Pardon the Interruption:
Assessing the Implementation, Operation, and Sustainment of Hospital-Based Violence Intervention Programs in the United States

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Abstract

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Background: Hospital-based violence intervention programs (HVIPs) are public health interventions to prevent violent re-injury. We know little about the experience of HVIPs during the early stage of implementation. Specifically, we do not understand the factors that help or hinder programs from achieving stable operation. A threat of survivorship bias exists, as programs failing to reach operational status are not represented in the literature. HVIPs hinge on the ability of violence prevention professionals to assist the recovery of intentionally injured patients to prevent further spread of violence. Yet, we know little about the tactics these professionals use, or whether the tactics developed by one violence prevention professional transfer to another. While there is published guidance on initial program implementation, there is limited evidence or guidance about factors influencing long-term HVIP sustainability.

Methods: Semi-structured interviews were conducted with 18 HVIP leaders regarding the barriers and facilitators to program implementation (Study #1). Interviews were conducted between December 2023 and March 2025 and were organized around a nine-stage blueprint for starting an HVIP, developed by the American College of Surgeons. Leaders were asked to articulate the barriers and facilitators encountered during each stage of implementation in as much detail as possible. Inductive coding was used to identify themes emerging at each stage. Semi-structured interviews were also conducted with hospital-based violence prevention professionals to identify tactics used in everyday work (Study #2). Interviews were organized around 10 "hinge points" on the patient's recovery continuum deemed integral to program success, identified *a priori*. Inductive thematic analysis was used to identify individual tactics. The Action Actor Context Target Time (AACTT) rubric helped ascertain essential information about each tactic. Finally, a three-round Delphi study was conducted with leaders of established programs to prioritize factors critical for achieving long-term HVIP sustainability (Study #3). Participants submitted factors influencing their program's sustainability in Round 1. Responses were synthesized using inductive thematic analysis and returned to participants for refinement in Round 2. Maximum-difference scaling with hierarchical Bayes estimation helped prioritize factors by importance in Round 3.

This dissertation addressed these gaps in our knowledge through primary data collection across three studies:

Study #1: assessed the barriers and facilitators facing HVIPs actively in the early stages of program implementation.

Study #2: identified the tactics violence prevention professionals use to meet the recovery needs of violently injured patients while preventing future violence exposure.

Study #3: developed a prioritized list of factors influencing the achievement of long-term HVIP sustainability.

Results: Barriers to implementation (Study #1) included insufficient program infrastructure to secure outside investment in an HVIP; challenges hiring violence prevention professionals with criminal histories; and maintaining relationships with community organizations mistrustful of the hospital system. Key facilitators included early identification of executive-level hospital champions; hospitals budgeting for initial HVIP funding; and external capacity-building support to grow program infrastructure. Interviews in Study #2 surfaced 214 tactics used by violence prevention professionals. Tactics addressing the initial patient encounter (n=49) and trustbuilding with patients and families (n=44) represented both the largest and most diverse share of those identified (n=96). Navigating social services bureaucracy was particularly challenging and required a distinct set of tactics (n=39). Comparably few tactics engaged program retention (n=11) or program exit and aftercare (n=3). Finally, in Study #3, 27 sustainability factors were initially synthesized from 108 submissions by 32 participants in Round 1. Leaders added four factors and removed three during Round 2, with 28 factors rated in Round 3. Participants prioritized frontline violence prevention professionals in six of the first nine factors. Funding-related factors (e.g., government grants, operating support) received moderate priority. Administration (e.g., hospital leadership) and community stakeholders (e.g., community champions) received lower priority. External institutions (e.g., police) received lowest priority.

Significance: Study #1 represents the first known attempt to identify and describe the barriers and facilitators influencing early HVIP implementation. These findings may equip nascent HVIPs to recognize and respond to factors that accelerate or hinder implementation. Study #2 is the first known study focusing on the role of the hospital-based violence prevention professional. Dissemination of tactics used to conduct their work will strengthen the skillsets of current HVIP professionals, while enhancing the training of future violence prevention

personnel. Findings may support the creation of practical, readily deployable toolkits to translate tactical insight to diverse contexts where HVIPs operate, including HVIPs not yet established. Finally, Study #3 represents the first known study of HVIP sustainability. Priorities for program stability differ from priorities in blueprints for program startup (Study #1). Results may indicate the need for program adaptability during the implementation journey and for HVIP leadership to recalibrate priorities over time.

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dedication.

For my wife,

Susannah Bankhead

In quella parte del libro de la mia memoria
dinnanzi a la quale poco si potrebbe leggere,
si trova una rubrica la quale dice:
Incipit vita nova.

For my mother,

AnnLouise McClean

(10.24.1950 – 8.23.2009)

~ I love you seven times around the moon. ~

acknowledgments.

Nunc lento sonitu dicunt, morieris.

[Now, this bell tolling softly for another, says to me: Thou must die.]

Perchance he for whom this bell tolls may be so ill,

as that he knows not it tolls for him;

and perchance I may think myself so much better than I am,

as that they who are about me,

and see my state,

may have caused it to toll for me,

and I know not that…

No man is an island,

entire of itself;

every man is a piece of the continent,

a part of the main.

If a clod be washed away by the sea,

Europe is the less,

as well as if a promontory were, as well as

if a manor of thy friend's or

of thine own were:

any man's death diminishes me,

because I am involved in mankind, and

therefore never send to know for whom the bells tolls;

it tolls for thee.

~ John Donne | *Meditation XVII*

Devotions on Emergent Occasions | (1624)

All are equal, but some are more equal than others.

Holding the totalitarian allusion constant, some refer to their most loyal friends, colleagues, and associates as *ride or die*. While pithy and rhythmic, such a phrase does no justice to those who have stood alongside me amidst my minor successes and colossal shortcomings. My Mt. Olympus, my Pantheon, my most equal of friends (as ordered by random number generator):

Chavarria DA. |2014| un manantial de empatía, compasión y sacrificio; por una amistad forjada en la inesperada confluencia del genocidio, la ingeniería sueca y la dedicación para enorgullecer a nuestras madres; te amo, vato; por siempre.

Choi-Fitzpatrick A. |2003| the most inquisitive mind in the modern world; an everlasting sounding board; for asking if my mother was warm rather than saved as she left us.

Theriault SS. |2012| whose unbridled love could power a midsized city; for keeping the faith when I could not; for men; for blazers; for surviving relegation, in this life and the next.

Meyer ME. |2003| Μείζονα ταυτης αγαπην ουδεις εχει ινα τις την ψυχην αυτου θη υπερ των φιλων αυτου; incarnated; for living with such integrity that I cannot forsake the controlling narrative of liberation.

Estabrook BA. |2010| [Redacted]; because reasons.

England NC. |2022| god of the word, written and spoken; rapierest of wits; for instant brotherhood; for refusing to let the good in me become the enemy of the great.

Lee D. |2018| 당신의 은혜와 친절함이 앞서 나갑니다. 상처받은 세상에서 어떻게 살아야 하는지 보여주는 순수한 모범입니다. 친구야, 사랑해. 가자!

A separate dissertation could be written on the relational factors and influences that made this dissertation possible. A third on the circumstances that threatened it. The latter remains confined to another time. Glimpses of the former are highlighted below. The value assigned to each entry has no correlation with the brevity that follows. If anything, the relationship between the two is assuredly inverse. I am grateful to the following friends, colleagues, and mentors, each of whom embodies at least two of these identities simultaneously. For their presence and influence on my life writ large and this journey in particular, I extend a thousand thanks to:

Acolin J. |2018| for modeling contagious intellectual curiosity.

Alzubaidy A. |2012| يلا حبيبي!

Baker NS. |2024| for consummate networking support; for your tenacity; for QMABB.

Bankhead DK. |2012| for helping me turn out better than expected; for sushi.

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Bernet E. |2021| for wearing all of the hats on our behalf; thank you.

Bialecki J. |2001| for the mutual fascination with cats and pop-Evangelical training manuals employed by defunct drug trafficking organizations; oh, and that whole exorcism thing.

Brayley K. |2006| co-creator of the Krishantwich; a model of resilience; a precarious miracle.

Brown JR. |2023| I pray for a language to one day effectively convey: for making this possible.

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Coda B. |2014| for embodying the most tenacious love in the face of death and destruction.

Costco: Shoreline, WA. |2019| for pizza date nights and affordable roast histories.

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Everton Football Club. |2014| for avoiding relegation; for the love of God, sign a striker.

Fischer B. |2023| for diligently chipping away at this hardened heart, one hour at a time.

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Gruning V. |2016| for the keenest editing eye I've ever encountered.

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Han D & Han E. |2003| for friendship catalyzed by articulations of a theology of violence in the bed of a pickup truck within earshot of mortar fire; Canada still kicks ass.

Harborview Injury Prevention & Research Center. |2023| for the study incentives to make unlocking HVIP sustainability possible.

Head GS. |2003| for redeeming therapy; for smoking what you sell.

Headley W. |2007| for faith with works; and for staying awake during my thesis presentation.

Helfrich CD. |2018| for teaching me how to think like a scientist; for the awareness of blind spots; for teaching me how to think like a scientist aware of my blind spots.

Hoston GA. |2003| for *POLI 118B – The Politics of Liberation Theology*, which served as a theological life raft while my worldview crumbled.

King S. |2015| for wearing all of the hats all of the time; with flair.

Lee J & Kim E. |2011| for modeling loyalty; for beer.

Little C. |2022| for saving my life; the second time.

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McDougal TL. |2010| for challenging me to identify something captivating that I could not yet understand about the expression of interpersonal violence in the world; that captivation motivated this dissertation; essentially, this is all your fault.

Mosqueda W. |2012| for State Cups just being the ~~metaphors~~ friends we met along the way. Te amo.

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Ng T. |2022| for making everyone around you better.

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Ramaswamy M. |2024| for impromptu service; for sustained generosity on behalf of students.

Ramos F. |2013| for keeping the faith despite every rational reason to the contrary.

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San Diego Padres, The. |1987| I survived a PhD; you can win a World Series; your move.

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Tran DV. |2004| for radical embodiment of socio-emotional intelligence in a colonized world.

Tschirgi N. |2010| for saying we weren't equipped to conduct primary research; for tolerating my dissent; for writing from the United Nations that maybe I should consider a PhD.

Walker SC. |2019| for insisting on practical scholarship, sometimes using words; for tearing evil systems stone from stone; for pushing me past CBPR into co-design.

Walsh MR. |1989| for consistently weaving [redacted], [redacted], and [redacted] into poetry.

Wical W. |2024| for perpetual, thunderous encouragement amidst the chaos; for QMABB.

Williams EC. |2018| for knowingly planting trees, the fruit of which you may never taste.

Williams N. |2020| for embodying empathy and hope in the face of abject devastation.

Yates SM. |2018| for the glue behind it all; if you're cold, they're cold; bring them inside; induct them into your militia; no, seriously, we need all the help we can get right now.

Precious few beings exist who see the totality of your being. Many of us wisely prefer it that way, for fear of our true nature exposed as insufficient before an increasingly inhospitable world. Those who see as much yet choose to remain rooted in the life of another suffer from either Stockholm Syndrome or an incurable loyalty harnessed within painstaking love. Against my nature, I believe the following align with the latter classification:

AnnLouise McClean. |1983| for everything. I hope I've made you proud.

Kyle McLean. |1984| what's half a dozen adverse childhood experiences between brothers? I'm beyond proud of the man you've become. The compassion you embody to and for others is everything Mom would have wanted. I love you, brosef.

Remy LeBeau. |2013| co-founder of the Corgi Research Institute. My best bud. Ushered in this project but was unable to witness its completion. Annoyingly underfoot by day; solidarity underfoot while studying at night. Rest easy, Bubbas.

Ruth Bader. |2016| goddess of flesh-tearing dissent. Whose gentle purring herself to sleep on my chest provided solace during literally hundreds of insomnia-laden nights.

Susannah Claire. |1994| hey, 30 years later, look at us. Who would've thought? Not me.

You make me a better person, inside and out. This endeavor was impossible without you.

I love you.

Stonks.

chapter one.

violence as social contagion.

Take a bunch

of teenage boys

from the

Whitest,

safest

suburb in

America and

plunk them down

in a place where

their friends are

murdered

and they are

constantly

attacked and

threatened.

Signal that

no one cares,

and fail to solve

murders.

Limit their options

for escape.

Then see what happens.

~ Jill Leovy | *Ghettoside: A True Story of Murder in America* | (2015)

BACKGROUND

Violence as Social Contagion

During the most violent period in modern American history, the city of Boston's murder rate skyrocketed, reaching 22.7 per 100,000 residents. A rate 2.5 times the national average of 9.2 per 100,000 at the nation's peak.[1] Yet, homicides and non-fatal intentional injuries were not features of the city at large: half of all murders and three-quarters of non-fatal assaults in the city were perpetrated by roughly 0.2% of Boston's population.[2] While murders in Boston disproportionately occurred among gang-involved youth ages 14-24, the murders themselves were not inherently rooted in turf wars or competition for street-level drug markets.[3] Rather, the violence took on a more narrow, interpersonal character that one study described as "vendetta-like."[1]

Violence is rarely indiscriminate. Rather, it escalates through retaliatory and counter-retaliatory acts, a reciprocal process capable of spreading across clusters of relationships while diffusing throughout a social network.[4–11] Community-level violence operates as a social contagion, spreading akin to the transmission of an infectious disease.[12–16]

An infectious disease requires three things to spread: an agent, a host, and an environment. Epidemiologists refer to these as the *epidemiological triad*.[17]

An agent is a pathogen that triggers the disease, such as a virus.

A host is the target or recipient of the agent, such as the human body.

The environment is the context within which the agent interacts with the host.

Within this setting, (i.e., the environment) someone (i.e., the host) may shoot or be shot at with a firearm (i.e., the agent), resulting in violent injury and often death (i.e., infection).

Violence spreads person-to-person, resembling the transmission of blood-borne contagions, such as HIV.[16–18] Frequently, survivors of violence (or their family and friends) seek retribution against the perpetrator or those they associate with the perpetrator. Adolescents *subjected* to firearm violence are 2.5-times more likely to *perpetrate* serious violence within two years of that incident compared to adolescents unexposed to violence.[19] Consequently, intentional injuries and fatalities incurred via gunshot wounds, stabbings, or physical assaults transmit from person-to-person through networks of individuals exposed to and infected by violence.[6,7]

Networks where violence occurs are concentrated. In many cities, profoundly small proportions of the population are vectors for violence.[5,8] These networks are shaped by both broad socioeconomic factors and proximate relationships.[7,9,21] A one percentage point increase in the number of one's close friends or associates (i.e., individuals one degree of separation away) who are shot increases that individual's own probability of being shot by 144%.[5] Finding oneself in the largest relationship cluster of a dense violent network increases the odds of being killed by more than 3,000%.[6] Despite such elevated risk, we cannot predict *if* an individual will be shot–if *exposure* to violence based on these relationships will result in *infection* with the contagion. However, *should* an individual be shot, we can predict that this transmission (i.e., infection) will occur, on average, 125 days from when the person responsible for exposing the individual to violence was injured or killed with a firearm.[13] Essentially, *exposure* to violence triggers an acute window of risk for *infection* with the social contagion when compared to those outside the network.[19,22–27]

Disrupting the Transmission of Violence

While proximity to firearm injury and homicide elevate one's risk of becoming a victim, distance from violence has a protective effect. The likelihood of being shot falls by up to 25% for each relational degree of separation removed from a subject of non-fatal gun violence.[5] Further, the

odds of being murdered drop by 57% for each relational tie removed from a homicide victim.[6] Consequently, directly engaging individuals most susceptible to contracting and transmitting the contagion is essential to disrupting cycles of violence.

Two models for interrupting these cycles of violence are discussed below. The first, engaged briefly, is a criminological model that historically relies on the mechanisms of policing and incarceration. The second is a public health alternative that deploys community members with a lived experience of violence to disrupt reciprocal cycles of violent conflict. Hospital-based violence intervention, a specific mechanism within this second model, is the subject of this dissertation.

The Law Enforcement Credibility Gap

This is not a dissertation about policing. However, a rudimentary understanding of contemporary policing in and among the populations most affected by interpersonal violence is necessary to grasp the failure of the current system and the need for viable alternative models.

Criminological mechanisms for disrupting cycles of violence predominate in the United States. Militarized law enforcement agencies police territory to apprehend and incarcerate individuals deemed threats to society.[28,29] This approach treats violence like an airborne contagion that may be "caught" out in the open, akin to viruses like the common cold or COVID-19. Pretextual policing tactics, such as "stop and frisk,"[30,31] a practice allowing law enforcement officers to temporarily detain and search individuals based on the subjective criteria of *reasonable suspicion* of criminal activity,[32,33] proliferate under this approach. Application of these tactics to residents is not equal. Upwards of 90% of stop and frisk encounters occur among populations of racial minorities, with a disproportionate share of stops conducted among Black adolescents and

young men.[30,34,35] Such measures are prophylactic,[32] rooted in assumptions of underlying criminality inherent to the territory policed.

This policing approach reinforces media and public perceptions of violence saturating "bad neighborhoods" and "violent cities" rather than concentrating in relational networks. Such perceptions are wrong. They are also frequently racist. At the height of the American homicide epidemic, Boston was not a violent city. It was a city within which incredibly small networks of individuals were responsible for astounding levels of violence. Contemporary Chicago is not a violent city. It is a major urban metropolis home to small networks of residents deeply involved with violence. The overwhelming majority of residents in areas wrongfully labeled "violent" do not commit acts of violence.

Accordingly, violence does not permeate entire communities or swaths of geographic territory like an airborne contagion necessitating widespread quarantine and vaccination. Rather, violent activity clusters not only within relational networks, but in geographic constellations of "hot spots."[2,36–40] Hot spots are patchworks of city blocks and intersections often comprising less than three percent of the built environment in major urban areas, but which serve as arenas for more than half of all fatal and non-fatal shootings.[9] This helps explain why elevated levels of violence occur near liquor stores[41–45] and bus stops.[46–48]

Broad-based policing efforts, such as stop and frisk, frequently undermine community trust.[3,49,50] Members of historically marginalized and oppressed populations in the United States maintain high levels of deep-rooted institutional cynicism toward representatives of authority operating under the auspices of aid, safety, and support to residents in volatile situations.[50–54] Compounding these challenges, the encroachment of policing into nearly every facet of daily life in urban settings induces spillover effects.[11] Cynicism radiates out from law enforcement into

perceptions of other foundational community institutions, including schools[55,56] and public health systems.[57–59] So entrenched are this distrust and cynicism that in Philadelphia, a city with many of the most intractable hot spots in the country, the prevailing ethos in neighborhoods affected by violence is to never call the police.[50,60] The very institution tasked to eradicate cycles of violence under the government's social contract with the public is that which is least trusted by those who bear the disproportionate weight of that violence.

The criminological model also fails to make communities safer.[29] Instances of over-policing and police brutality are well documented.[61–66] Less so is the *under-policing* of communities affected by violence. Police are increasingly ineffective at solving murders.[67,68] Homicide clearance rates plummeted across the country in recent decades.[69] A clearance rate is the proportion of homicide cases resulting in a law enforcement arrest.[67] In 1965 more than 90% of all murders resulted in an arrest. By 2023 that figure fell to 52%.[70] American law enforcement transformed from clearing nearly every homicide in the country to clearing barely half of all murders within the span of two generations. It bears noting that an *arrest* is not synonymous with *conviction* for a crime. *Conviction rates are inevitably lower than clearance rates*. Homicide clearance rates fall further than the national average in urban areas with large Black and Latinx populations. Less than 20% of firearm-involved homicides in Chicago result in an arrest.[71] Fewer still result in a conviction. Including Chicago, law enforcement agencies clear fewer than 50% of murders in seven of the ten most populated cities in the United States, comprising Los Angeles,[72] Houston,[73] Phoenix,[74] Philadelphia,[75] San Antonio,[76] and Dallas.[77]

Failure to solve murders erodes trust in law enforcement.[78] Cynicism with law enforcement raises the opportunity cost of cooperating in law enforcement investigations.[79] Outing yourself as a "snitch" in a context where the killer will not be removed from your community is not only social suicide, it threatens your own physical safety.[68,80] The resulting delegitimization of

policing and the criminal legal system hollows out the capacity of the State precisely where it is needed — to prevent murder and intentional interpersonal violence. Parallel systems of governance emerge to fill this vacuum.[81–83] Recalibrated social contracts of rules, norms, and communal expectations are born.[80,84] Swift justice on the street supersedes that drawn out in a courtroom. Violence emerges as a proxy for contract litigation and debt collection. Soldiers and street gangs replace lawyers and law firms. Calls to spin the block supplant calls to the police.

The primary mechanism to ensure community safety is not credible to large swaths of populations affected by violent conflict. Yet, few alternatives exist outside of law enforcement to engage intentional community violence.

Hospital-based violence intervention programs represent one such tool.

Hospital-Based Violence Intervention Programs

Hospitals play a distinct role as anchor institutions in local communities.[85–89] These institutions may be the only point of interaction that those at elevated risk of violence exposure have with the healthcare system.[90,91] Trauma surgeons and emergency department personnel are highly skilled at stabilizing individual patients and saving the lives of victims of violence. However, preventing initial and repeat injuries that bring patients to the hospital in the first place remains an intractable challenge.[27,92] Reaching such patients at the hospital bedside means connecting with someone with a greater likelihood of being in a violent network compared to patients admitted for conditions unrelated to violence exposure. Direct access to violently injured patients represents a rare opportunity to shape the life trajectory of someone traditionally difficult to reach outside of punitive law enforcement tactics.[93,94] Hospital-based violence intervention programs (HVIP) represent credible interventions to address violence outside the

institution of law enforcement. They are also one of the only strategies designed to combat violence as a social contagion.

HVIPs connect violently injured patients to violence prevention professionals, frequently referred to as "credible messengers"[95] due to their own lived experience of violence. Beginning at the hospital bedside, violence prevention professionals leverage this credibility to build trust with injured patients. Building upon this trust, professionals enroll violently injured patients into intensive case management services designed to address the social determinants of health and modifiable risk factors that exacerbate health disparities[96,97] and influence a patient's risk of future violence exposure.[98–101]

A Snapshot of the Literature

The academic literature on HVIPs disproportionately focuses on patient and program outcomes. These include re-exposure and violent re-injury,[27,102–111] cost savings to the hospital,[111–114] and initial or repeat criminal legal involvement after discharge from the hospital.[115,116] Considerable variability exists regarding the impact of HVIPs on violence-related outcomes, ranging from the specific outcomes measured to the impact of the intervention on those outcomes. Many studies report small to moderate reductions in violent re-injury.[102–107,117] Others report moderate to substantial reductions in violent arrest and/or incarceration for violent activity, yet without corresponding reductions in re-injury.[108–110] Numerous HVIP studies report on process measures, such as program service utilization, without reporting impacts on violence. For example, one early study of HVIPs found that participants assigned to a control group receiving standard of care were three times more likely to be arrested and more than four times as likely to be convicted of a violent crime compared to patients who received intensive follow-up services.[115] Another study found that youth participating in a separate HVIP were 70% less likely to be arrested for any offense compared to matched controls, though violence-related arrests

specifically were not statistically significant.[116] Patient participation in HVIP services varied in the studies from four[109] to six months.[116] As noted above, injured patients risk being shot within an average of 125 days after being exposed violence by an immediate social tie.[13] Meanwhile, those violently re-injured after discharge from a hospital admission for an intentional injury can expect the subsequent injury to occur, on average, within 180 days from discharge.[25] Thus, the window of HVIP services in these studies ceased at the moment of greatest risk to patient re-injury or death.

Commenting on many of the above studies, the authors of a systematic review covering the first two decades of HVIP research (roughly 1994-2016) declined to make a recommendation regarding whether HVIPs were effective or not as a violence-prevention intervention.[118] They cited heterogeneity in program implementation as a barrier to the effective comparison of programs to one another. The authors expressed additional concerns over the risk of bias and quality of evidence in many studies, which largely consisted of one-off evaluations of individual HVIPs conducted by the programs themselves.

Essentially no research engages the upstream program implementation process that determines *whether* and *how* such outcomes may be obtained or how we might overcome barriers to assessing HVIP effectiveness.

THE DISSERTATION

To evaluate the effect of HVIPs on the outcomes highlighted in the literature above, we must first establish what constitutes the HVIP intervention. Yet, the mechanics of the intervention have yet to be well-defined in the literature. This dissertation represents an attempt to fill this gap. The ensuing research looks upstream, shifting from a focus on quantifiable outcome and process measures to instead investigate the factors that support or threaten the creation,

operation, and sustainment of HVIP programs themselves. The three aims of this dissertation, engaged in the following chapters, seek to increase our knowledge about implementing and sustaining HVIPs. They are situated within the conceptual model laid out below in Figure 1.1.

The Conceptual Model

The framework guiding this research incorporates antecedents to violence and situates an HVIP within the context of the wider community environment where exposure to violence, treatment, and recovery take place. This model proposes that cycles of violence are fueled and sustained by compounding individual and structural factors within the community. These factors include social networks, poverty, unemployment, and the availability of firearms, among others, and heighten the risk that an individual will be exposed to violence resulting in injury (morbidity) or mortality. Victims of violence are almost always admitted to emergency departments or trauma centers.[119,120] Under standard of care protocols, when the injured patient is healthy enough to leave the hospital, they are discharged with minimal regard for the context and social determinants that contributed to their initial injury. As long as the victim's individual and structural risk factors remain the same, they face an even greater risk of re-injury and of spreading violence.

To mitigate these factors, hospitals establish HVIPs to connect frontline violence intervention specialists to injured patients within the hospital setting immediately after emergency treatment or surgery. Frontline violence prevention professionals support the patient to make individualized recovery plans and prioritize the patient's recovery needs on the journey to recovery outside of future exposure to violence. This process is represented by the blue arrow exiting the hospital in Figure 1.1. In addition to laying out goals for the patient's physical healing, recovery plans identify social and behavioral needs the patient wishes to engage with support from the HVIP. While each recovery plan is unique to each patient, common goals

include meeting basic human needs, such as housing, a means to make a living, and support caring for dependents. Additional needs include affordable healthcare, accessible substance use treatment, and reliable social services, among many others. Violence prevention professionals also help patients reduce the risk factors that may place the patient at elevated risk of re-injury. Referred to as modifiable risk factors, these include behaviors, attitudes, and situations where the patient retains agency to avoid, mitigate, or extract themselves from this risk.[121–124] Examples include one's close social networks, a propensity toward fighting or retaliation, and decisions regarding one's external presentation, such as choice to openly reveal tattoos or wear colored clothing that may signal affiliation with a particular group or clique.

