victims who were physically injured during an MVT event, even though responding agencies and service providers typically take a broader view by including family members of victims who were physically injured or killed, people who were present for the event but not injured, and even community members. This discrepancy has resulted in a systematic underestimation of the number of people who are harmed by MVT events.

(2) Risk and protective factors for experiencing MVT victimization tend to occur at the societal level rather than the individual level. Accordingly, future research, practice, and policies should continue to focus on societal-level factors to mitigate and respond to MVT victimization experiences.

As the existing research has not identified any individual-level risk factors for MVT victimization, individual-level policies for MVT victimization prevention are not likely to be effective. Most MVT victims are unfortunately, as noted previously, simply in the wrong place at the wrong time. Instead, policymakers should focus on broader factors. Discussion of policies that may prevent or limit mass violence and terrorism generally center on gun violence, as mass shootings are the most common form of MVT in the U.S. An extensive assessment of the changing motives and methods of public mass shooting perpetrators found that, to best protect victims and prevent victimization, policymakers must consider the societal changes that have led to an increase in mass shootings (Lankford & Silver, 2020). More specifically, policy recommendations include changing media coverage of public mass shooters, limiting access to firearms, improving threat detection systems, and formally tracking and researching mass violence at the federal level (Lankford & Silver, 2020; Nagin et al., 2020).

(3) While we know a lot about physical and psychological harms experienced by MVT victims, less is known about harms experienced at the community level and particularly the unique harms experienced within marginalized communities.

More research is needed to determine whether and how the impacts of MVT victimization vary across demographic characteristics (e.g., age, gender, race/ethnicity) and the presence of pre-existing vulnerabilities (e.g., social or economic disadvantage, prior justice involvement, prior mental health concerns). Additionally, studies investigating the unique harms experienced by MVT victims with marginalized identities would improve response to this victimization type. While some exploratory work exists on how the presence of malicious intent complicates the healing and recovery process for MVT victims, less attention is paid to the specific targeting of communities with marginalized identities (i.e., LGBTQ+ people, Black communities, Latinx communities, or Muslim communities) and how it may affect the harms victims experience. Work following 9/11 demonstrated how people who are incorrectly associated with MVT perpetrators can also drastically affect community-level and even national-level recovery following a highly publicized act of mass violence.

(4) The field has made significant progress toward identifying best practices and evidence-based interventions for preventing and addressing psychological disorders such as PTSD.

Through several consensus efforts, early psychological interventions like Psychological First Aid have been identified as best practices for preventing or mitigating long-term psychological harm in mass violence and disaster response. Similarly, research efforts toward identifying effective interventions for MVT-related PTSD and depression have documented the effectiveness of trauma-based cognitive behavioral and exposure therapies such as Prolonged Exposure, Cognitive Processing Therapy, and EMDR. The field could continue to build on

The National Mass Violence Victimization Resource Center is an OVC-funded multidisciplinary team with the goal of improving community preparedness and the nation's capacity to serve victims recovering from mass violence through research, training, technical assistance, and public policy development and implementation. See nmvvrc.org for more information.

this evidence base by studying how many victims seek out services related to psychological harms and when during the recovery phase they seek them.

(5) The U.S. would benefit from a national set of guidelines on responding to MVT events, as local preparedness and response protocols and policies are often based on practitioner experiences of single events and may not include the appropriate components to ensure a consistent response across events.

The rarity and variation in characteristics of MVT events often create barriers to developing effective, complete, and victim-centric preparedness and response protocols. National guidelines that describe the most effective and important components would go a long way toward ensuring consistency in local response. Further research is also needed to identify the MVT response policies and practices that can mitigate the harms experienced by victims and their families.

In this review of research and practice evidence, CVR researchers identified several significant areas demanding further scholarship. To date, the field lacks clear consensus on the prevalence and extent of MVT victimization, as well as the harms experienced by marginalized communities. Additionally, the field should continue to address societal-level risk factors for MVT victimization and consider developing a national set of guidelines for MVT response. At the same time, CVR researchers are encouraged by new work on mass violence emerging in recent years, particularly around effective interventions for individual psychological harms. CVR's hope is that these successes can build the momentum needed to strengthen efforts to meet the needs of mass violence and terrorism victims, family members, and the community at large.

