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NORC at the University of Chicago

FINAL REPORT

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Formative Evaluation of a Hospital-based Violence Intervention Programs and Victim Services in Chicago (2019-V3-GX-0004)

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I. Introduction

Violence is a key public health issue in the US, and violent crimes and their impacts create major social and economic problems for our health care system and for society as a whole. Hospital-based violence intervention programs (HVIP) for victims of crime are a promising approach to reducing violence, saving lives, and decreasing health care costs.[1] HVIPs provide *trauma-informed care*[2] to victims of violence during their recovery in a hospital-based setting by delivering both medical services provided by hospital staff and additional social services and safety planning through hospital partnerships with community-based stakeholders. Working together, hospitals and local partners tend to individuals at this "golden hour" during which victims of interpersonal violence are often more receptive to assistance and positive behavior modification. These programs employ a number of strategies to address the factors that lead to repeated violence. However, there is little standardization in models[3] of HVIPs, and data on the relative effects of these different approaches are lacking.

In response to rising violence in the city of Chicago, a city-wide group of hospitals (the Chicago Hospital Working Group or C-HWG) was established to coordinate their respective HVIPs or individual prevention and intervention services to ensure that patients with a violent injury have the best possible opportunity to avoid re-injury and further violence upon release. The C-HWG includes the five Chicago Level-One Trauma Centers (non-pediatric)[4] and one Level II Trauma Center. Supporting a trauma-informed care approach, C-HWG's goals are to 1) build, share and deepen best practices in hospital-based violence intervention activities and 2) establish and sustain an aligned system of care across the city.

All of the hospital programs and/or services utilize at least some components of a trauma-informed care approach, which is believed to improve patient engagement and participation in treatment and to lead to better health outcomes. A trauma-informed approach to care embraces the understanding that health care providers need a complete picture of a patient's past and present life history in order to provide effective medical services with an emphasis on healing. The application of this approach includes: acknowledgement of the widespread impact of trauma; identification of signs and symptoms of trauma in patients, families, and staff; avoidance of practices that can lead to re-traumatization; and integration of trauma informed practices into policies and procedures. A trauma-informed approach also addresses organizational culture by focusing on training staff in how to recognize and address their own potential

[1] Martin-Mollard, M., & Becker, M. (2009). *Key Components of Hospital-based Violence Intervention Programs*. Retrieved from https://www.msm.edu/Education/community_health/chpmpublichealthsummit/documents/National_Symposium_of_Hospital_based_Violence_Intervention_Programs.pdf; https://www.thehavi.org/;

[2] See definition in Appendix A Glossary of Terms.

[3] HVIP models refers to the philosophy and broader approach to service delivery, while HVIP programs are the actual application of an existing program in the field.

[4] While the six member hospitals of the C-HWG do not officially serve pediatric populations, their violence intervention programs and/or services and their affiliated hospitals may serve these populations.

secondary trauma. This approach may also reduce re-injury, promote healing, and lower costs for patients and hospitals.

Hospital-based violence intervention services for victims of crime have been shown to be promising approaches for reducing re-injury and re-victimization, saving lives, and decreasing health care costs.[5] Victims of interpersonal violence are at higher risk of experiencing additional violence and re-injury; therefore, HVIPs use the combined efforts of both hospital medical staff providing trauma-informed care and community-based partners offering extended social services, safety planning, and/or behavioral intervention assistance to treat patients during this "golden hour" at the hospital when patients tend to be more open to receiving these forms of assistance. In addition to medical treatment, an important common factor among these hospital-based intervention models is their added ability to connect victims to services before and after discharge to address the social risk factors that lead to later re-injury and re-victimization.

> **HVIP Terminology.** The term *hospital-based violence intervention program (HVIP)* refers to multidisciplinary programs within hospitals that connect victims of violence with hospital-based or community-based resources to promote healing and reduce revictimization. Within HVIPs are different program model types. In *hospital-linked* approaches, a community partner provides most of the HVIP staff who are granted access to the hospital and handle case management and service referrals for consenting patients. In *hospital-based* approaches, the hospital provides all of the HVIP staff and engages community partners for referrals, training, and consultation. It should be noted that a hybrid model can also exist wherein the HVIP is staffed by both the hospital and community partner. The differences in these approaches are discussed below Theoretical models have developed nationally resulting in *HVIP models*, but their local application results in specific *HVIP programs*.

This project was designed to support the C-HWG in completing the foundational activities needed to design and implement a future evaluation of their violence intervention programs and/or services. The project includes a formative evaluation to guide program design and data collection efforts across the group and an evaluability assessment to determine whether the membership of the C-HWG is ready for a rigorous evaluation. Consistent with these goals, NORC at the University of Chicago (NORC) coordinated communication and program development efforts across the hospitals, documented the characteristics of the intended victim populations targeted by the programs and the specific services provided, examined existing measures and considered new measures for assessing intervention outcomes, and identified barriers to success and supports for hospitals for a future evaluation. This report summarizes the project activities and accomplishments from the past two years (2020 and 2021) and details the study team's findings from the formative evaluation and evaluability assessment,

[5] Johnson SB, Bradshaw CP, Wright JL, Haynie DL, Simons-Morton BG, Cheng TL. Characterizing the Teachable Moment: Is an Emergency Department Visit a Teachable Moment for Intervention Among Assault-Injured Youth and Their Parents? *Pediatric Emergency Care.* 2007;23(8):553-559; Corbin TJ, Rich JA, Bloom SL, Delgado D, Rich LJ, Wilson AS. Developing a Trauma-Informed, Emergency Department–Based Intervention for Victims of Urban Violence. *Journal of Trauma & Dissociation.* 2011;12(5):510-525; https://www.aha.org/issue-brief/2018-08-07-overview-hospitals-against-violence-initiative

including recommendations for a future evaluation of the C-HWG member violence intervention services.

II. Project Methodology

The project was designed to occur in three stages over two years: 1) a design stage; 2) a formative evaluation; and 3) an evaluability assessment. The NORC team completed the design stage during the first year of the project, which resulted in several important programmatic accomplishments described in Chapter III. Initially, the formative evaluation was designed to be highly dependent upon in-person, in-depth site visits to each of the hospitals; however, our plans for site visits had to be modified due to disruptions related to COVID-19. We describe our data collection activities for the formative evaluation in further detail below. The findings from the formative evaluation have been used in combination with earlier products from the project, including the study's logic model described in Chapter IV, to complete the third and final stage, an evaluability assessment presented in Chapter VI. This report summarizes the findings and conclusions from the formative evaluation and the evaluability assessment, including design recommendations for an evaluation and the identification of areas where hospitals may require additional support in order to participate in a future evaluation of their violence intervention programs and/or services.

Research Questions

Exhibit 1 below presents the research questions, which guided our formative evaluation and evaluability assessment.

Exhibit 1: Evaluation Research Questions

Formative Evaluation	RQ1: What types of violence intervention programs and/or services are hospitals in the C-HWG implementing?[6]	RQ1a. What was the context in which the program model or current victim services emerged?
		RQ1b. What are the facilitators of and barriers to implementation of the interventions?
		RQ1c. Which populations are programs intending to reach and what are the characteristics of victim service recipients?
	RQ2: What are the essential elements of each HVIP/victim service among hospitals in the C-HWG?	RQ2a. What are common enhancements or variations on the program model? What are the expected program outcomes?
	RQ3: How do hospital-based intervention programs or services coordinate with other hospitals and stakeholders?	RQ3a. With whom do hospitals coordinate their efforts?
		RQ3b. What is the purpose and benefits of coordination?
		RQ3c. What are the challenges to coordination?

[6] One sub-question on the level of dosage received by patients was not able to be addressed due to the lack of follow-up data being collected by hospitals on patients. The staff have many challenges to integrating and accessing patient-level data. Please see the findings on data collection and technology for more information.

		RQ3d. What factors facilitate coordination?
	RQ4: How does each hospital's health information technology and exchange affect their hospital-based victim services interventions?	RQ4a. What data is and should be collected from each HVIP on the population served, services provided, and victim outcomes?
		RQ4b. What data platform(s) do hospitals use to collect data on patients receiving services? Do hospitals have a separate technology platform?
		RQ4c. To what extent are hospitals exchanging information with local enforcement agencies, service providers, and others?
		RQ4d. How are hospitals linking with Electronic Medical Records (EMR)?
Evaluability Assessment	What are the evaluation design options for the membership of the C-HWG?	RQ5a. What are the design options for a future evaluation of the programs?
		RQ5b. What data sources (either existing or planned) are available and can be leveraged for an evaluation?

Data Sources and Analysis

As mentioned above, the formative evaluation was designed to heavily rely on information collected from in-person site visits to each of the hospitals, which were originally scheduled to take place in early spring 2020. Due to COVID-19 restrictions at the hospitals, the study team had to revise this approach and schedule virtual "site visits" in the second year of the project at the beginning of 2021. The virtual interviews were completed in February through April 2021, and served as the main source of data for the study's formative evaluation. The findings and conclusions from the formative evaluation were used to inform the evaluability assessment and many of the design recommendations for a Phase II evaluation provided in the final chapter of this report.

The NORC team conducted virtual site visits to gain an in-depth understanding of the models, programs, and services that are implemented across the members' hospitals. Virtual site visits included video conferencing meetings with key leadership and discussions with internal and external stakeholders, including community service providers to which participants are referred and other violence prevention initiatives within Chicago. Because the virtual format for the interviews resulted in additional resources for this particular project activity, we also interviewed additional hospital staff from multiple units and departments that participate in and support the HVIPs. Given that the six hospitals are located throughout Chicago and may be referring services to the same community service providers, the team was particularly sensitive to gathering information on the potential synergies that can be optimized by serving overlapping regions. Community service providers, in particular, provided insight on the strengths and challenges of differing referral processes among hospital programs and/or services.

In early 2020, the NORC team developed interview protocols to guide the site visit interview discussions prior to learning that COVID would delay the completion of the site visits until 2021.[7] Protocols were developed for interviewing individuals in the following roles:

- Project Administrator/Director
- Clinical Coordinator
- Physical Champion and/or Medical Staff
- Front Line Staff (e.g., Social Workers, Violence Prevention Specialists)
- Community-Based Organization (CBO) Partners and Other Stakeholders
- Other Staff (e.g., Health Information Technology (HIT) data administrators, referral specialist, chaplain, staff trainers, etc.)

While the site visit protocols were intended to guide the discussions, the site visitors asked additional follow-up questions based on the information that the participants provided to help the discussions flow organically. NORC leveraged key contacts at each site to identify and recruit participants that could speak about various components of the hospitals' violence intervention programs and/or services. Beginning in early 2021, the study team contacted each hospital through our C-HWG members for assistance in identifying key individuals for interviews. An internal protocol for engagement and outreach to each hospital for planning the site visits was used by the team, and participants were selected to obtain a diversity of perspectives to help understand the context in which the programs and/or services operate.

