



NNHVIP Policy White Paper

Hospital-based Violence Intervention: Practices and Policies to End the Cycle of Violence

EXECUTIVE SUMMARY

- **Violence is an epidemic** that disproportionately hurts young people of color.
- **Violence is recurrent**, as prior victimization increases the probability of repeated injury, trauma, and poor health.
- **Violent injury is a traumatic event** that has serious mental health consequences.
- **Targeted intervention** at the hospital and post-discharge level is an effective strategy to break the cycle of violence, reducing future victimization and violent behaviors.
- **Hospital-based violence intervention programs** reduce health care costs by decreasing recidivism to the emergency department, and reduces other societal costs by decreasing involvement with the justice system.
- **Hospitals are essential partners** and resources for efforts to reduce violence.

“ Violence is an epidemic that disproportionately hurts young people of color. ”

- The National Network of Hospital-based Violence Intervention Programs therefore recommends that:
 - Any hospital treating at least 100 annual assaults, gunshot wounds, stab wounds, and other violence-related injuries should establish a hospital-based violence intervention program (HVIP).
 - Establishment of, or connection to, an HVIP should be a recommended practice for trauma center certification in facilities that treat a significant number of violence-related injuries.
 - Victims of Crime Assistance and Victims Compensation funds should provide equitable reimbursement and funding to individual victims of violent injury and programs that serve victims of violent injury.
 - The mission and objectives of HVIPs align perfectly with the mission and funding priorities of the Centers for Disease Control and Prevention (CDC), and U.S. Department of Justice, through the Office of Juvenile Justice and Delinquency Prevention (OJJDP) and the Office for Victims of Crime (OVC). These agencies are therefore the appropriate ones to house and fund HVIP activities and research.
 - The services delivered by certified violence prevention professionals should be reimbursed similarly to other medical services by the Centers for Medicare and Medicaid Services, private insurers, and other relevant health care payers.

INTRODUCTION

The National Network of Hospital-based Violence Intervention Programs (NNHVIP) is a partnership of programs across the United States that provide services to violently injured individuals beginning in hospital settings and extending into the community. Hospital-based violence intervention programs (HVIPs) vary in the specifics of their design and scope, but typically include a brief intervention in the emergency department or at the hospital bedside, followed by intensive community-based case management services in the months following the injury. HVIP services are provided by culturally competent Intervention Specialists who often also serve in a mentorship capacity. HVIPs are rooted in evidence suggesting that, in the immediate aftermath of a violent assault, victims are particularly receptive to making changes in their life and altering behavior to prevent future injury. Thus, this window in time has been referred to as the “teachable moment” and a unique opportunity to break cycles of violence.

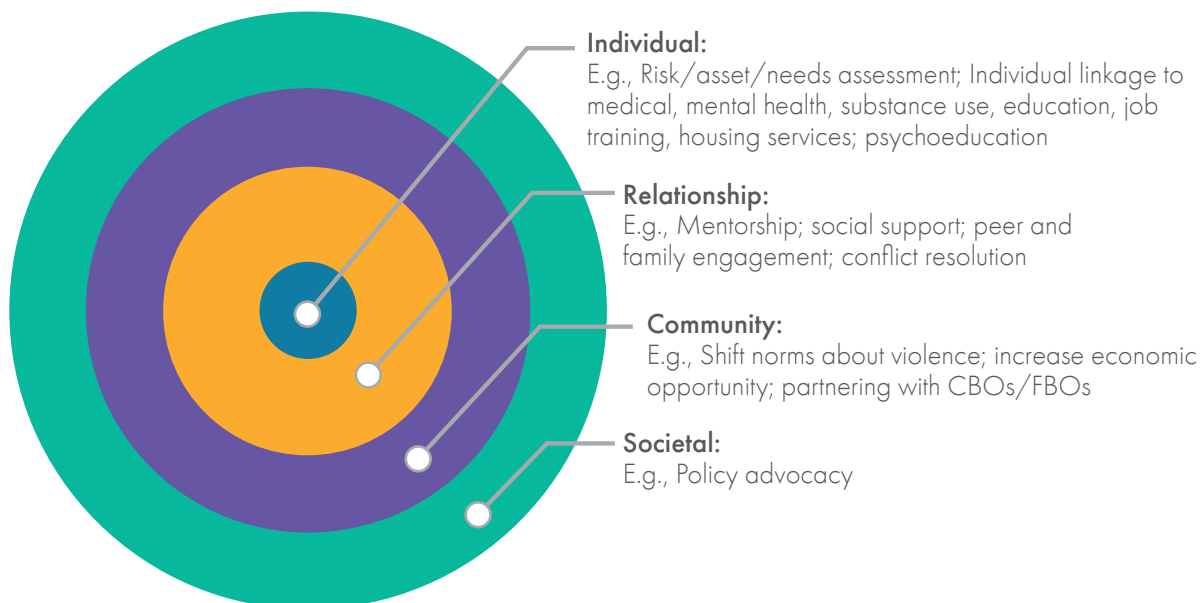
HVIPs embrace a public health approach to violence prevention and are grounded in data that indicates victims of interpersonal violence are at elevated risk for reinjury and are susceptible to engaging in retaliatory violence

as a “natural” response borne out of societal pressure. Moreover, HVIPs acknowledge the well-documented impact of violent trauma on one’s emotional, mental, and physical wellbeing. HVIPs provide targeted services to a high-risk population and work to identify and reduce risk factors, such as substance misuse, unemployment, and school dropout while promoting protective factors, such as social support, and educational attainment. HVIPs alter risk trajectories by operating at multiple levels and reciprocal levels of the social ecology—providing direct services to violently injured individuals and their families, and engaging in advocacy efforts to change public policy (Figure 1).