Figure 1.1 | The Conceptual Model

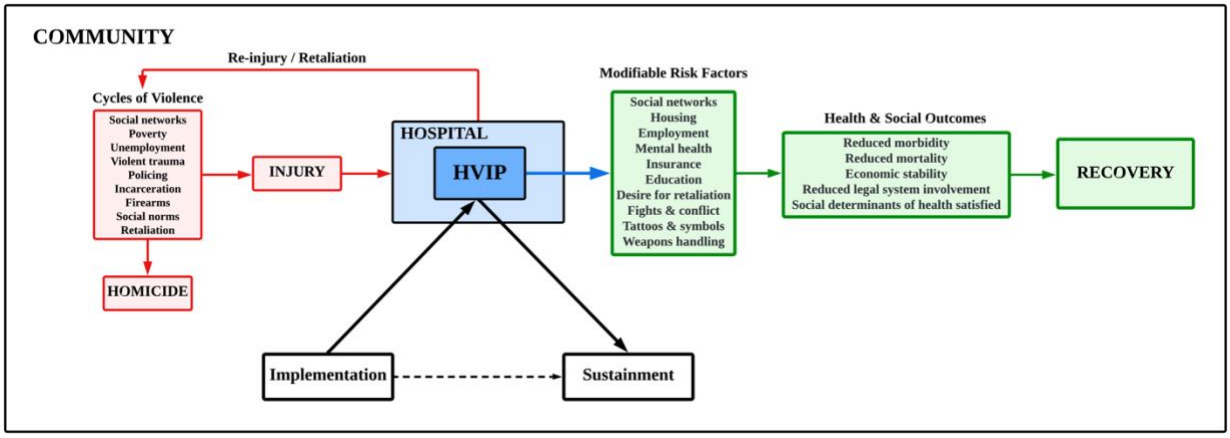
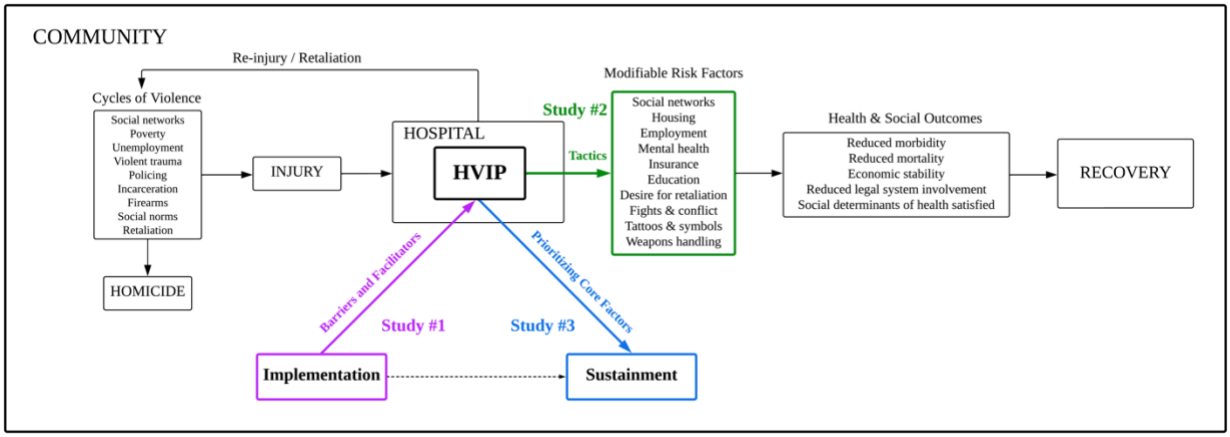


Figure 1.2 | Dissertation Studies Situated within the Conceptual Model



Chapter Two assesses the barriers and facilitators emerging HVIPs experience during initial program implementation (Aim 1; Study #1). It harnesses interviews with 18 leaders of young HVIPs to identify and explain the barriers and facilitators they have encountered. Focusing on young HVIPs creates a unique opportunity to study the implementation of these programs *in real time*. This is important, as it enables the conduct of this research with minimal risk of the biases that confront the study of established programs, such as recall bias[125,126] and survivorship bias,[127,128] where stakeholders must reflect on the implementation experience of their program in hindsight. It additionally protects against the halo effect,[129,130] whereby a stakeholder from a fully established program might be prone to characterizing the implementation process as largely barrier-free because the current program is thriving, and thus the state of the current program stands in for the memory of the early, complicated implementation process. This study directly engages the leaders of new and early-stage HVIPs to provide the first systematic examination of barriers and facilitators to initial HVIP implementation.

Chapter Three represents the first known study directly engaging the work of the frontline violence prevention professional, the linchpin of the HVIP model (Aim 2; Study #2). Leveraging semi-structured interviews with 23 professionals, this study identifies and organizes the tactics

these workers use to effectively help their clients rebuild lives outside of future exposure to violence. The rebuilding process traditionally begins at the hospital bedside and continues through the patient's comprehensive recovery.

Chapter Four describes a three-round Delphi study with 32 of the HVIP field's program founders and senior leaders to identify, define, and prioritize the factors essential for achieving long-term HVIP sustainability (Aim 3; Study #3).

Finally, Chapter Five articulates how the findings from this research weave interdependent and reciprocal throughlines between all three studies. It then lays out a research agenda building upon that presented in this dissertation.

This dissertation underscores the value implementation science and qualitative-heavy mixed methods provide to knowledge generation within the wider ecosystem of community violence research. It simultaneously provides on-the-ground practitioners with actionable and contextualizable knowledge to implement, operate, and sustain the next generation of HVIPs across the United States. Findings from these three studies address important gaps in the HVIP literature. The results have real-world practical implications as hospitals adopt violence intervention programs in the communities they serve. The novel data collected through this research will strengthen the foundation upon which the next generation of HVIPs emerge, grow, and, ideally, thrive in the face of pervasive cycles of community violence.

chapter two.

assessing barriers and facilitators facing HVIP implementation.

The beginning is the most important part of the work.

~ Plato | *The Republic* | (circa 375 BCE)

The world is quite ruthless
in selecting between the dream and reality,
even where we will not.

Between the wish and the thing

the world lies waiting.

~ Cormac McCarthy | *All the Pretty Horses* | (1992)

Assessing the barriers and facilitators to the implementation of hospital-based violence intervention programs

ABSTRACT

Background: We know little about the experience of hospital-based violence intervention programs (HVIP) during the early stages of implementation. Specifically, we do not understand the factors that help or hinder programs transitioning from launch to stable day-to-day operation. A threat of survivorship bias exists, as programs failing to reach operational status are not represented in the literature. This study assesses the barriers and facilitators to full HVIP implementation.

Methods: Semi-structured interviews were conducted with HVIP leaders regarding the barriers and facilitators to program implementation. Interviews were structured around a nine-stage blueprint for starting an HVIP, developed by the American College of Surgeons. Leaders were asked to articulate the barriers and facilitators encountered during each stage of implementation in as much detail as possible. Deductive coding was used to identify themes emerging at each stage.

Results: Interviews were conducted with 18 HVIP leaders between December 2023 and March 2025. Barriers to implementation included insufficient program infrastructure to secure outside investment in an HVIP; challenges hiring violence prevention professionals with criminal histories; and maintaining relationships with community organizations mistrustful of the hospital system. Key facilitators included early identification of executive-level hospital champions; hospitals budgeting for initial HVIP funding; and external capacity-building support to grow program infrastructure.

Significance: This study represents the first known attempt to identify and describe the barriers and facilitators influencing early HVIP implementation. These findings may equip nascent HVIPs to recognize and respond to factors that accelerate or hinder implementation.

BACKGROUND

The Throes of HVIP Implementation

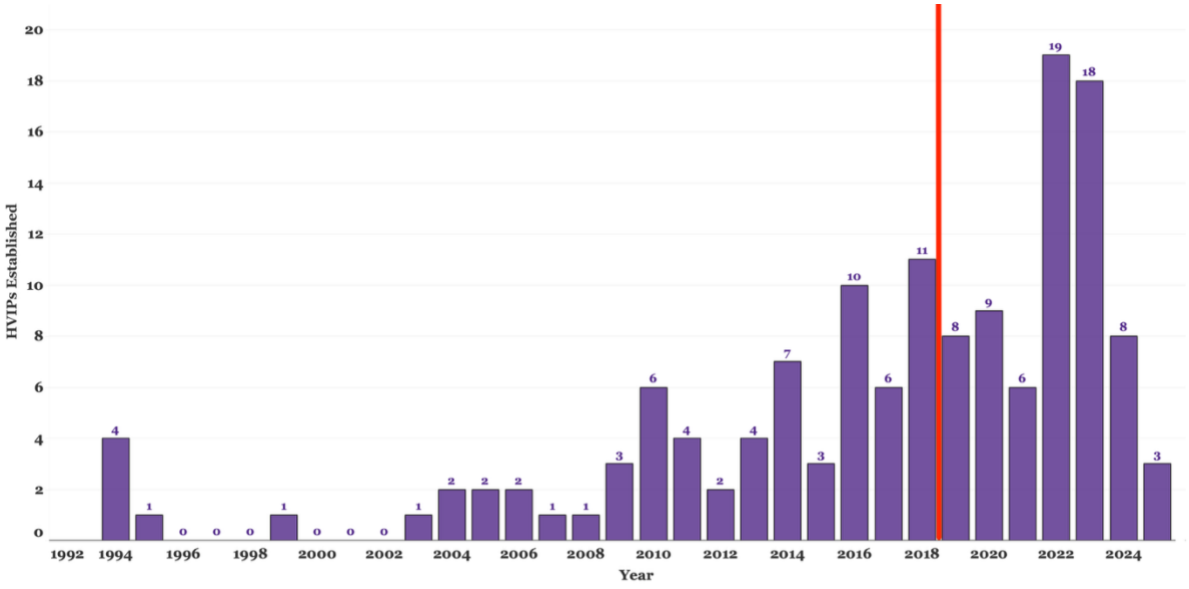
Hospital-based violence intervention programs (HVIP) are public health interventions designed to reduce the risk of retaliation and re-injury among patients admitted to the hospital for an intentional violent injury.[117,131–133] HVIPs employ individuals from the community with a lived experience of violence who are able to credibly engage violently injured patients with support to recover and exit from cycles of violence. Yet, HVIPs are relatively young interventions and critical knowledge gaps exist regarding their implementation. We know little about the experience of the new HVIPs and the factors that help or hinder these programs from achieving stable operation. A substantial share of HVIPs across the country are currently in this implementation phase. As of this writing, an estimated 153 HVIPs exist in the United States, 66 (43.1%) of which are not yet fully operational (author's unpublished data).

COVID-19 and Threats to Implementation Fidelity

Of the 153 current HVIPs, only six programs have operated for more than 25 years. The median program was established in 2019 (see Figure 2.1). Thus, half of known HVIPs were founded immediately before, during, or in the shadow of the COVID-19 pandemic. This crisis challenged a program's ability to maintain fidelity to a shared implementation model. For example, many hospitals pulled violence prevention professionals away from their primary job duties, instead reassigning them to distribute personal protective equipment in the community.[5] Compounding these implementation challenges, firearm violence spiked across the country during the pandemic. In 2020, both firearm homicides and nonfatal violent injuries involving guns increased in cities across the country,[135–138] exceeding the national average for the previous five-year period by more than 30%.[139] U.S. emergency departments treated 1.4 million violence-related injuries from all causes in 2020.[140] Frequently, HVIPs were unable to engage the patients they were established to serve.[141] As a result, HVIP personnel from directors to frontline violence

prevention professionals resigned to pursue jobs that better matched their skillsets and vocational priorities,[134] further threatening the viability of young HVIPs. The resulting variability in program adoption during the pandemic severely complicates efforts to evaluate HVIP effectiveness across the country today.

Figure 2.1 | HVIPs Established by Year



Status of the Literature

Absence of Program Implementation

The HVIP literature largely focuses on the association between HVIPs and various outcomes of interest, including patient re-injury and re-exposure to violence,[27,102–111] criminal legal involvement,[115,116] and cost savings to the hospital.[111–114] Virtually no research addresses program implementation. Yet, effective implementation determines *whether* and *how* those outcomes may be obtained. In 2017, the American College of Surgeons' Committee on Trauma developed a step-by-step blueprint that lays out nine fundamental components for trauma centers to establish an HVIP.[142] *How* this is to be done is not articulated. Further, our current academic

knowledge of HVIPs relies on data and experiences from programs that are well-established and fully operational. Thus, a risk of survivorship bias exists,[127,128] as programs failing to reach operational status are not represented in the literature.

Absence of Program Replication

Efforts to implement HVIPs via the replication of successful existing programs are also rare. The Wraparound Project at the University of California-San Francisco is one of the most well-regarded HVIPs in the country. An attempt to replicate this program at the University of California-Davis in Sacramento occurred in 2010.[143] Both sites, separated by fewer than 100 miles, featured Level I trauma centers located within highly-regarded hospitals in the University of California system. The University of California-Davis HVIP successfully exported the overarching model of employing a frontline violence prevention professional to engage violently injured patients within the hospital. However, efforts to implement the everyday program infrastructure from one hospital setting into another were unsuccessful. This resulted in the program missing roughly 70% of eligible patients, unable to link enrolled patients to post-discharge services, and ultimately lacking the financial resources to survive. This is the only known replication attempt in the literature.

Successfully delivering upon an intended strategy does not inherently ensure effective program implementation. Emergency departments and trauma centers are dynamic institutions embedded within complex hospital systems. Implementation without concerted and ongoing efforts to adapt to the dynamic nature of such contexts is a recipe for failure.[144] This case highlights the importance of identifying and understanding which facets of program operation translate across contexts and which are idiosyncratic to the specific environment of the operational program.

The Health Alliance for Violence Intervention

Programs well-positioned to scale their operations but still in need of capacity-building support may apply for a temporary, two-year "Emerging Program Membership"[145] with the Health Alliance for Violence Intervention (HAVI). The HAVI is the primary training and technical assistance provider for HVIPs in the country. Obtaining Emerging Program Membership status requires meeting a set of benchmarks including, among others, 1) sustaining program operations for a minimum of one year; 2) conducting both hospital-based and post-discharge encounters with a minimum of 20 violently injured patients; 3) providing case management services for a minimum of six months; 4) and maintaining a staffing level of 2.0 full-time equivalent (FTE) employees, including a program manager and frontline violence prevention professional. Programs meeting these criteria while serving at least 50 patients for a minimum of two years are considered fully operational programs and may apply for "Full Program Membership."[145]

The Current Study

This study assesses the barriers and facilitators to successful HVIP implementation across the country. The goal is to equip programs to recognize and address factors that accelerate or hinder the implementation of their HVIP. These findings are intended to support an efficient transition into a fully operational HVIP, and position programs for sustained effectiveness.

METHODS

Participant Identification and Recruitment

Participant Eligibility

The study population included leaders of HVIPs in the early implementation phases of program development. Leaders were defined *a priori* as program personnel responsible for overseeing

the greatest breadth of day-to-day program responsibilities. These included hiring, training, and supervising frontline violence prevention professionals, managing program budgets, supervising data collection and program evaluation, and interfacing with hospital administration, among other responsibilities. HVIPs were classified as "implementing" if the program did not meet the threshold of a fully operational HVIP outlined by HAVI membership status. HAVI membership was not considered in determining eligibility. The study excluded frontline violence prevention professionals, program personnel without direct leadership oversight responsibilities, hospital medical staff without HVIP leadership responsibilities, and leaders of violence prevention programs rooted in the community without a hospital presence. Clinicians serving as HVIP medical directors, as well as leaders from community-based organizations contracted to operate the HVIP were eligible.

Participant Recruitment

Recruitment occurred via a four-pronged purposive sample. First, individuals were recruited in-person by the principal investigator during violence and injury research conferences held in 2023 and 2024. Second, leaders were recruited from a list of Emerging Member Programs listed on the HAVI website. Third, queries of the social media platform LinkedIn were used to identify HVIP leaders based on job title and hospital affiliation. Finally, snowball sampling after interviews helped identify potential participants. Emails or LinkedIn messages with study information and eligibility criteria were sent to each identified leader, with those meeting study eligibility requirements invited to participate in an interview. Up to two follow-up messages were sent at one-week intervals after initial contact.

Data Collection

Recruitment invitations included links to enrollment forms that gathered information about the professional's HVIP and optional self-reported demographic information. Semi-structured

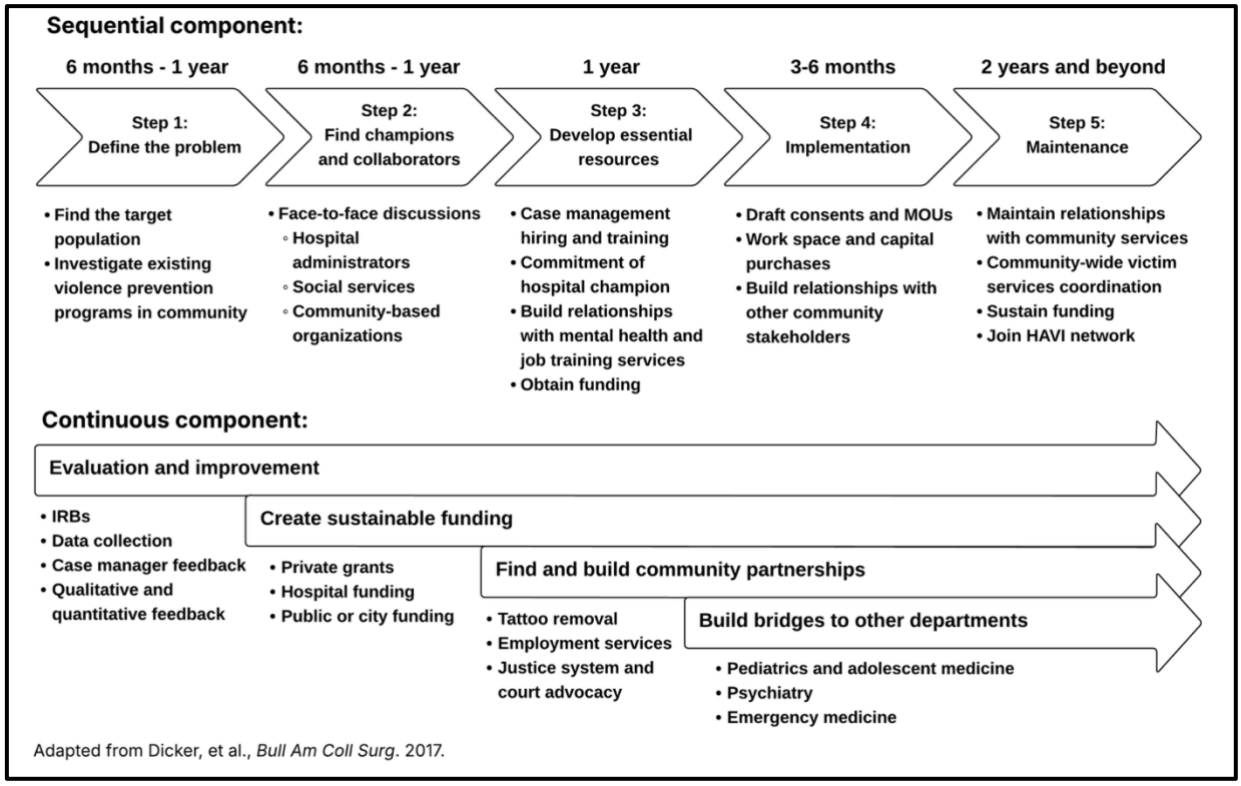
interviews were conducted between December 2023 and March 2025 using the Zoom videoconferencing platform. Audio recordings were transcribed using REV artificial intelligence software, then revised manually to ensure accuracy.

Interview Guide Development

The HVIP Implementation Blueprint

Interviews were structured around a nine-stage blueprint for starting an HVIP (Figure 2.2), developed by the American College of Surgeons.[142] The blueprint first lays out five sequential steps for program implementation. Next, the blueprint presents four implementation components Leaders were asked to articulate the barriers and facilitators encountered during each stage of implementation in as much detail as possible. Barriers and facilitators were loosely defined as factors that hindered or helped the implementation of the leader's program. A representative of the HAVI's research and evaluation department vetted the initial interview guide, provided edits, and approved the final instrument. The interview guide is in Appendix A.

Figure 2.2 | Blueprint for Development of an HVIP



Analysis

The principal investigator analyzed transcripts using deductive thematic coding[146–148] to describe barriers and facilitators to program implementation across each component in Figure 2.2. A second coder reviewed the coding to ensure clarity and relevance of identified themes and provided feedback to the primary coder.

Human Subjects

All interviews were recorded with informed consent of the participants, who were compensated with a $50 gift card. The study was deemed exempt by the University of Washington Institutional Review Board (Study ID #: 00018493).

RESULTS

Participant Characteristics

Eighteen leaders completed interviews, which averaged 95 minutes in duration (range: 54-144 min). Participants were predominantly Black (38.9%), White (27.8%), and Latinx (22.2%), and were equally split between women (50.0%) and men (50.0%). Interviewees averaged 2.1 years in their leadership role at the time of the interview (sd: 1.2; range: 0.25-4 years). Roughly half (44.4%) of participants held director-level positions, nearly two-thirds of whom were clinicians also serving as the HVIP's medical director. More than three-quarters (77.8%) of interviewees were employed by the hospital, with the remainder (22.2%) employed by community-based organizations. Interviewees were overwhelmingly concentrated in the Southeast (AHA Region 4) and along the Atlantic Seaboard (Region 3). HVIPs in the Great Lakes (Region 5), Midwest (Region 6), and Rocky Mountains (Region 8) were not represented in the sample. A full breakdown of participant characteristics is in Table 2.1.

Table 2.1 | Participant Characteristics	
	n (%)
Age	
26-30	1 (5.6)
31-35	4 (22.2)
36-40	2 (11.1)
41-45	5 (27.8)
46-50	3 (16.7)
50+	3 (16.7)
Gender	
Female	9 (50.0)
Male	9 (50.0)
Race/Ethnicity	
Asian (East/Southeast)	2 (11.1)
Black/African American	7 (38.9)
Latinx/Hispanic	3 (16.7)
White/Caucasian	5 (27.8)
Multiracial	1 (5.6)
Geography (American Hospital Association Region)	
Region 1 (CT, MA, ME, NH, RI, VT)	1 (5.6)
Region 2 (NJ, NY, PA)	3 (16.7)
Region 3 (DC, DE, KY, MD, NC, VA, WV)	6 (33.3)
Region 4 (AL, FL, GA, MS, PR, SC, TN)	5 (27.8)
Region 5 (IL, IN, MI, OH, WI)	0 (0.0)
Region 6 (IA, KS, MN, MO, ND, NE, SD)	0 (0.0)
Region 7 (AR, LA, OK, TX)	1 (5.6)
Region 8 (AZ, CO, ID, MT, NM, UT, WY)	0 (0.0)
Region 9 (AK, CA, HI, NV, OR, WA)	2 (11.1)
Leadership Role	
Executive / C-Suite	3 (16.7)
Program / Medical Director	8 (44.4)
Program Manager	3 (16.7)
Supervisor / Coordinator	4 (22.2)
Leadership Experience	**Years (sd)**
Years in HVIP leadership	2.1 (1.2)

The HVIP Implementation Blueprint

Participants represented programs at all stages of the implementation blueprint laid out by the American College of Surgeons. Examples of barriers and facilitators most frequently encountered within each of the five sequential components and four continuous components are presented below.

Sequential Components

Step 1: Define the problem

Defining the HVIP's target population and accompanying inclusion and exclusion criteria was the most straightforward component of the implementation process.

Facilitators

Facilitators for identifying target populations included readily available data on hospital admissions for violent injuries, as well as public data sources on violent crimes.

Barriers

Justifying exclusion criteria was the primary barrier facing programs at this implementation stage. Excluding patients admitted due to intimate partner or household violence was the primary challenge, as one interviewee noted:

I had to really argue and fight for removing domestic violence from our initial patient pool to have a more manageable caseload…We're not equipped to handle the needs of domestic violence patients. And that would've done a disservice for them. And framing it that way, of "we have a responsibility to not do more harm to these patients by trying to serve them when we do not have the capacity to serve them," was a challenge.

~Interviewee #4, AHA Region 3

Step 2: Find champions and collaborators

Identifying hospital champions was essential for successful implementation. Champions included long-tenured nurses, trauma surgeons, heads of clinical departments supportive of the HVIP's mission, and C-suite executive leadership.

Facilitators

Securing a C-suite champion profoundly influenced an HVIP's ability to launch in the first place. Executive-level champions were able to marshal not only early financial resources, but to leverage their influence to galvanize wider support for the program across the hospital. As one interviewee remarked:

The hospital champion on the administrative level is the only reason that this was able to move in this way. So, we had someone who was very high up in essentially the C-suite who said, "this is an important thing to the hospital, to me personally, to our community, and we are going to fund this."

~Interviewee #1, AHA Region 3

Barriers

Attempting to launch a program without the immediate support of a hospital champion proved a daunting task for other interviewees. One program secured near-immediate buy-in from a well-regarded member of a clinical department but lacked an executive-level champion. Reflecting on the insufficiency of ground-level enthusiasm without the backing hospital executives, a program founder noted:

…it was challenging from the get-go because working with a hospital, there's so many barriers. You talk about HIPAA, you're talking about compliance, you're talking about HR processes, trainings, clearances, that when we first started, just because we were so excited, weren't aware of…We also knew that if we didn't have a champion in the executive level or in leadership level of the hospital, it will also hinder the ability to move forward with such a project. And that's what we experienced.

~Interviewee #18, AHA Region 9

Step 3: Develop essential resources

Hiring the right frontline violence prevention professionals was critical for new HVIPs. It was also one of the greatest challenges for leaders to navigate. The universe of credible individuals with the lived experience of violence, social intuition, and emotional intelligence required to directly engage survivors of intentional violence during the most traumatic period of their lives is profoundly small. Few people can perform the work of the violence prevention professional. Fewer can do it well.

Barriers

The greatest barrier to hiring a desired candidate was not the limited pool of qualified individuals, but the ability to get these workers approved for hire by hospital administration. Lack of professional credentials or clean background checks were two barriers routinely encountered during human resources screenings. Leaders of young HVIPs were often forced to react to news that a candidate's background was flagged by human resources, with one noting:

One of our team members informed me that, "Hey, HR is wanting know about our background." I immediately had to share some information with HR, "[T]his is the work. This is what credibility looks like"…[T]here were a lot of calls that had to happen and a lot of escalating up to higher levels of leadership about what the needs and the concerns were. And I think after we were able to do that and folks could actually understand this is what this work looks like.

~Interviewee #12, AHA Region 4

The influence certain hospital departments and administrators held over the hiring process also presented challenges. One medical director relayed an instance where they were prevented from hiring a preferred candidate after the emergency department insisted upon certain credentials:

I think one of the big challenges was we only had two candidates that our ED [emergency department] would accept. They wanted an LCSW, which you need to have two years of experience…which is probably not a level we need, truthfully. And I think one lesson that I struggle with is when anyone has two masters, it's hard to satisfy both of them. Just splitting that time between us and the ED makes it hard. And the ED, I think a lot of times, wins out because they have more money. They have 24/7 need.

~Interviewee #16, AHA Region 3

Step 4: Implementation

The step labeled "implementation" elicited the fewest unique mentions of barriers and facilitators. Interviewees largely reiterated previous observations regarding barriers and facilitators to the overall implementation process. These included the challenge of navigating hospital administration without the support of a high-level champion to assist with securing contracts and memoranda of understanding agreements. Cultivating strong relationships with community partners was also reiterated as a critical factor at this stage.

Step 5: Maintenance

Maintaining implementation progress while constantly adding required components to program operations requires substantial organizational infrastructure. Program leaders repeatedly expressed desires to join the Health Alliance for Violence Intervention (HAVI) network of HVIPs receiving external training, technical assistance, and employee development services. Two interviewees (11.1%) were leaders of HAVI-designated Emerging Member Programs at the time of their interview. Of the remaining interviewees, 15 (83.3%) oversaw programs that did

not meet the eligibility criteria for HAVI membership, while one program (5.6%) intentionally chose not to seek membership in the network.