Once the study team obtained a commitment from a hospital to conduct a "site visit," the team scheduled the visits and made logistical arrangements. The virtual site visits were scheduled via Zoom video conferencing software, and calendar invites with a Zoom link were sent to respondents ahead of the site visits. For each interview, the NORC staff designated at least one site visit lead and note-taker. The conversations were recorded and transcribed on Zoom and notes were edited for clarity. We completed site visits to five of the six hospitals.[8] Exhibit 2 below provides a summary of the number of interviews by respondent group conducted for each hospital.

[7] All interview procedures and protocols were reviewed and approved by NIJ's Human Subjects Program Officer.

[8] Stroger was unable to participate in the virtual site visits due to internal prioritization of responsibilities during COVID-19.

Exhibit 2: Number and Type of Interviews per Hospital for Site Visits***

	Program Administrator/ Director	Clinical Coordinator	Physician Champion and/or Medical Staff	Front Line Staff	CBO Partners and Other Stakeholders*	Other Staff
Advocate Christ Medical Center	2	1	1	3	0**	--
Mount Sinai Health System	2	2	1	2	3	2
Northwestern Memorial Hospital	5	1	1	3	3	--
Rush University Medical Center	4	1	1	3	2	2
University of Chicago Medicine	6	1	--	5	6	3

*Respondents may be counted multiple times if they work with multiple hospitals.
**NORC completed two interviews with Acclivus staff who reported working with Advocate; however, Advocate no longer has an MOU with Acclivus and therefore their interviews may not represent the hospital's HVIP accurately.
*** Stroger was unable to participate in the virtual site visits due to internal prioritization of responsibilities during COVID-19.

Upon completion of the site visits, the NORC evaluation team analyzed the qualitative data using an iterative process and coding scheme organized around the key research questions. The analysis focused on identifying key themes and patterns both across different interviews within the same hospital and across similar individuals (e.g., program director, staff, etc.) across different hospitals. Site visit data were supplemented with additional information on hospitals obtained from initial "meet-and-greet" interviews conducted at the beginning of the project and some limited information collected during discussions of the C-HWG. The cross-site evaluation examined the program's implementation and data processes as a whole and documented commonalities and differences across the prevention interventions with regard to service delivery, infrastructure, program planning, and implementation. A detailed description of the site visit findings is provided in later chapters of this report.

Study Limitations

The study information identified important implementation issues and lessons about service delivery facilitators and challenges that can inform a future evaluation. However, the findings in this report provide only a limited perspective on the C-HWG hospital programs and/or services. As noted above, one sub-question on the level of dosage received by these populations was not able to be addressed due to the lack of data being collected by hospitals on patients. Alternatively, populations served were qualitatively described using interview findings. Another limitation of the study is the self-reported nature of the qualitative interview data that informs this report. Although the team used triangulation across respondents wherever possible, NORC's findings and conclusions related to the interview data could not be independently verified by our research team. Finally, the participant sample of five Chicago-based hospitals is not necessarily representative of other hospitals and HVIPs; thus, limiting the generalizability of our findings and conclusions.

III. Project Participants

In this chapter, we describe the specific violence intervention programs and/or services provided by the C-HWG hospitals. We also include a summary of the accomplishments of the C-HWG over the course of the project.

Project Purpose and Goals

Through the evaluation activities, NORC sought to assist the C-HWG in increasing their evaluability and research capacity to conduct future evaluations of their violence intervention programs and/or services, either collectively as a single cross-site evaluation and/or as a set of evaluations of their individual programs. Given both the various stages of development of the individual programs and/or victim services in the C-HWG and the importance of formative evaluation as a mechanism for informing program improvement and growth, this was a critical time for the hospitals to benefit from the goals and objectives of this project, including:

1. To improve coordination and build capacity among the various hospital-based violence prevention and victim intervention programs and/or services in Chicago;
2. To set the foundation for a future rigorous evaluation across hospital-based violence intervention programs and/or services; and
3. To expand knowledge of hospital-based violence prevention and victim services intervention models.

Prior to this project, the hospitals developed an informal collaboration facilitated by Get IN Chicago, a comprehensive program focused on reducing youth violence in Chicago by engaging and serving individuals in the communities most effected by violence. Get IN Chicago embraced the view that violence in Chicago could be reduced by better targeting service delivery to young perpetrators and victims of interpersonal violence. Hospitals were seen as one of the key access points for identifying victims in need of intervention and also as an effective setting for violence prevention and behavioral intervention. At the beginning of the group's formation, the C-HWG developed a set of common aims, within a framework that recognizes and respects individual hospital/trauma center resources, infrastructure and culture. These aims are:

1. **Learning and Resource-sharing between and among Trauma Centers**
   Examples: Case management best practices; HIPAA policies across hospitals and community agencies

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2. **Program Ramp-up and Capacity Building**
   Examples: Hiring "violence prevention specialists" or similar roles; building relationships with community service providers
3. **Metrics Development**
   Examples: Common metrics to determine impact; tracking outcomes
4. **Funding Support**
   Examples: Funding models for hospital programs; identification of gaps where foundations/funding agencies can help
5. **Thought Leadership**
   Examples: Disseminating lessons learned; develop policy recommendations

During this two-year evaluation project, conducted independently by NORC, the C-HWG member hospitals agreed to continue their bi-monthly participation in the C-HWG, facilitate introductions between evaluation and program and hospital staff; assist in arranging interviews and site visits; and provide access to their data systems.

Membership

The C-HWG includes the five Level One and one Level Two Trauma Centers, which together treat a large proportion of the victims of violence in the city of Chicago. (See Exhibit 3 below.) The hospitals in the C-HWG serve most if not all neighborhoods in Chicago; the six hospitals are at different stages of development with their victim programs and/or services; and while the hospitals attempt to serve all victims of violence, the characteristics of the populations targeted by the hospitals somewhat vary by targeted age and type of violence.

Given Chicago's high rate of violent crime and the broad and deep needs of patients, collaboration between and among hospitals treating victims of violence is viewed by the membership as an essential step in reducing violence and hospital recidivism citywide. As *hospital-based* and *hospital-linked* violence interventions expand nationally, the members of the C-HWG expressed their interested in Chicago becoming a model of collective action and a hub for learning in this growing field.

> Hospitals that implement a ***hospital-based*** model are responsible for intensive case management and deliver services directly to violently injured individuals (and their families). To address gaps in capacity, hospitals may also collaborate with outside organizations to link patients to other services that promote recovery. Under the ***hospital-linked*** model, hospitals contract with a community-based partner or partners to deliver trauma-informed care and therapeutic case management services to patients. These programs tend to rely on one or more street outreach organizations to connect patients to resources that reduce the likelihood of re-injury.

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Exhibit 3: Members of the Chicago Hospital Working Group

Hospital Members	Trauma Center	Area Served	Type of Intervention Program and/or Services	Victim Intervention Program and/or Services	Year Established
Advocate Christ Medical Center	Level I	South side	Hospital-based	San Francisco Trauma Recovery Center	2018
Mount Sinai Hospital	Level I	West side	Hospital-linked	Community Health Workers	2018
Northwestern Memorial Hospital	Level I	Downtown	Hospital-linked*	Trauma center response services	N/A
Rush University Medical Center	Level II	West side	Victim Services**	Social Initiatives Program	N/A
John H Stroger Jr Hospital of Cook County	Level I	West side	Hospital-based	Healing Hurt People-Chicago	2013
University of Chicago Medicine	Level I	South side	Hospital-based	Violence Recovery Program	2018
				Healing Hurt People-Chicago	2013

*Currently under discussion regarding potentially transitioning to a hospital-based program
**Rush does not have a hospital-based or hospital-linked program (See final chapter for discussion)

Advocate Christ Medical Center (Advocate)

Modeled after the University of California San Francisco (UCSF) approach, the Trauma Recovery Center (TRC) provides 16 sessions or less of individual and group therapy, psychiatric services, and extensive social services, as needed, to victims of violence. For patients to be eligible for services, they only need to be located in one of the counties served by the program and either have experienced trauma in the last three years and/or lost a family member to homicide. Patients may enter the TRC directly through medical admission at the hospital or by referral from other local hospitals or community-based organizations (CBOs). The program is designed to serve individuals with varying levels of need in both inpatient and outpatient settings. Some program participants experience one intentional trauma and may not have extensive therapeutic needs or require additional social services. Other participants require longer-term therapeutic and comprehensive social services that can be addressed in the TRC outpatient clinic, and with referrals to partner organizations located in their community to provide housing, medical insurance, food assistance, etc. Their approach begins by understanding the basic needs of a patient (e.g., housing, safe space), and then once the patient is in a stable, safe environment, staff will focus on additional needs through the provision of trauma-informed care.

Prior to opening the TRC, the hospital was served by the violence interruption program, Chicago CeaseFire[9] and their violence interrupters. This experience sparked interest among the medical staff to expand their violence prevention efforts. When TRC received their first, initial grant in 2018, UCSF helped hospital staff by advising the program, collaborating on best practices, and providing documentation and protocols to ensure fidelity to the UCSF model. The TRC mirrors the UCSF model with the exception of a few differences due to specific requirements for serving the local patient population. The program currently draws referrals for outpatient services from Advocate Christ hospital, but also serves other local hospitals including Advocate Condell, Illinois Masonic, and Lutheran General.

Mount Sinai Health System (Sinai)

Starting in 2018, Sinai Urban Health Institute (SUHI) deployed Community Health Workers (CHWs) within the Emergency Department (ED) to identify patients who are in need of wrap-around services. Sinai has developed and re-defined the role of their Community Health Worker (CHW) over the past 20 years by studying existing models and using the lessons learned from these studies to refine their approach. While Sinai's approach originally utilized disease specific CHW-led models, their intervention models have broadened to address the complex needs of the patient population by addressing *social determinants of health (SDOH)*.[10]

The primary responsibility of the CHWs is to assess the social needs of the patients and provide referrals to CBOs that can address the patient's needs. The CHWs use a SDOH screener that was developed in-house to assess the needs of patients. The initial target population of the program was victims of non-fatal gun violence admitted through the ED. SUHI later decided to broaden the types of victims/patients that they serve because of the number of referrals from additional units within the hospital, such as social work. As clinicians and social workers began to become more familiar with the CHWs, they started to refer other types of victim populations to the program, so the target population broadened very quickly as SUHI began to understand that there were needs for additional types of patients at the hospital. Some of the most prominent areas of need that the CHWs address are housing and food insecurity, the ability to pay utility bills, lack of health insurance, the need for primary care providers, past exposure to violence, and joblessness. The CHWs are seen as "social work extenders," in part because the social work department and the CHWs have developed a strong relationship since the implementation of the program.