Rigorous evaluations of HVIPs have demonstrated promising results across a range of outcomes—including preventing reinjury, violent crime, involvement with the justice system, substance misuse, and decreasing PTSD symptoms. NNHVIP has prepared this white paper to provide an overview of the problem of interpersonal violence in the United States, a description of the HVIP model, and evidence to support its use as a strategy to reduce interpersonal violence in our communities.

Figure 1: Social-Ecological Model of Violence Prevention

Adapted from the Centers for Disease Control and Prevention, the diagram below provides examples of how HVIPs provide intervention at multiple levels of the social ecology to prevent interpersonal violence.



“ Homicide is the leading cause of death among Non-Hispanic African Americans ages 15-34. ”

THE EPIDEMIC OF INTERPERSONAL VIOLENCE

Interpersonal violence is a major public health problem in the United States—and hospitals stand on the front lines of the epidemic. Homicide is the leading cause of death among Non-Hispanic African Americans ages 15-34, second among Hispanics of this age group, and fifth among non-Hispanic whites.¹ According to the Centers for Disease Control and Prevention (CDC), homicide was responsible for 19,362 deaths in 2016 translating to more than 607,886 potential life years lost and more than \$25 billion in medical costs and lost productivity.² Although the social and economic costs of homicide are significant, non-fatal violent injuries outnumber fatal by more than one hundred-to-one. In 2015, an estimated 1.5 million incidents of non-sexual violent assault were treated in

hospitals across the country.³ The average cost of medical care for an incident of non-fatal violent injury that requires hospitalization is approximately \$29,201.² Incidents that do not require hospitalization on average cost about \$2,646.² These figures do not account for justice system related costs associated with violence or social costs to injured individuals, their families, and communities.

Consistent with the definition used by the World Health Organization, we define interpersonal violence as "the intentional use of physical force or power, threatened or actual, against another person or against a group or community that results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation."⁴ The types of injury listed as interpersonal violence through the ICD-10 classification system are presented in Table 1. Interpersonal violence disproportionately impacts males, young people, and is a driver of racial and ethnic health disparities in the United States. In 2015, approximately 196,959 incidents of violence committed against African American males ages 15-34 were treated at hospitals.³ This is not including fatal injuries.

Table 1: Diagnosis Codes for Violent Injuries

Type of Assault/Homicide	ICD-9 E Codes	ICD-10 VMXY Codes
Blunt Object	968.2	Y00
Cut/Pierce	966	X99
Fight, Unarmed	960	Y04
Firearm	965(.0-.4)	U01.4, X93-X95
Other	960.1 961 962(.0-.9) 963-964 965(.5-.9) 968(.0-.1,,3,,7,,5-.9) 979(.0-.9)	01(.0-.3, .5-.9), U02 X85-X92, X96-X98 Y01-Y03 Y05 Y08-Y09

“...hospitals typically discharge violently injured patients to the same environment where they were injured.”

Violent Injury is a Recurrent Problem

Violent victimization is typically not a one-time event, it is sometimes referenced as a “recurrent disease.” Unfortunately, hospitals typically “treat and release” those with assaultive injuries, caring for physical injuries while providing little to prevent the next ones. In urban settings, it is estimated that up to 41 percent of patients treated for violent injury are re-injured within five years.⁵⁻¹⁰ One survey of victims of violence at five-year follow-up found that 20 percent of patients treated for violent injury had died.¹¹

This ‘revolving door’ phenomenon is well-documented in the medical literature. A recent systematic review of “violent recidivism” identified 19 distinct studies examining reinjury rates.¹² This study found that rates of reinjury vary depending on the time follow-up period examined, the methodology, and the community studied, with rates ranging between 7.5% and 65%. The median rate was 27.3%.

Being the victim of violence also significantly increases the likelihood of engaging in violent behaviors against others, oftentimes as retaliation for the initial injury.¹³⁻¹⁶ A study of young violently injured teenagers showed that, related to the violent incident for which they were seen in an emergency department, almost one-fifth reported hurting someone else and one-fifth were hurt by someone else within months of the initial event.¹⁷ Ethnographic research suggests that cultural norms and the ‘code of the streets,’ which structures social life in many inner city neighborhoods, may lead violently injured youth to believe that retaliating against their perpetrator is necessary to avoid re-victimization.¹⁸⁻²¹ Opportunities to achieve economic self-sufficiency are also limited in low-income communities plagued by violence, leading some to seek opportunities in the drug trade or other illicit markets—further increasing the risk of reinjury.²² In the absence of intervention, hospitals typically discharge violently injured patients to the same environment where they were injured, without a viable strategy for how to stay safe, manage community pressure to seek revenge, or options to positively alter their life course trajectory.