Barriers

A repeated barrier to maintaining program success was the lack of sufficient program infrastructure to secure outside investment in an HVIP. Interviewees in this position felt caught in limbo between needing professional support to build and maintain program capacity but not having sufficient program capacity to qualify for professional support from the HAVI. One program leader expressed frustration at not having access to an existing resource hub, remarking:

One hurdle that I was not expecting was how much the HAVI wants you to be an established program before you take advantage of some of their supports…but you need that support when you're setting up your program. So, I made a lot of mistakes. I want someone to learn from my mistakes and not do the same silly things. And you have to have those conversations on the side instead of through these well-adjusted channels.

~ Interview #16, AHA Region 3

Facilitators

Once obtained, membership in the HAVI network substantially facilitated the ability to create the program infrastructure needed to maintain current progress and support future growth. One key benefit of HAVI membership is the ability for frontline HVIP workers to obtain formal certification for their work as violence prevention professionals. In addition to bolstering the training and credentials of these workers, this certification enables hospitals and partner

community-based organizations in participating states to classify violence prevention professionals as community health workers. Community health worker services are often reimbursable under Medicaid. Thus, frontline employment training from the HAVI has a multiplier effect of creating a financial safety net for hospitals and partner agencies in the community to maintain and expand their work. Speaking about the potential for HAVI investment to pay future dividends, one interviewee remarked that frontline professionals:

…should be getting as much support in becoming VPP [violence prevention professional] certified through the HAVI, so that we can collectively gather resources and…bill Medicaid…[T]he big goal is to try to take some of these models that HAVI and others have put forward and operationalize them because…we worry to do this work is to constantly worry that a change in [presidential] Administration, a change in financial climate, a change in some sort of structural piece will take the kind of chewing gum and toothpicks that we've built our house on and just totally throw it on its head. And so sustainable funding, some Medicaid-backed funding for a baseline is very important for our community organizations and has become the kind of lifeblood of what I've been trying to be involved with.

~Interviewee #5, AHA Region 1

Continuous Components

Component #1: Evaluation and improvement

Consistent data collection, documentation, and reporting were barriers to evaluation and program improvement faced by nearly all programs. Leaders noted that frontline violence prevention professionals who directly interface with patients frequently do not have more than a

high school diploma or GED. One leader articulated the tension between a frontline professional being uniquely suited to conduct their work, but uniquely poor at translating that work into data, remarking:

…most of our violence intervention specialists don't have advanced degrees. They have a high school diploma. They don't have much more than that. They have a street PhD, and I really believe that.

~Interviewee #10, AHA Region 4

Hospitals relied on electronic health records, data collection platforms like REDCap, and the Microsoft Office suite of programs, such as Excel. Frontline professionals rarely had experience with these programs, let alone formal training in data collection and management. Records were often kept on paper, ad hoc, and not well organized. Frontline professional found it challenging to formally document their activities in terms funders and hospital administrators could understand. They were often unable to convey the breadth of work conducted on an average shift. In the words of another HVIP leader, frontline professionals:

…may not have the easiest time documenting or giving themselves credit for the work that they do.

~Interviewee #7, AHA Region 2

Component #2: Create sustainable funding

One of the primary responsibilities for leading an HVIP through initial implementation is generating financial resources to pay staff and fund operating expenses. This is particularly true

for HVIPs without significant hospital financial backing. As a result, leaders expended substantial amounts of their time writing grant proposals while overseeing program operations. Certain interviewees found themselves unequipped to write program-focused funding proposals. While participants were not asked about their educational background during the study recruitment, the majority (88.9%) referenced holding an advanced degree during their interviews. Numerous leaders worked at hospitals on university campuses or connected to a university system. As a result, certain leaders struggled to adapt their experience authoring academic research grants to fundraising for a public-facing program. One leader articulated this realization:

…it is a very different thing than just writing a research grant with some mentees and say, "Oh, we get it." We don't. We have folks whose full salary and benefits are based on these concepts and if it folds, they don't have a job here anymore. And that is just so different than the kind of classical academic medicine. Like, "Oh, we work on a paper, it's not a big deal if it doesn't go the right way." I had to rewire my whole method of leadership around the strategies we needed to maintain a program.

~Interviewee #5, AHA Region 1

<u>Component #3: Find and build community partnerships</u>

Interviewees reported encountering significant mistrust in the community when attempting to establish service referral relationships and community partnerships. One key barrier to cultivating this trust was the reputation and legacy of the hospital within the community. One interviewee commented that an "us" and "them" distinction between the HVIP and the hospital

does not exist in the eyes of many community stakeholders, but rather the HVIP reflects the hospital, noting:

> *Truthfully, [it's] "we," because all of the employees of the program are hospital employees. Our program is the hospital. And so, even though our program was doing really great work, we also were working within an institution.*
> *~Interviewee #8, AHA Region 9*

For multiple programs, finding and building trusted community partnerships was directly connected to the manner in which hospitals generally and HVIPs, specifically, developed the sustainable funding sources just mentioned. HVIPs must frequently justify a return on investment to hospital leadership. This leads hospitals to seek external sources of funding to support operations. Yet, conflict with community stakeholders may emerge if the hospital is seen as encroaching on funding sources relied upon by community-based organizations. One participant reframed losing out on local grant funding as a net positive for the HVIP's relationship with the community, arguing:

...it actually allowed us more flexibility and freedom in being able to collaborate and work beside other community organizations because then we weren't interpreted as a threat to limited community funding...it allowed us to co-develop in that space in the very first critical year or two years. Even now that goodwill carries forward, recognizing that we're a partner in this space and not a competitor, not the big health system coming in using its clout to steal away funding from people and other organizations that don't have that deep infrastructure.

~Interviewee #1, AHA Region 3

Component #4: Build bridges to other departments

The siloed nature of hospital departments presented a barrier for HVIPs seeking to advertise their program offerings and coordinate services for patients with complex needs. By nature of their work, HVIPs interface with multiple departments across the hospital, but those departments may not interface with one another. Finding veteran hospital employees with knowledge of the different departmental stakeholders was critical to spreading awareness of the program within the hospital setting. Once others knew of the program, building bridges between the HVIP and a particular department was much smoother:

[Knowing the] administrator of the whole trauma program who has been with the hospital for 40 years. She knows everybody, literally everybody. So, every leadership meeting that she sits on, she does a lot of "managing up"… it's having people that are at levels higher than you bringing up your name. So that has been very helpful.

~ Interviewee #7, AHA Region 2

DISCUSSION

The "E.A.T." Characteristics of an Optimal Hospital Champion

Every interviewee reported having a hospital champion at some point in their HVIP's implementation process. Champions were often trauma surgeons or directors of a clinical department, such as nursing or the emergency department. In some cases, the interviewees themselves were their program's hospital champion. However, hospital champions were not created equal. HVIPs were well-equipped to navigate challenges faced throughout the rest of the implementation process when champions 1) held executive-level positions, 2) actively supported and advocated for the program, and 3) were identified in a timely manner. Combined, I refer to these findings as the **E.A.T.** characteristics of an optimal HVIP implementation champion:

- **E**xecutive-level authority
- **A**ctive involvement
- **T**imely identification

Results from this study build upon three key findings regarding the role of champions in the wider literature on program implementation within hospital settings, each of which corresponds to an E.A.T. characteristic. First, executive leadership fundamentally shapes hospital culture and values regarding the uptake and implementation of new ideas, practices, and programs.[149,150]

Strong, executive-level support for the HVIP set programs apart from those without such high-level support. Executives are decision-makers. They have influence over policies, procedures, budgets, special initiatives, and an array of other components of daily hospital operation. Champions who are clinicians or leaders at the department level are incredibly valuable. However, these individuals often find themselves lobbying executives for resources and favorable decisions regarding HVIP implementation rather than signing the checks and authorizing the paperwork to do so. As seen in the Results section above [Step 2: Find champions and collaborators], identifying an executive-level champion who invokes the values of the hospital in their decision-making may be the very act that gets an HVIP up and running altogether.

Second, actively involved stakeholders may leverage facilitators from one component of the program implementation process to influence barriers faced in another.[144] Existing implementation science research on the reciprocal influences barriers and facilitators have on various components of program implementation largely focuses on the role of hospital staff, whose work is frequently vulnerable to system-wide changes induced by higher levels of hospital leadership.[144] Findings from the current study extend this work beyond hospital staff to include executive leaders as actors influencing the reciprocal interplay between facilitators and barriers to program implementation. Further research reveals that the presence of visibly involved executives substantially benefits efforts to implement hospital-based initiatives, while disinterested executives adversely impact implementation efforts.[151–153] Executive-level champions actively secured buy-in from their C-suite colleagues to fund the launch and ensuing HVIP operations out of the hospital budget. As highlighted in the results section above, this facilitator of early implementation of one HVIP removed the need for that program to survive via grant funding secured from private philanthropic foundations. While such funding is on the surface a great benefit to any program, in reality it formed a barrier that threatened the HVIP's

relationships with partner organizations in the community. Knowing the public commitment of their executive-level champion to fund the launch and operation of the HVIP allowed the leader of that program to forego future local-level funding in order to preserve referral partnerships and relationships with community-based organizations. Executive champions helped other programs navigate internal hospital barriers, such as administrative challenges faced when hiring candidates with life experience that would trigger rejection by traditional human resources department standards. They further served as external advocates to community stakeholders and local media regarding the HVIP, proactively framing the intervention's role and purpose in ending cycles of violence in the community. Each of these actions not only helped early-stage HVIPs overcome or avoid a barrier altogether, they did so in a visible way for HVIP staff and other hospital stakeholders to see the value that hospital leadership placed on the program.

Finally, these study findings indicate that the timing of a hospital champion's identification matters. The language of timing is scarcely discussed in the literature on barriers and facilitators to implementation efforts in hospital settings. Some literature explores the influence of an executive's proactive versus reactive posture, noting that executive-level champions who are able to *proactively* shape hospital culture are more likely to see those programs successfully implemented.[150] However, proactivity and urgency are not synonymous. What is critical to the implementation of early-stage HVIPs is having an executive-level champion involved *as soon as possible*. As reported in the "Barriers" subsection to "Step 2: Find champions and collaborators" in the Results section above, no amount of excitement or initiative can match having an executive-level champion on board at the outset of program adoption. Study participants who identified executive-level champions at the outset secured funding, resources, and access that set them apart from their peers across the country. They were essentially playing with implementation cheat codes.

The Importance of Hospital Funding

Paramount to many HVIPs was the need to obtain and sustain funding. While the blueprint includes private philanthropic funding and funding from city governments, hospital funding was liberating for program leaders. It enabled them to spend less time writing grants and more time hiring staff, investing in community relationships, and pulling together a host of other needs to build a stable program. It meant their staff were hospital employees with access to areas of the hospital off-limits to employees of community-based organizations. Funding secured directly from the hospital put leaders at relative ease that the jobs of their staff were secure compared to leaders of programs reliant upon external funding.

Meanwhile, pursuing funding from philanthropic or local government sources threatened the legitimacy of the HVIP in the eyes of many community stakeholders. Interviewees found themselves in a bind between executives wishing to fund the HVIP without expending hospital general operating expenses on the one hand, and vital community partners whose primary sources of funding were philanthropic and local government sources. Hospitals are large organizations maintaining relationships with individual and foundation donors, public sector government departments, and elected members of local government. They also have budget, finance, legal, and human resources departments, as well as financial reserves in case of an economic emergency. They are perceived as safe investments for funders. Yet, hospitals operating from such a position of strength that then choose to pursue local philanthropic or government funding to support HVIP activities risk straining relationships with the community-based organizations upon which HVIPs rely. Such funding is dispensable for hospital institutions. It is often the lifeblood for community-based organizations.

Navigating Blueprint Components

While the blueprint lays out components sequentially, programs did not inherently progress through the stages in order. Obtaining funding (Step 3) was a near universal focus of programs beginning in Steps 1 and 2. Conversely, developing the specialized referral service relationships during Step 3 was unrealistic for many programs. These programs often needed to establish and contractually formalize their relationships with the hospital (Step 4) first, and to create linkages to job training programs and other services later in the implementation process. While variation exists between programs, the overall experience of implementing an HVIP resembles more of a spiral or Mobius strip, with the path to full program operation weaving through the essential components of the blueprint based on program needs and priorities, rather than following a sequential process.

Proposed Modifications to the HVIP Implementation Blueprint

Findings from this research indicate that an updated implementation blueprint may benefit future HVIP generations. A sample of proposed modifications for incorporation into a revised blueprint are laid out below.

<u>1. Prioritize the Hospital Champion</u>

Under the current blueprint, identifying a hospital champion occurs in Step 2, six months to one year into the implementation process. This is too late. Identifying an *executive-level* hospital champion should be the first step in the blueprint. This champion may then positively influence the reciprocal interplay between facilitators and barriers to program implementation highlighted in the Discussion above. For example, a notable barrier encountered in Step 1 [Define the problem] of the existing blueprint was justifying which patients would be *excluded* from HVIP services. Leveraging the authority of an executive-level champion to articulate the program's narrow referral and inclusion criteria to the C-suite, department heads, and other

relevant hospital stakeholders may reduce the skepticism currently encountered when HVIP leaders announce that the program will not serve patients admitted due to intimate partner or household violence, for example. Having an executive champion declare "this is the way it is" will likely advance the earliest stages of implementation much further than launching a program beginning with requests from HVIP leaders proposing "this is how we would like it to be."

2. Conduct an Implementation Landscape Analysis

Identifying an executive champion from the outset may also provide a unique opportunity to conduct a landscape analysis of the resources available and pitfalls facing early HVIP implementation. A landscape analysis is used to identify all of the elements that exist or are missing from a given area of interest.[154,155] The landscape may be a research literature, a stage of program development, or the components of an organization. A landscape analysis operates much like taking an inventory of an area of interest. By nature, hospital executives have greater insight to the wider landscape of hospital operations. Conducting a landscape analysis with the executive champion may help programs identify important context surrounding multiple items on the implementation blueprint from the outset of implementation. These may include:

- Hospital census data to identify the target program population (Step 1)
- Availability of hospital funding for the HVIP (Step 3)
- Untapped funding streams (Step 3; Continuous component: Create sustainable funding)
- Key hospital stakeholders (e.g., human resources; not clearly defined in blueprint)
- Existing hospital resources (Step 4)
- Existing community partnerships (Step 4 & 5)

HVIP leaders should have a substantially greater perspective of the assets and deficits of the hospital upon finishing the landscape analysis. Identifying inclusion criteria for the target population of violently injured patients should also provide an opportunity to convey exclusion criteria to the executive-level hospital champion. This should mitigate the difficult barrier of

justifying why the HVIP does not serve select patients, such as those admitted due to intimate partner or household violence. The analysis should provide leadership with realistic expectations regarding the prospect of securing hospital funding, how much funding will be available, and for how long. Leadership may then establish fundraising plans based upon these results. Certain programs may find security within existing hospital resources, while others may need to prioritize efforts to secure previously untapped external funding resources. Further, HVIP leaders may take advantage of the landscape analysis process to first assess the hiring process of the human resources department and subsequently to leverage the authority of the executive-level champion to set clear hiring expectations based on the unique nature of HVIP work before the first violence prevention professional application is submitted. Similar executive guidance may set clear expectations for early-stage HVIP leaders regarding memoranda of understanding, legal contracts, payroll processes, capital purchases, and available office space within the hospital – ideally within or adjacent to the emergency department.

3) Frontload Hospital-Specific Components

Obtaining results from a landscape analysis at the outset of program implementation instead of identifying issues item by item will enable HVIP leaders to map out the implementation process in a manner that harnesses the wisdom of the executive-level champion, leverages the resources of the hospital, and identifies areas of risk that must be mitigated during the implementation process. Essentially, this will enable programs to frontload implementation items specific to the hospital setting to ensure the strongest foundation possible. Securing transparency regarding financial expectations and the status of a host hospital's relationships with community partners from the outset will pay dividends once it comes time to fundraise for program-specific needs and establish referral and social service relationships in the community with stakeholders previously unengaged by the hospital. Such a reworking of steps within the current blueprint will recalibrate the way HVIPs are currently implemented, streamline resources, and optimize

facilitators to successful institutionalization of program components while minimizing key barriers to program implementation from the outset.

Such a recalibration may additionally influence a reworking of the existing implementation timeline, which was not followed sequentially by most programs. A full reworking of this timeline is of critical importance for future research should leaders seek to implement a program based on a reworked vision after conducting a landscape analysis with their hospital champion.

Limitations

This study was constrained by three limitations. First, leaders of multiple programs declined to participate in the study citing constraints imposed by hospital administrators or funding agencies regarding information that could be shared publicly without prior authorization. Second, programs may experience barriers and facilitators differently at distinct stages along the implementation journey. A program at the three-month mark and one at the 23-month mark of implementation are in systematically distinct positions. This does not invalidate their relative experiences, but more research is needed to understand the degree to which the barriers or facilitators at each stage are universal, influence programs at a particular length of time into their implementation journey, or are simply idiosyncratic to geography, hospital system affiliation, or wider sociopolitical climate. Finally, assessing the degree to which any individual barrier or facilitator influences the implementation of a particular HVIP was outside the scope of this study. Research into the barriers and facilitators facing programs at each stage of the implementation process is warranted to obtain a deeper understanding of the challenges and catalysts to program implementation.

CONCLUSION

Minimal research focuses on the early implementation of HVIPs. Roughly half of all known HVIPs began their implementation journey the COVID-19 pandemic, which prevented fidelity to a shared implementation model. Variability in program implementation complicates efforts to assess HVIP effectiveness, largely confining our knowledge to evaluations of individual programs. This study sought to overcome some of these challenges by engaging a multi-site cohort of HVIP leaders in the early stages of program implementation around an existing blueprint for establishing an HVIP. Findings from this research suggest a recalibration of the blueprint and our understanding of early stage HVIP implementation may be in order, beginning with the role and identity of the hospital champion. Not all champions have equal influence on the implementation and uptake of new HVIPs. Identifying an engaged, executive-level champion from the outset

Assessment of the barriers and facilitators to initial HVIP implementation may be incorporated into new and ongoing training regimens designed to strengthen programs throughout the process of becoming a fully operational HVIP. The broad applicability of the study results will not only influence the ongoing implementation of young programs but may be adapted into the organizational DNA of future HVIPs. Equipping these programs to launch with a proactive ability to recognize factors that accelerate or hinder program implementation may shift the way programs are conceived and launched in the future.

chapter three.

how hospital-based violence prevention professionals work.

It's a lot of being a gunshot concierge.

~ Interviewee #16 | (2024)

love is watching someone die.

so, who's gonna watch you die?

~ Death Cab for Cutie | *What Sarah Said* | *PLANS* | (2005)

I've had a little brother that was murdered.

My brother died here in this hospital…

I was able to come back

and give what I felt like my family didn't get in that time.

That was important to me.

So, we are like our participants.

We are our first participants because

we are actively going through some of the same things.

And like they say, 'hurt people hurt people.'

But healed people

heal people,

too.

~ Interviewee #13 | (2024)

How hospital-based violence prevention professionals work

ABSTRACT

Background: Hospital-based violence intervention programs (HVIP) hinge on the ability of violence prevention professionals to assist the recovery of intentionally injured patients and prevent further spread of violence. Yet, we know little about the tactics these professionals use, or whether the tactics developed by one violence prevention professional transfer to another. To address these gaps, this research catalogues the tactics violence prevention professionals use to meet the recovery needs of violently injured patients.

Methods: Semi-structured interviews were conducted with 23 hospital-based violence prevention professionals to identify tactics used in everyday work. Interviews were organized around 10 "hinge points" on the patient's recovery continuum deemed integral to program success, identified *a priori*. Inductive thematic analysis was used to identify individual tactics. The Action Actor Context Target Time (AACTT) rubric helped ascertain essential information about each tactic.

Results: 214 tactics used by violence prevention professionals were identified. Tactics addressing the initial patient encounter (n=49) and trustbuilding with patients and families (n=44) represented both the largest and most diverse share of those identified (n=96). Navigating referrals and social service bureaucracy was particularly challenging and required a distinct set of tactics (n=39). Comparably few tactics engaged program retention (n=11) or program exit and aftercare (n=3).

Significance: Dissemination of these tactics will strengthen the skillsets of current HVIP professionals, while enhancing the training of future violence prevention personnel. Findings may support the creation of practical, readily deployable toolkits to translate tactical insight to diverse contexts where HVIPs operate, including HVIPs not yet established.

BACKGROUND

Community-level violence operates as a social contagion, with exposure transmitting from person-to-person to form networks of individuals exposed to violence.[13,16,20] In many cities, small proportions of the population are vectors for overwhelming shares of violence.[5,8] During the peak of the American homicide epidemic in the 1980s-1990s, as little as 0.2% of Boston residents were responsible for half of the city's murders and three-quarters of firearm-involved assaults.[2] Currently, in Chicago, 70% of the city's non-fatal firearm offenses may be attributed to a network representing six percent of the population.[8] Yet, even within these dense networks, violence is not distributed equally. A one percentage point increase in the proportion of friends who are shot increases one's own probability of being shot by 144%.[5] Once violently injured, a substantial risk of re-injury[19,22,23] and death[24] remains. Violence also spreads via retaliation. Adolescents subjected to firearm violence are 2.5-times more likely to perpetrate serious violence within two years of that incident than adolescents unexposed to violence.[19] This reciprocal relationship between violence exposure and retaliatory response may transform an initial violent act into a cascade of violence extending throughout the network,[1] much like the spread of an infectious disease.[8,20,156] One solution to community-level violence is to treat it like a social contagion and directly engage individuals "infected"[13] by violence with treatment and support to disrupt the contagion's spread.

Hospital-based violence intervention programs (HVIP) represent one mechanism to treat violence as a contagion. Violently injured patients are almost always treated within hospital emergency departments and trauma centers.[119,120] Consequently, hospitals serve as rare venues where violently injured individuals can be reliably identified and contacted at a moment of urgent need. The shock of physical violence affords a temporary window of time when individuals may be receptive to help extracting themselves from circumstances where they face elevated risk of further violence exposure or of committing violence against others.[157,158]

The Hospital-Based Violence Prevention Professional

HVIPs harness these moments by connecting intentionally injured patients to violence prevention professionals,[115,132] frequently referred to as "credible messengers"[95] due to their own lived experience of violence. Violence prevention professionals leverage this credibility to enroll violently injured patients into intensive case management services designed to address the social determinants of health and modifiable risk factors that exacerbate health disparities[96,97] and influence a patient's risk of future violence exposure.[98–101]

HVIPs hinge on the work of the violence prevention professional. Reaching a patient at the hospital bedside means connecting with someone likely situated within a violent network. This is a rare opportunity to shape the life trajectory of someone traditionally difficult to reach outside of punitive law enforcement intervention.[93,94] The American College of Surgeons' Committee on Trauma, whose members are leaders in HVIP program development, published a blueprint for hospitals interested in starting a program.[142] A core principle of HVIP operation is that "Case managers develop an almost instant rapport with victims."[159] The blueprint does not state how to achieve this. Gaining the trust of violently injured patients requires social capital. Patients are in pain, terrified of death, feeling trapped without agency over their bodies, and worried about law enforcement interrogations. The linchpin of the HVIP model is the violence prevention professional's ability to develop a trusting relationship with these patients to prevent violent re-injury while simultaneously supporting their recovery.

Little is known about the specific tactics that explain *how* hospital-based violence prevention professionals accomplish their work. By tactics, I mean the precise activities undertaken within a strategy to achieve a particular goal;[160] in this case, the goal of preventing further violence exposure. Violence prevention professionals serve as "credible messengers,"[95] community

members with lived experiences of violence that generate instant social capital with patients. This status affords a unique authority to speak with patients about the origins and aftermath of their injuries, topics traditionally inaccessible to hospital personnel or law enforcement. Emerging research also engages the gendered experiences of women in violence prevention work.[161] Yet, gender and credible messenger status are identities, not tactics. We do not know, for example, what tactics violence prevention professionals use to build trust, de-escalate conflict, navigate social service bureaucracy, or ensure the long-term safety of patients on their caseloads. Nor do we know what tactics are uniquely used by women working in hospital-based violence prevention. Further, we do not know the extent to which violence prevention professionals deploy similar tactics across institutions, or whether tactics are largely unique to their local environment. This study seeks to identify and describe the specific tactics hospital-based violence prevention professionals use to support the recovery of violently injured patients.

METHODS

Participant Identification and Recruitment

The population included a nationwide sample of hospital-based violence prevention professionals. Professionals were defined as staff responsible for engaging patients from the hospital bedside through post-discharge recovery efforts. HVIP leadership and hospital medical staff were excluded.

Recruitment occurred via a multi-pronged, purposive sample. First, recruitment efforts prioritized professionals honored for their outstanding work at the annual conferences of the Health Alliance for Violence Intervention (HAVI), the leading training and technical assistance agency for HVIPs across the country. Second, individuals were directly recruited by the principal investigator at the HAVI's 2023 annual conference. Third, HVIP supervisors nominated staff

members. Fourth, snowball sampling after interviews helped identify potential participants. Finally, the social media platform LinkedIn was used. Messages with study information and eligibility criteria were sent to relevant profiles of the first 100 search results returned from each query of known HVIP job titles, including "violence prevention professional," "hospital responder," and "violence intervention specialist." Initial contact messages in each strategy were followed by two follow up messages sent at one-week intervals after initial contact.

Data Collection

Invitations included links to enrollment forms that gathered information about the professional's HVIP and optional self-reported demographic information. Semi-structured interviews were conducted between December 2023 and March 2025 using the Zoom videoconferencing platform.

Interview Guide Development

Interviews asked about tactics violence prevention professionals use at 10 points on a patient's recovery continuum. These points, which I refer to as "hinge points," were developed through consultation with HAVI leadership, conversations with HVIP personnel, and a review of the literature. Hinge points represent areas along the recovery continuum where successful engagement of one stage of a patient's recovery opens a door to the next. For example, meeting a patient's recovery goals hinges on navigating complex social services bureaucracies. Knowing which services to navigate in which order hinges on the prioritization of patient needs. Effective prioritization hinges on the cultivation of sufficient trust for a patient to articulate acutely vulnerable needs amidst profound trauma. This trust hinges on effective rapport-building at the hospital bedside. A senior-level HAVI director and a standing HAVI-convened working group of violence prevention professionals vetted the initial interview guide, provided critical edits, and approved the final instrument. Members of the working group were anonymous to the author.

Two key changes to the interview guide were made as a result of the vetting process. Both changes removed a hinge point from the original 12-component interview guide. First, an initial hinge point asked about tactics used to engage family members who may be present in the hospital. This was removed as a standalone hinge point after receiving feedback that engaging loved ones occurred at various points throughout the patient's recovery continuum and could rarely be isolated into a single set of tactics on its own. Family members were often present during the violence prevention professional's initial encounter with the patient (Hinge Point #2). As a result, engaging loved ones was critical for building trust (Hinge Point #3). These individuals were often those most likely to retaliate upon seeing the injured patient (Hinge Point #4). They were additionally critical to the creation of a patient's recovery plan (Hinge Point #6), particularly if the patient had dependent children or was wounded to a degree where they would need substantial care in the home of a parent or guardian. Finally, family members were relied upon to identify the whereabouts of patients who drift off of a violence prevention professional's caseload (Hinge Point #9).