[9] Cure Violence (formerly known as CeaseFire), launched in Chicago in 1999 by the Chicago Project for Violence Prevention at the University of Illinois at Chicago School of Public Health, uses a three-pronged public health approach to reduce shootings and killings, including data-driven violence detection and interruption, mediation of disputes, and public education. (https://nationalgangcenter.ojp.gov/spt/Programs/139)

[10] See definition in Appendix A Glossary of Terms.

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Northwestern Memorial Hospital (Northwestern)

Northwestern is in the process of planning to convert their hospital-linked trauma center response services into one that is hospital-based. Currently, social workers at the hospital are engaged throughout a patient's stay and help assess patients who are identified as victims of violence (e.g., determine if using an alias or have identification, determine housing status.) The social workers also help determine what assistance is needed and what services can be provided to victims. When a victim of intentional violence enters the ER, s/he is brought to the trauma bay, assessed, and stabilized. The program initially targeted victims of gunshot wounds; however, the hospital later expanded the types of patients to include those who are victims of stabbings, assaults, and gang activity (either as a result of joining or leaving a gang). The program also serves patients who are victims of domestic violence.

Typically, if a patient is assessed as meeting the requirements for assistance, the street outreach organization Acclivus is notified ideally within one hour. Acclivus is a community health organization focused on violence interruption. Hospital social workers focus on the patient's immediate needs (e.g., returning to a safe environment), while Acclivus addresses longer-term needs through community support and referrals for services. Once contacted, an Acclivus representative will come to the hospital and interview the patient and/or family. The representative will collect information about the incident and then conduct street outreach and intervention to prevent any retaliatory action. Acclivus also will connect the patient to needed therapeutic and social services near home in their community.

> **Street outreach** is an approach to violence intervention that typically utilizes members of the community to intervene and de-escalate conflict and prevent retaliation, including gang-related violence. Many of these programs also connect victims and potential perpetrators with additional social services, such as housing and job training. Examples of street outreach programs in Chicago include Acclivus, Cure Violence, Chicago CRED, Communities Partnering 4 Peace (CP4P), and the Institute for Nonviolence Chicago (INVC).

A current goal among the founders of the Northwestern program is to "hard wire" these efforts by developing a more formalized program within the hospital to ensure that the initiative continues even if any one of the current key supporters (e.g., doctor champions[11]) leaves the hospital. They are currently working to spread hospital-wide knowledge about the violence intervention services and available CBOs in the communities to help with patient needs.

Rush University Medical Center (Rush)

Although Rush has not yet implemented an HVIP (whether hospital-based or hospital-linked), the individual victim service programs that they deliver often share many of the same key principles of an HVIP. In particular, this includes taking an equity- and SDOH-based approach to addressing trauma and violent injury. Rush has connections to a number of individual, community-based programs and

[11] A "doctor champion" is a leading advocate for the program at the hospital.

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services for victims of violence (e.g., sexual assault) and supports local efforts to address community needs through their Social Initiatives Program. Their leadership and staff acknowledge that focusing on medical intervention alone is not sufficient for addressing health outcomes; SDOH and access to needed social supports and resources are a key contributor to health outcomes for recovering patients. Their goal is to understand structural and situational aspects of a patient's life and address these issues by providing resources that address both medical and social needs.

Through their Social Initiatives Program, Rush has developed a network of strong collaborative relationships with several CBOs to provide specialized services for referred patients. Medical residents at Rush volunteer to provide basic medical care for several local programs that serve specialized populations, including those experiencing poverty or homelessness, victims of human trafficking, and sexual assault victims. The Social Initiatives Program also staffs medical clinics and supplies social workers in housing centers, which help strengthen the hospital's relationship with the community.

Prior to Rush's current coordinated Social Initiatives Program, different people, groups, and initiatives were working on trauma initiatives separately. Several hospital staff, who were focused on working in community-based settings, convened an internal group to implement a cross-hospital trauma informed care approach. At the same time, hospital staff began assessing the community to determine their largest public health needs; they discovered that in addition to medicine and health care, non-medical factors, such as access to healthy food, are important drivers of public health challenges in the community. In response, the hospital developed a trauma-informed care learning collaborative to internally share ideas and practices, and over a six to eight month period, they developed a strategy to implement a hospital-wide trauma-informed care practice. The group has requested the inclusion of social workers as part of their public health team to address structural issues in peoples' lives in addition to maintaining a wholistic approach to public health.

John H. Stroger, Jr. Hospital of Cook County (Stroger)

In 2013, Healing Hurt People- Chicago (HHP-C) was piloted at two local area hospitals, Stroger and the University of Chicago Medicine's Comer Children's Hospital (UCM Comer).[12] The original model for HHP was developed by the Center for Nonviolence and Social Justice at Drexel University in Philadelphia in 2008, and they continue to advise and support the programs in Chicago. HHP uses a public health approach to violence prevention that focuses on the root issues of violence and prevention strategies. Hospital staff offer a variety of services that include: assessments; case management; medical follow-up; psychoeducation; counseling/therapy; and/or other social support (housing assistance, etc.). While there are age restrictions on who is eligible for HHP (the program

[12] While UCM Comer was not an official member of the C-HWG, their hospital program is housed within the UCM Violence Recovery Program; therefore, individuals from Comer were interviewed for the site visits and the hospital is included in some of our discussion.

serves youth and young adults under the age of 30), HHP strives to serve anyone who enters the hospital with a penetrative wound.

When a victim of violence enters the hospital, Stroger offers crisis intervention, and if the patient is eligible for HHP, then the team identifies a Trauma Intervention Specialist who can guide the patient throughout their stay. The Trauma Intervention Specialist completes initial contact with victimized patients, at which time a variety of assessments on SDOH are conducted to assess the needs of the individual in addition to assessments of physical health, behavioral health, and family health. One key feature of the program is that an eligible patient, once identified, can stay within the hospital trauma unit and continue to receive care from the same Trauma Intervention Specialist throughout their present injury and across multiple incidents, ensuring continuity of care for the patient. In many hospitals, a patient is moved to a general post-op recovery area; however, at Stroger the patient stays within the trauma unit for recovery. Having the hospital trauma recovery center as a separate unit, rather than a trauma department within the ED, facilitates the adaptation of programs like HHP and coordination with Acclivus.

Stroger collaborates with University of Chicago Medicine's (UCM) Comer Children's Hospital in implementing HHP in Chicago by coordinating services, referrals, staff trainings, and data sharing (See below for more detail on the HHP program at UCM Comer.)

University of Chicago Medicine (UCM)

Addressing violence in Chicago has always been a focus for UCM, including identifying violence and trauma as a local health need in the surrounding community for the past six years. In 2018, UCM built a Violence Recovery Program (VRP), and a Level I Trauma Center which was intended to provide comprehensive care. The VRP is an HVIP focused on reducing re-injury risk and enhancing recovery. Prior to the launch of the VRP, a small planning group was formed within the hospital to prepare for the formation of the program. This exploratory work included sponsoring community forums to gain local input into its formation. The VRP started with a core team of two Violence Recovery Specialists (VRS) working to serve trauma patients in the adult ED and their families. Prior to the VRP, the hospital launched Healing Hurt People-Chicago (HHP-C), a collaboration between UCM's Comer Children's Hospital and Stroger hospitals, as discussed above. HHP is part of the larger Violence Recovery efforts at the hospital and serves the trauma centers at both Comer (children) and UCM (adult). Comer serves patients up to age 19, while the VRP works with trauma patients of all ages. VRP refers patients to HHP-C from both Comer and UCM's adult ED, and the HHP-C refers violently injured patients to the VRP for services.

The violence recovery team is a multi-disciplinary model, working across multiple departments to provide a wraparound response to trauma and the promotion of recovery. A group that meets monthly to discuss violence recovery activities includes public safety, trauma faculty, psychiatry, Child Life and Family Education services, and others that may not be directly part of the model. A second group, which consists of the leaders of each of the units directly involved in the VRP, discusses other support

activities such as medical records management, data collection and tracking, and staff training. There is a third group that focuses on external communications, such as with the Mayor's Office of Violence Prevention, the Southland Rise initiative, etc.

Accomplishments of C-HWG

Consistent with the goal of improving coordination and building capacity among the hospitals, the C-HWG achieved some important project accomplishments during the grant period with the leadership and support of NORC staff.

Group Charter. NORC led the development of a Group Charter for the C-HWG, which outlines the group's mission, goals, roles and responsibilities, and tasks. The charter was important to ensure that each group member has a clear understanding of the group's mission as well as the goals and tasks that the group could adhere to throughout the project. A copy of the full charter can be found in Appendix C.

Goal Setting. For inclusion in the charter, NORC worked with the six hospitals to finalize goals for the group during the first few months of the project. In the charter, the C-HWG outlined the goals that the group wanted to achieve overall and during each year of the project. The final charter outlined the following goals for the C-HWG:

- Learn from peers about different service delivery approaches;
- Identify/develop common metrics and share data;
- Improve collaboration to support care coordination across hospitals and community-based organizations (CBOs); and
- Collaborate on evaluation activities.

Literature Review. NORC conducted a literature review for the C-HWG to inform the work of the group, the development of the project's logic model, and the future evaluation design. The list below outlines the C-HWG literature review products developed specifically for the C-HWG membership's use.

- ***Information on existing HVIPs across the U.S.:*** The NORC team developed a list of existing HVIPs, along with descriptions and the locations of each program.
- ***Theories, models, and interventions used by HVIPs:*** The list of theories, models, and interventions of HVIPs describes the public health approach to violence intervention, with a focus on providing trauma-informed care. These theories helped the C-HWG understand the research and theories that go into forming a successful HVIP.

- ***Bibliography of sources:*** The bibliography of sources from the literature review used to develop the logic model and the literature review products (e.g., existing HVIPs, models and interventions, bibliography) was made available to the hospitals for future use.

Logic Model on HVIP Approaches: The review of the literature in combination with information from one-on-one discussions with each of the C-HWG hospitals on their violence intervention programs and/or services informed the development of a theoretical logic model. The logic model was designed to be a "working document," such that the C-HWG could periodically review and update the model as new information or literature became available or programs changed and evolved. A detailed presentation on each component of the logic model is provided in Chapter IV.

Identification of community supports. NORC identified local social service agencies to help the C-HWG understand the network of providers and non-hospital initiatives in Chicago. To understand the network of local CBOs and collaborations supporting HVIPs in Chicago, the NORC team identified and mapped many of the CBOs which C-HWG members may have existing partnerships and/or make referrals. Hospital members completed a spreadsheet that indicated which organizations they refer patients to, and ranked the top three CBOs that they worked with. The NORC team compiled and disseminated the information collected from the group members.