Violent Injury and Mental Health

In addition to the overt physical consequences of violent injury, many individuals experience psychological sequelae of high emotional distress associated with Post-Traumatic Stress Disorder (PTSD), depression, and substance abuse disorders that persist long after physical wounds have been treated, which affects behavioral response to trauma.²³⁻²⁶ Symptoms of PTSD include: internal fear, hypervigilance, estrangement from others, and emotional detachment.²⁷ Population-based surveys in urban settings have found that between 15% and 23% of victims of assaultive violence meet criteria for probable lifetime Post Traumatic Stress Disorder (PTSD).²⁸⁻³³ Surveys in hospital settings have produced similar results. A study of men hospitalized for violent injury found that 27% had possible PTSD at three months follow-up and 18% had possible PTSD one year later.³⁴ A study from a Philadelphia cohort demonstrated that 15% of youth ages 12-24 displayed significant post-traumatic stress symptoms up to 5 months after injury.³⁵ A study of adults seeking care for violent injury at a public, urban hospital found that 41% met criteria for acute stress disorder within one month of injury.³⁶ A cross-sectional study of clients participating in a Philadelphia-based HIVP found that 75% met the diagnostic criteria for PTSD at six weeks follow-up.³⁷

Despite the psychological trauma of violent injury, many victims of violence do not receive mental health services.^{34,38} Barriers to securing services include, but are not limited to, perceived stigma of mental illness, distrust of mental health professionals, lack of knowledge about where and how to secure such care, the cost of such care, and difficulties obtaining Victim of Crime Compensation services to cover the cost of mental health treatment.^{24,39}



Photo courtesy of Stephanie Mathena

“ ...50% of HVIP clients had four or more adverse childhood experiences .”

This is troubling, as the psychological trauma of violent injury and its biological correlates may lead violently injured youth to obtain weapons, or engage in the use of illicit substances to restore feelings of safety— potentially increasing risk of reinjury and retaliation, and thus re-hospitalization and incarceration.^{19,40}

The mental health consequences of violent injury may also be compounded by the effects of traumatic experiences earlier in life. Individuals who have histories of trauma are at substantially greater risk for developing PTSD after a violent assault than those who do not.⁴¹ Results from the Adverse Childhood Experiences (ACE) Study revealed that traumatic experiences early in life significantly increase the risk of engaging in violent behavior and/or violent victimization, as well as a range of other deleterious behaviors and adverse health outcomes.⁴² Many victims of violence live in neighborhoods where community violence, household dysfunction, and exposure to trauma are extremely prevalent. The aforementioned Philadelphia-based study found that 50% of HVIP clients had four or more adverse childhood experiences (ACEs)— increasing their risk for injury-related PTSD, as well as a myriad of other negative physical and mental health outcomes later in life.³⁷ Another study concluded that having family members with psychopathology nearly doubles the risk that one would be exposed to traumatic events in general.²³

The financial impact of psychological sequelae after any type of injury is large. Studies have shown that previously employed patients showing symptoms of either PTSD or depression had a 3-fold increase in odds of not returning to work post-injury. Patients experiencing symptoms of both PTSD and depression had a 5-6 fold increase odds in not returning to work after their injury when compared to previously employed patients not experiencing any PTSD or depressive symptoms.²⁶

While many intervention strategies exist to break cycles of violence, hospitals present a unique opportunity to reach populations at the highest risk at a moment when they are particularly responsive to an intervention. By following the collaborative care approach, HVIPs are in a unique position to create change in a traumatized victim liable to suffer from inevitable psychological damage.

HOSPITAL-BASED VIOLENCE INTERVENTION PROGRAMS

A Brief History of Hospital-based Violence Intervention Programs

In the mid-1990s, two organizations—Youth ALIVE! in Oakland, California and Project Ujima, a program at Children’s Hospital of Wisconsin in Milwaukee, Wisconsin—developed the nation’s first HVIPs. These programs combined efforts of medical staff with trusted community-based partners who were well-positioned to provide intervention to violently injured youth after hospitalization.

While the HVIP model was being developed in direct response to a pressing community need, professional organizations and government entities in health care and criminal justice sectors concurrently began to acknowledge the importance, and opportunity, for violence prevention in hospital settings. In 1996, the American Academy of Pediatrics published a report on violently injured youth indicating that, while, “it has been routine to treat victims of child abuse, suicide attempts, and sexual assault via multidisciplinary care protocols... no care guidelines exist that address the unique needs of [violently injured adolescents].”⁴³ Two years later, the U.S. Department of Justice’s Office for Victims of Crime advanced the issue by recommending “that hospital-based counseling and prevention programs be established in medical facilities that provide services to gang violence victims.”⁴⁴

The Story of Jason

The HVIP model was inspired by “Jason,” a Wisconsin youth. In 1988, when he was only nine years old, Jason was treated in the emergency department of Children’s Hospital in Milwaukee for an “accidental” injury. Two years later, the hospital treated him again for multiple contusions and abrasions resulting from an assault. In 1992, at 13 years of age, he was treated for multiple stab wounds. Then, in early 1994, at the age of 15, the hospital treated Jason for a bullet wound to his leg. By the end of that year, he was dead—shot in the chest and killed at the age of 16. While medical staff expertly cared for his physical wounds each time, not once were his community health needs and risk factors addressed post-discharge. Tragically, every community across the country that has started an HVIP knows many victims of violence like “Jason.”