The second hinge point removed inquired about how the violence prevention professional leveraged "the teachable moment."[157,158] This term has become contentious for many frontline professionals for two reasons. One argument contends that a single teachable moment does not exist in the practice of violence prevention work in the way it is conceptualized in the academic and training literature. Rather, teachable moments about at all times. To conflate these into an undefined range of time in the immediate aftermath of a violent injury risks priming the pump for the violence prevention professional to overemphasize certain cues from the patient, whether in word or action, and to respond in a way that does not organically build trust but instead feels rushed, or worse, fake. Language regarding a "teachable moment" was struck from the interview guide and from this dissertation for another critical reason: violence prevention professionals

increasingly view this language as pejorative. The phrase simultaneously carries multiple implications: within each professional-patient relationship there is a teacher and one needing to be taught. There is one with wisdom and one without, one with the power to dispense knowledge and one expected to receive it. This dynamic becomes particularly troublesome for certain violence prevention professionals when those reinforcing the concept are academics from ivory towers and clinicians in white coats. As a result, the language was removed from the interview guide entirely. Descriptions of the final ten hinge points may be found in Table 3.1. The interview guide is in Appendix A.

Table 3.1 | Hinge Points on the Patient Recovery Continuum

Hinge Point		Description
1	Information gathering & hospital relationships	Obtaining patient information from clinical staff, EMS, EHRs, etc.; informs strategies for initial patient (and/or family) encounter
2	Initial patient encounter	First meeting with patient, typically at bedside; may involve family/friends
3	Trustbuilding	Initial and ongoing cultivation of trust, rapport, & goodwill with patient
4	Retaliation de-escalation	Efforts to diffuse retaliatory violence (often conducted with family/friends)
5	Program recruitment	Patient recruitment and enrollment into intensive case management services
6	Assessment & recovery planning	Development of patient-specific, needs-based goals to guide recovery
7	Prioritization of recovery needs	Prioritization of recovery needs to achieve patient goals with limited resources
8	Referrals & service navigation	Intensive case management and support navigating wraparound services
9	Program retention	Efforts to ensure patient continually progresses toward recovery goals
10	Program exit and aftercare	Creation of long-term patient safety plan; patient exit from program

The Action Actor Context Target Time (AACTT)[162] rubric consists of five elements for describing an evidence-based practice in an actionable manner. The AACTT was used during the interviews to ascertain essential information about each tactic. Grounded prompts were used to ensure that participants included details related to the five AACTT components when describing each tactic. AACTT components with examples from the original text are in Table 3.2.

Table 3.2 | AACTT Definitions and Examples[a]		
Domain	**Definition**	**Examples**
Action	A discrete observable behavior	Prescribing antihypertensives, providing a referral to a specialist, washing hands, setting a policy
Actor	The individual or group of individuals who perform (or should/could) the Action	Primary care physician, pharmacist, social worker, resident, administrator, middle manager, head of unit, policymaker
Context	The physical, emotional, or social setting in which the Actor performs (or should/could) the Action	Examination room, doctor's office, outside a patient room, in a boardroom, stressful vs calm situation, if patients' relatives are present or not
Target	The individual or group of individuals for/with/on behalf of whom the Actor performs the Action	Patient with diabetes and blood pressure above 140/80 mmHg, patient wanting to quit smoking
Time	The time period and duration that the Actor performs the Action in the Context with/for the Target	At annual review, next time a patient visits, every week, over the next 6 months
[a]from Presseau, et al (2019)		

Analysis

Interview transcription occurred in two stages. First, REV artificial intelligence software transcribed the recordings. Second, REV transcripts were manually compared to the recordings and revised to ensure accuracy, as needed. Inductive thematic coding[147,163,164] helped identify tactics reported by participants at each hinge point and capture themes in the use of tactics across the recovery continuum.

Human Subjects

Informed consent was obtained to record all interviews. Participants were compensated with a $50 gift card. The study was deemed exempt by the University of Washington Institutional Review Board (Study ID #: 00018493).

RESULTS

Participant Characteristics

Twenty-three violence prevention professionals (hereafter referred to as participants or interviewees) completed interviews. Participants were majority Black (56.5%) and Latinx (30.4%) and evenly split between women (52.2%) and men (47.8%). More than half (56.5%)of interviewees were age 40 or younger, with one-quarter (26.1%) of participants age 30 or younger. On average, interviewees had roughly 7.5 years (sd: 7.5) of hospital-based violence intervention experience. Individual experience ranged from two to 22 years. Geographic distribution overrepresented participants from coastal states (American Hospital Association Regions 2 and 9) and underrepresented HVIPs from the Great Lakes (Region 5). All but one interviewee (96.3%) reported a lived experience of violence. [Table 3.3]

Table 3.3 | Participant Characteristics	
	n (%)
Age	
26-30	6 (26.1)
31-35	3 (13.0)
36-40	4 (17.4)
41-45	2 (8.7)
46-50	1 (4.3)
50+	4 (17.4)
Gender	
Female	12 (52.2)
Male	11 (47.8)
Ethnicity	
Black/African American	13 (56.5)
Latinx/Hispanic	7 (30.4)
Multi-racial	2 (8.7)
White/Caucasian	1 (4.3)
Lived experience of violence	
Yes	22 (95.7)
No	1 (4.3)
Geography (American Hospital Association Region)	
Region 1 (CT, MA, ME, NH, RI, VT)	1 (4.3)
Region 2 (NJ, NY, PA)	7 (30.4)
Region 3 (DC, DE, KY, MD, NC, VA, WV)	4 (17.4)
Region 4 (AL, FL, GA, MS, PR, SC, TN)	2 (8.7)
Region 5 (IL, IN, MI, OH, WI)	1 (4.3)
Region 6 (IA, KS, MN, MO, ND, NE, SD)	0 (0.0)
Region 7 (AR, LA, OK, TX)	0 (0.0)
Region 8 (AZ, CO, ID, MT, NM, UT, WY)	0 (0.0)
Region 9 (AK, CA, HI, NV, OR, WA)	8 (34.8)
Employment Experience	**Years (sd)**
Years in hospital-based violence prevention	7.3 (7.5)

Prevalence of Tactics across Hinge Points

We identified 214 tactics used by interviewees across the patient recovery continuum. Tactics addressing the initial patient encounter (n=49), trustbuilding efforts with patients (n=44), and service navigation (n=39) represented the largest and most diverse share of tactics identified. Comparably few tactics focused on retaliation de-escalation (n=14), program recruitment (n=5), program retention (n=11), or program exit and aftercare (n=3). Tactics engaging a patient's social networks were virtually absent across all hinge points. A full list of tactics, organized by hinge point, is in Appendix C. Select tactics related to a) establishing interviewee legitimacy within the hospital , b) trustbuilding with patients, c) meeting patient recovery needs, and d) de-escalation are discussed below.

Establishing Legitimacy among Hospital Personnel

Interviewees described tactics to establish their legitimacy within the hospital separate from any patient encounters. Specifically, Black participants reported that the need to justify their presence was rooted in experiences of racism and judgment of their physical appearance. Clinical and nursing staff, hospital security, and law enforcement regularly confront interviewees over their identities, assuming they are private citizens accessing restricted areas, rather than hospital employees conducting their jobs. One repeatedly articulated flashpoint centered around the clothing worn by interviewees.

<u>Clothing and First Impressions</u>

Choosing work attire invokes a dilemma for interviewees. Intentionally dressing in street clothes [Appendix C; tactic code 1.1] builds rapport with patients, signaling the interviewee's connection to a shared community and culture. It also signals they are not affiliated with law enforcement. Yet, adopting street attire elevates the likelihood of conflict with hospital staff and security regarding the interviewee's appearance. To overcome this, interviewees prominently display

their hospital ID badge [1.3] or adopt other indicators of hospital employment, such as a jacket with hospital branding.[1.4] These tactics yield mixed results. Dressing in traditional office attire [1.2] largely eliminates judgment of the interviewee. However, patients often associate office attire with law enforcement. One team sidestepped this dilemma by wearing hospital scrubs.[1.5] Scrubs signal legitimacy to hospital staff and security, who recognize the attire as a marker of patient-facing hospital personnel. They simultaneously signal legitimacy to patients, who implicitly distinguish the violence prevention professional from law enforcement.

Trustbuilding

The "Trustbuilding Two-Step"

One set of tactics I am calling the "trustbuilding two-step" emerged throughout interviews. In the first step, participants intentionally ask patients a question they know will elicit a negative response and trigger a felt need. This sets up step two, where the interviewee offers to personally meet that need. Interviewees ask patients if they are comfortable,[3.4] knowing the answer will be no. They then offer to adjust the patient's pillows or request an extra blanket from the nurse's station.[3.5,3.6] Interviewees ask patients if they are satisfied with the selection of television channels available.[3.9] This sets up an offer to bring patients an iPad to use during their stay, courtesy of the HVIP.[3.8] Participants inquire if patients are bored, setting up opportunities to procure video game consoles,[3.10] teach patients how to solve a Rubik's Cube,[3.11] or play card games like Uno.[3.12] Turning these activities into competitions [3.13] is particularly effective at winning over patients. Interviewees also rely on their connections to community resources. One interviewee at a university hospital follows up inquiries about boredom by inviting patients to a campus engineering lab to experiment with a 3-D printer for the first time.[3.14] Another intentionally taps into the childhood innocence and dreams of patients.[3.40] After learning a patient abandoned a childhood passion for playing the violin, the interviewee leveraged their standing in the community [3.41] to acquire a violin from a local

music academy. They surprised the patient with the gift at an ensuing rehabilitation appointment.

The most frequently reported trustbuilding two-step involved food. Interviewees across the country ask about the quality of the hospital food,[3.15] confident patients want to eat virtually anything else. They then ask what patients desires in the moment,[3.16] or what their favorite foods are overall.[3.17] Examples of the former include patient cravings for ice cream to soothe sore throats after being intubated. In the latter case, patients injured in a different part of the country from their upbringing might be nostalgic for a specific regional dish. In virtually every case where food was mentioned, the interviewee bypasses the hospital cafeteria [3.19] and returns with the patient's desired item(s) either the same day or during their next hospital shift.[3.18] One participant maintains a personal commitment to purchasing a second meal for themselves so they may eat together with patients.[3.20] This interviewee notes that patients are noticeably more comfortable speaking about the most traumatic experience of their life in the context of a shared meal, even with someone they have just met. Trust earned through mundane acts, even a fast-food meal shared at the hospital bedside, set the foundation for patients to trust the interviewee through the remainder of their recovery.

The Initial Patient Encounter

Participants deploy a greater diversity of tactics at the bedside compared to other hinge points. Bedside tactics were often described in general terms. For example, participants report rapidly scanning the room,[2.8] intuitively adapting how they communicate based on who is present.[2.14-2.19] Interviewees refer to this as code-switching,[2.12] a linguistic tactic of changing manners of speech and social engagement based on the immediate context.[165,166] Interviewees address caregivers as "ma'am" or "sir," then adopt street slang such as "homie" when speaking to patients alone.[2.16-2.17] Participants discuss de-escalation with caregivers

using terms like “payback” and “retaliation.” This language converts to “spinning the block” and “pulling out the strap” with patients and friends.[2.19] Participants adjust their tone of voice if patients are younger [2.21] or older,[2.22] sedated [2.23] or alert,[2.24] engaged [2.25] or avoidant.[2.26] Female interviewees report adopting motherly [2.27] or grandmotherly [2.28] approaches, including gently touching a patient’s hand or forearm.[3.36] Male participants noted they must often signal to patients that no power dynamic is at play,[2.29] frequently choosing to sit rather than stand over patients.[2.30] Certain interviewees adjust their approach if patients are alone [2.14] or loved ones are present.[2.15] They recalibrate their approach if a single caregiver,[2.16] multiple caregivers,[2.17] romantic partners,[2.18] or others, such as siblings, cousins, or friends, are present.[2.19] However, other interviewees report maintaining the same approach for all visits regardless of the context.[2.20]

Prioritizing Recovery Needs & Navigating Services

Tactics prioritizing recovery needs and service navigation begin with creation of a recovery care plan.[6.2-6.8] Some interviewees lay out up-front expectations regarding the tremendous post-discharge recovery needs and challenges patients are about to face.[7.1] Others believe this overwhelms patients, preferring to have each patient identify individual needs and recovery priorities.[7.2] In certain states, patients and their families are eligible to receive financial support for recovery services under the federal Victims of Crime Act (VOCA). Interviewees help patients immediately file a VOCA application,[8.27] to begin the often-protracted application process as early as possible.

Patients disproportionately prioritize obtaining safe housing and gainful employment, which require navigating a drawn-out bureaucratic process. To secure housing, patients need proof of reliable income. Thus, to safely relocate patients,[8.15] interviewees must first help them secure stable employment.[8.16] To obtain a reliable job, interviewees help patients obtain government

identification [8.17] to prove the patient's identity. To obtain government identification, participants help patients first secure vital documents, such as Social Security cards [8.19] and birth certificates.[8.20] Thus, helping patients rebuild their lives in safe housing with gainful employment frequently begins well upstream filling out paperwork to literally acknowledge the patient's birth.

Navigating these administrative hurdles provides opportunities for interviewees to maintain trust with patients. For example, simply sitting together in silence [8.23] is a powerful trust-maintaining tactic. Discussing timelines for achieving the next recovery goal [8.24] in a Department of Motor Vehicles lobby or accompanying patients to the courthouse for appointments,[8.25] are simple tactics that participants report pay substantial dividends in a long, often frustrating process of rebuilding a patient's life. Patients interpret an interviewee's follow-through on a commitment to accompany them through these hurdles as an act of loyalty.

Interviewees at HVIPs with greater resources can streamline components of the recovery process for patients. One university-based HVIP links patients to various legal resources at the campus law school,[8.26] including help appealing VOCA applications denied on technicalities.[8.29] Another program holds periodic "ID Clinics" [8.18] to help patients fill out applications for drivers licenses and government identification. The same program additionally hosts "expungement clinics" [8.28] to help individuals remove offenses from criminal records, thus increasing the probability that patients will satisfy their priorities of obtaining housing or employment.

Retaliation De-Escalation

Retaliation frequently occurred after loved ones arrived to find patients in comas, intubated, or surrounded by medical devices signaling a spinal injury. Interviewees appealed to a prospective

retaliator's risk of going to prison [4.12] and the impact of incarceration on their families.[4.13] Others petitioned restraint so the retaliator could be present when the patient regained consciousness.[4.11] Other interviewees unequivocally described a counterintuitive tactic – identify [4.9] and isolate [4.10] the quietest person amidst a chaotic situation.

DISCUSSION

Trustbuilding

Cultivating patient trust is not restricted to one hinge point on the recovery continuum. Patients engage clinical staff because there is no viable alternative. The patient-clinician relationship is fundamentally transactional, with decision-making power and agency largely stripped from patients. Patients are poked, prodded, told what they can and cannot do, what they can and cannot eat, when they can and cannot leave their bed, among other mandates.

In contrast, the patient-violence prevention professional relationship is akin to a recovery partnership. Patients articulate their recovery goals and priorities so the violence prevention professional may play a supportive role in meeting them. Sitting with patients in a government administrative building months after discharge maintains trust earned during the initial bedside encounter. On the surface, these actions target immediate patient needs. Yet, articulating a shared experience of violence, dressing in a non-threatening manner, procuring a favorite meal, and honoring commitments to navigate bureaucracy generates trust greater than the sum of these tactical parts. They demonstrate legitimacy and credibility to patients in the most vulnerable moment of their life.

Shared Experience

Interviewees deploy sets of tactics rooted in shared experience with patients. Examples range from sharing the patient's favorite food to playing card games at the bedside. These actions lay the foundation for sitting in shared silence inside a government administrative building as patients requests basic vital documents that, over the ensuing weeks and months, may be leveraged into government identification cards, gainful employment, and even relocation into housing safely away from the immediate risk of re-exposure to violence.

These tactics are mundane and easily conducted in the abstract. People play cards and video games all the time. They reluctantly wait in government administrative buildings and fill out paperwork. What sets the work of the violence prevention professional apart is the nature of completing these actions in solidarity with a violently injured patient. Through shared experiences of past violence exposure and current displays of solidarity, patients become uniquely receptive to the violence prevention professional's tactics mitigating their future exposure to violence.

Absence of Tactics Engaging Patient Social Networks

Tactics engaging a patient's social networks were virtually absent in this study. This is notable given the influence social networks have on cycles of violence. "Reduc[ing] the risks of retaliation and re-injury"[167] is a core aim of HVIP operation outlined by the Health Alliance for Violence Intervention, the national hub for HVIP training and technical assistance. To achieve this, an expectation exists that, "HVIP staff assess the acute, ongoing, and long-term risks of violence for the individual *and their social network*"[167] (emphasis ours). We may need new strategies to ensure violence prevention professionals meet this expectation. For example, asking patients to list their five closest associates would facilitate intervention opportunities with those at elevated risk of exposure to or perpetration of violence. Assuredly, violence

prevention professionals cannot be all things to all people all the time. Tracking down a patient's peers may not be feasible for understaffed and under-resourced HVIPs, particularly those operating in areas without complementary community-based violence intervention services. However, violence prevention professionals have privileged, direct access to hard-to-reach individuals with high likelihoods of being embedded in violent, contagious social networks. These professionals also have preternatural social intuition and elite trustbuilding skills. They are uniquely positioned to identify vectors of future violence related to patients they work with, and to do so within hours of a violent injury. Investigating the factors helping or hindering an HVIP's engagement of the social networks of violently injured patients is a critical area for future research.

Utility of the AACTT

This study used the AACTT rubric to ensure essential information was collected for each tactic about the action, the actor, the context, the target of the action, and the timing in which the action is conducted. The AACTT was particularly helpful in linking the particular action (i.e., tactic) to its immediate context. It was less important for the actor and target, as the actor was almost always the violence prevention professional and patients were nearly always the target. This is somewhat ironic, as the AACTT elaborates on an earlier rubric that omitted the actor.

Limitations

This study has three limitations readers should understand. First, important tactics may be omitted or poorly documented because they involve skills and knowledge that interviewees did not have a means of explaining. Research on how experts perform reveals that individuals may be unable to explain precisely how they operate at elite levels.[168,169] Interviewees often lacked the technical terminology to unpack the suite of tactics they intuitively deploy. They often spoke in metaphors. Instinctively knowing how to diffuse chaotic situations was likened to birdwatching.

Preparing mothers to view the bodies of murdered sons meant serving as "the wedding coordinator for the worst fucking wedding in history." Abstract personal characteristics, such as the ability to "be real," "just be me," and "overwhelm you with love," were self-evident trustbuilding tactics. Operating in the aftermath of violent trauma is the air violence prevention professionals breathe, the water they swim in. It makes them credible. It affords an experience-based dialect imminently understood by patients. However, deconstructing their expertise presents challenges for researchers. Second, the effectiveness of these tactics remains unknown, as the goal of this study was to identify the range of tactics used. Third, we do not know whether tactics will translate to different contexts across the country. We do not know if tactics that work in Philadelphia and Baltimore translate to Phoenix and Birmingham. Certain tactics may broadly translate. Others may not.

Areas for Future Research

One option for overcoming the interviewee-researcher language gap is direct observation of skilled violence prevention professionals conducting their work. Another less-intrusive option may involve violence prevention professionals narrating tactics they deployed immediately after patient encounters. Second, evaluation and testing of individual or sets of tactics should build on these findings to identify the degree to which tactics work for other violence prevention professionals in similar contexts, or if they are idiosyncratic to the personalities and skillsets of individual professionals. Third, identifying opportunities for testing and translation of tactics in different contexts is an opportune area for future research. Additional opportunities to build on this research are presented in Chapter Five.

CONCLUSION

Successful hospital-based violence intervention hinges on the work of frontline violence prevention professionals. Yet, we know relatively little about how they conduct their work. To our knowledge, this study represents the first attempt to systematically identify the tactics used by these professionals. Obtaining these previously uncollected data may lay the groundwork for the translation and adaptation of tactics to other HVIP contexts. Cataloging these tactics may facilitate their testing in the field. The most effective tactics may then be disseminated to strengthen the skillsets of current HVIP professionals, while enhancing the training of future violence prevention personnel.

chapter four.

sustaining hospital-based violence intervention programs.

When I was in school I studied biology.

I learned that in making their experiments

scientists will take some group —bacteria, mice, people—

and subject that group to certain conditions.

They compare the results with a second group

which has not been disturbed.

This second group is called the control group.

It is the control group which enables the scientist

to gauge the effect of his experiment.

To judge the significance of what has occurred.

In history there are no control groups.

There is no one to tell us what might have been.

We weep over the might have been, but there is no might have been.

There never was.

It is supposed to be true that

those who do not know history are

condemned to repeat it.

I don't believe knowing can save us.

What is constant in history is

greed and

foolishness and a

love of blood

and this is a thing that even God

—who knows all that can be known—

seems powerless to change.

~ Cormac McCarthy | *All the Pretty Horses* | (1992)

Prioritizing core factors needed to sustain

hospital-based violence intervention programs: A Delphi study

ABSTRACT

Background: Hospital-based violence intervention programs (HVIPs) are public health interventions to prevent violent re-injury. While there is published guidance on initial program implementation, there is limited evidence or guidance about factors influencing long-term sustainability.

Methods: A three-round Delphi study was conducted with leaders of established programs to prioritize factors critical for HVIP sustainability. Participants submitted factors influencing their program's sustainability in Round 1. Responses were synthesized using inductive thematic analysis and returned to participants for refinement in Round 2. Maximum-difference scaling with hierarchical Bayes estimation helped prioritize factors by importance in Round 3.

Results: 27 factors were synthesized from 108 submissions by 32 participants in Round 1. Leaders added four factors and removed three during Round 2, with 28 factors rated in Round 3. Participants prioritized frontline violence prevention professionals in six of the first nine factors. Funding-related factors (e.g., government grants, operating support) received moderate priority. Administration (e.g., hospital leadership) and community stakeholders (e.g., community champions) received lower priority. External institutions (e.g., police) received lowest priority.

Conclusion: Sustainability priorities differ from priorities in blueprints for program startup. Results may indicate the need for program adaptability during their implementation journey and for HVIP leadership to recalibrate priorities over time.

BACKGROUND

Hospital-based violence intervention programs (HVIPs) are complex public health interventions operating adjacent to emergency departments and trauma centers to prevent violent re-injury, rehospitalization, and involvement in cycles of violence among patients admitted due to intentional community-level violence. HVIPs connect patients to intensive case management services to address social determinants of health and modifiable risk factors influencing one's risk of future violence exposure.[19,98–101] Often functioning with minimal resources, programs operate amidst the urgent and highly variable nature of patient injuries and needs at the hospital bedside as well as the challenge of ensuring a patient's recovery and, in many cases, very survival post-discharge. HVIP leaders are thus forced to navigate intersecting opportunities, threats, and decision-making trade-offs, including which important and frequently competing factors should be prioritized to ensure long-term program sustainability.

Studying and identifying when and where an intervention starts, stops, changes direction, or ceases operations is much easier than ascertaining the degree to which an active, ongoing program is and remains sustainable. Program sustainment not only ensures gains in public and population health, but facilitates assessment of a program's efficacy within complex, real-world contexts.[170] Yet, the study of public health innovations historically focuses on initial program adoption and early implementation, neglecting the long-term institutionalization and sustainment of programs.[171–173] Compounding a lack of knowledge on how to sustain interventions, existing studies largely focused on community-level interventions, with few engaging the hospital setting itself.[174]

Achieving scientific consensus on a definition of sustainability has proven difficult over the last quarter century.[170,173–176] In a synthesis of the public health sustainability literature, Shelton and colleagues define sustainability as, "the continued use of program components at sufficient

intensity for the sustained achievement of desirable program goals and population outcomes."[150] This definition anchors the present study, which seeks to identify and prioritize the most important factors that help or hinder an HVIP's long-term operational success. Conducting sustainability research is not straightforward and frequently requires several layers of data collection, a process requiring substantial expenditure of time, money, and human resources.[175,176] Assessments of HVIPs are no exception.

Once operational, little is known about the factors that threaten or sustain HVIPs over time. Of the estimated 153 HVIPs in existence, slightly more than half (87; 56.9%) are fully operational (author's unpublished data). Separately, at least five programs have ceased activities after achieving operational stability. HVIPs are disproportionately newer interventions, with only six programs operating for more than 25 years. The median program launched in 2019, meaning fully half of all HVIPs started immediately before, during, or in the shadow of the COVID-19 pandemic. Established amidst uncertainty and instability, the pandemic-era cohort is currently approaching stable operational status. Initiating and stabilizing a program during the pandemic necessitated myriad adaptations to traditional HVIP operations,[134] preventing fidelity to a shared implementation model. Such implementation heterogeneity reinforces critiques of HVIP effectiveness, as the empirical foundation for the field disproportionately relies on evaluations of single programs carried out by representatives of that very HVIP.[118]

Ensuring newly established HVIPs build upon successful implementation efforts requires tools and insight not yet synthesized or standardized. The academic literature on HVIPs is largely silent regarding the most critical factors for achieving long-term program sustainability. Guidance for leaders of young and future HVIPs is imperative, particularly regarding which factors should be prioritized when programs face intersecting and opposing challenges, trade-offs, and opportunities simultaneously. Identifying and prioritizing the key determinants of

sustainability is critical to equip program leaders to transition the next generation of HVIPs from young programs to thriving, long-lasting interventions.

METHODS

To address this gap in our knowledge, a three-round modified Delphi study was conducted with leaders of well-established HVIPs to identify and prioritize factors important to achieving long-term program sustainability. The Delphi study is an iterative, multi-stage technique used to transform the judgments and preferences of individual experts into group consensus.[177,178] It is particularly well suited to contexts where minimal research literature exists, but experiential knowledge is substantial.[179–181] This makes the Delphi study optimal method to study HVIP sustainability. The study took place from June 2024 to March 2025 and followed established guidelines for conducting Delphi studies.[177,182,183] The study was conducted in accordance with Conducting and REporting DElphi Studies (CREDES) recommendations.[184]

Participant Identification and Recruitment

Prospective participants were identified using a multi-pronged process. As the precise number of operational HVIPs is currently unknown, initial participant identification was conducted in consultation with the Health Alliance for Violence Intervention (HAVI), the primary training and technical assistance hub for 57 fully established HVIPs nationwide. This method of consulting a surrogate organization for Delphi participant identification when the total eligible population is unknown has precedence in emergency medicine research.[185] Prospective participants were grouped into three categories: founders of fully-operational HVIPs within the HAVI network, current leadership of fully-operational programs, and former HVIP leaders who contributed to the growth and development of the field but were neither program founders nor currently serve in leadership. Leaders were defined as individuals in a management or supervisory role who possess(ed) the institutional knowledge about the overall program.

Frontline violence prevention professionals, hospital personnel without direct oversight of HVIP activities, and stakeholders outside of the hospital setting were excluded.

A senior-level HAVI director vetted and approved the final recruitment list of eligible HVIP leaders affiliated with the organization's network. Additional participant identification measures included word of mouth referrals from stakeholders at individual programs and Internet searches for leaders of programs outside of the HAVI member network, including LinkedIn queries. In total, 80 leaders were identified for recruitment. Incentive funding was available to enroll the first 40 respondents, who were offered a $75 gift card for participation in all three rounds of the study. Each leader received an email invitation and unique link to participate in the study, followed by two reminder emails sent at weekly intervals, for a total of up to three recruitment contacts. Participants remained anonymous to one another throughout the study. The study was deemed exempt by the University of Washington Institutional Review Board (Protocol #: 00018493).