Peer-to-Peer Learning. NORC hosted bi-monthly meetings of the C-HWG to maintain communication and facilitate peer learning among the members. The NORC team scheduled and facilitated the bi-monthly meetings, which were held virtually via Zoom due to COVID-19 after the initial February kick-off meeting that was held in-person. The meetings included updates on project activities, discussion of different project initiatives and current events, and presentations from guest speakers.

Guest Presenters. NORC invited guest speakers to the bi-monthly meetings. For example, during the April 2021 meeting, the NORC team invited the Policy Director from the Health Alliance for Violence Intervention (The HAVI) to present federal funding opportunities for the group members. These opportunities included Congressional earmarks to fund special projects, essential service funding from the American Rescue Plan, Medicaid reimbursement opportunities, and $5 billion in funding from the American Rescue Plan. In addition, at the June 2021 meeting, the NORC team invited the Gather Resources and Align Community Effort (GRACE) Network to speak about their initiative to create a coordinated care network to end homelessness and address SDOH in the Grand Rapids community.

IV. Understanding of HVIP Programs

Based on a review of the literature describing HVIPs, and information gathered from the C-HWG members on their own violence intervention programs and/or services, NORC developed a theoretical logic model[13] (Exhibit 4) to illustrate the relationship between the inputs deployed and activities carried out by HVIPs in general, as well as their intended outcomes. In addition, the model describes the contextual and individual-level factors that could affect either the implementation of the program, or its intended outcomes. As the title indicates, this logic model is intended to represent both hospital-based and hospital-linked violence intervention programs, in recognition that some hospitals partner with community-based programs to deliver violence intervention services. We discuss the different ways that the C-HWG hospitals partner to deliver violence intervention services in Chapter V.

The logic model's **inputs** refer to the resources used to carry out intervention activities. For HVIPs, these typically include: funding for program services; buy-in from hospital staff to assist in implementing the program; assessment of patient, family, and community needs (for example, a Community Health Needs Assessment); a program model that is appropriate for the population/community being served; staff that are trained in the selected model's approach; partner organizations; information systems and data management; membership with relevant associations (e.g., The Health Alliance for Violence Intervention (HAVI), San Francisco Trauma Recovery Center, etc.); and technical assistance.

Among these resources, the literature describes hospital staff buy-in and an extensive network of partnerships as being especially key to the success of HVIPs. After compiling information from the first National Symposium of Hospital-based Violence Intervention Programs, Martin-Mullard et al.[14] found that involving hospital staff and administration, partners and other stakeholders prior to and throughout program implementation was critical to program success and sustainability. Similarly, Dicker et al.[15] concluded that to operate successfully, hospital administration and personnel at multiple levels must embrace an in-house violence prevention program. Other studies highlighted the vital role that trauma

[13] The logic model was developed to be encompassing of the various types of existing HVIPs; however, not all of the inputs, activities, and outcomes included in the logic model may be applicable to all existing programs. While the resulting model is based on the literature on HVIPs, extensive input was provided by the C-HWG members to ensure its applicability to existing hospital programs.

[14] Martin-Mollard, M., & Becker, M. (2009). *Key Components of Hospital-based Violence Intervention Programs*. Retrieved from https://www.msm.edu/Education/community_health/chpmpublichealthsummit/documents/National_Symposium_of_Hospital_based_Violence_Intervention_Programs.pdf

[15] Dicker R. A., Jaeger S., Knudson M. M., Mackersie R. C., Morabito D. J., Antezana J, & Texada M. (2009). Where do we go from here? Interim analysis to forge ahead in violence prevention. *Journal of Trauma*, *67*(6), 1169–1175. https://doi.org/10.1097/TA.0b013e3181bdb78a

doctors and nurses[16], and hospital leadership[17] play in championing HVIPs and communicating its potential impacts.

With respect to partnerships, HVIPs and similar programs are often composed of a network of diverse stakeholders to support their implementation. According to Harris et al.'s[18] examination of injury and violence prevention (IVP) networks in 15 U.S. cities, each network included the local health department and an average of 21 local partners. In their study, non-profits constituted half of the networks. Others included government agencies, schools and universities, coalitions, voluntary organizations, hospitals, foundations, and for-profit organizations.

Also worth noting is funding for HVIPs, which is often derived from multiple sources for both initial program start-up and on-going sustainability of services. Grants may be sourced from multiple forms of government, including federal, state, and city agencies and departments.[19] Other sources of funding include grants from private organizations and foundations,[20] as well as Medicaid, Medicare and private health insurers.[21]

The program's **activities** encompass direct services, as well as actions that enhance the program's ability to serve its participants. These include: training and providing ongoing support to hospital staff; conducting patient intake and risk assessment; conducting regular needs assessments with patients; providing trauma-informed care/services to victims and families; providing case management; conducting case reviews; referring patients to other resources/organizations, such as for mentoring; obtaining referrals (e.g. street outreach organizations); collecting data on patients and services provided; developing partnerships; sharing data/identifying common metrics with partners; and conducting systems advocacy.

[16] Gomez G., Simons C., St John W., Creasser D., Hackworth J., Gupta P., Joy T., and H. Kemp. (2012). Project Prescription for Hope (RxH): Trauma surgeons and community aligned to reduce injury recidivism caused by violence. *American Journal of Surgery*, 78(9), 1000-1004. https://doi.org/10.1177/000313481207800942

[17] Keitt, S. H., Alonso, J., McPhillips-Tangum, C., Lezin, N., & Carr, M. (2018). Advancing trauma center Injury and violence prevention: Public health and health care working together. *Journal of Public Health Management & Practice*, *24*(3), 292. https://doi.org/10.1097/PHH.0000000000000798

[18] Harris, J. K., Jonson-Reid, M., Carothers, B. J., & Fowler, P. (2017). The structure of policy networks for injury and violence prevention in 15 US cities. *Public Health Reports*, 132(3), 381. https://doi.org/10.1177/0033354917705367

[19] Gomez G., Simons C., St John W., Creasser D., Hackworth J., Gupta P., Joy T., and H. Kemp. (2012). Project Prescription for Hope (RxH): Trauma surgeons and community aligned to reduce injury recidivism caused by violence. *American Journal of Surgery*, 78(9), 1000-1004. https://doi.org/10.1177/000313481207800942

[20] Smith, R., Evans, A., Adams, C., Cocanour, C., & Dicker, R. (2013). Passing the torch: Evaluating exportability of a violence intervention program. *The American Journal of Surgery*, *206*(2), 223–228. https://doi.org/10.1016/j.amjsurg.2012.11.025

[21] Martin-Mollard, M., & Becker, M. (2009). *Key Components of Hospital-based Violence Intervention Programs*. Retrieved from https://www.msm.edu/Education/community_health/chpmpublichealthsummit/documents/National_Symposium_of_Hospital_based_Violence_Intervention_Programs.pdf; Casalino, L. P., Erb, N., Joshi, M. S., & Shortell, S. M. (2015). Accountable care organizations and population health organizations. *Journal of Health Politics, Policy & Law*, *40*(4), 821–837. https://doi.org/10.1215/03616878-3150074

Based on a systematic review of studies from 1970 to 2013 on hospital trauma center-based youth violence prevention programs, Mikhail and Nemeth[22] found that brief interventions and reoccurring case management are the most frequently employed strategies among hospital-based youth violence interventions. Typically, case management is initiated during inpatient care and then extended after discharge. The authors also found that this combined approach was associated with a general reduction in re-injury and re-arrest rates.

The **inputs** support the **activities** of the program, which are meant to reach program participants as depicted in the funnel labeled **HVIP Service Delivery and Uptake**. During the intervention, the patient is provided information on resources, programs, and services, and ultimately decides whether or not to use them. The patient's decision to act on this information is critical to achieving the program outcomes, which are depicted on the right side of the diagram, and described in further detail below.

The program's **outcomes** are experienced at four different interrelated levels: Patient; Family/Friends; Hospital; and the Community or Systems level. These four sets of outcomes affect and strengthen one another as they continue to evolve and improve. Each group is impacted by the program, and the improvements within each group feed into further improvements among the others, especially the patient.

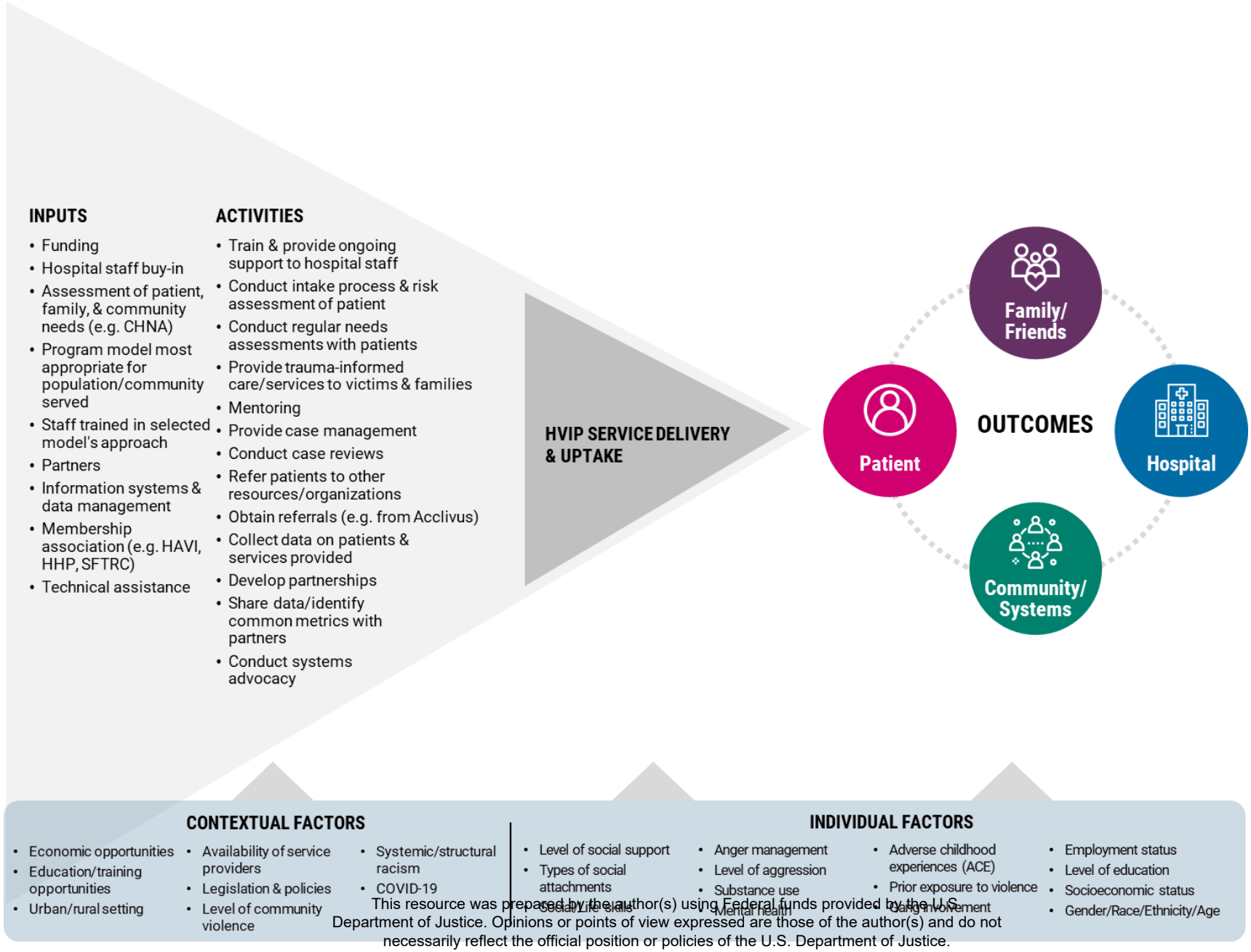
For patients who are the main beneficiaries of HVIP services, there is a wide range of potential outcomes that have been documented in the literature . For simplicity, we have grouped ***patient*** outcomes into six main categories, with an additional "other" grouping. These categories include behavioral, mental health, attitudinal, harm reduction, criminal justice involvement, and social outcomes.