“ HVIPs harness the power of the teachable moment through Intervention Specialists who quickly gain trust and engage violently injured patients and their families on site in the emergency department, at a hospital bedside, or soon after ED discharge. ”

HVIPs continued to proliferate across the country in the late 1990s and early 2000s and reached a critical mass in 2009 when Youth ALIVE! hosted the first national symposium for HVIPs. With support from Kaiser Permanente, the symposium brought together over 30 representatives from HVIPs—and the National Network of Hospital-based Violence Intervention Programs (NNHVIP) was born. To date, there are 34 member programs across the U.S. and in 3 other countries, dozens of emerging programs, and a community of over 350 practitioners, researchers and policymakers who meet annually.

The Theory and Practice of Hospital-based Violence Intervention Programs

“It [violent injury] was a wakeup call for me.”³⁹ This statement epitomizes the theory of HVIP practice—the ‘teachable moment.’ Teachable moments are rare opportunities in which individuals are particularly receptive to interventions that promote positive behavior change.^{45,46} Several studies have demonstrated the effectiveness of interventions at these moments in health care settings.^{47–49} HVIPs reach individuals caught in cycles of violence immediately after they have been injured. At this teachable moment, violently injured individuals are at a crossroads: they can continue on the path they were on prior to their injury, seek retaliation for the violence committed against them, or turn their traumatic experience into a reason to take themselves out of ‘the game’ – altering their life course trajectory.

HVIPs harness the power of the teachable moment through Intervention Specialists who quickly gain trust and engage violently injured patients and their families on site in the emergency department, at a hospital bedside, or soon after ED discharge. Intervention Specialists are highly trained paraprofessionals, who often come from the community in which they are working, who provide brief

crisis intervention, linkages to community-based services, mentoring, home visits, follow-up assistance, and long-term case management. In different communities, they may go by different titles such as “intervention specialists,” “hospital responders,” “peer specialists,” “prevention professionals,” or “community health workers.” All of these workers fit under the definition of Violence Prevention Professionals (405300000X, subspecialty in violence) in the National Uniform Claims Committee’s health provider taxonomy.⁵⁰ Their goal is to prevent reinjury and retaliation, while promoting recovery from the trauma of violent injury. Many violently injured individuals have extreme distrust in the mainstream institutions that have failed them in the past, including the health care and criminal justice system, and may be resistant to intervention from these traditional sources.^{39,51} Through a trauma-informed approach, Intervention Specialists break down these barriers as they are not seen as being part of the institutions. They use their people skills, ‘street cred,’ cultural sensitivity and, often, shared histories of exposure to violence to address the individual’s needs and desires.

After gaining trust and introducing the program, Intervention Specialists work with clients and their families to develop a discharge plan and ensure that immediate safety needs are met. Formal assessments are conducted to identify client needs, establish goals, and develop a service plan that is amended as the client progresses. These plans are developed in coordination with existing hospital staff and resources as well as community resources. This ensures the patients’ medical and social needs are addressed. This form of intensive case management explicitly connects clients with services that promote their physical and mental health recovery in addition to improving their social and economic conditions.

“ Many violently injured individuals have extreme distrust in the mainstream institutions that have failed them in the past, including the health care and criminal justice system, and may be resistant to intervention from these traditional sources. ”^{39,51}

“ The most common needs cited were culturally appropriate mental health (51%), victims of crime assistance (48%), employment (36%), housing (30%), and education (28%). ”

Recent research demonstrates that victims of violent injury require a variety of services beyond traditional medical care. In a 10-year review of the San Francisco Wraparound HVIP, researchers found that patients' self-reported needs spanned a variety of domains.⁵² The most common needs cited were culturally appropriate mental health (51%), victims of crime assistance (48%), employment (36%), housing (30%), and education (28%). In order to provide these services, Intervention Specialists must not only assist patients with timely follow-up medical care, but also work closely with other providers and community organizations with expertise in mental health and substance abuse, academic support, job training/vocational programs, and housing assistance. Intervention Specialists also work with clients to identify their inherent skills, strengths, and interests while exploring how these assets might best serve them in particular careers.

Intervention Specialists regularly conduct home visits and take clients to appointments. Some HVIPs organize and facilitate psycho-education and support groups where clients come together to share experiences, feelings, barriers to recovery and strategies to overcome them, as well as plans for the future. These groups serve as a source of social support for clients through difficult transition periods and foster emotional healing from violent injury. Intervention Specialists generally carry caseloads of 14-20 clients who are engaged in HVIPs and receive services for an average of six to twelve months.

A Trauma-Informed Approach to Violence Prevention and Health Promotion

HVIPs embrace a trauma-informed approach that recognizes that psychological, not just physical, wounds of violent injury need to be addressed for individuals to fully heal and recover.⁵³ In addition to providing clients with education about the symptoms of post-traumatic stress and connecting them with appropriate mental health services, HVIP practice is informed by an understanding that many

violently injured individuals have extensive histories of trauma and carry the psychological, social, and biological consequences of those events. This understanding pervades all aspects of HVIP practice, enhancing the quality of relationships between Intervention Specialists and clients and improving outcomes as a result. For this reason, NNHVIP provides web-based modules and in-person trainings on trauma-informed care. NNHVIP's trauma-informed approach provides all HVIP staff, both direct and non-direct service providers, with concrete skills, a common language, and framework to meet client needs and more fully capture program impacts through evaluation activities.