Data Collection

Delphi Round 1A | Initial Factor Submissions

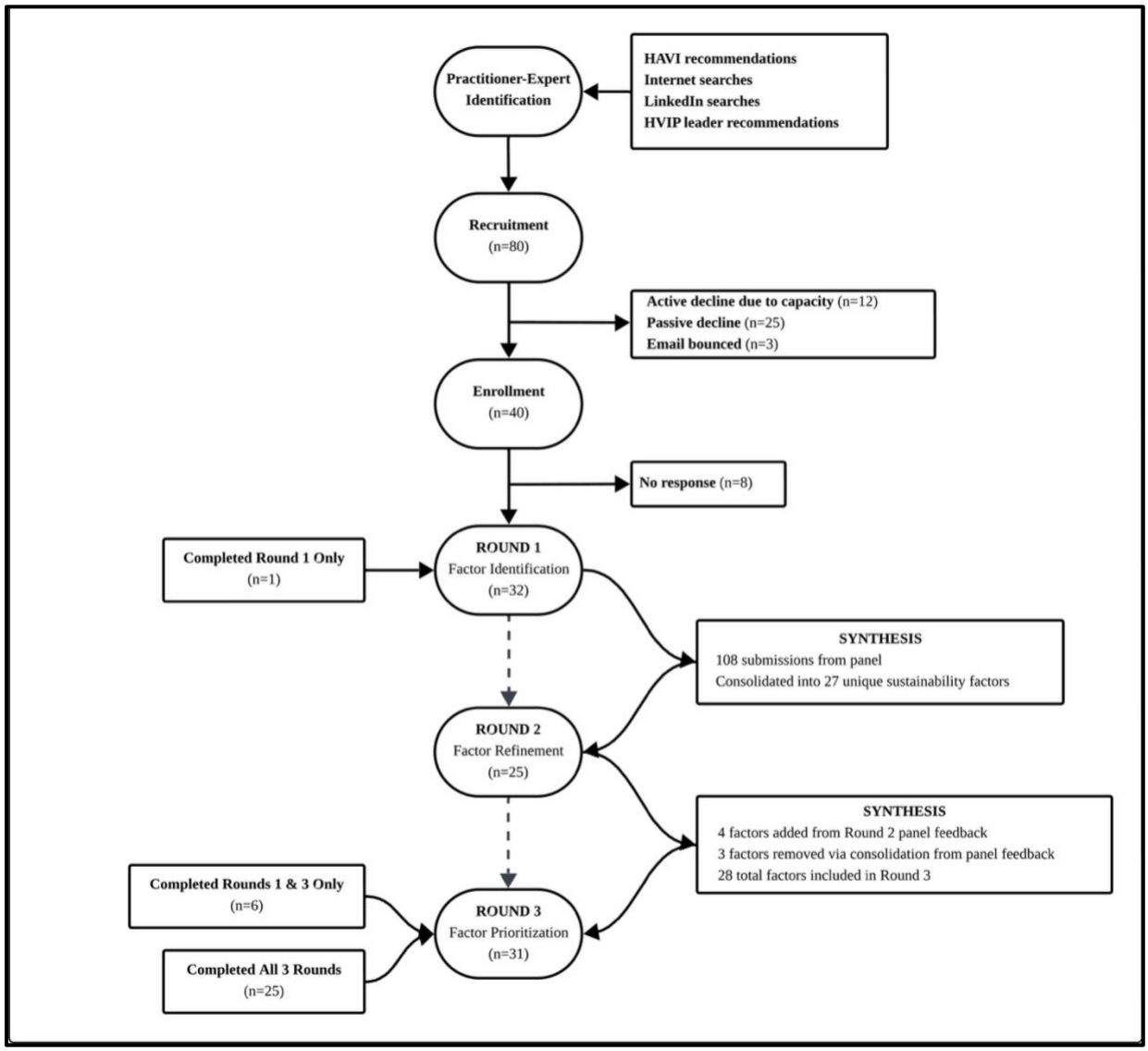
In Round 1 of the study, participants were asked to submit up to 10 examples of sustainability factors encountered while leading their HVIP. Sustainability factors were defined as "things that have contributed to or threatened the effective and successful operation of your HVIP over the long term." Participants were additionally asked to provide an open-ended explanation for why they selected each factor.

Delphi Round 1B | Synthesis of Responses

Participant responses were reviewed and coded using a two-stage inductive thematic coding process.[147,163,164,186] First, submissions were grouped together by their overarching subject (e.g.,

all submissions related to funding). These larger groupings (e.g., funding) were then coded to synthesize responses into unique factors (e.g., funding sources vs. funding allocation, etc.). Definitions and example elements for each factor were iteratively generated using participants' wording from their initial explanations in Round 1A.

Figure 4.1 | Study Stages and Participation Flow Chart



Delphi Round 2A | Participant Feedback

A hallmark of the Delphi method is the opportunity for participants to review the synthesized results of the previous round and revise their own judgments from the initial round, and/or suggest revisions to the synthesized information returned to the group.[177,180–182] This process strengthens the refinement of previous judgements, which is not feasible with traditional one-off surveys.[187] In Round 2A, participants were asked to review and refine the synthesized factors generated in Round 1B. All respondents received the anonymized list of synthesized factors (organized alphabetically in pdf format), as well as a copy of their personal responses and explanations submitted in Round 1A.

Factors were organized into survey groups by theme (e.g., all factors related to funding sources, all factors related to funding allocation, etc.) for ease of comparison and refinement of alike factors. Up to three quotations from participant explanations in Round 1A accompanied factor definitions and examples synthesized in Round 1B. Quotations were redacted to preserve anonymity and lightly edited to correct spelling or punctuation errors as needed but were otherwise included verbatim. Factor groups and quotations were randomly presented to each participant using the Qualtrics survey platform. Participants were asked to respond to a set of open-ended questions for each factor group:

- Should any of the factors above be combined, removed, or split into new factors?
- Are any potential components missing?
- Would you change anything in any of the definitions above?
- Do you have any additional feedback regarding the factors above related to HVIP sustainability?

Delphi Round 2B | Synthesis of Responses

Feedback from Round 2A was then iteratively synthesized by the same authors responsible for synthesizing Round 1A. Refinement suggestions were reviewed and vetted by the authors and then coded into three categories: accept, adjust, or reject. Responses where participants endorsed the existing factor, definition, and examples or offered no refinement were coded as "accept" and included in Round 3. Participant feedback suggesting substantive refinement was coded as "adjust." Adjusted language was synthesized into updated factors, definitions, and/or sets of example elements and re-reviewed by the coders. Advancing the refined factor to Round 3 required agreement by both coders. Decisions to reject participant feedback predominantly occurred when proposed revisions were already captured by an existing factor. In instances where participant suggestions contradicted one another, precedence was given to suggestions that mostly closely corresponded to participant explanations submitted in Round 1A. As this study sought consensus on the factors and definitions themselves, the authors elected to not introduce an exercise designed to cull factors from consideration if they did not meet a particular threshold, such as Likert scale score cutoffs used in other Delphi approaches.[188–191]

Delphi Round 3 | Maximum-Difference Scaling & Hierarchical Bayes Estimation

The final set of refined factors from Round 2B was included in a maximum-difference (MaxDiff) scaling exercise in Round 3. MaxDiff analysis, also referred to as best-worst scaling, generates a final set of items organized by priority, as determined by content experts participating in the exercise.[192–194] To elicit prioritization, the method forces participants to select their most and least preferred items from a random sample drawn from the wider set. Participants were shown sets of five randomly drawn sustainability factors and instructed to "select the **most important** and **least important** factor to achieve long-term HVIP sustainability" (emphasis in original). Upon submitting their selections, participants received an updated list of five randomly selected factors and were instructed to repeat the task. This process continued until

each participant completed 20 tasks. Factors randomly appeared 3.4 times on average during the ranking activity.

Analysis

MaxDiff responses were analyzed via hierarchical Bayes estimation[195,196] using Sawtooth Software to generate individual-level utility scores for each sustainability factor. A utility score quantifies the preference a participant assigns to any given factor relative to other factors in the set.[194,197] Individual factor utility scores for all participants were aggregated and converted to a 0-100 point scale to generate easily interpretable priority rankings.[198] Factor scores on this scale sum to 100, which facilitates ratio-based comparisons between items.[192,192] For example, an item with a score of 10 carries double the importance of an item with a score of 5.

RESULTS

Participant Identification

The leadership identification process resulted in 80 prospective participants invited to participate in the study. Fifty-three leaders were ultimately invited from HAVI member programs. The remaining 27 participants were identified via snowball sampling recommendations, Internet searches for leaders of known HVIPs outside the HAVI member network, and LinkedIn queries targeting HVIP-related job titles.

Delphi Panel Characteristics

Enrollment was capped at 40 participants, as incentives ($75 gift cards) were available for the first 40 enrollees. Of the 80 invited leaders, 40 enrolled in the study (response rate: 50%). Thirty-two enrolled individuals (80%) completed the first round of the Delphi study (June-July 2024). Given the Delphi method's reliance on iterative participation and refinement of

participant submissions, the final study pool was restricted to participants who completed Round 1. Of this pool, 25 leaders (78.1%) completed Round 2 (Nov-Dec 2024) and 31 (96.9%) completed Round 3 (Feb-March 2025). The loss of eight enrolled nonparticipants did not substantially skew the final pool's demographic representation, with one exception. Six of the eight nonrespondents were founders of their HVIPs, thus lowering the prospective pool from 17 founding members (42.5%) to 11 (34.4%). Participant geographic distribution largely reflected HVIP distribution nationally. Self-identified characteristics of enrolled and participating leaders are found in Table 4.1.

Table 4.1 | Participant Characteristics

	Enrolled (n=40)	Round 1 (n=32)	Round 2 (n=25)	Round 3 (n=31)
	n (%)			
Age				
26-30	1 (2.5)	1 (3.1)	1 (4.0)	1 (3.2)
31-35	4 (10.0)	3 (9.4)	1 (4.0)	3 (9.7)
36-40	5 (12.5)	4 (12.5)	4 (16.0)	4 (12.9)
41-45	10 (25.0)	8 (25.0)	7 (28.0)	8 (25.8)
46-50	5 (12.5)	4 (12.5)	4 (16.0)	4 (12.9)
51-55	9 (22.5)	8 (25.0)	6 (24.0)	7 (22.6)
56-60	1 (2.5)	1 (3.1)	1 (4.0)	1 (3.2)
61-65	1 (2.5)	1 (3.1)	0 (0.0)	1 (3.2)
> 65	3 (7.5)	2 (6.3)	1 (4.0)	2 (6.5)
Prefer not to say	1 (2.5)	0 (0.0)	0 (0.0)	0 (0.0)
Gender				
Female	27 (67.5)	22 (68.8)	17 (68.0)	21 (67.7)
Male	13 (32.5)	10 (31.3)	8 (32.0)	10 (32.3)
Ethnicity				
Asian - East/Southeast	1 (2.5)	1 (3.1)	1 (4.0)	1 (3.2)
Black/African American	16 (40.0)	13 (40.6)	9 (36.0)	12 (38.7)
Latinx/Hispanic	5 (12.5)	4 (12.5)	4 (12.5)	4 (12.9)
White/Caucasian	18 (45.0)	14 (43.8)	11 (44.0)	14 (45.2)
Geography (AHA Region)				
Region 1 (CT, MA, ME, NH, RI, VT)	2 (5.0)	2 (6.3)	1 (4.0)	2 (6.5)
Region 2 (NJ, NY, PA)	9 (22.5)	7 (21.9)	7 (28.0)	7 (22.6)
Region 3 (DC, DE, KY, MD, NC, VA, WV)	5 (12.5)	4 (12.5)	3 (12.0)	4 (12.9)
Region 4 (AL, FL, GA, MS, PR, SC, TN)	2 (5.0)	1 (3.1)	1 (4.0)	1 (3.2)
Region 5 (IL, IN, MI, OH, WI)	9 (22.5)	6 (18.8)	4 (16.0)	6 (19.4)
Region 6 (IA, KS, MN, MO, ND, NE, SD)	2 (5.0)	2 (6.3)	1 (4.0)	2 (6.5)
Region 7 (AR, LA, OK, TX)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Region 8 (AZ, CO, ID, MT, NM, UT, WY)	3 (7.5)	3 (9.4)	3 (12.0)	3 (9.7)
Region 9 (AK, CA, HI, NV, OR, WA)	8 (20.0)	7 (21.9)	5 (20.0)	6 (19.4)

Program Leadership				
Current Leader	33 (82.5)	27 (84.4)	23 (92.0)	27 (87.1)
Former Leader	7 (17.5)	5 (15.6)	2 (8.0)	4 (12.9)
Leadership Role				
Medical Director	8 (20.0)	6 (18.8)	5 (20.0)	6 (19.4)
Program Director	16 (40.0)	12 (37.5)	8 (32.0)	11 (35.5)
Program Manager	9 (22.5)	7 (21.9)	6 (24.0)	7 (22.6)
Program Coordinator	6 (15.0)	6 (18.8)	5 (20.0)	6 (19.4)
Researcher	1 (2.5)	1 (3.1)	1 (4.0)	1 (3.2)
HVIP Founding Member				
Yes	17 (42.5)	11 (34.4)	7 (28.0)	10 (32.3)
No	23 (57.5)	21 (65.6)	18 (72.0)	21 (67.7)
Experience	**Years (sd)**			
Years in Current Role	6.7 (5.9)	6.6 (6.3)	6.4 (5.2)	6.6 (6.3)
Years in HVIP Field	10.4 (7.0)	10.4 (7.3)	9.9 (5.9)	10.4 (7.3)

Delphi Round 1 | Initial Factor Submissions & Synthesis

Participants submitted 108 sustainability factors in Round 1, each with a corresponding explanation. Participants submitted 3.4 factors on average, with a minimum of one and a maximum of 10. Participants' submissions were synthesized into 27 unique sustainability factors and returned these to the participants for refinement in Round 2.

Delphi Round 2 | Factor Refinement & Synthesis

Participants largely concurred with the factor titles and definitions returned to them for refinement. Certain titles assigned to factors in Round 1 elicited confusion and required us to refine the name of the factor itself in Round 2. The factor "HVIP Protocols" was refined to "HVIP Policies & Protocols" to capture the wider concept of institutionalized program administration. "Diversity of Funding Sources" was refined to "Multiple Funding Sources." Two issues arose related to the factor "Relationships with Clinical and Hospital Staff," which attempted to capture hospital personnel who were not directly involved with the HVIP. First, participants identified the compound nature of the factor and the need to distinguish clinical from administrative staff. Second, use of the word "clinical" created confusion among a handful

of participants regarding the roles and titles of professionals within and outside of the hospital setting. To reduce confusion and distinguish categories of non-HVIP hospital staff from one another, the factor was divided into two separate factors, “Relationships with Clinical Patient-Facing Hospital Departments” and “Relationships with Administrative Hospital Staff,” respectively.

The factor “Patient and Family Buy-In,” was created after a participant noted that a key influence on program sustainability was missing altogether from the Round 1 submissions. The “Buy-In” component better captured the core influence on program sustainability, namely participant ownership and investment in the program, compared to the more loosely articulated “Relationships with Patients and Family Members” factor generated in Round 1. The latter factor was consequently consolidated into the new “Patient & Family Buy-In” factor during the Round 2B synthesis process. Similar synthesis followed where the existing factor “Relationships with Community Members” was reframed as “Community Buy-In” to center the agency of residents and community stakeholders in relation to the HVIP established in their community. Ultimately, the Round 2 feedback and revision process introduced four new factors while consolidating three existing factors. The net increase of one item resulted in a final set of 28 unique sustainability factors advancing to Round 3. An alphabetized list of factors, accompanied by definitions and elements derived from participant feedback, is found in Table 4.2.

Table 4.2 | Factors Influencing HVIP Sustainability (organized alphabetically)		
Factor	**Definition**	**Elements**
Clinical Hospital Leadership Buy-In	Support for HVIP from leaders of hospital medical departments (e.g., emergency medicine, trauma, surgery, nursing, etc.). Note: does NOT include hospital executive leadership (which is a separate factor)	advocacy targeting executive leadership, patient engagement, and consistent support amidst staffing turnover, etc.
Community Buy-In	Support of the HVIP's existence, program operations, and mission by individuals and/or groups within the community served by the HVIP and hospital. This includes support for current and former program participants, as well as their family and/or caregivers.	includes relational and social support for current and former program participants, as well as their family and/or caregivers by individual community members and volunteers, social institutions, and the wider violence prevention/intervention ecosystem in the HVIP's jurisdiction; underpinned by mutual trust and support by the HVIP toward the community. Community stakeholders may include individual residents, faith leaders and congregations, local business owners, etc.
Community Champions	Influential members of the community who support and advocate for the implementation, growth, and advancement of the HVIP outside of the hospital setting.	service providers, trusted elders, religious leaders, local elected officials, etc.
Data & Program Evaluation	Quantitative and/or qualitative collection and documentation of process, patient-centered, and objective outcomes that capture the progress, quality, and impact of HVIP operation (both short- and long-term).	includes the human, financial, and/or technological resource support to carry out data collection, cleaning, interpretation, analysis, and generation of recommendations based on findings. Focus may be external (e.g., on participant outcomes) or internal (e.g., on program quality improvement).
Executive Hospital Leadership Buy-In	Executive leadership (C-Suite) support for the HVIP. Note: does NOT include financial support or clinical leadership (See "Funding for Program Operations" and "Clinical Leadership Buy-In" as separate factors)	desire to establish initial program, endorsement of HVIP mission, participation in HVIP activities, provision of administrative (e.g., grant writing) and/or material support (e.g., office space).
External Constraints	Administrative or bureaucratic barriers to HVIP operation that originate outside the hospital context.	the [in]ability to exchange client information between partner organizations due to HIPAA regulations, lack of community resources and service referral opportunities, etc. These challenges are often, though not exclusively, felt by hospital-linked programs.
Funding for HVIP Personnel	Financial support that directly supports the salaries of HVIP employees.	staff salaries; program FTE.

Funding for Participants & Families	Direct financial support designated for program participants and their families to rebuild their lives.	Victims of Crime Act (VOCA) compensation funding to cover basic needs, healthcare, funeral expenses, etc.
Funding for Program Operations	Funding to support day-to-day program activities. Note: does NOT include employee salaries (See "Funding for HVIP Personnel" as a separate factor)	administration, overhead, outreach, training for HVIP staff, travel, discretionary funding, etc.
Government Funding Sources	HVIP receives financial support from local, state, and/or federal government sources.	startup/seed funding for initial HVIP launch, general operating support, Medicaid reimbursement funds for HVIP activities, grants from government agencies (e.g., NIH, DOJ, etc.), and/or block grants from state or other taxpayer-funded public entities.
Hospital Champions	Influential employees who advocate for the implementation, growth, and advancement of the HVIP within the hospital setting.	medical directors, trauma surgeons/ER physicians, nursing leadership, C-Suite executives and/or VPs, board members, etc.
Hospital Funding Sources	Direct financial support from host hospital.	hospital includes HVIP in annual budget, seeks Medicaid reimbursement for HVIP activities, provides advocacy & administrative support to secure additional funding, etc.
HVIP Employee Personal & Professional Development	Equipping of HVIP frontline staff with the resources and skills necessary to successfully and consistently carry out their work.	Professional Development: training, participant case conferencing, mentorship, attendance at academic and professional conferences, etc. Personal Development: verbal and written encouragement, time off for self-care, etc.
HVIP Employee Self-Care	Intentionally created time and space for mental, physical, emotional, relational, and/or spiritual wellness outside of work. Self-care helps the individual employee avoid burnout and mitigate secondary trauma while working for the HVIP.	time with family, therapy, exercise/athletic activity, faith-based fellowship/activities, engaging in personal hobbies, etc.
HVIP Frontline Staff Characteristics	Training, experience, and/or personal traits of the individuals responsible for direct patient and family engagement.	relationship-building ability, communication skills, demeanor in tense situations, competence with HVIP duties, time and administrative management capacity, tolerance of ambiguity, learning style, maturity, trustworthiness, dependability/responsibility, ability to work independently out in the field, etc.

HVIP Hospital Affiliation (hospital-based vs. hospital-linked vs. hybrid programs)	The organization, rules, regulations, and procedures that govern the operation and accountability of the HVIP with regard to its relationship to the hospital. Programs are often referenced as being hospital-based or hospital-linked.	Hospital-based programs: fully integrated into the hospital setting, with participant engagement at the bedside/within the hospital setting; HVIP staff are hospital employees; the HVIP may have office space, automatic access to other hospital departments, etc. Hospital-linked programs: governed by community-based organizations and provide services in contractual agreement with the hospital. Staff access and authority within the hospital will vary by site; patient engagement may begin post-discharge. Hybrid programs: a combination of the two models, incorporating elements of in-hospital and community-based employment, patient/participant engagement, and post-discharge services, etc.
HVIP Leadership Characteristics	Training, experience, and/or personal traits of the individuals responsible for implementing the HVIP and overseeing day-to-day program operations.	leaderships skills, mentorship, discernment in hiring, training skills, project management, grants management, effective supervision, time and administrative management, motivation, etc.
HVIP Mission & Scope of Work	The HVIP has a clear purpose based on a set of established values that guide the programs pursuit of its goals, accompanied by practical strategies and activities for achieving those goals.	an aspirational approach to obtaining a pre-defined set of goals may be coupled with actionable steps, such as strategies for engaging patients, identifying and prioritizing recovery needs, and satisfying these needs via established referral relationships with internal hospital departments (e.g., physical therapy) and external community service providers (e.g., employment, housing services, etc.).
HVIP Policies and Protocols	The organization of tasks and responsibilities within and between individuals and teams.	adequate (non-financial) infrastructure and resources to conduct program operations; clear guidelines and expectations regarding patient engagement, data collection and documentation, follow-up, etc.
HVIP Staff Buy-In	HVIP employee commitment to the day-to-day work and mission of the program.	agreement with and delivery of trauma-informed actions, reliable commitment to data collection and documentation, productive contributions to team dynamics and decision-making, etc.
HVIP Staffing & Personnel	The roles, responsibilities, caseload allocation, supervision, and personal experience brought together to form an HVIP team.	these may be influenced by formal education, training, certification, etc., or may be based on lived experience and/or intangible skills, such as social intuition, emotional intelligence, conflict management, etc.
Multiple Funding Sources	Funding from a diversity of sources that support a wide range of program operations, contributes to program stability, and minimizes turnover.	a mix of hospital funding, private individual donor philanthropy, funding from non-governmental foundation grants, Medicaid reimbursements, and grants from local, state, and/or federal sources.

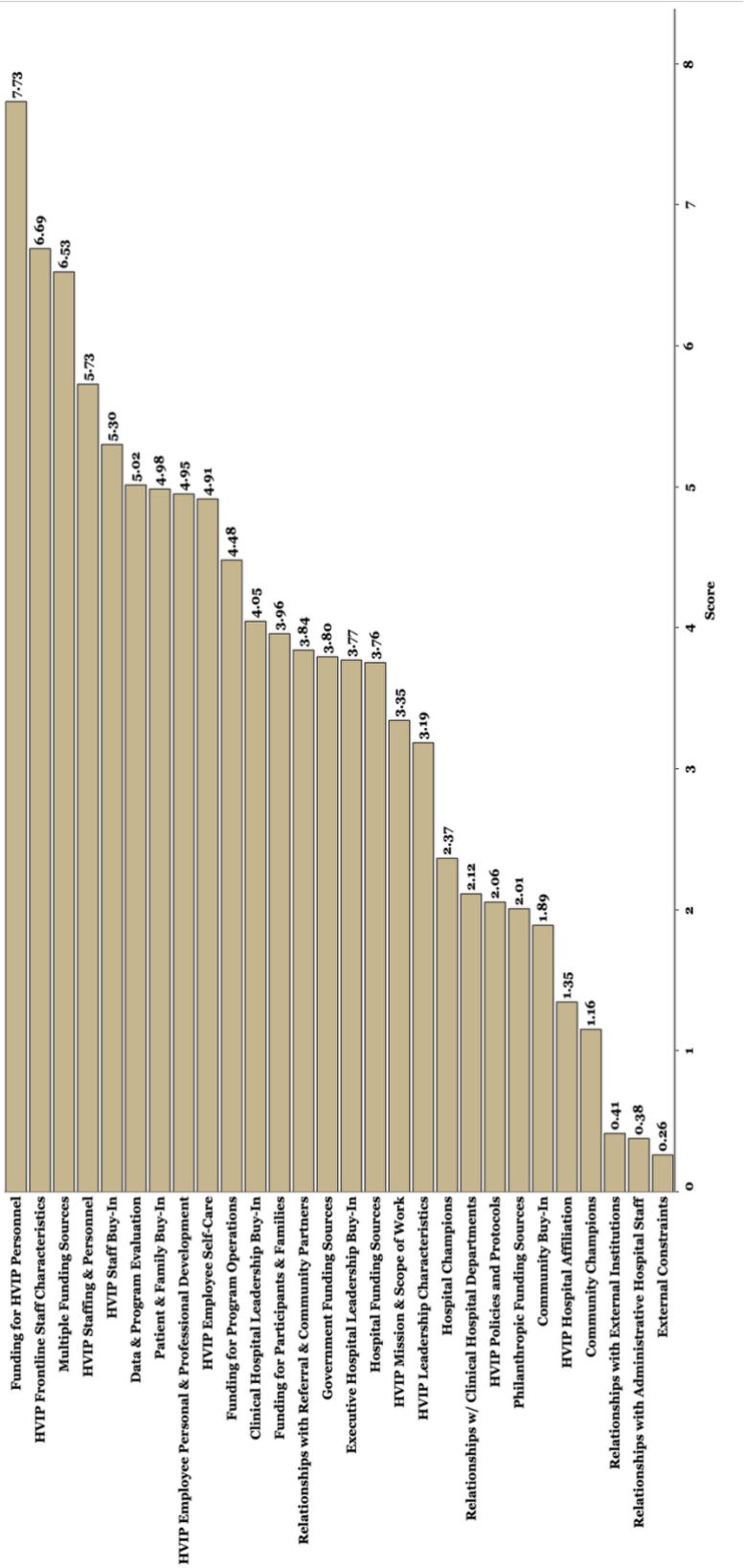
Participant & Family Buy-In	Participant and family-based trust in the HVIP and frontline violence prevention professional(s); willingness to enroll in HVIP program and jointly-craft participant-focused recovery plan. Includes hospital stay and/or post-discharge HVIP engagement.	engaged participation and/or support from individual patients, immediate family, dependents/children, extended family, friends, etc.
Philanthropic Funding Sources	HVIP is supported by private and discretionary funds from individual donors and/or private foundations.	private and foundation grants, individual donations, etc. Funding is generally short-term in nature without guarantee of renewal.
Relationships with Administrative Hospital Staff	Interactions with and influence of other hospital employees in administrative roles that have no direct contact with individual patients.	finance department, grant-writing personnel, service staff, security, etc.
Relationships with Clinical Patient-Facing Hospital Departments	HVIP links to and collaboration with relevant departments across the hospital setting that have direct patient interaction.	emergency department, trauma, nursing, social work, physical therapy, inpatient mental health services, etc.
Relationships with External Institutions	Collaborative partnerships with institutional-level stakeholders in the area served by the HVIP.	public health departments, K-12 schools, universities, law enforcement, media outlets, etc.
Relationships with Referral & Community Partners	Collaborative partnerships with service providers and community-level stakeholders in the area served by the HVIP.	housing and relocation services, mental health providers, job placement agencies, basic needs providers, faith-based communities, tattoo removal services, inter-agency non-profit coalitions, primary care and community health clinics, etc.