Behavioral outcomes include reductions in substance use and aggression, and improvements in emotion regulation and coping strategies. Mental health outcomes include identification of mental health issues (if appropriate), and reductions in post-traumatic stress disorder (PTSD), depression, anxiety, and other symptoms of trauma or stress. Attitudinal outcomes include improved future orientation, increased life satisfaction, changes in perceptions or feelings about violence, and a reduced desire for violent retaliation. Harm reduction outcomes include reductions in victimization, violent injury recidivism, and violence exposure. Criminal justice involvement outcomes include reductions in arrests, convictions, and incarceration. Social outcomes include improvements in financial security, employment, education, and housing security. Included within the "other" outcomes category are reduced mortality, increased awareness of available resources, continued program engagement, and increased service use.

Family and friends of patients can be beneficiaries of program services through multiple levels. Family members or friends may be caretakers for patients after an incidence of violence, and may need

[22] Mikhail, J. N., & Nemeth, L. S. (2016). Trauma center based youth violence prevention programs. *Trauma, Violence & Abuse*, 17(5), 500. https://doi.org/10.1177/1524838015584373

Exhibit 4. Theoretical Logic Model of Hospital-based and Hospital-linked Violence Intervention Programs



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Patient Outcomes

Behavioral
- Reduced substance use
- Reduced aggression
- Improved emotion regulation
- Improved coping strategies

Mental health
- Diagnosis of mental health issue
- Reduced PTSD
- Reduced depression
- Reduced anxiety
- Reduced symptoms of trauma/stress

Attitudinal
- Improved future orientation
- Increased life satisfaction
- Perceptions/feelings about violence
- Reduced desire for violent retaliation

Harm reduction
- Reduced victimization
- Reduced violent injury recidivism
- Reduced violence exposure

Criminal justice involvement
- Reduced arrests
- Reduced convictions
- Reduced incarceration

Social
- Improved financial security
- Improved employment outcomes
- Improved educational outcomes
- Improved housing security

Other
- Reduced mortality
- Increased awareness of available resources
- Continued program engagement
- Increased service use

Family/Friends Outcomes

- Enhanced social support provision
- Improved family function
- Improved mental health
- Reduced desire for violent retaliation

Hospital Outcomes

- Fewer violence-related injuries treated in ER
- Health care cost savings
- Increased participation/adoption of HVIPs in hospitals
- Improved coordination with other HVIPs & stakeholders
- Staff able to identify victims of trauma & associated risk factors, & direct them to services
- Development of uniform data systems

Community/Systems Outcomes

- Criminal justice system cost savings
- Reduced rates of violent crime
- Reduced rates of incarceration
- Reduced rates of death due to violence
- Improved overall health & quality of life for community members
- Reduced violence exposure among community members
- Changes to legislation and policy

assistance with ensuring the patient receives the necessary care and services during their recovery. Family and friends may have been witness to the violence, or otherwise secondarily traumatized and may be in need of support themselves. Additionally, family function may need to change in order to prevent further victimization or other obstacles to recovery. As such, the outcomes for family and friends include enhanced social support provision, improved family function and mental health, and a reduced desire for violent retaliation.

Hospitals participating in violence intervention programs should also expect to see certain outcomes associated with implementing these programs. These outcomes include: fewer violence-related injuries treated in the emergency room; health care cost savings; increased participation in, and adoption of HVIPs in hospitals; improved coordination with other HVIPs and stakeholders; staff that are able to identify victims of trauma and associated risk factors, and direct them to services; and development of uniform data systems.

Lastly, outcomes at the ***community and systems*** level include: criminal justice system cost savings; reductions in rates of violent crime, incarceration, and death due to violence; improved overall health and quality of life for community members; reduced violence exposure among community members; and changes to legislation and policy.

Along the bottom of the first part of the model, are several **contextual** and **individual-level factors** that affect the environment in which HVIPs operate and outcomes are observed. The ***contextual*** factors describe the political, social, and physical characteristics of the setting in which the HVIP delivers services, which are likely to have an impact on both the way the program is delivered, as well as the outcomes that may be observed. These contextual factors include: economic opportunities; education/training opportunities; geographic setting (urban or rural); the availability of service providers; legislation and policies; the level of community violence; level of system/structural racism; and most recently, the COVID-19 pandemic.

The ***individual-level*** factors describe the personal characteristics or circumstances of patients that are likely to have an effect on their risk for exposure to violence, as well as their experience and participation in the program. These factors include: level of social support; types of social attachments; social/life skills; anger management; level of aggression; substance use; mental health; adverse childhood experiences (ACEs); prior exposure to violence; gang involvement; employment status; level of education; socioeconomic status; gender, race, ethnicity, and age.

While this theoretical model is intended to capture the general approach across hospital-based and hospital-linked violence intervention programs, it is important to note that there are a wide variety of applied models (See Appendix B for examples and details of existing program models), and selecting the most appropriate application for a hospital depends on a number of factors, including the particular needs of the community and the resources available, among others. The specific approaches employed by the hospitals in the C-HWG are described further in Chapter III.

V. Project Findings/Outcomes by Research Question

Below are our findings from the study organized by topics associated with the evaluation's five major research questions. Each question is focused on better understanding the hospitals that makes up the C-HWG.

RQ1: Program History and Structure

In this section, we provide an examination of the first research question, which focuses on understanding the types of violence intervention programs, interventions, and services provided by the hospitals in the C-HWG. The hospitals in the C-HWG have unique histories and many distinct features and services. We attempt to capture some of these aspects of the hospital programs and/or services, while also identifying commonalities that will be helpful for informing the evaluability assessment and design recommendations for a future evaluation of the hospitals.

While each program and/or set of hospital-based services has a unique history, there are many similarities across hospitals in how their violence intervention response emerged. Also, for all the hospitals, the motive for developing their program or services was the same – to end the revolving door of violent injury that could not be fully addressed by medical intervention alone. Some hospitals, such as Advocate, UCM Comer, and Stroger, used a methodical approach to developing their current programs. Looking outside their own system, the hospitals studied existing violence intervention models already being implemented in other locations around the country (e.g., the Trauma Recovery Center model, Healing Hurt People, etc.) and joined existing networks of program models to obtain support in developing and implementing their own modified version of the program in Chicago. Another hospital, UCM, also studied and borrowed elements of existing models, but described developing their own independent programs and service model. The leadership at UCM plans to continue to refine and adapt their programs through an iterative "lessons learned" process, so the programs continue to best fit within their own hospital and neighborhood culture. The documentation of "lessons learned" for program and practice improvement was also referenced by hospitals that do not rely on an existing national model for their delivery of hospital-based violence intervention services.

Other hospitals described the origins of their program/ services as emerging through a more organic process, whereby non-medical needs were observed among violence victims entering the hospitals or identified within the surrounding communities, and then efforts to provide these needed social services were spearheaded by an individual or small group of staff within the hospital system. At both Sinai and Rush, either an existing mechanism, such as findings from a periodic community assessment, or the arrival of new staff experienced in trauma-informed care, appears to have triggered a change within the hospital. For example, Sinai Urban Health Institute's (SUHI) Evaluation Technical Assistance team

developed a report that documented gaps in service for non-fatal gun violence victims and identified areas for improvement and potential interventions. One area of intervention that the team identified was the provision of care coordinators who can offer wraparound services and connect patients to non-medical services, such as social work or case management after discharge from the hospital.

The staff from Rush described the emergence of their current violence intervention services as resulting from the merging of efforts across different departments within the hospital. At Rush, the community health department was already conducting routine screening of patients for trauma and providing referrals for non-medical needs. Eventually their efforts were recognized by individuals within other departments who were interested in addressing both the medical and non-medical needs of patients. The staff developed a cross-department learning collaborative to internally share ideas and practices in order to develop a strategy to implement hospital-wide, trauma-informed care practices. In each of these examples, however, the recognition that patients have long-term trauma, mental health, and social service challenges that are unable to be addressed through the routine provision of hospital medical services was first acknowledged by direct service staff, and new approaches were developed through important collaborations among different types of staff and departments within each hospital.

Northwestern described a similar, yet unique process, for how their interest in developing an HVIP emerged over 10 years ago. As a requirement of all non-profit hospitals, their hospital routinely conducts a community health needs assessment (CHNA) every three years to identify local needs and/or gaps in service, and the data indicated the need for additional interventions for non-fatal gun violence victims. In particular, the assessment pointed to public health needs in areas besides medicine and health care, which the hospital was in the position to help address. In addition to community assessment data that supported the need for more social supports within some hospital systems, new, experienced trauma doctors, nurses, and/or other types of hospital staff arrived and both advocated for and led the development of new trauma-informed care approaches to addressing these needs. In some cases, these pioneering staff sought support and guidance for their internal efforts to enact changes by joining cross-hospital trauma-informed collaborations that included representatives from other medical centers in the area.

Common Challenges for Hospitals

Another topic discussed with the C-HWG hospital members was the common challenges to operating hospital-based violence intervention programs and/or services. Exhibit 5 below summarizes the responses from hospitals and organizes them into both structural and patient-specific challenges.