As acknowledged by the CDC and the American Academy of Pediatrics, and evidenced by the ACE Study and an ever growing body of research, exposure to extreme and chronic stress substantially increases risk for adverse health outcomes—such as heart disease, diabetes, obesity, substance abuse, depression, and sexually transmitted diseases.⁵⁴⁻⁵⁶ By screening and/or assessing for histories of trauma and trauma-related disorders, and connecting clients with appropriate mental health services for treatment, HVIPs may provide the added benefit as serving as preventive interventions for a myriad of health conditions.

As many victims of violence are often otherwise isolated from health care systems, for reasons such as being uninsured or distrust in the medical establishment, HVIPs provide a unique opportunity for health promotion and disparity reduction by connecting injured patients with culturally appropriate staff and working with them post-hospital discharge to connect them to health and other resources in the community.

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EVIDENCE OF EFFECTIVENESS OF HVIPS

Effects on Reinjury

The majority of early research on the effectiveness of HVIPs focused on the link between program participation and future risk of reinjury. To date, there have been five randomized control trials of HVIPs.⁵⁷⁻⁶¹ The largest trial of an HVIP in Chicago followed 188 youth and young adults after violent injury. Those who were randomized to receive HVIP services were significantly less likely to report being a victim of violence during the six months following their hospital treatment.⁶¹ Specifically, 20.3% of the control group reported a repeat injury compared to only 8.1% of the HVIP group. Similarly, a trial in Baltimore demonstrated a difference in re-hospitalization of 36% in the control group vs 5% in the HVIP.⁶⁰ A trial based out of Virginia Commonwealth University demonstrated no reduction in reinjury at either 6 weeks or 6 months.⁵⁷ This trial was limited by low sample sizes and low event rates. Neither the control nor intervention group sustained any re-injuries at 6 weeks and both experienced only 1 reinjury at 6 months.

Two randomized control trials focused exclusively on the pediatric population.^{58,59} The first showed a minimal (<1%) effect on decreasing fight injuries.⁵⁸ This trial was limited by a small number of patients enrolled (88) and a large number of patients that were lost to follow-up (34). The second trial demonstrated encouraging results, but did not reach statistical significance.⁵⁹ Overall, the intervention group engaged in 24% fewer fights that resulted in 42% fewer injuries than the control.

Other trials have evaluated program effectiveness by examining reinjury rates among program participants compared to historical rates of reinjury. An examination of the Wraparound Project in San Francisco found that over

a 10-year period, the 466 clients enrolled in the program experienced a reinjury rate of 4%, a 50% reduction from the historical rate of 8%.⁵²

Recent advances in electronic health records and regional health information exchanges have created new opportunities to more accurately study the effects of HVIPs. A study based out of Indianapolis' Prescription for Hope program utilized this approach to examine 328 patients and 8 years of data.⁶² Over this time period, program participants experienced a 4.4% violent reinjury rate. For comparison, a systematic review of 19 studies examining violent reinjury across the country found the median rate to be 27.3% and the lowest of any study being 7.5%.¹²

Effects on Mental Health

Evidence suggests that HVIPs play a vital role in assisting violently injured patients with their psychological recovery. Research from San Francisco's Wraparound Project demonstrates that assistance with mental health issues was the most common need out of all patients over a ten year period.⁵² Overall, 51% of program participants identified mental health as a need and the Wraparound Project reported meeting its patients' needs in 85%.

Research from Philadelphia's Healing Hurt People program demonstrates that HVIPs hold potential to screen and risk stratify patients for traumatic stress symptoms after injuries.³⁷ In this study, screening identified high levels of PTSD (75% of participants).



Photo courtesy of Stephanie Mathena

“ Those who were randomized to receive HVIP services were significantly less likely to report being a victim of violence during the six months following their hospital treatment.⁶¹ ”

The study also identified Adverse Childhood Experience scores for enrollees, with 50% scoring 4 or higher, a score at which patients have increased likelihood of chronic illness in adulthood: Chronic pulmonary lung disease increases 390 percent; hepatitis, 240 percent; depression 460 percent; suicide, 1,220 percent.^{54,55} However, screening and risk stratification is a preliminary step in assessing HVIP influence on mental health and further study is needed to assess patient-level interventions.

Researchers have also begun to evaluate the effects of HVIPs on alcohol and substance abuse. An HVIP at Virginia Commonwealth University found that at six months, patients in the intervention group had decreased rates of alcohol, marijuana and other drug use.⁵⁷

Effects on Participant Violent Behaviors and Justice System

Viewed through the lens of the cycle of violence, a logical outcome of HVIPs is to decrease retaliatory violence from participants and subsequent involvement with the justice system. Existing evidence suggests a close correlation between prior personal involvement in the justice system and future violent reinjury.⁶³⁻⁶⁵ Specifically, prior involvement with the justice system is a significant risk factor for injured patients to experience future reinjury. Accordingly, several studies of HVIPs have evaluated the bidirectional nature of violence intervention or the ability for programs to decrease a patient's risk of injury as well as engaging in violent behaviors.