Delphi Round 3 | Maximum-Difference Scaling & Hierarchical Bayes Estimation

Thirty-one participants completed the Round 3 MaxDiff scaling exercise. “Funding for HVIP Personnel” ranked highest of the 28 factors with a score of 7.73, followed by “Frontline Staff Characteristics” (6.69) and having the program supported by “Multiple Funding Sources” (6.53). Four of the top five and six of the top nine ranked factors related to frontline personnel. Funding for HVIP Personnel (i.e., staff salaries) emerged substantially higher in importance for obtaining long-term sustainability than the lowest-ranked factors. Participants prioritized frontline salary support at a rate 19 times greater than “Relationships with External Institutions” (0.41), 20 times greater than “Relationships with Hospital Administrative Staff” (0.38), and 30 times greater than “External Constraints” (0.26).

Funding-related factors comprised more than a quarter of the final set (8; 28.6%). Participants deemed having a diverse revenue portfolio more important than securing funding from any key source. “Multiple Funding Sources” (6.53) emerged 1.7 times more important than funding from either government sources (3.80) or the program’s host hospital (3.76), and 3.3 times greater than philanthropic funding sources (2.01). Administrative factors, relationships with non-HVIP personnel, and connections with the local community were generally deemed of moderate or below average importance. The complete set of prioritized sustainability factor scores is found in Figure 4.2.

Figure 4.2 | Sustainability Rankings by MaxDiff Score



DISCUSSION

Implications

Minimal implementation scholarship engages the sustainability of interventions implemented within the hospital setting.[174,176] This study examined factors related to the long-term sustainability of HVIPs, as rated by a diverse group of HVIP founders and leaders. The study identified funding for frontline staff and from multiple sources as important factors. More surprisingly, the study identified frontline worker characteristics as an important sustainability factor, along with HVIP staff buy in. For long-term HVIP sustainability, the experts prioritized factors related to HVIP personnel, including funding for salaries; employing a team with the right personnel, in the rights roles, with the right responsibilities; and maintaining HVIP staff buy-in.

Consensus regarding the importance of frontline violence prevention professionals to achieving program sustainability, separate from funding for salaries, was an unexpectedly strong finding. The priorities of the field's practitioner-experts are particularly striking given the near absence of research focusing on the role of the hospital-based violence prevention professional. Study findings cannot speak to the reasons why factors related to violence prevention professionals, as a group, were highly prioritized relative to other factors. Identifying the reasons for these findings is a critical area for future research.

Findings differ from priorities articulated within blueprints for launching an HVIP.[142,199] These results are not contradictory, but they are in tension. For example, "Find champions and collaborators" is the second of five steps in the HVIP implementation blueprint articulated by the American College of Surgeons' Committee on Trauma,[142] with recommendations that this step occur in within the first six months to one year of program implementation, after the initial identification of the target population and existing violence prevention resources in the

community. The focus of this second step is building relationships with hospital administrators, social services, and community-based organizations. These largely correlate to sustainability factors identified in this study. Yet, in this study, these factors fall to the bottom half of priorities, with "Funding for HVIP personnel" (7.73) prioritized at double the rate of "Executive hospital leadership buy-in" (3.77), twice as much as "Relationships with referral and community partners" (3.84) and 6.7 times more than "Community champions" (1.16), respectively. Meanwhile, the third step of the implementation blueprint focuses on developing program resources beginning at the one-year mark. These include, among other recommendations, the hiring and training of frontline staff and securing the commitment of a hospital champion. Situated in the middle of the implementation blueprint, the former recommendation rises to the second greatest priority, "HVIP frontline staff characteristics" (6.69), with the latter, "Hospital champions" (2.37), prioritized at one-third the importance of these characteristics for achieving program sustainability.

Factors that help an HVIP succeed while navigating the initial stages of establishing the program may not be the same factors the program must prioritize to succeed long-term. Decision-making approaches and program norms adopted during this stage may need to undergo reprioritization or recalibration to sustain the HVIP as it shifts from the often-chaotic launch and implementation phase toward maintaining stable day-to-day operations. In essence, adapting to changing conditions and priorities may prove the most important sustaining characteristic.[200] The field of implementation science is shifting away from the belief that sustainability is a static state achieved upon successful intervention– namely, that sustainability is not an end to arrive at, but a dynamic, even iterative process requiring ongoing cultivation.[170,200] One implication is that leadership of newly established programs may benefit from training to recognize, assess, and navigate inflection points in their HVIP's implementation journey.

Limitations

First, crucial factors may have been omitted. The field of implementation science has yet to coalesce around a standard definition of sustainability,[170] participants were asked to generate and refine information not previously outlined in or disseminated from the extant literature. As this study sought to establish expert consensus regarding factors not yet established in the HVIP literature, consideration was given only to factors submitted by study participants during the first two survey rounds. Potential factors not submitted for consideration in either round, such as government or legislative policy, were not included. Second, to mitigate confusion over sustainability, the authors provided a brief set of example sustainability factors within the instructions to Round 1A. These examples (e.g., "Executive Hospital Leadership Buy-In)" were unexpectedly parroted back as factors in multiple participant responses. While the examples provided were general enough to likely appear among participant responses regardless, the authors' attempt to preemptively stave off confusion in turn primed the pump for select initial responses. Third, in seeking consensus on the factors and definitions themselves, the authors elected to not introduce an exercise designed to cull factors from consideration if they did not meet a particular threshold, such as Likert scale score cutoffs used in other Delphi approaches.[188–191] As a result, the final list of 28 factors was long. Future studies seeking to refine HVIP sustainability priorities may consider incorporating such an exercise to reduce the number of factors under consideration.

CONCLUSION

Achieving long-term HVIP sustainability is a complex and dynamic process in which resource and context constraints force HVIP leaders to make trade-offs between crucial factors vital to their program's long-term success. To our knowledge, this study represents one of the first

attempt to develop expert consensus regarding the individual factors critical to long-term HVIP sustainability, and to rank those factors in priority of importance. Findings will help current HVIPs identify areas of alignment and opportunities for program recalibration regarding factors most important to the HVIP's long-term sustainable operation. Future HVIPs will benefit from access to expert-derived insight into key priorities driving long-term sustainability that may enable programs to embed specific values and practices into day-to-day operations early in their implementation journey to best position the HVIP for long-term success.

chapter five.

conclusion.

Science is built up of facts,

as a house is built of stones;

but an accumulation of facts

is no more a science

than a heap of stones

is a house.

~ Henri Poincaré | *Science and Hypothesis* | (1905)

CONTRIBUTION TO THE LITERATURE

The findings articulated in the preceding chapters widen the aperture through which HVIPs across the country may be viewed and understood. To my knowledge, the study in Chapter 2 represents the first study focusing on HVIPs that are not yet fully operational. It is also the first study attempting to identify the barriers and facilitators to the implementation of these programs. Similarly, the research presented in Chapter 3 is the first known study focusing exclusively on the work of the hospital-based violence prevention professional. As such, it is also the first known attempt to identify the concrete tactics these professionals use to conduct their work. Finally, the Delphi study presented in Chapter 4 represents the first known empirical study of HVIP sustainability. Collectively, this dissertation presents some of the first HVIP research collected through a lens of implementation science.

Chapter 2 revealed the critical role hospital executives played as influential champions for establishing an HVIP. Direct funding from the hospital, largely secured with the support of these champions, was a game-changer for an HVIP, supporting a stable launch and early operations, as compared to programs responsible for seeking funding support during the implementation process. Hospital funding also precluded the need for HVIPs to compete with community-based partner organizations for limited pools of philanthropic funds. Competition for philanthropic funds could dissolve vital service referral relationships for patients attempting to rebuild their lives outside cycles of violence. Meanwhile, newly established HVIPs were caught in multiple Catch-22 situations that served as barriers to efficient and effective program implementation. Program leaders seeking capacity-building support from external experts found their programs unable to access these resources if they did not already possess a designated capacity to support and scale their program infrastructure. They did not possess sufficient resources to show that they needed help building program resources. Similarly, leaders faced challenges hiring the best candidates for frontline violence prevention efforts. These candidates disproportionately have

lived experiences of violence. Yet, personal backgrounds that render violence prevention professionals credible to violently injured patients frequently get flagged by hospital human resources departments.

Chapter 3 focused on the linchpin of the HVIP model, the frontline violence prevention professional. These professionals are virtually absent from the existing literature. Yet, they are indispensable to the rebuilding of a patient's life away from future exposure to violence. At the bedside, the comparative advantage of the violence prevention professional over the clinician or the beat cop is a lived experience of violence. This is what makes them credible to patients. It serves as the foundation of trust upon which the violence prevention professional may assist the patient to rebuild their life away from future exposure to violence. In essence, violence prevention professionals are paid for their trauma. They leverage their life experience to prevent future re-injury or the perpetration of violence by the patients they encounter. Interviews with these workers attempted to identify the precise tactics used in this daily work. More than 200 tactics were identified across 10 stages of the patient's recovery continuum, referred to as "hinge points." Violence prevention professionals deployed unique tactics at each of these points. Paramount among these tactics was building and maintaining trust with the patient. From the initial bedside encounter through the navigation of a bureaucratic maze of social services, trust was the glue that held the patient relationship together. Interviewees across the country engaged what I call the "trustbuilding two-step." In the initial step, the violence prevention professional frames engagement with the patient in a manner that intentionally solicits a negative response that triggers a felt need. The professional then engages the second step, offering to meet that felt need in a practical way. Trust cultivated at the hospital bedside served as a foundation for working to meet a suite of patient recovery needs post-discharge. Interviewees guided patients through complex social service and public assistance offerings, helped prioritize recovery goals amidst spirit-crushing bureaucracy, and leveraged small victories into motivation for pursuing

the next goal on a patient's recovery plan. The success or failure of the HVIP model, up to and including the very survival of the client, hinges on how consistently and effectively violence prevention professionals leverage these systems to meet the individual recovery needs of each patient. Identifying the tactics by which this work is conducted is a critical step to identifying the degree to which the most effective efforts may translate to other contexts and be used by professionals to safely help patients recover across the country.

Chapter 4 engaged a poorly understood concept not only regarding HVIPs, but in implementation science overall – the sustainability of public health interventions. The chapter described a Delphi study used to prioritize the core factors for achieving long-term sustainability of an HVIP. Leveraging the expertise of program founders and influential leaders of well-established programs, this work synthesized 108 participant submissions into 28 factors, each paired with a definition and examples drawn from participant feedback. Maximum-difference scaling forced each participant to choose the most important and least important individual factors out of sets of five factors selected at random. This activity was repeated 20 times, a process that ultimately forced the participant to choose the single most important factor in sets that included multiple highly valued factors. Hierarchical Bayes estimation was used to convert participant choices onto a ratio scale, whereby results were not simply listed in an order of priority, 1-to-28. Rather, each item was scored in a way that they became ranked by their relative importance to the study population overall. Instead of reporting that a particular factor was ranked a certain number of places higher or lower in a list, this process revealed the degree to which one factor is prioritized compared to any other. Of the 28 factors, three of the top four and six of the top nine items related to the frontline violence prevention professional. Factors related to funding not associated with frontline salaries, relationships with hospital administration and other departments, and connections to community stakeholders were all prioritized below a concerted focus on the frontline professional.

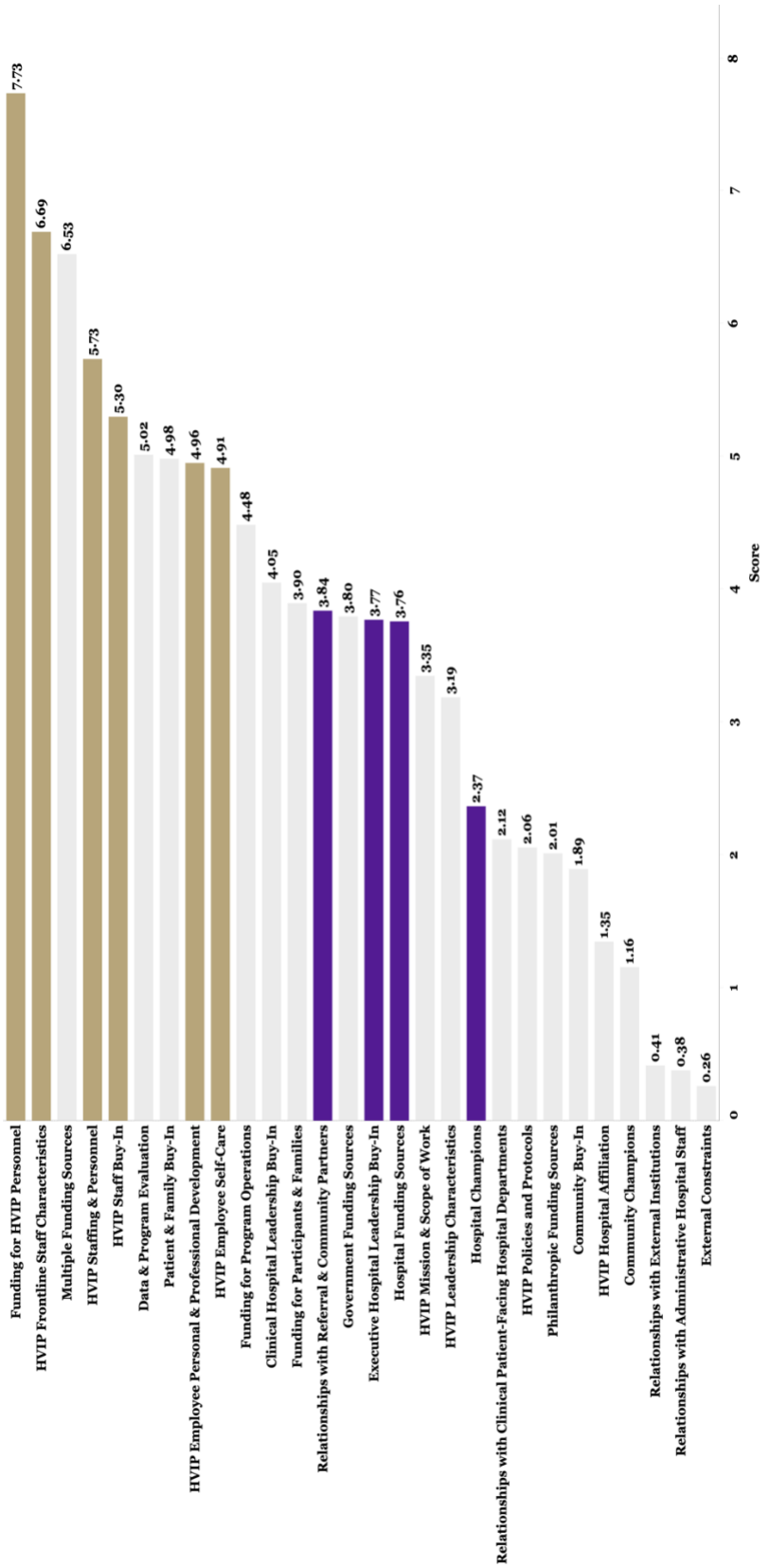
Why this Matters

This research began with three questions about gaps in our current knowledge of HVIPs that were answered by studies that fell into three broad categories: program implementation, operation, and sustainment. As the research continued, these distinctions gave way to a more complex picture of hospital-based violence intervention programs, highlighted in Figure 5.1 and articulated in detail below.

Implications for HVIP Leadership

The priorities for initial program implementation in Chapter 2 centered around overcoming barriers and harnessing facilitators related to executive-level support, hospital-based and other sources of funding, obtaining training and capacity-building support, overcoming hospital administrative hurdles, and maintaining strong relationships to community partners and stakeholders (highlighted in purple). Simultaneously, program founders and leaders with the greatest expertise and experience in the field coalesced around a consensus that these priorities were of lower importance when it comes to sustaining an HVIP over the long-term. Paramount to these experts is a focus on frontline violence prevention professionals (highlighted in gold). Essentially, the factors responsible for securing the keys to your first home are not the ones that ultimately pay off the mortgage.

Figure 5.1 | Sustainability Factors – Study #1 vs. Study #3 Priorities



Navigating this discrepancy presents a substantial challenge to the field. Namely, what does it mean when the priorities during program implementation are replaced by a separate set of priorities to sustain the program long-term? This is not simply an intellectual research question. It is a leadership question. What do we do when the skills required to get a program off the ground are not the ones required to maintain its inertia? How do we ensure leaders and teams in the initial stages of implementation are equipped to adapt across the life course of their program's development? Efforts are actively underway to professionalize the field of frontline violence prevention work through training, convening, and the establishment of standards and indicators to identify best practices in HVIP operation. To what degree is the same being done at the level of program leadership? What investments of already scarce resources of time, finances, and energy will be required to train initial program leaders how to lead organizational change, de-prioritize critical components of program implementation, and establish others in their place? How is this to be done when the flow of patients through the trauma bay does not stop and everything remains urgent all of the time for frontline personnel perpetually exposed to secondary trauma and constantly at the risk of burnout?

It is these very staff that the most established leaders in the field say must be prioritized over nearly all other competing, and important, priorities. Yet, barriers and facilitators to the identification, recruitment, hiring, training, supervision, and retention of frontline violence prevention professionals was hardly mentioned outside of administrative issues faced with hospital human resource departments. We know little about these components in the process of implementing, operating, and sustaining HVIPs, as the violence prevention professional has almost exclusively been overlooked in our scholarship. The priorities highlighted in Chapter 2 are profoundly important. By necessity, they also shift over time. That shift must, according to the experts in Chapter 4, recalibrate to substantially prioritize the role and well-being of the violence prevention professional, the very subject of Chapter 3.

Implications for HVIP Practice

A focus on the dynamic challenges facing HVIP leadership runs in parallel to challenges facing successful HVIP operations in practice. Frontline violence prevention professionals deploy hundreds of tactics to conduct their work. Yet, these tactics are heavily front-loaded on trustbuilding efforts with patients. This is understandable, and necessary. However, critical concerns remain regarding the long-term recovery of patients outside of future exposure to violence. Tactics related to retaining wavering patients in HVIP services were comparably few and almost exclusively revolved around directly reaching out to the patient or contacting that patient's caregivers. Mention of safety planning and aftercare tactics for supporting patients transitioning off an interviewee's caseload were comparably sparce and were largely comprised of the interviewee maintaining an open-door policy for the patient to reach out with needs at any time in the future.

Virtually absent were tactics engaging the patient's social networks at any point in the recovery continuum. This is particularly striking given our knowledge of how violence spreads like a social contagion, as outlined in Chapter 1. The fundamental goal of hospital-based violence intervention is to prevent the re-injury, re-hospitalization, death, and retaliation of and by violently injured patients encountered at the hospital bedside. Each of these is directly, if not primarily influenced by a patient's personal relationships. Yet, patients are discharged back into the very communities in which they were likely injured. They thus return to the same set of friends, enemies, associates, and community dynamics at play during their injury. They disproportionately suffer from post-traumatic stress (PTSD).[201] They carry weapons out of fear for their personal safety.[202–204] Their behavior may increasingly be characterized by automaticity and hypervigilance,[205,206] the "fight" of the fight-flight-freeze model of human behavior in the face of threat, which is elevated among individuals chronically exposed to violence. These are

but a few conditions that underpin the intractable reality of community-level violence: those who suffer a violent injury are those most likely to be re-injured or perpetrate the injury of another. Once infected by the contagion, contracting the disease increasingly appears inevitable.

Where We Go from Here

This dissertation addressed three critical gaps in our knowledge of the implementation, operation, and sustainment of HVIPs across the United States. It also raises more questions and surfaces more gaps in our knowledge of this work. The studies above lay a foundation, however preliminary, for future implementation research to address these issues. A proposed research agenda building on this foundation is laid out below.

IMPLEMENTATION

Funding

The second Trump Administration continues to implement an unprecedented reworking of the federal funding landscape. Hundreds of millions of dollars in existing grants and federal contracts for violence prevention efforts have been terminated with minimal notice.[207] Foreclosure of federal funding sources will assuredly put an end to fledgling programs and their community-based partner organizations. HVIPs and organizations that survive will need to seek other sources of funding. This may set hospitals and local non-profits in competition for non-governmental philanthropic resources, a critical barrier to effective HVIP implementation noted in Chapter 2. Identifying which funders, if any, fill this critical gap is essential. Investigating where young HVIPs seek alternative funding, and the degree to which those solicitations are successful, will be of critical importance to guide the implementation efforts of future programs. Findings from the study in Chapter 2 may help young programs identify current and future barriers to their implementation. This knowledge may inform grant proposals to funders wishing to invest in the concrete needs of on-the-ground violence prevention operations.

Additionally, studying how individual HVIPs strategically adapt to the new funding landscape may provide insight useful to other programs navigating uncharted waters.

Capacity-building

Deeper knowledge of the capacity building and program infrastructure needs of programs in the initial stages of implementation is needed. Concerted effort to identify these needs and connect young programs to capacity building support systems as early as possible is an opportune, if not urgent area for future research. This is particularly true given the funding constraints highlighted above.

Implementation Blueprints

Consider updating blueprints for HVIP implementation. Certain HVIPs substantively diverged from the sequential order of implementation components laid out in the American College of Surgeons blueprint. Additionally, post-COVID implementation realities, combined with increasing federal austerity measures, may necessitate reworking the timelines to implement components included in existing and future implementation recommendations.

OPERATION

Expanding Research on Frontline Tactics

The research outlined in Chapter 3 captured more than 200 tactics used by frontline violence prevention professionals. This data represents the beginning of research into the day-to-day work of an HVIP. Next steps should focus on the synthesis and classification of this aggregate collection of tactics into digestible and operationalizable sets of tactics. This synthesis may be used to develop a toolkit representing a suite of tactics that may be readily used to train violence prevention professionals based on the established wisdom in the field. Synthesized findings will be particularly relevant for the training of violence prevention professionals not yet employed in

the field, who will benefit from access to this toolkit on day one of their employment. Second, drawing from the methods in Chapter 4, use of the Delphi technique among violence prevention professionals may capture the expert opinion of these workers regarding which tactics and sets of tactics must be prioritized to ensure the safe recovery of violently injured patients. Additional research should evaluate the effectiveness of these tactics prioritized by frontline violence prevention professionals. An example may involve semi-structured interviews and assessments of tactics newly deployed by violence prevention professionals trained to use the toolkit created above. Finally, assessing the transferability of the most effective tactics from one context to another is critical. We do not yet know whether what is most effective in Philadelphia will work in Phoenix. Nor do we know whether tactics successful in Boston translate to Birmingham. Pursuing the research agenda outlined in this section may help untangle which tactics are uniquely effective within a specific set of parameters or contexts, and which may be broadly effective and translate to diverse contexts across the country.

Patient Engagement

Social Networks

Asking the patient to list their five closest associates may provide an opportunity to intervene on behalf of those at greatest risk of exposure to or perpetration of violence. This opportunity is particularly feasible in communities where HVIPs and street-based community violence intervention programs (CVI) coexist. CVI professionals, individuals with a lived experience of violence trained to mediate and diffuse conflict at the street level before it erupts into violence, are uniquely equipped[20,208] to locate the injured patient's associates. By intervening with risk reduction tactics and resources to prevent the patient's associate from becoming the next victim or retaliating on behalf of their injured friend, CVI professionals may partner with HVIP professionals to jointly interrupt potential cascades of violence. Investigating the linkages

between hospital- and community-based violence intervention programs is an opportune area for future research that may advance the impact HVIPs have on ensuring the long-term safety of their patients.

Cognitive Behavioral Therapy

Violence prevention professionals are uniquely situated to engage patients in small behavioral change exercises that underpin cognitive behavioral therapy (CBT).[209] Surely, these professionals cannot be all things to all people. However, CBT requires minimal training to implement[209–211] and violence prevention professionals have direct access to individuals hard to identify in the community and difficult to recruit into formal studies,[212–215] psychological or otherwise, where they may benefit from such treatment. CBT has been effective with adolescents and young men in multiple, diverse contexts ranging from youth exposed to elevated levels of violence in Chicago[216] and former combatants of the Liberian civil war.[217] In the latter context, reductions in crime and violence resulting from a combination of cognitive behavioral therapy and small cash transfers have held for a decade post-intervention.[218]

<u>Paying for Progress</u>

Assessing the impact of financial incentives for meeting various benchmarks along the recovery continuum is a worthwhile, albeit assuredly controversial, line of inquiry. As highlighted immediately above, small cash transfers have lasting impacts on violent crime committed by former civil war combatants. It is reasonable to assess such transfers on the re-injury and perpetration of violence among HVIP participants. Small cash transfers for successfully obtaining a government ID, completing a job interview, passing the General Education Development (GED) exam, may yield outsized results on program retention. Assessing the level to which no-strings-attached cash transfers for program participation mitigate real or perceived needs to engage in petty crime or illicit activity is a bold opportunity for philanthropic

stakeholders to invest in innovative approaches to community violence prevention that would unlikely be funded elsewhere.

A research agenda for the sustainment of HVIPs admittedly appears the least clear-cut of the three studies of this dissertation. Options for future research may include repeating similar Delphi studies with select HVIP cohorts. These may be defined by length of program duration, size of staff or patient population, organizational budget, or other factors. As our ability to translate our knowledge of HVIP implementation and operation grows, a critical line of research would be to assess the degree to which priorities for sustaining an HVIP change or remain the same when assessed in radically different contexts, such as cities with predominantly Latinx, indigenous, white, or Asian populations. Then we may truly begin to understand whether what works in Philadelphia not only translates to Phoenix, but endures.

CONCLUSION

Much remains that we do not know regarding the implementation, operation, and sustainment of HVIPs. Yet, deep institutional knowledge of individual HVIPs exists. It is rooted in the experiences of program leadership and frontline violence prevention professionals. This wealth of knowledge underpins this dissertation. Yet, it remains largely untapped. May this universe of the unknown shrink, however slightly, through the dissemination of the work highlighted in this dissertation.

epilogue.

Rats and roaches live by competition

under the laws of supply and demand.

It is the privilege of human beings to

live under the laws of

justice and mercy.

~ Wendell Berry | *What Are People For?* | (1990)

There are a thousand hacking

at the branches of evil

to one who is

striking at the root.

~ Henry David Thoreau | *Walden, or Life in the Woods* | (1854)

Laws of Supply and Demand

I conducted this research during an unprecedented wave of philanthropic investment in violence prevention efforts. Efforts running parallel to a spike in homicide and intentional violence at levels not seen in decades. Interviews occurred as advocates fiercely lobbied the Administration of Joseph R. Biden for five billion dollars in federal funding to support community-based violence prevention. Funding to reinforce existing initiatives disrupting cycles of community violence. To build the capacity of a nascent ecosystem of community violence intervention dedicated to integrating often-siloed public, private, community, and hospital-based efforts.

Funding that did not materialize.