Exhibit 5: Common Structural and Patient Challenges

Structural Challenges	Patient-specific Challenges
Contextual issues (e.g., Systemic racism/inequity, city-wide corruption)	Patients are reluctant to self-identify (e.g., fear of retaliation, concerns over stigma of being labeled a victim; lack of background information on victims
Institutional issues (e.g., Program not fully integrated in hospital/lack of system-wide or staff buy-in, hospital concerns with profits)	Patient distrust of healthcare professionals/system
Lack of support for healthcare workers (e.g., Healthcare worker burnout/secondary traumatic stress)	Patient engagement (e.g., frequency and intensity)
Data challenges (e.g., Access to patient data, usefulness of metrics, lack of baseline data)	Access to technology
Identifying and connecting patients to resources (i.e., Lack of existing/available resources, complex and multiple service needs of patients)	Balancing patients' immediate medical and social needs
Financial constraints of program	Patient challenges due to structural inequalities (e.g., housing, food security, employment, childcare, mental health and substance abuse)

The structural challenges identified by the hospitals include city-, community- and organization-level challenges that affect service availability and delivery, access to needed data and metrics for program planning and improved service delivery, worker burnout and secondary trauma, connecting patients to resources, and financial constraints/needs. Several of these challenges are highlighted in our findings below on coordination and information systems. Also, several new challenges emerged for programs due to the pandemic. We detail the effect of COVID-19 on service flow issues in our section below on the essential elements of hospital programs/services.

In addition to structural constraints, many of the challenges identified by hospital staff were patient-specific. Staff at four of the five hospitals listed patient distrust of healthcare professionals, health care systems, and/or health care programs as a challenge to their ability to provide services. They explained that this distrust also can often lead patients to withhold critical information that would be helpful to assessing their medical and emotional needs in an effort to avoid further traumatization (e.g., not disclosing sexual assault). Possibly related to a general distrust in health care services is another important challenge cited by hospital staff at Northwestern and Advocate, which is a lack of patient engagement in post-release services. Patients may be receptive to services initially while at the hospital or may engage for an initial period of time, such as by enrolling in Advocate's TRC program, but then continued, longer-term engagement of patients can be challenging. In addition, staff from Rush, Sinai, and UCM hospitals identified the array of medical and social supports and services needed by many patients as a patient-level challenge. They explained that many patients require assistance with multiple non-medical issues, including homelessness, food security, unemployment, lack of childcare, and mental health and substance abuse problems, and the process of identifying and connecting them

to services can be highly demanding. One staff person from UCM clarified that the intensive time and effort required to connect patients to services in Chicago is not necessarily due to patients' individual challenges. The staff person connected the emergence of patients' personal issues to the historical context that has led to current inequities in available resources across the city. S/he further explained that while these types of needs are considered "patient challenges," the lack of infrastructure and needed supports for individuals and patients is the true source of these problems and the reason for the difficulties in identifying services for them.

Hospital Program Facilitators

In addition to common challenges to operating violence intervention programs and/or services, we identified a number of important facilitators from our interviews with staff that help support the hospital's work with victims of violence.

Highly supportive hospital leadership. Hospital administrators appear to be highly supportive of efforts to provide comprehensive, trauma-informed care to victims of violence. At all levels and across all hospitals, the support of department directors and leaders in additional cross-hospital initiatives was documented by staff. Even when efforts within hospitals may have overlapped and/or benefits from further coordination, there was an acknowledgment of the need for programs and services that serve victims of violence, clear support for current efforts, and interest in exploring further investment and opportunities.

Cross-departmental coordination within hospitals. Much energy and effort within the hospitals is dedicated to engaging different types of staff (e.g., community outreach workers, doctors, nurses, social workers, chaplains, etc.) across multiple departments to support programs and/or services for victims of violence. Several hospitals have both formal and informal mechanisms (e.g., working groups, committees, meetings, etc.) through which staff across numerous departments and offices coordinate their efforts to serve victims, provide staff training in trauma-informed care, and share information and resources. Staff interviewed also expressed interest in increasing internal data coordination and sharing across hospital departments.

Existing network of CBOs and stakeholders. Because the hospital programs and/or services are designed to connect injured patients to services that extend beyond medical care, coordination with a broad range of community resources is essential for successful implementation. Each hospital has established an extensive network of CBOs, hospitals (both within and outside of their own health care system), as well as additional partnerships with law enforcement, academic institutions, and schools. More detail on these relationships is discussed in our section on coordination across hospitals and stakeholders.

Participation in city-wide violence prevention efforts. In addition to partnerships with local CBOs for service delivery, several hospitals engage in city-wide violence prevention initiatives and neighborhood

collaborations. Staff at various levels (e.g., administrators, doctors, nurses, social workers, etc.) and with common interest areas (e.g., trauma-informed care, homeless populations, sexual assault victims, etc.) detailed their participation in cross-hospital committees, initiatives, and meetings in order to improve staff support and training, identify new resources, and build capacity within their own hospitals.

Intended Patient Population

As described in our summaries of hospital programs, while the hospitals for the most part attempted to serve all victims of violence, the characteristics of the populations targeted by the hospitals somewhat varied. All of the hospitals described some form of eligibility standards for their programs and/or services. Eligibility could be determined by the specific type of violent act, such as gun shots, stabbings, street violence, etc. or by the victim's age. Neighborhood affiliation appears to be a common factor in how services were targeted to victims. Often hospitals wanted to target services to members of their immediate surrounding community; however, some programs such as Advocate, welcomed referrals from multiple counties, including the entire city of Chicago. Some programs, such as Stroger, limited eligibility by age (under 30) because the HHP-C model is designed to target program resources towards younger people who are more likely to be victims or perpetrators of violence.

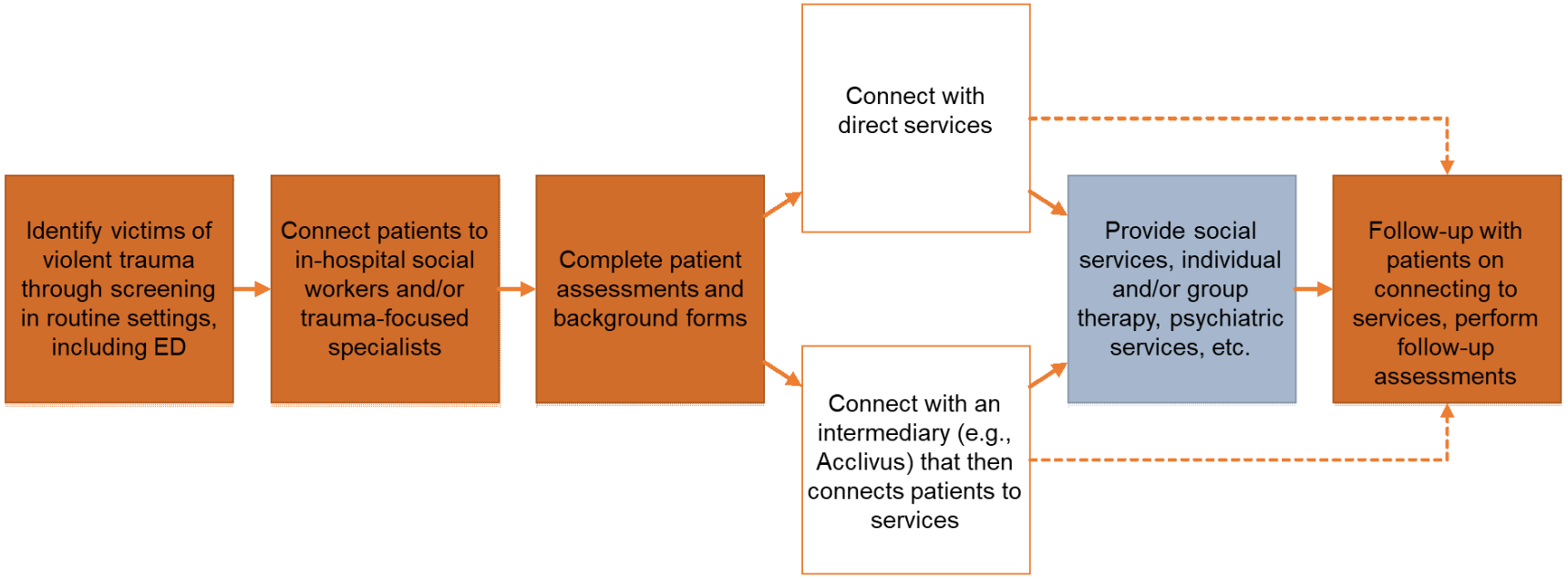
Despite any specific limitations on patient eligibility, what we consistently heard from hospital staff was their interest in and efforts to serve every victim of a violence crime and their families at their hospitals whenever possible. Often the eligibility criteria set for patients either by the type of violent crime or characteristics of the victim (i.e., age) were necessary restrictions due to limited resources available for patient victims.

RQ2: Essential Elements of Hospital Programs/Services

In this section, we address the project's second research question, which focused on identifying the core elements of each hospital's violence intervention program and/or services. Exhibit 6 provides a summary diagram of the major components of the program or activities and how they ideally are understood to work together to form the service flow process within the hospitals. Whether programs are hospital-based or hospital-linked or in place of a program the hospital provides a set of victim services, the diagram captures the essential components that constitute each hospital's efforts to serve victims of violence.

The left side of the diagram shows the beginning activities of the service flow process, in which all hospitals tend to participate to some extent: the identification of victims of violence; the connection of patients to in-hospital social workers and/or trauma-focused specialists, and the completion of patient needs assessments and collection of basic background information on victims. The process may then

Exhibit 6: Description of Service Flow



diverge where some hospitals have their own processes for connecting patients to direct service options, while others may rely on an intermediary organization, such as Acclivus, for connecting patients to recommended services. At this point, the main role of some hospitals in connecting services to victims of violence may be complete. However, other hospitals in combination with providing referrals to outside, community-based organizations also provide their own direct services (grey box in diagram). Finally, all of the hospitals describe mechanisms for attempting some form of follow-up with former patients either to learn if they received needed services and/or to conduct follow-up assessments. Hospitals report varying degrees of success in tracking and recontacting patients to collect additional data on victims at various time points following hospitalization. We provide more detail on each element of the service flow diagram below.

The overall service flow begins with the identification of victims of violent trauma, which typically occurs in the ED of each hospital, although several hospitals also may identify victims who enter the hospital system through other means (i.e., referral) or locations within the hospital (i.e., inpatient services). One hospital-based program also took referrals from outside their own hospital system, providing direct service to victims of violence from the general community. Victims are identified for trauma-focused care through routine screening, which typically take place during the intake process. In addition, victims' families and friends may be eligible to receive assistance as well.

Hospitals use a variety of existing or custom designed assessment tools (e.g., Acclivus screener) to complete the screening process (Exhibit 7). Clinical assessments are program and/or institution specific although some tools are common and used by more than one hospital. As part of a full clinical assessment, one hospital described how they use the multiple tools listed below to screen for depression, anxiety, pain and problems sleeping.