In a randomized control trial examining 10-15 year-old youth treated in the emergency department as a result of an interpersonal assault, two urban HVIPs were found to significantly reduce misdemeanor offences over a six month period.⁵⁹ In another randomized control trial of older, predominantly African American men with a history of previous violent injury, individuals randomized to HVIP services were half as likely to be convicted of any crime,

four times less likely to be convicted of a violent crime, and six times less likely to be hospitalized for violent injury than those randomized to the control group—differences translating into approximately \$1.25 million in savings from prevented incarceration costs.⁶⁰

Using a retrospective cohort design with a follow-up period of 18 months, an HVIP in Oakland was found to significantly reduce risk of involvement with the criminal justice system.⁶⁶ These findings were consistent with a previous evaluation that demonstrated that the Oakland-based program minimized involvement with the criminal justice system.⁶⁷

Other Patient-centered Outcomes

A recent study of a decade of experience operating an HVIP in San Francisco demonstrated a wide variety of patient-centered services beyond those mentioned above.⁵² These services included victim of crime compensation assistance, employment, housing, education, court advocacy, driver's license, family counseling, visa, tattoo removal and others. These types of outcomes have been evaluated sporadically in the HVIP literature. For example, the HVIP in Baltimore demonstrated program participants were four times as likely to be employed at program completion compared to controls (82% vs 20%).⁶⁰ Additionally, Boston Medical Center's program has recently expanded services to include more robust housing and employment options.⁶⁸ However, this expansion of resources at Boston Medical Center is new and the effectiveness not yet studied.



Photo courtesy of Stephanie Mathena

“ ... HVIPs have the potential to save money for insurers of high-risk patient populations ”

However, Boston Medical Center did evaluate clients' experience as a participant in an HVIP.²⁵ After interviewing 20 program clients, the most commonly cited benefit from the patient perspective was the availability of mentorship and advocacy. Specifically, counseling and support was stated as the most valuable program component to participants. Many felt that this filled a gap other health care providers were not adequately addressing.

A randomized evaluation of an HVIP in Richmond, Virginia found that those in the intervention group had better rates of community service utilization compared to those in the control group at six weeks and six-month follow-up.⁵⁷

Program Cost-effectiveness

Several studies to date have evaluated the cost-effectiveness of HVIPs. Because HVIPs are effective in improving the well-being of violently injured individuals across a range of outcomes, this translates into substantial cost savings for health care and criminal justice systems.

One study of an HVIP in San Francisco, CA examined the variables that determine the costs and benefits of initiating an HVIP for adult patients.⁶⁹ Accordingly, factors that affect the cost-effectiveness of the program include program effectiveness, scale (cost per patient) as well as baseline levels of injury recidivism without an HVIP. Overall, their hospital's data indicated that HVIPs are cost-effective at a scale of approximately 100 young adult patients served annually. At that scale, the program generates 24 quality-adjusted life years and produces hospital savings of \$4,100. Of note, the cost benefit increases substantially with any increase in baseline injury recidivism. A similar study performed in Oakland, CA sought to quantify the financial investment required to create a single quality adjusted life-year (QALY).⁷⁰ Overall, research indicated that HVIPs can achieve one QALY per \$2,941. Notably, this figure is much lower than accepted values for effective public health interventions for other diseases.⁷¹ For reference, this estimate is more cost effective than routine screening of patients for hypertension or

hyperlipidemia, which are estimated to cost between \$33,500 and \$50,000 per QALY.⁷² This study also found that cost-effectiveness of HVIPs varies with baseline recidivism rates. Notably, this study's control group recidivism rate was 4%, lower than most published recidivism studies.¹²

Additionally, research demonstrates that HVIPs have the potential to save money for insurers of high-risk patient populations. Specifically, a 2014 study examined the financial burden of violent injury on the Medicaid program after the Affordable Care Act expanded the program to provide coverage for low-income childless adults.⁷³ Overall, the study estimated that the newly covered patient population would result in approximately \$397 million in cost to the program annually for direct medical care of violent injuries. At the time of the study, it was estimated that if HVIP service delivery was provided to all violently injured hospitalized patients, it would result in a national savings of \$69 million to the Medicaid program.

Finally, one cost-benefit simulation of an HVIP examined effects across a variety of societal stakeholders.⁷⁴ This analysis examined the effects of implementing HVIPs from the perspective of health care costs, criminal justice costs as well as lost-productivity costs. The study also included several models to examine different levels of effectiveness of an HVIP. Overall, nearly all models showed savings from a health care perspective, public sector perspective, and societal perspective. The most conservative model was roughly revenue neutral from a health care perspective with a cost-benefit ratio of 0.99, costing \$3,788 over a five-year time frame. In contrast, the most optimistic model predicted savings across all sectors of \$4,055,873.

Summary of HVIP Benefits

- HVIPs save lives, and help stop the 'revolving door' of violent injuries into emergency departments.
- HVIPs reduce subsequent criminal justice contact and involvement in violent crime.
- HVIPs reduce hospital expenses.
- HVIPs connect uninsured patients with Medicaid, SSI, and Victim of Crime programs.
- HVIPs have experience working with patients that hospital staff may find challenging.
- HVIPs help non-profit hospitals meet community benefit requirements.

“...Public health research on risk/protective factors for violent injury should inform standards of trauma center practice.”

Future Research Needs

Like all health care and public health programs, additional research is needed to further understand HVIPs' effects on patients and sources for improvement. Broadly, the NNHVIP community has recognized that while initial studies focusing on violent reinjury are important, they are inadequate in capturing the wide-ranging effects of hospital-based violence intervention.