As the final Delphi study results rolled in, I was privileged to testify before the Washington State Legislature's Senate Committee on Health & Long-Term Care in favor of SB 5273 – *Concerning the availability of community violence prevention and intervention services*. If signed into law, the bill would permit HVIPs and their community partners to receive Medicaid reimbursements for the work of frontline violence prevention professionals. Violence prevention would officially be recognized as community health work. Its practitioners as community health workers. If approved, Washington would become the ninth state in the country to adopt this policy.

As of this writing, the bill languishes in committee eight months after its introduction.

While I drafted the findings of this research for publication, the second Administration of Donald J. Trump set its sights on the very field of community violence intervention. More than half of the already insufficient federal dollars dedicated to gun violence prevention dissolved with the swipe of a Sharpie.[207] The Attorney General of the United States added "lived experience" to a list of terms signifying "Unlawful Proxy Discrimination" against White

Americans merely 23 days before the doctoral defense of this research.[219] Use of this term now bars applicants from receiving federal funding to support their work. Ten days later, the President signed an executive order mandating the appointment of designated officials responsible for reviewing all federal funding opportunities and awards to ensure each "advances the national interest."[220] Awards may now be "terminated for convenience" at any time.

Repercussions of funding cuts and hostility to the work of community-based violence prevention will reverberate indefinitely. Implications of this research for the leadership and operation of hospital-based violence intervention programs may now be more important than ever.

Laws of Justice and Mercy

Interviewees in Chapters 2 and 3 had much to say. They were beyond generous with their time and wisdom. Despite my invitation for an hour-long interview, our conversations lasted, on average, 95 minutes. Combined, transcripts of these encounters run 582,784 words, 47,171 lines, and 1,177 pages long. Single-spaced. I am indebted to their wisdom. Even more so, to their honesty. Participants in Chapter 4 responded to three unique surveys over a nine-month period. I am grateful for their patience, their insight, and their longsuffering leadership in this field.

More than one in five frontline violence prevention professionals interviewed in Chapter 3 are no longer working for their HVIP less then 18 months after our conversation. They've burned out. Some still work in violence prevention, but they no longer work in the hospital. Others left the field entirely. One interviewee mentioned that no one in this work refers to it as a career.

It is a passion.

A calling.

A job.

But a career insinuates longevity.

When asked for concrete examples of how they deployed a particular tactic, participants often began narrating a story only to break down mid-sentence. They choked back tears with varying degrees of success. They provided accounts of working for months with severely injured patients. Learning the most intimate details of their lives on the arduous journey of recovery. They watched patients re-learn how to walk. They witnessed others fail to do so. They relayed stories of text messages suddenly ceasing from a beloved patient diligently rebuilding their life post-discharge. A patient who would never again answer their phone. They threw birthday parties for grade school-aged daughters of incapacitated fathers bound by medically induced comas. Creation of a final childhood memory, knowing the patient would not awaken.

Some knew precisely how many funerals they had attended.
Others did not.

A supplementary question not engaged in this dissertation asked what each violence prevention professional did for self-care. Some participants noted they had never been asked this before.

Many interviewees wept.

One veteran professional remarked that it was too late for self-care. They had consumed too much trauma. They now fought to "keep work at work" and not carry the burden home to loved ones who could not, and should not have to, understand. Their chosen boundary was simple. They stopped hugging their colleagues. An act of mercy to their family, the unknowing beneficiaries of an expression of love reserved for them alone.

Something violence could no longer touch.

A Final Word

I am under no illusion that this dissertation strikes at the root of evil.

My hope, however, is that the research underpinning this document severs a branch substantive enough that, upon falling to the ground, it is useful to skilled carpenters. Leaders who will lathe the bough with training, compassion, and exhortations to rest. Then affix the resulting handles to blades, fastened with just and livable wages.

To the current and future generations of HVIP leaders:

May your vision be clear,

your hands steady, and

your resilience strong.

To those on the frontlines of hospital-based violence prevention:

New axes are coming soon.

Lars E. Almquist

August 19, 2025 | Seattle, WA

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appendices.

Appendix A |

Interview Guide | Implementation Barriers & Facilitators

Name:
Date:
Time Start:
Time End:

INTRODUCTION
Hi [[Participant Name]],
Thank you for agreeing to talk with me to support my research. As I mentioned previously, I'd like to interview you about your experience implementing [[participant's HVIP program]].

I would like to give you the opportunity to share publicly about your experience. Please explicitly let me know if I can identify you or your hospital program to give you credit for the knowledge you share with me. If you would not like to be identified, all of your responses will remain confidential. After I write up a transcript of our conversation, I will send you a summary to review so you can either:

1) add anything we missed that you have thought about since we last talked, or
2) to clarify or remove anything that I may have misinterpreted from our conversation.

The conversation should take about one hour. As a token of appreciation, I'm able to offer you a $50 e-gift card of your choice from more than 100 options. After the interview, I will send you a link for you to choose which gift card you would like. Once you let me know I will deduct it from my account and send it to whichever email address you prefer, and then you can use it as you wish.
Would you like to participate in the interview? *

- **IF NO** [and do not want to participate at all]: Thank you. I will not contact you again about this study.

- **IF NO** – but due to scheduling conflict or interviewee needs more info, find best way to reschedule or provide info (i.e., in the moment, via email/text/phone follow-up, etc.).

END INTERVIEW

IF YES: I'd love to record the interview for my own benefit, so that I don't miss anything. I won't reproduce any part of the recording or use it for anything other than this research. Any files from our conversation will be stored securely using a University of Washington server. When I'm done with the research, I'll delete the recordings. Is it ok with you if I record our conversation for my records?

As I mentioned, I believe in giving credit where credit is due – to give folks their flowers, especially when it will help benefit other HVIP leaders and programs. Is it ok to use your name, either real name or a nickname, to give you credit for what I learn from you? If you don't feel comfortable providing your name, I will keep all of our conversation confidential and use a fake name and fake hospital name to keep your identity private. I will ask you for your preference again at the end of this interview to make sure we are on the same page. You don't have to decide right now if you want to think about it as we talk.

[[BEGIN RECORDING – RE-CONFIRM CONSENT ON RECORD]]

Okay, to confirm, are you ok if we start recording?

IF NO: I'm stopping the recording [stop the recording].

IF YES: Thank you, I am now recording this interview. As a reminder, you don't have to answer any questions you don't want to answer, and you can stop the interview at any time.

Do you have any questions before we begin?

IF YES: answer questions and continue.

Interview Probes

Generic Probes

If responses are limited or require clarification, probes may be used [use interviewee's own words phrases, when possible] to elicit more detailed responses.

1. What do you mean by _____?
2. Can you tell me more about _____?
3. Can you give me an example of _____?
4. Can you tell me about a time when _____?
5. Walk me through _____.
6. When _____?
7. Who _____?
8. What is your experience with _____?
9. Are there any other influencing factors you can think of?

AIM 1 – HVIP Implementation

INTERVIEW GUIDE QUESTIONS

Name:
Title:
HVIP Site:
Length of Employment/Experience:

- Before we begin, what term do you use for the injured people you work with? (e.g., patient, client, survivor, etc. Use interviewee's preferred term throughout.)

TRANSITION/INTRODUCTION

Thank you for filling out the pre-interview survey for me. I'll be asking you questions based off of the same blueprint compiled by the American College of Surgeons in 2017. You have a link to that document in your email from me as well in case you would like to have that open as we talk for a visual or mental reference point.

The reason our conversation will center around this HVIP implementation framework is because it is the most detailed articulation of what is required to start up a new HVIP. The document was written by the American College of Surgeons' Committee on Trauma in 2017. There are at least three major implications of this that I see as a result:

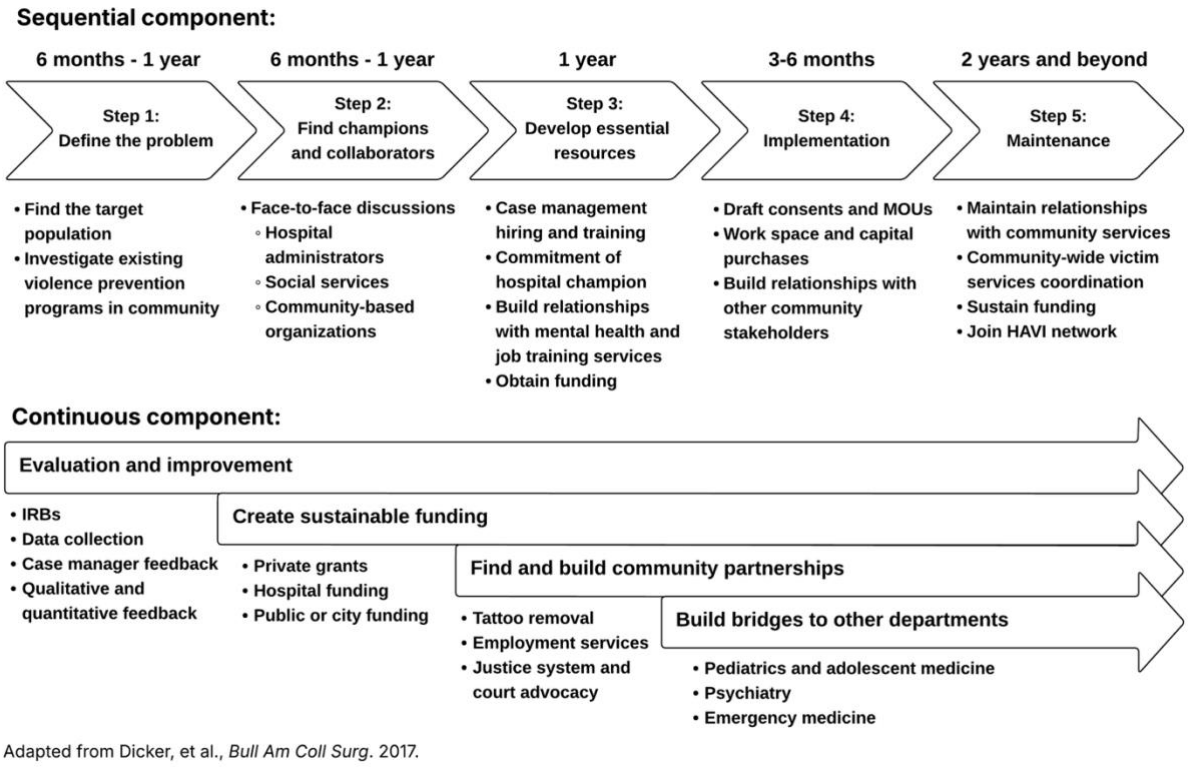
1) This blueprint is nearly 7 years old, and thus it predates the launch of your program
2) It is largely crafted based on the lived experience of ED/trauma professionals
3) It assumes a largely linear and sequential implementation process

Currently, we think this is a good way to establish an HVIP. However, we could be missing something. As the expert of your own experience, I want to learn from you regarding your lived experience leading the implementation of a new/young HVIP program. We have a blueprint from what the trauma surgeons view are the critical steps taken and factors faced in the implementation process, and I want you to tell me if this works in your specific context at/in [[participant's HVIP program]] or if we need to update our paradigm and models regarding how best to implement new programs.

During our conversation I will be asking you to tell me about things and experiences that have affected the implementation of your HVIP. On the one hand, I will ask you to tell me about the challenges or experiences that hindered or negatively impacted the implementation of your program at a particular step in the 2017 blueprint. I will refer to these as "barriers" to program implementation. On the other hand, I want to know what positive and helpful factors supported the implementation of you program. I will refer to these as "facilitators" of implementation.

Taken together I will be asking you about the barriers and facilitators you have experienced thus far in your implementation journey – about the things that have hindered or helped this process. It is important to recognize that different programs like yours launched at different times, in different contexts, and with different resources at their disposal. As a result, I will not be comparing or judging where you are at in the implementation process against other programs. I am taking the posture that you are the expert of your own experience, and I believe that learning from those experiences will help us understand this complex process of launching and implementing an HVIP, to the benefit of future programs down the road that are following in your footsteps and learning from your journey thus far.

QUESTIONS RE: SEQUENTIAL STEPS TO IMPLEMENTATION



Adapted from Dicker, et al., *Bull Am Coll Surg*. 2017.

I'll start with the sequential implementation components identified in the blueprint, and then once we've worked through the 5 steps, I'll ask you about the continuous components featured in the bottom half of the diagram.

1. **Please start by giving me a grand overview of how you came to the place in your implementation journey where you find your program today.**

2. **<u>Step #1: Defining the Problem</u>**
   <u>Examples</u>:
   - Identifying target population
   - Needs assessments/surveillance
   - Investigating existing violence prevention programs in the community, etc.

   a) What has <u>helped you toward your goa</u>l at this stage – to successfully define the problem in your context?
   b) What are/were the <u>biggest challenges</u> you faced pursuing this step?
   c) Given what you know now, what do you <u>wish you had known</u> at the outset of this stage?
   d) What <u>surprised you</u> or was <u>unexpectedly</u> helpful or hindering at this step?

3. **Step #2: Building the Foundations - Finding Champions and Collaborators**
   Examples:
   - Conducting face-to-face discussions with stakeholders, such as:
     - Hospital Administrators
     - Social Services
     - Community-based organizations

   a) What did you find/have you found at this stage to find champions and collaborators for your program?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

4. **Step #3: Developing the Essential Resources**
   Examples:
   - Case Management hiring and training
   - Securing commitment of hospital champion
   - Building relationships with mental health & job training services
   - Obtaining program funding

   a) What did/have you find/found at this stage to reach your goal of successfully developing these essential resources in your context?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

5. **Step #4: Implementation – Developing the Programmatic Structure**
   Examples:
   - Building the team – administration, frontline workers, case managers, etc.
   - Drafting consents and MOUs
   - Workspace and capital purchases
   - Building relationships with other community stakeholders

   a) What did/have you find/found helpful at this stage to reach your goal of successfully developing your HVIP's program structure in your context?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

6. **Step #5: Building the Support Structure**
   Examples:
   - Maintaining relationships with community services
   - Community-wide victim services coordination
   - Sustaining Funding
   - Joining the Health Alliance for Violence Intervention (HAVI) member network

   a) What did/have you find/found at this stage to reach your goal of successfully building your wider support structure in your context?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

QUESTIONS RE: CONTINUOUS STEPS TO IMPLEMENTATION

7. **Step #6: Evaluation and Improvement**
   Examples:
   - Completing IRBs
   - Data collection
   - Case Manager feedback
   - Soliciting qualitative and quantitative feedback

   a) What did/have you find/found at this stage to reach your goal of successfully evaluating your program and identifying opportunities for improvement in your context?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

8. **Step #7: Budgeting & Creating Sustainable Funding**
   Examples:
   - Securing private grants
   - Obtaining hospital funding
   - Receiving public or city funding

   a) What did/have you find/found at this stage to reach your goal of successfully creating stable funding in your context?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

9. **Step #8: Finding and Building Community Partnerships**
   Examples:
   - Identifying tattoo removal partners
   - Establishing relationships with employment services professionals and agencies
   - Court advocacy and engaging the criminal legal system

   a) What did/have you find/found at this stage to reach your goal of successfully finding and building community partnerships in your context?
   b) What are/were the biggest challenges you faced pursuing this step?
   c) Given what you know now, what do you wish you had known at the outset of this stage?
   d) What surprised you or was unexpectedly helpful or hindering at this step?

10. **Building Bridges to Other Departments**
    Examples:
    - Pediatric & adolescent medicine
    - Psychiatry
    - Emergency medicine

    a) What did/have you find/found at this stage to reach your goal of successfully building bridges to other hospital departments in your context?
    b) What are/were the biggest challenges you faced pursuing this step?
    c) Given what you know now, what do you wish you had known at the outset of this stage?
    d) What surprised you or was unexpectedly helpful or hindering at this step?

11. **Step #10: Advocacy** [[if time]]
    Examples:
    - Contact hospital of university foundation for advocacy, financial support
    - Lobbying political actors

    a) What did/have you find/found at this stage to reach your goal of successfully advocating for your program in your context?
    b) What are/were the biggest challenges you faced pursuing this step?
    c) Given what you know now, what do you wish you had known at the outset of this stage?
    d) What surprised you or was unexpectedly helpful or hindering at this step?

Those are all of the official questions I have for you. [[If time, ask the following]]

- Do you have any questions you would like to ask me?
- If this is the only chance we have to talk, is there anything else you would like to share that we did not talk about so far?
- Are there any questions about your experience that I did not ask, but I **should** be asking in order to best understand the challenges and successes faced by leaders of emerging HVIPs like you?
- Would it be ok with you if I follow up in case I have any additional questions about our conversation in the coming days?
- Finally, as I mentioned at the beginning, you may choose to have your name connected to your answers in order to give you credit for your insight, or I can keep your identity and answers confidential. Do you have a preference? I will honor whichever decision you choose.

PAUSE RECORDING

[[END OF INTERVIEW]]

Interview Duration: ###

Appendix B |

Interview Guide | Tactics of Violence Prevention Professionals

Name:
Title:
HVIP Site:
Length of Employment/Experience:
Before we begin, what term do you use for the injured people you work with?

1. Scope of Work – Client Overview

Can you starting by telling me about the relationship you have with a typical [[patient/client]] you work with? Can you lead me through your work with them from start to finish?

- ☐ **Action** [what?]:
- ☐ **Actor** [who?]:
- ☐ **Context** [where?]:
- ☐ **Target** [who?/what?]:
- ☐ **Time** [*timing*?]:

2. Information Gathering & Hospital Relationships

Please describe a typical process of a [[patient/client]] being referred to you, or you finding out that a new patient has been admitted to the hospital:

- ☐ **Action** [what?]:
- ☐ **Actor** [who?]:
- ☐ **Context** [where?]:
- ☐ **Target** [who?/what?]:
- ☐ **Time** [*timing*]:

3. Initial Patient Encounter

a) Can you describe a typical first encounter with a [[patient/client]]? What is that like? What do you do during that first encounter?

- ☐ **Action** [what?]:
- ☐ **Actor** [who?]:
- ☐ **Context** [where?]:
- ☐ **Target** [who?/what?]:
- ☐ **Time** [*timing*?]:

4) <u>Trust-building</u>

a) What do you do, specifically, to create trust & goodwill at [[patient's/client's]] bedside?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

b) What about if you're not at the bedside? What do you do, specifically, to create trust and goodwill in those moments?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

5) <u>Retaliation De-escalation</u>

How do you de-escalate desires for retaliation by the [[patient/client]] and/or their family/friends?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

6) <u>Program Recruitment</u>

How do you go about recruiting that [[patient/client]] into the program after you've introduced yourself at the bedside?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

7) <u>Assessment & Recovery Planning</u>

Walk me through how you help create a specific recovery plan based on the needs assessment you conduct with your [[patient/client]].

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

8) <u>Prioritization of Recovery Needs</u>

How do you navigate meeting the needs of your [[client/patient]], specifically? For example, how do you decide which services they might need first? How do you make sure those needs are met when the process might be frustrating or confusing for them?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

9) <u>Referrals & Service Navigation</u>

How do you navigate meeting the needs of your [[client/patient]], specifically? For example, how do you decide which services they might need first? How do you make sure those needs are met when the process might be frustrating or confusing for them?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

10) <u>Retention of Patient in Program</u>

How do you make sure that your [[patient/client]] doesn't drop out of the program? What do you do to keep them working with you until they meet their recovery goals?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

11) <u>Program Exit and Aftercare</u>

Once the [[patient/client]] has finished their initial recovery plan, how do you do to make sure they remain safe and have the resources they need to continue recovery without your support?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

[[IF TIME – VPP-submitted questions]]

12) Engaging Law Enforcement
How do you deal with the presence of law enforcement regarding your [[patient/client]]?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

13) Training
How have you been trained to perform this work? What training would you like to have?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

14) Self-Care
What does self-care look like for you in this line of work?

☐ **Action** [what?]:
☐ **Actor** [who?]:
☐ **Context** [where?]:
☐ **Target** [who?/what?]:
☐ **Time** [*timing*?]:

15) What keeps you in this work?

END OF FORMAL QUESTIONS

Those are all of the official questions I have for you. [[If time, ask the following]]

- Do you have any questions you would like to ask me?
- If this is the only chance we have to talk, is there anything else you would like to share that we did not talk about so far?
- Are there any questions about your work that I did not ask, but I **should** be asking in order to best learn from frontline workers like you regarding how you carry out your work?

PAUSE RECORDING
[[END OF INTERVIEW]]

Duration: ###

Appendix C |

List of Tactics Organized by Hinge Point

ID	Tactic	Description / Significance
Hinge Point #1: Information Gathering & Hospital Relationships		
1.1	Dress for work in street clothes	Signals VPP's legitimacy to patient; indicates that VPP is not a clinician or law enforcement
1.2	Dress for work in office attire	Signals VPP's legitimacy to clinical and administrative staff, security, law enforcement, etc.; indicates VPP is Bonafide hospital employee
1.3	Prominently wear hospital ID badge	Signals VPP's legitimacy to clinical and administrative staff, security, law enforcement, etc.; indicates VPP is Bonafide hospital employee
1.4	Wear hospital-branded attire	Signals VPP's legitimacy to clinical and administrative staff, security, law enforcement, etc.; indicates VPP is Bonafide hospital employee
1.5	Dress for work in scrubs	Signals legitimacy to all parties; bypasses discrimination for wearing street clothes and patient skepticism that office attire represents law enforcement affiliation
1.6	Create "open office" design for HVIP team	All HVIP staff share communal office space; facilitates instant communication, idea sharing, debriefing opportunities, and referrals
1.7	Embed open office and HVIP team within emergency department	Station all VPPs and HVIP staff in emergency department office space to facilitate immediate communication with clinicians regarding patient updates
1.8	Embed social services and mental health professionals within open office	Workforce specialists, therapists, etc. share space with HVIP team; facilitates warm handoffs from VPPs
1.9	Identify high-level hospital champions in every department	Facilitates strategic relationship-building with influential leadership at the department level; Links HVIP to all relevant hospital departments
1.10	Invite hospital champions to HVIP team meetings	Provides department leadership with concrete knowledge of HVIP activities and needs; supports advocacy efforts; supports champion's ownership of HVIP relationship
1.11	Establish liaison relationships with every hospital department	Facilitates strategic relationship-building with frontline staff and middle management department interfacing with HVIP; supports knowledge sharing and warm handoffs
1.12	Establish consult relationship with doctors and nurses	VPPs block off time in schedules to review cases with clinical staff; facilitates information sharing, troubleshooting, and coordinated patient engagement
1.13	Attend emergency department rounds: clinical updates	VPP accompanies clinicians on patient rounds to obtain clinical information on patient status, recovery, updates
1.14	Attend emergency department rounds: promote HVIP services	VPP accompanies clinicians on patient rounds to provide information about how HVIP services may benefit specific patients; clinician may act as advocate for program
1.15	Conduct HVIP rounds: patient-focused	VPP team collectively makes rounds to touch base with all admitted patients on entire HVIP caseload; provides opportunities to see how other VPPs interact with patients
1.16	Conduct HVIP rounds: clinical staff-focused	VPP team collectively makes rounds to check-ins with department liaisons, managers, and leaders; provides facetime and opportunities to discuss cases ad hoc, as needed

1.17	Conduct HVIP rounds: collective debriefing	VPP team collectively debriefs after holding rounds; VPPs have more context to provide feedback, suggestions, solutions regarding individual cases
1.18	Create list of patients cases shared with medical social workers	Work with medical social workers to identify overlap in caseloads, collaborate on patient recovery, and avoid duplication of recovery efforts
1.19	Organize presentations and teaching opportunities for hospital staff to advertise program	VPPs participate in hospital trainings and speaking events to introduce HVIP; teach about trauma-informed care and unique trauma injured patients are undergoing
1.20	Rotate weekend shifts across entire staff	Distributes busiest shifts across staff to balance caseload numbers and intensity of individual cases
1.21	Assign weekend shifts to select VPPs	Highly skilled and senior VPPs work only weekend shifts to receive highest volume of severe cases
1.22	VPPs with weekend shifts take mandated time off during workweek	VPPs working the most intensive shifts mandated to take days off each week for self-care; remaining weekday work is administrative
1.23	Receive EMS notifications in advance of patient arrival	Protocols established to immediately page VPP when patient is in transit via EMS or admitted to emergency department; VPPs 'on call' return to hospital
1.24	Enter trauma bay or emergency department before or as patient is admitted	HVIP establishes relationship with emergency and trauma departments to give VPP access to meet with and observe patients immediately after admission
1.25	Obtain identifying information from patient while in ED/trauma bay	VPP collects as much information as possible from alert patient (e.g., age, caregiver names, etc.); VPP prepares for family engagement and initial bedside visit.
1.26	Obtain identifying information from patient's belongings or person	Obtaining identifying information from incapacitated patient's belongings (e.g., ID in wallet) or physical presentation (e.g., tattoos) may help confirm relationship to caregivers
1.27	Obtain injury information from EMT/EMS transport team	Gather information from EMT/EMS regarding injury, condition, and conversations with patient ASAP (i.e., before EMT/EMS receives next discharge call)
1.28	Inform hospital security of caregiver's names and connection to patient	Hospitals with tight security heavily screen visitors; VPP can expedite process for caregivers who can establish relationship to injured patient
1.29	Screen for patient's HVIP eligibility in advance of first encounter	VPP uses EMT report and chart notes to confirm type of injury, age, and other metrics to determine HVIP eligibility; minimizes need for screening at bedside
1.30	Obtain patient background information from electronic health record	VPP uses patient identification to prepare for first encounter, (e.g., using address to identify potential connections based on where patient lives in the community)
1.31	Obtain patient background information from nursing chart notes	Chart notes often contain information and context not entered into health record; VPP uses notes to fill in gaps in knowledge of patient's condition, background, etc.
1.32	Obtain patient current information from nurse(s) regarding information left out of notes	Consultation with nurse(s) to obtain contextual information about the patient that did not make the formal chart notes (e.g., emotional state, affect, conflicts, etc.)
1.33	Receive list of patients discharged straight from emergency department (for follow-up)	Provides VPP with contact information for patients treated and discharged without admission (or while VPP off duty); list sent at weekly intervals for cold call follow-ups
1.34	Establish informal relationships with emergency department leadership	Creating informal relationships "outside of work" with key leadership may facilitate VPP access to emergency department, help identify hospital champions, etc.