Exhibit 7: Trauma and Related Health Assessments Used at Intake

- PTSD Checklist (PCL-5)*
- Patient Health Questionnaire (PHQ-9) *
- General Anxiety Disorder (GAD-7)*
- "Panic symptom inventory"
- "Eating disorder symptom inventory"
- Patient-Reported Outcomes Measurement Information System (PROMIS)
- PEG (Pain, Enjoyment, General Activity) Scale for pain*
- Life Events Checklist (LEC-5) for traumatic events inventory*
- Quality of life scale
- Substance abuse screener

*Standardized tool

Typically, assessments are conducted at the hospital by clinicians, psychologists, social workers and/or trauma-focused specialists at the hospitals because they possess clinical skills to better assess the patient's current state. However, some hospitals, such as Northwestern, reported collecting limited information as part of the referral process to their partner CBO, Acclivus. Acclivus has their own in-house assessment tool and reports completing assessments on all referred clients as part of their own

intake process. At the same time, the hospitals may collect and share limited information that helps inform these outside assessments.

As shown in Exhibit 7, nine different screening tools or instruments were mentioned during site visits of which five were standardized. Although it depends on the individual patient, assessments were reported to take 1-2 hours or more to complete. For some patients with greater needs, the assessments may occur over multiple interactions or sessions depending on how much the patient is able to tolerate. Additional data may also be collected by hospital social workers who, depending on the program, may refer to the HVIP. Data collection practices and attitudes may vary among staff as to when it is best to collect assessment data on patients, including victims of violence.

The staff at one member hospital developed a stand-alone system for data collection by trauma-focused specialists during engagement with a victim of violence. Several hospitals also described additional informal or program screenings that occur during patient engagement. These typically include information on SDOH or non-medical needs and in one case, information on preventive health care and chronic conditions.

After identifying an individual as a victim of violent trauma, the patient is connected to either in-hospital social workers or trauma-focused specialists at the hospital. The hospital staff will attempt to connect the patient to services. Services may be provided directly by the hospital, through referral to community-based organizations, or through the use of both sources of assistance. The various approaches utilized by the hospitals were described in the individual hospital descriptions in Chapter III.

The final step of the service flow model is follow-up with patients after referral. As expected, this area is still in the development stages for most hospitals, as they continue to learn what works best for locating and making contact with patients and as additional resources become available in terms of staff time to conduct follow-up activities. Examples of the use of data for tracking purposes are provided below in our discussion on data collection and use.

COVID-19 Impact on service flow. The onset of the COVID-19 pandemic and the March 2020 nationwide lockdown impacted C-HWG members' violence intervention service delivery and also HVIP program and service development. First, regarding service delivery, most C-HWG members reported that COVID-19 had negative or adverse consequences for their programs because they could no longer engage with patients in-person. One HVIP director explained that the core aspect of their service delivery model is based on building trust with patients, and this is difficult to accomplish with only limited in-person interaction and resulted in several "lost opportunities" with patients. Some CBO staff agreed with hospital staff that they were simply less effective connecting and serving people remotely during the pandemic. In addition, the CBO staff also noted that some patients lacked access to stable internet connections for virtual visits and follow-up, including those who were transient and lacked stable housing, as noted by one hospital physician. For those patients who had no challenges in accessing or using technology, they were often better able to participate in group sessions virtually than in-person.

Therefore, the ongoing ability to connect and follow-up with patients remotely may somewhat benefit HVIP programs and some patients going forward.

In addition to challenges in serving patients in-person, the violence recovery specialists in Chicago identified additional barriers to serving patients due to COVID-19. The tremendous increase in violence in Chicago beginning in the summer of 2020 was understood to be a direct result of the pandemic and presented additional problems in serving patients. The increased patient population as the city experienced spikes in domestic and other violence strained hospital and CBO resources. Also, as a result of the pandemic, violence recovery specialists and street outreach coordinators had to assume some public health responsibilities for their organizations and could not serve as many patients.

In addition to impacts on service delivery, COVID-19 also interrupted HVIP program and service growth, expansion, and coordination within and across these institutions and their CBO partners. For example, the Advocate hospital system had to cancel a summit for service providers in 2020 that would have included their HVIP to discuss needs and ways to further develop a city-wide eco-system for serving patients. In reflecting further on this disruption, an additional hospital administrator underscored the importance of having hospitals engage with and support the CBOs that provide food, housing assistance and address other SDOHs. Another example of this kind of interruption was described by UCM where efforts to expand training in trauma-informed care across the system were stalled. “[We had] started cultural competency training (as part of the Urban Health Initiative) with respect to providing trauma informed care across the hospital. However, COVID-19 interrupted the training.” One hospital executive observed that COVID-19 had exacerbated the trauma experienced by healthcare workers in training and practice. He added that while they may not be able to avoid these experiences, they often cannot find the support that they need to cope with them. This was also echoed by a hospital social worker at another institution working with newly trained violence recovery staff who needed support to process the experience of delivering services in the ER at the time of injury. Rush created a space to support staff and provide counseling in response to the pandemic. Generally, COVID-19 contributed to the challenges for hospitals in developing and engaging in this work.

At the same time, however, other COVID-specific initiatives promoted collaboration and advanced some citywide work addressing violence and SDOH. Specifically, while Rush medical students who were delivering services and linking homeless patients to care through the Night Ministry had to pause their work, Rush was part of a broader Chicago response in which a highly organized and coordinated effort provided homeless populations with testing and treatment for COVID by delivering healthcare in shelters. C-HWG members were part of the City’s efforts to ensure an equity-focused response to the pandemic that focused on communities most impacted by COVID-19, especially Black and Latinx residents, many of which were the same communities disproportionately affected by violence.

RQ3: Coordination across Hospitals and Stakeholders

Because hospital-based/-linked violence intervention programs as well as victim services provided by C-HWG hospital members are designed to connect injured patients to services that extend beyond medical care, coordination with a broad range of community resources is essential for successful implementation. Indeed, by its very nature, HVIPs' focus on addressing the root causes of violence necessitates engaging with multiple, intersecting systems, including social services, criminal justice, education, and behavioral health, among others. HVIPs' embrace of a trauma-informed approach, moreover, means that the provision of mental health services, in particular, is vital for helping patients heal and recover.

Our third research question focuses on how hospitals coordinate their violence intervention programs and/or services with other entities to address the care needs of patients. We begin with describing the types of entities with which hospitals coordinate, the purpose of that coordination, and conclude with the factors that facilitate or hinder their development.

Types of Partners

In order to holistically address the factors that lead to repeated violence, hospitals reported coordinating or partnering with a diverse set of actors to provide or enhance services for patients, including community-based organizations, fellow hospitals, public agencies/other entities, and collaboratives/initiatives. Both formal and informal, and sometimes overlapping, these relationships were developed to address an array of needs, including direct service provision, community engagement, referrals, training, resource/knowledge sharing, evidence building, and data sharing.

Community-Based Organizations

While all hospitals in the C-HWG reported coordinating with CBOs, the nature and purpose of the relationship largely depends on whether hospitals are implementing their own programs (i.e., hospital-based) or rely on CBOs to link patients to social services on their behalf (i.e., hospital-linked).

Hospital-linked violence intervention programs. Sinai and Northwestern implement *hospital-linked* violence intervention programs, wherein each hospital contracts with a community-based partner to deliver trauma-informed care and therapeutic case management services to patients. Under this model, both hospitals have relied primarily on Acclivus to connect patients to resources that reduce risk factors for violent re-injury and retaliation as well as prevent further involvement in community violence. Also known as the Chicago Violent Trauma Response Program, Acclivus provides violence prevention and intervention to Level 1 trauma centers in Chicago around the clock. By using an intermediary, Sinai and Northwestern are able to indirectly access Acclivus' wide range of partner agencies, including Chicago CRED, Brightstar/TURN Center, Communities Partnering 4 Peace (CP4P), READI Chicago, Saint Sabrina Church, and Institute for Nonviolence Chicago (INVC), among many others. For this reason,

the need to coordinate or form individual relationships with a diverse array of community- and faith-based organizations to provide comprehensive social and therapeutic services to patients is greatly reduced.

It should be noted that during the period of our data collection, Northwestern was in the process of reevaluating their hospital-linked violence intervention program and exploring other models that can help expand their community partnerships to adequately support patients' needs.

Hospital-based violence intervention programs. UCM, Stroger, and Advocate implement *hospital-based* violence intervention programs. Under this model, hospitals are responsible for intensive case management and deliver services directly to violently injured individuals (and their families) or refer them out, if services are not provided in-house. To address gaps in capacity, UCM and Advocate collaborate with organizations individually or whose networks can link patients to services that promote their recovery as well as improve their social and economic conditions. In this regard, both hospital programs have also collaborated with Acclivus, but given the similarity in some of the services offered to victims as UCM and Advocate's hospital-based violence intervention programs (e.g., case management, service provision), their addition presents some service overlaps, and the redundancy in services was perceived to be confusing for patients as well as hospital staff.

One relationship that Advocate has been developing is with Metropolitan Family Services (MFS), an organization dedicated to providing services to empower and strengthen families and communities. Importantly, MFS also convenes Communities Partnering 4 Peace (CP4P), a partnership of local organizations that work to provide a comprehensive, long-term approach to reducing gun violence by engaging with residents and forging mutually trusting and respectful partnerships with the Chicago Police Department and public agencies. One respondent shared that the success of Advocate's TRC depends on fostering better collaboration with the community and hoped to achieve this through CP4P.

Similarly, UCM's approach to community partnerships is intended to both engage the community as well as address intervention service gaps. Beginning with the development of the VRP, UCM created a Violence Recovery Committee comprised of community members to help inform the design of the VRP. In addition to community members, others involved in discussions about the design of the program included the Trauma Care and Violence Prevention Workgroup and stakeholder organizations providing social services and/or street outreach.

With respect to service provision, UCM works with multiple CBOs across Chicago to leverage their services and/or network of organizations to support robust care for patients. For example, while UCM offers in-house counseling services to address traumatic stress for children and families (through U-STAR and REACT), the VRP also refers patients to The Branch Family Institute, an organization that provides counseling services to individuals and families impacted by poverty and racism. In addition, a partner at Advocate also serves as referral source for psycho-therapy services. However, staff reported a need to identify additional partners to help grow their capacity and serve more adults.

Other community partners that staff reported UCM coordinates with for referral services included HRDI (behavioral health and human services), MFS, KC Care (mental health services), READI Chicago, Heartland Alliance (health and healing, safety and justice, and economic opportunity), Center for New Horizons, Bright Star Community Outreach, Catholic Charities, Inner-City Muslim Action Network (IMAN), and the Target Area Corporation. Where strong relationships with entities exist, UCM hosts regular meetings to discuss what is and is not working. For example, UCM recently referred one patient to Advocate for psychological and psychiatric services and VRP staff worked with TRC staff to ensure that the patient's needs are met before addressing other issues such as employment. Alternatively, however, if communications with referral organizations are not as strong, patients are unable to benefit from this additional coordination.