First, additional studies on the patient experience, including process outcomes such as services provided (health insurance obtained, Victim of Crime Compensation received, referrals to mental health/substance abuse, etc.) are critical. Subsequently, patient-centered outcome measures relating to effects of such services will be necessary. Do referrals to behavioral health interventions translate into psychological well-being? Is the victim of crime compensation system adequate for patient needs? Does health insurance improve financial protections and stability?

Finally, issues of funding for programs are worth examining. Given the wide variation in funding structures for all HVIPs, it is unknown if different funding sources provide stability vs disruption and whether this has patient-level effects. Tied to the issue of funding is estimates of cost-effectiveness of programs, which must be refined further as new data emerge from multiple perspectives: patients, hospitals, insurers, and other service systems. Analyses of the impact of the Affordable Care Act and other health care legislation on the costs of violent injuries are needed, especially with regard to how these policies influence the delivery of care to violently injured patients.

CONCLUSION:

HVIPs are an innovative, cost-effective, and evidence-informed strategies for preventing interpersonal violence and its sequelae. Therefore, NNHVIP recommends the following:

Any hospital treating over 100 assaults, gunshot wounds, stab wounds, and other violence-related injuries per year, both in emergency departments and trauma activations, should establish an HVIP

Incidents of interpersonal violence affect the whole community. The consequences of violence extend well beyond the violently injured individual and permeate many aspects of community life that influence health. Given the recurrent nature of violent injury, hospital-based interventions that prevent just one violent injury can produce cascading benefits for community health.

By preventing reinjury and retaliation, HVIPs hold great potential to save hospitals money by reducing the amount of uncompensated care provided to violently injured patients. By stemming the tide of community violence, HVIPs also have the potential to produce the added benefit of improving the health of entire communities. For non-profit hospitals, establishing an HVIP helps meet Internal Revenue Service community benefit requirements.⁷⁵ NNHVIP has determined that approximately 100 violent injuries per-year is the economy of scale that warrants having a full-time equivalent Violence Prevention Professional. Surveys of our Network member programs reveal that a full-time Violence Prevention Professional serves between 40 and 50 patients per year who consent to long-term follow-up.

Establishment of an HVIP should be a recommended practice for trauma centers treating a significant number of violent injuries.

Advances in medical technology and trauma care have substantially increased the likelihood that a patient will survive violent injury.



Photo courtesy of Stephanie Mathena

“...the HVIP..help(s) guarantee that patients’ injury-related psychosocial needs are addressed, risk of reinjury is reduced, and that necessary follow-up medical care is obtained.”

However, this alone does not reduce the chances that a patient will be fatally re-injured after they leave the hospital. Similar to the way that health care research has informed standards of emergency medical care, public health research on risk/protective factors for violent injury should inform standards of trauma center practice.

The American College of Surgeons’ (ACS) Committee on Trauma’s *Resources for Optimal Care of the Injured Patient* (AKA the “Orange Book”) sets standards that need to be met for trauma centers to receive ACS verification. ACS verification confirms that trauma centers have the resources necessary to provide patients with “optimal trauma care.”⁷⁶ While trauma centers are officially certified by government entities at state and local levels, many governments use ACS verification standards as criteria for certification.

Establishment of an HVIP should be a recommended practice for trauma centers treating more than 100 assaults, gunshot wounds, stab wounds, and other violence-related injuries. Such recommendation would help increase awareness about the HVIP model as an evidence-supported strategy to help guarantee that patients’ injury-related psychosocial needs are addressed, risk of reinjury is reduced, and that necessary follow-up medical care is obtained—thus ensuring that optimal trauma care is in fact provided.

The U.S. Department of Health and Human Services and U.S. Department of Justice should jointly fund HVIP activities.

Interpersonal violence is a problem that spans health care and criminal justice systems. The U.S. Department of Health and Human Services (HHS) has supported interventions aimed at preventing violent injury, while the U.S. Department of Justice (DOJ) has funded programs

to prevent violent crime and restore justice to victims of violence. There exists substantial overlap in the populations targeted by these HHS and DOJ initiatives. Although these initiatives have the potential to serve as complementary approaches to the same problem, they often remain siloed and uncoordinated.

As HVIPs are uniquely positioned to provide services across health care and criminal justice systems, HHS and DOJ should jointly fund HVIP activities. Intervention Specialists provide clients with case management services that include health care navigation, assisting with health insurance enrollment and receipt of follow up medical care, and assistance in obtaining Victims of Crime Act (VOCA) compensation and services. Future research on violent injury recidivism and the effectiveness of HVIPs should be funded, as it is essential to further establishing the evidence

Turning the Corner

As a child, “James” experienced trauma, poverty, and violence. He dropped out of school in the 10th grade and by the time he was 15, supported his family financially, hustling and being part of a neighborhood gang. He was 23 years old when he was shot. Although initially in critical condition, Boston Medical Center’s Violence Intervention Advocacy Program (VIAP) got to work immediately by building a relationship with James’ entire family. As he recovered, VIAP’s intervention specialist would meet with James daily, and after much time and trust, James swore that he that he needed a change to “turn the corner.”

With the help of the VIAP team, James created his own plan for healing. He participated in weekly mental health services and parenting groups. He enrolled in a GED program. He even mentored other gunshot victims to share his story of hope and healing. In addition, James’ family also began participating in VIAP’s mental health services and family support services. They utilized the VIAP housing assistance relocation experts, ultimately moving from the neighborhood they no longer felt safe in.