1.35	Create "clinician coffee cart"	Uses snacks and caffeine to introduce program and VPP's work; particularly helpful with clinicians who are difficult to work with or dismiss the program
1.36	Serve as go-between when loved ones and patient can't contact one another	The VPP serves as a liaison to communicate information (e.g., messages from patient) when loved ones are prohibited from seeing patient. Occurs when the hospital goes into lock-down, patient goes into surgery, etc.
1.37	Hold moment of silence with trauma team after patient passes away in trauma bay	Solidifies unity between VPPs and trauma surgeons and nurses; shared grief strengthens relationships for downstream work with patients who survive
Hinge Point #2: Initial Patient Encounter		
2.1	Initiate first contact in the emergency department or trauma bay	VPP meets patient in emergency department or trauma bay (may be dependent on notification from EMS)
2.2	Initiate first contact at patient's bedside	VPP meets patient at their bedside after admission post-emergency department/trauma bay
2.3	Knock before entering	Knocking notifies patient someone is entering; signals respect for patient's space
2.4	Do not knock before entering	Knocking sounds like gunshots to some patients with severe PTSD; VPP may alternatively enter slowly and identify their presence
2.5	Ask permission to enter patient's room	Allows patient to establish relationship with VPP on their terms
2.6	Ask caregiver consent to enter room if patient <18 years old	VPP builds rapport with caregivers by seeking permission to engage patient who is a minor; establishes relationship on caregiver's terms
2.7	Offer to return another time if patient desires	Allows patient to establish relationship with VPP on their terms
2.8	Conduct rapid scan of patient's room: to assess general atmosphere	VPP quickly discerns the atmosphere of the room (e.g., sorrow, anger, shock, tension, calm, etc.)
2.9	Conduct rapid scan of patient's room: identify individuals present (general)	VPP quickly assesses the number and general characteristics of people in the room (e.g., age, emotional state, etc.)
2.10	Conduct rapid scan of patient's room: identify caregivers (specific)	VPP quickly assesses room to identify immediate caregivers; this is typically a mother or maternal caregiver
2.11	Conduct rapid scan of patient's room: assess patient demeanor	VPP quickly assesses patient's alertness, body language, and emotional state to inform initial introduction and approach
2.12	Code-switch (general)	VPP adjusts language, posture, and approach depending on who is present; conveys same information in a dialect the listener readily understands
2.13	Ask visitors to identify relationship to patient	Allows visitor to define association with patient; necessary when patient is asleep or in too much pain to respond to direct conversation with VPP
2.14	Adjust engagement with patient: patient is alone	VPP creates space for more honest conversation; may mention own lived experience of violence
2.15	Adjust engagement with patient: loved ones are present	VPP speaks to patient and entire room simultaneously if caregivers are present, describes program options for both patient and families (e.g., VOCA services)
2.16	Adjust engagement with patient: single caregiver present	VPP directly engages caregiver in conversation with tone of respect, as if they are partners receiving information or updates

2.17	Adjust engagement with patient: multiple caregivers present	VPP directly engages caregiver in conversation in tone of respect used to recognize elders (e.g., using "ma'am" and "sir" when directly addressing caregivers)
2.18	Adjust engagement with patient: romantic partner is present	VPP reassures partner of visitation rights and the importance of the romantic partner's presence to patient recovery
2.19	Adjust engagement with patient: friends or extended family present	VPP speaks in more informal tone, often adopts street language
2.20	Maintain constant engagement approach in all circumstances	VPP treats all circumstances the same regardless of who is present (i.e., no adjustments)
2.21	Adjust tone of voice: younger patient	VPP speaks in a more comforting and reassuring tone to younger patient
2.22	Adjust tone of voice: older patient	VPP speaks in a more respectful adult-to-adult tone if patient is older
2.23	Adjust tone of voice: sedated/heavily medicated patient	VPP limits engagement and reassures patient they will return later; follow-up conducted when patient may more clearly engage VPP
2.24	Adjust tone of voice: alert/awake patient	VPP engages patient in direct conversation; adjusts tone and posture as necessary
2.25	Adjust tone of voice: engaged patient	VPP directly engages patient in conversation; may inquire more about how patient is doing, what patient's needs are, or to sit and talk with patient
2.26	Adjust tone of voice: avoidant patient	VPP speaks plainly to patient, offers to leave basic information (e.g., flyer) with HVIP information, and asks permission to follow-up another time
2.27	Adopt motherly tone with patient (female VPPs)	Female VPPs adopt tone of concern and comfort when speaking to patient, as if they are a parent speaking to a sick or wounded child
2.28	Adopt grandmotherly tone with patient (female VPPs)	Older female VPPs adopt tone of comfort and reassurance that patient is loved, as if they are a doting grandmother
2.29	Adopt posture of "casual indifference"; engaging VPP is up to patient (i.e., voluntary)	Male VPPs make first encounter simple, does not force program on patient; takes posture that they are here to help but patient can choose to accept or not; no mandates
2.30	Sit instead of stand; get on patient's level (male VPPs)	Male VPPs may sit in or pull up chair next to patient when speaking to get to patient's eye level; clinicians speak down to patients, VPP gest on patient's level
2.31	Bring "goodie bag" to patient	Initial gift builds trust; bag also doubles as resource for holding miscellaneous patient items when they are moved between rooms and hospital floors
2.32	Express gratitude that patient is alive	VPP tells patient they are happy patient survived so they can help support patient's recovery
2.33	Provide flyer with HVIP information to patient	Creates exchange between VPP and patient; sets up VPP's introduction; presents HVIP as source for recovery needs post-discharge
2.34	Create YouTube video introducing the HVIP team	HVIP and VPP give context to themselves they can't always communicate quickly in person; YouTube link provided on flier or QR code
2.35	Frame introduction: VPP explains their role by what they are not	VPP leads introduction by articulating what they are not, instead of what they are; assuages patient skepticism of motives of yet one more authority figure showing up
2.36	Frame introduction: VPP is not clinician	VPP distinguishes self from clinical authorities whose medical advice may be interpreted as mandates of what the patient can/can't do, can/can't eat, etc.

2.37	Frame introduction: VPP is not with the police	VPP distinguishes self from punitive law authority who may interrogate patient
2.38	Frame introduction: VPP will not report any information to police	VPP promises confidentiality and reassures patient they are here to support recovery, not cooperate with police
2.39	Frame introduction: VPP establishes connection to the community	Indicates credibility to patient that the VPP personally understands patient's life and neighborhood context; immediately establishes commonalities with patient
2.40	Frame introduction: VPP mentions personal experience of violence (as applicable)	Establishes "credible messenger" identity based on experience with violence
2.41	First question after introduction asks if patient feels safe returning to their community	Shows patient VPP is concerned about their whole being, not just their body; assesses risk post-discharge risk factors; answers inform future recovery planning
2.42	Ask patient if VPP can meet any immediate needs	VPP offers to meet basic needs; initial interaction is one of VPP offering to serve patient, not command action or demand information
2.43	Sitting with patient	Clinicians and medical staff speak down to patient from standing position at all times; sitting with the patient frames VPP as a peer offering support
2.44	Speak to patient even if patient remains silent; ask questions about basic needs	Speaking to unengaged patients allows the VPP to introduce themselves and the program in a way that sets up a follow-up visit; patients often more engaging upon VPP return
2.45	Offer to follow up later	VPP asks permission to follow up; if no, patient leaves flyer about HVIP services; if yes, VPP returns up to three times to see if patient is willing to engage
2.46	Inform patient that declining services at first does not prevent obtaining future support	Patients immediately uninterested in HVIP services informed that the offer of support remains open well after discharge from hospital (typically 12 months)
2.47	Ask caregivers if VPP can meet any immediate needs	VPP places self in serving position, not authority, to meet needs and build trust
2.48	Ask silent or unengaged friends to leave the room	Too many people surrounding patient may be overwhelming; VPP encourages least "helpful" members present to step away
2.49	Follow-up with silent or unengaged friends	VPP speaks with silent or unengaged friends separately; makes sure they are involved, but does so separate from patient bedside
Hinge Point #3: Trustbuilding		
3.1	Conduct daily check-ins	VPP continually makes presence known; may be full conversation, or may be stopping by just to say hi and then leaving
3.2	Conduct intermittent check-ins	VPP avoids overwhelming patients in more critical condition; these patients will have long stays, more opportunities for VPP to visit; check-ins intervals reduced (e.g., 2x/week)
3.3	Progressively introduce more information about the program with each visit	Incremental introduction of program avoids overwhelming patient with information; VPP sets up next visit by leaving each conversation with an offer for patient to think about
3.4	Ask if patient is comfortable	Indicates concern for patients most basic needs; sets up ability for VPP to satisfy basic needs
3.5	Offer to adjust patient's pillows or bedding	Patients with severe injuries often do not have the mobility to adjust their positions in hospital bed; small gesture indicates VPPs attention to patient's quality of life

3.6	Offer to obtain extra bedding or items of comfort	Signals that VPP "has pull" with the nursing or facilities departments; small gesture indicates to patient that VPP is someone who can get things done
3.7	Ask if patient is bored	Indicates concern for patients felt need to experience joy or satisfaction; sets up ability for VPP to satisfy patient's boredom
3.8	Offer for patient to borrow iPad or tablet	Provides high quality source of entertainment with unlimited ways to satisfy boredom; offering expensive item indicates patient's well-being is valuable
3.9	Ask if patient is satisfied with television channel options	VPP knows hospital TVs have limited channels and minimal on-demand entertainment; sets up ability for VPP to satisfy entertainment desires of patient
3.10	Offer for patient to borrow gaming console	Meets patient desire for entertainment; gaming console is interpreted as a unique privilege for the patient (i.e., patient is treated as special, not every patient receives this)
3.11	Teach challenging concept to spark engagement	Engages patient with a challenging task that patient may never have attempted before (e.g., solving a Rubik's cube); provides opportunity to strategize together
3.12	Invite patient to play card game	Extends invitation for patient to jointly participate in an activity; card games such as Uno are familiar to patient, indicating shared interests with VPP
3.13	Play competitive games with patient	Initiates collaborative competition to create shared experience; e.g., Rubik's cube speed competition, playing card games, playing Uno, creating video game competitions.
3.14	Invite patient to participate in creative hospital/program offerings	VPP limits engagement and reassures patient they will return later; follow-up conducted when patient may more clearly engage VPP
3.15	Ask about quality of hospital food	VPP knows patient is not satisfied with hospital food; sets up ability for VPP to satisfy nutritional needs with something patient enjoys
3.16	Ask about patient's specific craving in the moment	Patients may have specific desires that cannot be met by hospital food service departments; (e.g., patient's favorite ice cream to soothe sore throat after intubation)
3.17	Ask about patient's favorite food	Shows VPP cares about patient preferences and likes or dislikes; provides VPP an opportunity to discuss patient's favorite food and context around it (e.g., childhood favorite)
3.18	Offer to bring the patient food same day or next encounter	Provides an opportunity for the VPP to follow-through on their offer and commitment; builds patient trust that VPP will be loyal in the future
3.19	Purchase food from location where patient would eat; bypass cafeteria	Indicates patient is valued and worthy of more than the cheapest or most convenient option available.
3.20	Purchase meal for yourself in addition to patient meal	Patients are more likely to engage difficult aspects of their trauma over a shared meal; comes across as two people talking not patient being questioned
3.21	Listen to patient's story	Allows patient to recount their version of events, current feelings, fears, etc., on their own terms instead of always responding to questions (i.e., from clinical staff)
3.22	Sit beside patient while they tell their story	Sitting removes power dynamic imposed by clinicians and others standing over patient; sitting at eye level indicates conversation, not transaction
3.23	Sit in silence together	Being present while watching television or sitting in silence reassures patient that VPP cares about relationship with patient; patient not just another stop on hospital rounds

3.24	Offer to talk about how patient was injured	Expresses interest in patient's story; patients may not feel believed when they recount events; VPP allows patient to tell story on their own terms
3.25	Avoid discussion of how patient was injured	Patients may not want to talk about injury out of trauma or lack of trust that VPP will not communicate with law enforcement; allows patient to communicate on their terms
3.26	Speak about perpetrator of patient's injury	Patients may want to speak about perpetrator, knowing VPP will not relay information to policy; this is a fundamental part of the patient's story
3.27	Look up perpetrator on social media together	Patients may want to speak about perpetrator; social media connection offers a way for VPP to share vulnerable experience with patient
3.28	Process emotions with patient	Creates safe space for patient to process emotions they may feel the need to cover up in the presence of family or friends; mitigates the perceived need to "be strong"
3.29	Validate patient's feelings and emotions	VPP reassures patient that feeling strong emotions is normal in their condition; the patient is responding as a normal person should
3.30	Reassure patient that crying is ok	Communicates that crying is a natural, often uncontrollable response to trauma; it does not mean the patient is weak (or, for male patients, "less of a man")
3.31	Reassure patient that being scared is ok	Communicates that fear is a natural response to trauma; it does not mean the patient is weak (or, for male patients, "less of a man" or a "coward")
3.32	Discuss experience of PTSD	Provides context for what patient is feeling and why; helps explain to patient why they are feeling certain symptoms;
3.33	Discuss therapy and mental health treatment for PTSD	VPP builds upon discussion of PTSD symptoms to explain importance of mental health care; introduces therapy options, ideally on-site at hospital for long patient stays
3.34	Establish non-traditional mental health and therapy treatment options	Patients often opposed to traditional therapy; creating alternative treatment options (e.g., 'barber shop therapy') may increase patient's likelihood of processing trauma
3.35	Assure patient the focus is on the 'here and now'	Shifts patient focus from reliving trauma to plans for the future and hope for recovery; VPP directs conversations to immediate next steps to help patient move forward
3.36	Provide comforting physical touch (female VPPs holding patient's hand)	Physical tough is powerful for patients and may lead patients to "break down" with VPP; physical touch is likely better received from female over male VPPs
3.37	Identify additional outlets for emotional support	Communicates to patient that there are multiple resources to help provide support; indicates to patient that they are not alone, that others need support as well
3.38	Recognize cues in patient speech that indicate specific emotions	Offer to support patient based on cues; patients often speak in terms of regret, VPP may tap into those feelings in the present
3.39	Use cues to inform next steps in supporting patient's recover	Verbal cues may indicate felt needs patients feel they can't or do not know how to operationalize; e.g., "I wish I'd finished school"; sets up VPP offer to help patient obtain GED
3.40	Tap into childhood memories and vision patient had for when they grew up	Asking what the patient wanted to do when they grew up may trigger memories that the VPP can leverage to build trust; e.g., working to restore a dream a patient abandoned
3.41	Request support from community partners to engage patient's "childhood innocence"	Leveraging community connections to creatively tap into lost patient hope for their life; e.g., getting a violin donated for a patient who gave up on playing classical music

3.42	Avoid interactions with police while inside hospital	Maintains patient trust that VPP is not a liaison to law enforcement or using relationship to obtain information that will be turned over to police
3.43	Inform patient it is their decision to engage with police or not	Gives patient agency over engagement with law enforcement
3.44	Advocate for patient if police attempt to pressure patient into talking	VPP serves as barrier between police and patient; may request officer to physically leave the room; indicates that you're standing up for the patient
Hinge Point #4: Retaliation De-escalation		
4.1	Refer patient to monthly peer support meetings at hospital	Links patient to 3rd-party conflict specialists on site; not run by the HVIP or VPP team, so patient may feel more comfortable speaking honestly about their situation
4.2	Refer entire caseload to peer support meetings at hospital	Referring an entire caseload reduces stigma for patients who would otherwise be singled out as needing peer support; classes framed as standard procedure for HVIP services
4.3	Redirect patient's concern with perpetrator back to immediate recovery	Brings focus back to "here and now" and enables VPP to pivot patient toward back to own recovery needs and goals
4.4	Redirect patient's concern with perpetrator back to dreams for the future	Shifts focus to patient's post-recovery goals; provides VPP an opportunity to point out how these will be lost if patient retaliates or focuses extensively on perpetrator
4.5	Speak with patient about things they wouldn't want to risk losing if they retaliate	Helps frame consequences of retaliation for patient; having patient list these items slows down automatic desire for retaliation
4.6	Reassure patients with nothing to lose of their worth and their dreams for the future	Some patients may not be persuaded by appeals to family or risk of loss if they retaliate; VPP makes direct appeal to worth of patient's life and purpose in the world
4.7	Identify the loudest person in the room	The loudest person in the room is often the agitator, not the most likely to retaliate
4.8	Isolate the loudest person in the room	Separating the loudest person turns down the tension in the room, minimizes the reach of their words and actions instigating action in others
4.9	Identify the quietest person in the room	The quietest person in the room may be the most likely to retaliate
4.10	Isolate the quietest person in the room	Separating the quietest person enables the VPP to assess their demeanor up close, ask questions, and probe to see if they are contemplating retaliation or are just calm
4.11	Talk potential retaliator down from retaliating in while patient in surgery or treatment	Efforts to get loved ones to de-escalate often include appeals to how the patient would want to loved one to stay nearby for when they get out of the emergency room/trauma bay
4.12	Invoke potential retaliator's incarceration (if known/applicable)	Appeals to possible re-incarceration may force potential retaliator to take stock of consequences of retaliation; taking stock slows individual down, minimizes urgency
4.13	Invoke potential retaliator's status as parent (if known/applicable)	Appeals to children's well-being if retaliation results in individual's incarceration, death, or becoming future target of retaliation; slows down urgency to retaliate
4.14	Help potential retaliator with nothing to lose process emotions in the moment	Potential retaliators may not be persuaded by various appeals; VPP slows down perceived urgency of retaliation by asking what individual is feeling, what's on their mind, etc.

Hinge Point #5: Program Recruitment		
5.1	Explain HVIP case management services to available to patient	VPP explains suite of support offerings in varying levels of detail (i.e., depending on extent of prior conversations, age and comprehension level of patient, etc.)
5.2	Extend invitation to highly engaged patients during initial encounter	Capitalizes on relational connection already made; immediately links patient to HVIP
5.3	Delay program recruitment if patient is unengaged or shutting down	Honors patient preference to not be rushed; VPP allows patient to dictate enrollment decisions and timeline
5.4	Establish HVIP team protocols for timing and frequency of post-discharge follow-up	Each VPP contacts all patients on caseload at least once every set interval (e.g., 2 weeks) post-discharge; 2 weeks gives patient time to transition and acclimate back home
5.5	Follow up with patients who declined services at regular intervals after discharge	Contact patients who did not accept services at 30-, 60-, and 90-day intervals to re-introduce program and HVIP services (note: exclude 'hard' refusals in follow-up attempts)
Hinge Point #6: Assessment & Recovery Planning		
6.1	Create standardized digital assessment	VPP helps HVIP leadership decide which indicators need to be collected from patient; attempts to standardize data collection across HVIP
6.2	Administer intake assessment form at bedside	VPP facilitates intake assessment with patient; establishes baseline for assessing patient progress in meeting recovery goals
6.3	Administer intake assessment in private location	Intake assessment may feel sensitive to patient; wait to complete assessment until visitors and clinicians are absent
6.4	Complete goal-setting form	VPP takes intake form and guides patient through goal-setting for post-discharge recovery
6.5	Establish patient safety plan	VPP has patient assess own safety post-discharge; VPP probes for indicators of risk for retaliation against/by patient
6.6	Allow participant to identify recovery needs	Having patient identify recovery needs gives ownership over the process; VPP can help adjust expectations and communicate what is feasible, as needed
6.7	Establish goal-specific indicators to measure patient progress	Patients may need benchmarks to stay motivated; agree on tangible actions that indicate if patient is making progress (e.g., number of job applications submitted per week, etc.)
6.8	Require patient to sign recovery plan	Treats recovery plan as a contract between patient and VPP; VPP signs as well, indicating commitment to support patient
6.9	Conduct 90-day check-in assessments of recovery plan progress	Many patient goals take time to meet; conduct check-ins at quarterly intervals to give patient enough time to make progress, but not too long that patient loses motivation
Hinge Point #7: Prioritization of Recovery Needs		
7.1	Inform patient of likely recovery needs based on patient's situation	Being up front with patient about recovery challenges sets healthy expectations
7.2	Allow participant to prioritize recovery needs	Allowing the patient to prioritize their needs gives agency over the process; cultivates patient ownership of their own recovery
7.3	Help patient process order of operations in satisfying recovery needs	Patients may not be able to see all of the small requirements that must be met to satisfy large needs; VPP may help patient understand order of operations for meeting needs

Hinge Point #8: Referrals & Service Navigation		
8.1	VPP lives in the community served by the hospital	Residing in the community served cultivates trust and comes with intimate knowledges of existing community assets and gaps in resources
8.2	Leverage existing community connections	If VPP lives in the community served, maintain regular connections so they are available when needed; mitigates need to build new relationships
8.3	Stay up to date about community coalition meetings and trainings	Identifies referral offerings available and potential referral partners with resources to help patient recovery
8.4	Attend networking events and coalition meetings to identify potential partners	Meetings give VPP opportunity to network and discuss opportunities with other agency representatives in person instead of navigating phone tree options to ID correct contact
8.5	Introduce HVIP services at community events, coalition meetings, and trainings	VPP attends coalition meetings to introduce program and services
8.6	Establish relationships with county social service agencies used by patients	County social service tracking systems centralize communication and enable VPPs to see if patient has applied for and /or obtained various services (e.g., SNAP)
8.7	Work behind the scenes with service agencies	Connect with agencies to obtain information about service availability to ensure VPP is not referring patient to resource with false hopes that services are available
8.8	Identify community champion(s)	VPP and HVIP identify and work with key influencer in community who can help identify needs, serve as ears on the ground,
8.9	Identify champion(s) with lived experience of violence in the community	Community champions with lived experience may provide unique advocacy and support of VPP and HVIP vs. residents without such experience
8.10	Use HVIP funds to meet patient's basic needs	Using HVIP funds to meet basic needs (e.g., groceries, diapers, etc.) maintains trust and enables patient to focus on recovery priorities
8.11	Inquire about consequences of injury and/or extended hospital stay	Asking patient about fallout from their injury helps VPP know the extent to which certain needs may be present (e.g., if patient has dependent children)
8.12	Offer to contact employer to communicate employee isn't delinquent on purpose	Contacting employer (without violating HIPAA) regarding the patient having an emergency may preserve patient's employment; explains why patient did not show up to work
8.13	Offer to contact workforce advocate to help patient get back to work	Beginning service navigation with employment inquiries engages patient priorities while allowing VPP to help patient meet immediate recovery needs
8.14	Offer to contact referral services on behalf of patient	Calling on behalf of patient mitigates patient anxiety; gives VPP an opportunity to show they have connections and are able to get things done
8.15	Help patient secure safe housing	VPP helps patient identify opportunities to find safe, affordable housing (e.g., Section 8, links to housing agencies, etc.)
8.16	Help patient secure gainful employment	VPP helps patient identify employment opportunities; links to job resources; identifies patient hobbies and passions that may be linked to future employment
8.17	Help patient secure government identification	VPP informs patient of need for government ID; makes plan for patient to apply and obtain government ID
8.18	Host "ID Clinic"	HVIP organizes periodic events for patients and relevant contacts (e.g., buddy system partners) to assist with applications for government IDs as a group

8.19	Help patient secure Social security card	VPP informs patient of need for Social Security card; makes plan for patient to apply and card
8.20	Help patient secure birth certificate	VPP informs patient of need for birth certificate; makes plan for patient to apply and obtain birth certificate
8.21	Follow-through on commitment (general)	VPP follows through on any commitment to patient; demonstrates loyalty and trustworthiness to patient
8.22	Jointly conduct task	VPP accompanies patient to appointment or task (generally)
8.23	Sit in silence	VPP sits in silence with patient, does not feel obligated to initiate conversation; may lead to patient opening up or may simply reassure patient VPP is still present
8.24	Discuss next steps while satisfying current need	VPP uses interim time between appointments or while waiting to help patient identify next steps to meeting their recovery needs
8.25	Accompany patient to court/legal appointments	VPP attends court visits involving patient, whether to meet lawyers, attend hearings, seek victims services (contextualized to patient situation)
8.26	Link patient to patient-specific legal resources	VPP provides patient links to legal services; warm handoffs conducted to legal representatives, if available
8.27	Provide VOCA application support	VPP offers to help patient and/or family apply for VOCA funding for recovery services, funeral costs, etc.
8.28	Host "Expungement Clinic"	HVIP works with legal partners to host event where individuals with low-level offenses may receive support to expunge their criminal records
8.29	Establish ongoing partnerships with legal stakeholders for ongoing needs	HVIP creates partnership with bar-certified lawyers who may provide free legal advice to patients, help review rejected VOCA applications, etc.
8.30	Drive patient to appointment	VPP personally drives patient to appointments; uses time together to build rapport, obtain status updates, solve challenges
8.31	Follow up after patient attends appointment or obtains services	Holds patient accountable to recovery goals; immediate follow-up allows VPP to call social service agency to troubleshoot any issues that arose
8.32	Organize transportation for patient	VPP ensures patient has transportation to appointments; calls rideshare (e.g., Lyft) for patient, as needed (i.e., if HVIP policy forbids driving patient)
8.33	Establish HVIP rideshare fund for program use	HVIP establishes business account with rideshare company (e.g., Lyft); VPP uses funds to organize rides for patient to make appointments, have safe transportation options
8.34	Create "buddy system" to involve patient's trusted friend in recovery process	VPP asks patient to suggest closest confident who can serve as "buddy" to support patient during their recovery
8.35	Help buddy understand what patient is going through	Patient may be acting differently (e.g., easily angered, scared, etc.) after trauma; VPP explains to buddy what to expect and look for in patient mood, behavior, etc.
8.36	Allow patient to invite buddy to any meeting with VPP	VPP lets patient know that their buddy is able to join any meetup with VPP at any point and at any location; links buddy to long-term recovery
8.37	Allow patient to invite buddy to referral services	VPP lets patient know that their buddy is able to accompany patient to their service referral appointments; links buddy to long-term recovery
8.38	Refer patient to services VPP knows buddy may benefit from as well	Many services or referrals will benefit the buddy as well (e.g., job fairs, alternative therapy options, etc.); VPP intentionally refers to services that will benefit both parties

8.39	Work with buddy to tag-team difficult recommendations for services or referrals	Patients are often opposed to certain services (e.g., therapy); VPP separately invites buddy to encourage patient to engage alternative recovery services (e.g., barbershop therapy)
Hinge Point #9: Retention of Patient in Program		
9.1	Maintain open door policy for patient to return to program	Communicate that patient is welcome to reach out for support for a set interval (e.g., 12 months), pending specific HVIP policy
9.2	Follow up with patient at regular intervals	Begin following up on a weekly basis, then biweekly, then each 30 days until HVIP policy requires closure of case
9.3	Contact patient via text	Maintain regular texting contact with patient; follow-up via text if patient has not responded in awhile or has missed appointments
9.4	Contact patient via phone call	Maintain regular phone contact with patient; follow-up via text if patient has not responded in awhile or has missed appointments
9.5	Offer to put minutes on patient's prepaid phone	Offer to add phone time to patient's prepaid phone
9.6	Condition phone minutes on in-person meeting with VPP	Incentivize patient to meet up with VPP in exchange for phone minutes; VPP uses opportunity to obtain updates about the patient
9.7	Contact patient via social media	Maintain contact with patient via social media platforms (e.g., Instagram) to keep track of patient's posts and continue conversation
9.8	Conduct house visits	Visit patient's house to see if patient is present and willing to meet in person
9.9	Contact patient's mother if patient. unreachable	Contact patient's mother about patient's whereabouts, ask about recent updates, request mom to have patient reach out
9.10	Contact patient's grandmother if patient unreachable	Contact patient's grandmother about patient's whereabouts, ask about recent updates, request mom to have patient reach out
9.11	Contact street-level intervention professionals if patient unreachable	Contact violence prevention professionals who have knowledge of what is happening in the community; see if they have knowledge regarding patient
Hinge Point #10: Program Exit and Aftercare		
10.1	Throw graduation party for patient completing program	HVIP hosts formal "graduation" celebration to recognize and honor patient who meets recovery goals and exits HVIP program; patient receives 'certificate,' etc.
10.2	Provide patient with aftercare recovery resources	Patient given list of community resources that may be useful in the future, even if they were not needed during recovery period
10.3	Remind patient of "open door" policy	Assure patient they may contact VPP or HVIP in the future; this is not the end of the relationship, simply the end of formal case management services