RESEARCH EVIDENCE ON MASS VIOLENCE AND TERRORISM VICTIMIZATION

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APPENDIX A. DEFINITIONS AND SOURCES OF MASS VIOLENCE AND TERRORISM PREVALENCE DATA

Source Name	Definition of Mass Violence and/or Terrorism	Data Collection Method	Source
FBI Supplementary Homicide Reports (SHR)	An incident in which four or more victims are killed with a firearm within a 24-hour period and that "takes place at a public location in the absence of other criminal activity (e.g., robberies, drug deals, and gang "turf wars"), military conflict, or collective violence" (Duwe, 2020).	The FBI SHR collects data through homicide incident reports via law enforcement. Data collected includes a variety of identifiable factors, including the name and location of the law enforcement agency, the year of the incident etc.	Duwe, 2020
Congressional Research Service	CRS defines mass shootings as "incidents occurring in relatively public places, involving four or more deaths—not including the shooter(s)—and gunmen who select victims somewhat indiscriminately. The violence in these cases is not a means to an end such as robbery or terrorism." (Bjelopera et. al, 2013)	CRS' methods include a combination of analyzing the FBI SHR data and the nation's primary data source on murder and nonnegligent manslaughter in the United States, as well as verifying the mass murders reported to the FBI by comparing to press accounts and if necessary, the reporting police agencies themselves. Additionally, the data is cross-referenced with mass murders with firearms lists compiled by advocacy groups, media outlets, and law enforcement agencies/ Finally, CRS accounts for gaps in the SHR data by including mass shootings reported in the press, but not reported to the FBI or reported previously.	Bjelopera et al., 2013
Everytown for Gun Safety	Everytown defines a mass shooting as "an incident in which four or more people are killed with a firearm, excluding the perpetrator." (Booty et al., 2019)	EGS tracks events as they occur and are later revisited to validate and acquire any additional information. Additionally, EGS researchers also request both police and court records for every mass shooting.	Everytown for Gun Safety Support Fund, 2019
Gun Violence Archive	GVA defines mass a shooting as "FOUR or more killed in a single event [incident], at the same general time and location not including the shooter, and defines mass shooting as FOUR or more shot and/or killed in a single event [incident], at the same general time and location not including the shooter" (Gun Violence Archive, 2020).	GVA uses both automated queries and manual research through multiple sources - police, media, data aggregates, government and other sources daily. The verification progress includes both initial researchers and secondary validation processes.	Gun Violence Archive, 2020

Source Name	Definition of Mass Violence and/or Terrorism	Data Collection Method	Source
Mother Jones	Mother Jones defines mass shootings based on 3 criteria: "1) The attack must have occurred essentially in a single incident, in a public place, 2) exclusion crimes of armed robbery, gang violence, or domestic violence in a home, focusing on cases in which the motive appeared to be indiscriminate mass murder 3) The killer, in accordance with the FBI criterion, had to have taken the lives of at least four people." (Booty et al., 2019)	Mother Jones created the first open-source data set documenting mass shootings. While their data-collection methods are not explicitly defined, Mother Jones highlights how shootings stemming from more conventionally motivated (i.e., armed robbery, gang violence) and those where perpetrators have not been identified.)" were purposefully excluded from the data set.	Follman et al., 2020
Global Terrorism Database	GTD defines terrorism as "the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation. In practice this means in order to consider an incident for inclusion in the GTD, all three of the following attributes must be present: 1) The incident must be intentional – the result of a conscious calculation on the part of a perpetrator, 2) The incident must entail some level of violence or immediate threat of violence -including property violence, as well as violence against people. 3) The perpetrators of the incidents must be sub-national actors. The database does not include acts of state terrorism." (Ritchie et al., 2019)	GTD examines news media sources from around the world for identifying and documenting incidents. Specific methods include natural language processing, named entity extraction, and machine learning models. GTD has developed their own, unique Data Management System which identifies attacks, records the details of each event, and update records for events which have already been recorded.	Global Terrorism Database, 2020

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