VIAP provided James with job search support, and eventually he was able to obtain a job at a restaurant. Starting as a dishwasher, his hard work payed off and he was promoted several times. Today, James is enrolled in an undergraduate program at a local university, studying business management in the hopes of opening up his own restaurant.

“ Victims of violence who are young, male, racial/ethnic minorities, and victims of physical...assault are disproportionately underrepresented among victim compensation applicants...^{78,79} ”

base of HVIPs and best practices for violence prevention in health care settings.

State Victim of Crime Assistance Programs Should Support HVIP Programs

Established by VOCA in 1984, the federal Crime Victim Fund is a special mandatory spending account that provides two distinct and important sources of potential funding for HVIPs and their clients. VOCA funds derive from fines, fees, and penalties imposed upon individuals found guilty of federal offences and do not include federal tax revenue. VOCA funding generally falls into two distinct categories: VOCA assistance grants and VOCA compensation.

VOCA assistance grants are a “formula” grant, meaning that states are each allotted a certain amount of funding based on a formula that includes population size. The purpose of VOCA assistance grants is to support organizations that provide direct services to victims of crime, such as crisis intervention and counseling. VOCA assistance grants are funded by federal dollars, but are managed by State Administrative Agencies (SAAs), which are different in each state. In South Carolina, for example, the SAA is the Office of the Attorney General, in Tennessee, it is the Office of Criminal Justice Programs.

The amount of funding available to organizations via VOCA assistance grants has increased substantially in recent years, creating an opportunity for HVIPs. In 2015, Congress raised the VOCA assistance grant spending cap from \$700 million to \$2.361 billion, effectively quadrupling available funding. In 2015, each state suddenly found itself with an enormous influx of funds that were to be used “to catch up with the needs of current victim service providers, to expand services to new and underserved populations, and to invest in desperately needed infrastructure and technology improvements.”⁷⁷ Texas, for example, went from

having \$36 million in VOCA assistance grants in 2014, to more than \$161 million in 2015.

With a dramatic influx of funds in recent years, SAAs are looking for additional programs to fund with VOCA assistance grants. As programs that provide direct services to victims of violent crime, HVIPs should absolutely qualify to receive VOCA assistance dollars. One HVIP, Project Ujima, based in Milwaukee, WI, has received regular and substantial funding from its SAA, the Wisconsin Department of Justice’s Office of Crime Victim Services, for a number of years. HVIPs around the country should be contacting their SAA and starting conversations about whether VOCA assistance grant funding opportunities are available. A full directory of SAA’s, along with contact information is available here: www.navaa.org/statedirectory.html.

State Victim of Crime Compensation Programs Should Remove Barriers for Patient Access

VOCA compensation dollars are available not to organizations, but rather to individual victims of violence for crime-related expenses and services—including lost wages and the cost of medical, dental, and mental health care. The receipt of victim compensation funds is contingent upon a number of factors, including the victim’s cooperation with law enforcement officials. Funds are distributed by the DOJ’s Office of Victims of Crime (OVC) to states that administer victim compensation programs. Restrictions regarding how VOCA funds can be used are determined by both federal and state guidelines, and there is substantial variability between states regarding the permissible use of VOCA compensation funds.



Photo courtesy of Stephanie Mathena

Despite the availability of victim compensation funds, a relatively small proportion of victims of crime apply for compensation or access assistance programs. Victims of violence who are young, male, racial/ethnic minorities, and victims of physical—as opposed to sexual—assault are disproportionately underrepresented among victim compensation applicants relative to proportion of crimes committed against them.^{78,79} These disparities are driven by lack of knowledge about victim compensation benefits and eligibility, challenges to completing application processes, and hesitancy regarding involvement with law enforcement officials.⁸⁰ Additionally, victims of violence often face bureaucratic processes that may disqualify them, such as subjective assessments of police cooperation or disqualification because of prior criminal charges. These criteria should be reexamined and the application process streamlined.

Finally, the services of HVIP Intervention Specialists should be reimbursed as eligible services for victims using compensation funds. This approach was first implemented in California after the passage of the 2013-2014 Assembly Bill 1629 which was the first in the nation to establish such an approach. This law amended state-level requirements that determine the permissible use of victim compensation funds to codify the position and services of “Violence Peer Counselors” – establishing training requirements, duties, and reimbursement rates. This strategy can be replicated

in other states and would provide HVIPs with additional resources to increase the number of victims of violence of receiving VOCA benefits, reduce disparities among applicants, and ensure the provision of crime-related services, such as follow up medical and mental health care. Intervention Specialist reimbursement would also improve the sustainability of HVIPs—increasing the number of clients served, and reducing reinjury and retaliation as a result.

Health care payers should provide reimbursement for violence prevention professional services

Additionally, HHS should seriously consider new policy options available for treating victims of violent injury since the implementation of the Patient Protection and Affordable Care Act’s Medicaid expansion. Although traditionally uninsured, violently injured patients have access to Medicaid insurance in ways previously unavailable. Accordingly, the NNHVIP developed and gained recognition for a new type of health care provider to assist in the care of violently injured patients: “Prevention Professionals.” State Medicaid agencies should give serious consideration for direct reimbursement for violence prevention professional services. Alternatively, at the Federal level, the Center for Medicare and Medicaid Innovation could create a “violent injury” demonstration project to obtain additional data on programs while still providing needed services.

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