Notably, several organizations that UCM collaborates with are both street outreach organizations and wraparound service providers, including Chicago CRED, Claretian Associates, Project Brotherhood, IMAN, and Acclivus. Although many of these organizations may share and touch the same communities, not all groups are present in every zip code. To leverage each organization's catchment area, the VRP takes a place-based approach and makes referrals for services based on the patient's residence, whenever possible, as well as existing agreements, such as Memorandum of Understanding (MOU).

For example, in accordance with their MOU, UCM works with Chicago CRED when an imminent threat of retaliation to a victim of violence is present. Once an imminent threat has been established through a screening, UCM will obtain permission from the victim to connect them with a street outreach team. If the victim consents, UCM will refer the patient to Chicago CRED who will then work to mitigate the risk of retaliation. Should the resident reside outside of Chicago CRED's catchment area, however, Chicago CRED will connect the patient to other groups.

Hospital victim services. As discussed earlier, Rush is the one hospital in the C-HWG that has not yet implemented an HVIP. Instead, Rush offers a range of individual programs for victims of violence (e.g., sexual assault) and supports local CBO-led programs through their Social Initiatives Program. The program is led by medical students and Rush's medical director to identify (or create) a project that fulfills their service requirement. Collaborating with community health partners was also viewed as an important step to building trust between the community and medical staff.

For example, Rush collaborates with The Night Ministry, an organization that provides housing, health care, and supportive relationships to Chicagoans experiencing poverty or homelessness. In order to bring services to people where they live, The Night Ministry operates a specially designed Health Outreach Bus that features a fully equipped nurse's office and travels to diverse, underserved areas of Chicago six days a week. For the Saturday runs, Rush provides medical personnel, particularly medical residents, to The Night Ministry to provide basic medical care. In addition to medical staff going to patients, efforts are underway to address patients that come to the hospital. Currently, Rush is formalizing a process with The Night Ministry for addressing patients who present themselves as needing substance abuse treatment. Patients would be given a consultation and evaluation to

determine whether in-person or outpatient treatment is needed. Rush has worked with additional CBOs including the Salvation Army shelters, Howard Brown Clinic, and the Women's Treatment Center (a substance abuse disorder treatment facility).

Hospitals

Members of the C-HWG reported coordinating both across hospitals as well as within hospital systems to support the implementation their programs and/or share ideas and resources.

Between Hospitals. As described above, within UCM's VRP is Healing Hurt People-Chicago (HHP-C), a collaboration between UCM Comer, Stroger, and the Center for Nonviolence and Social Justice at Drexel University in Philadelphia. HHP-C is led by Co-Principal Investigators designated at each hospital. While operational variations exist due to differences in infrastructure (e.g., Stroger has a dedicated trauma unit whereas Comer does not), Comer and Stroger coordinate services, referrals, staff trainings, and data sharing.

In another collaboration between hospitals, UCM and Advocate partnered to form Southland RISE in April 2019 to better serve communities on the South Side of Chicago. Built off of the Chicago HEAL Initiative (described below), Southland RISE focuses on strengthening and integrating trauma care and violence recovery services within the two medical systems and throughout the South Side and across the south suburbs. As part of their effort to better serve patients, the collaboration has been exploring opportunities for data sharing among hospitals as well as CBOs.

Outside of these formal partnerships, hospitals supported each other's violence intervention work in other ways. Sinai has helped Rush roll out their SDOH screening in their emergency department, which includes a special emphasis on violence intervention. Rush also works with Stroger and Advocate to share ideas around violence intervention and has made efforts to collaborate with institutions such as University of Illinois Chicago and Northwestern to share resources and medical history for patients receiving services at multiple hospitals. Lastly, as noted earlier, UCM refers patients to Advocate for psycho-therapy services.

Within Hospitals/Hospital Systems. Because UCM serves both children and adults through different intake units, HHP-C and the VRP coordinate services when their population overlaps. Whereas HHP-C at Comer serves patients up to age 19, the VRP assists adult trauma patients of all ages. Staff will page HHP-C when a patient VRP is working with meets their eligibility requirements.

Within the Advocate Health Care system which includes 10 hospitals, there are opportunities to coordinate and expand the TRC. In addition to engaging in initial discussions with other partner hospitals about best practices, Advocate has been exploring the trauma-related work on domestic violence and sexual assault in different hospitals located in other states.

Public Agencies and Other Entities

Outside of CBOs, members of the C-HWG also work with other entities such as law enforcement, higher education institutions, and schools. Less focused on referrals for their intervention programs/victim services, these relationships are leveraged to provide training/education, raise awareness, and expand research capacity.

Law Enforcement. Three hospitals reported good working relationships with the Chicago Police Department (CPD), with each interaction contributing in different ways. Whereas CPD has been helpful in raising awareness of the TRC for Advocate, CPD's relationship with Sinai concerns assisting hospital staff with identifying victims of violence using fingerprinting and collateral information. A hospital staff member at Sinai also participates in a 100 district subcommittee with CPD that focuses on domestic violence on the West Side of Chicago.

At Rush, the CPD and FBI are highly supportive of the hospital's initiative on suspected victims of human trafficking and jointly spoke with hospital staff on how to support their investigations by gathering and documenting key types of information (e.g., type of injury, evidence of tattoos, any other identifying information). Through this training, one of the physicians who helped organized the event hoped that medical staff will better understand their responsibility in and be more comfortable with providing reports on victims. A second component of the training focused on providing trauma informed care.

Rush partnered on another training to orient the FBI team to Rush's system with which they were very impressed. One staff person noted that FBI's open door policy with Rush has been enormously helpful for addressing any concerns or questions.

***Higher Education Institutions*.** Hospitals described developing relationships with academic institutions to assist with referrals, and staff recruitment (Advocate) as well as identifying opportunities to integrate hospital data into student projects at DePaul (Sinai).

From a research perspective, one hospital staff member at Rush noted that the hospital's relationship with the community has improved over time. Previously, their approach involved entering communities, conducting research, and leaving. Rush now tries to be more aware of their presence in communities and understand the importance of those relationships. With the recent creation of an academic department of social work within the university, one physician champion hoped that it would help bring trauma-informed care to the forefront.

***Schools*.** For many hospitals, the role of schools as well as other public institutions appears to be largely embedded in their relationships with CBOs that work with a variety of stakeholders. As an example, Bright Star Community Outreach works with UCM and maintains over 100 CBO partnerships, which includes police districts, city aldermen, the schools, and others, with whom they coordinate when identifying and referring services to participants.

Initiatives and Committees

In addition to leveraging partnerships to support the day-to-day operations of HVIPs and victim services, members of the C-HWG also engage in collaboratives/initiatives with multiple types of stakeholders to support victims of violence more broadly.

Chicago Hospital Engagement, Action and Leadership (HEAL) Initiative. Launched in October 2018, U.S. Senator Richard J. Durbin's Chicago HEAL Initiative brought together 10 leading Illinois health systems, including Advocate, Northwestern, Rush, Sinai, and UCM, to reduce violence and improve health in 18 vulnerable Chicago neighborhoods through strengthening community engagement. Organized around three pillars – increase local workforce commitment, support community partnerships, and prioritize key in-hospital clinical practices, the three-year initiative convened hospitals to share best practices and identify opportunities to collaborate on addressing SDOH. Although since ended, one member believed that the initiative engendered a responsibility from all participating hospitals to continue addressing health disparities and reducing gun violence.

Alliance for Health Equity. Composed of more than 30 nonprofit and public hospitals, seven local health departments, and representatives of approximately 100 community organizations, the Alliance for Health Equity is a collaborative dedicated to improving health across Chicago and Cook County population and community health through promoting health equity, building capacity, addressing SDOH, working collaboratively, developing data systems, and engaging in policy advocacy. Advocate, Northwestern, Rush, and Sinai are among the partners in the collaborative.

TURN Center at Bright Star Community Outreach. In collaboration with over 75 community partners (including Northwestern and UCM), The Urban Resilience Network (TURN) Center is a community outreach center in Chicago's Bronzeville neighborhood that was developed to address the trauma of violence experienced by families and particularly young people. The center uses trained faith leaders and mental health professionals to provide counseling services.

Violence Prevention Committee. At Advocate, a violence prevention committee coordinates the work of the TRC as well as other violence prevention efforts, including Southland RISE with UCM. Included on the committee are TRC leadership and senior staff, the trauma nurse coordinator, chaplain, chief medical officer, and representatives from charitable foundations and community partners.

Benefits for Hospitals and Patients

Among hospital members as well as stakeholder organizations, there is broad recognition that effective patient care for victims of violence depends on a trauma-informed, coordinated system of care across Chicago's ecosystem of health and social service providers. Respondents reported that efforts to coordinate and form partnerships bring the following benefits:

- ***Extend each individual hospital's reach for treating patients.*** Given resource constraints, each individual hospital is limited in its ability to provide a comprehensive array of services to patients.

Leveraging the existing infrastructure of CBOs allows hospitals to connect patients to a wider range of services to meet their needs.

- ***Raise awareness of services and prevent duplication*.** Bringing diverse stakeholders together helps hospitals understand the types of violence interruption and wraparound services that are available that they may not have known otherwise. One respondent noted how the landscape of services in Chicago has changed over the last 10 years, with more organizations making inroads in addressing community violence through a SDOH lens. Knowing a particular service exists may also help hospitals focus their attention on other needed service areas.
- ***Reduce inefficiencies and fragmentation*.** When services are known, communication/coordination across hospitals as well as with service providers facilitates tracking patient care as well as to help identify barriers to service uptake.
- ***Maintain engagement with and improve care for patients***. Because hospitals may treat the same patients, whether due to their shared neighborhood (e.g., Sinai and Stroger) or the location of injury (patients may be taken to the nearest hospital, irrespective of residence), the ability to coordinate across hospitals as well as within hospital systems is important for ensuring continuity of care. Similarly, when patients leave the hospital's walls and are referred to CBOs, hospitals often do not know whether patients follow up with services, preventing closed loop referrals (unless data sharing agreements are in place). In addition to obtaining information about service receipt, sharing resources and best practices across entities was understood to ultimately improve patient care.
- ***Support a strong, united voice to leverage policy change*.** In addition to program enhancements, collaboration can play a larger role in bringing about policy changes that support individuals, families, and communities impacted by violence.

Challenges to Coordination

Despite these recognized benefits, however, hospitals face a number of challenges in coordinating services when patients leave the hospital's walls and return to their homes and communities. These include:

- ***Funding.*** Historically, very little funding has been available to support violence intervention programs and services. For many hospitals as well as CBOs, resource constraints continue to serve as a barrier to coordination.
- ***Competition/Territoriality***. Related to funding, organizations are often competing for the same and few grant dollars that are available, which creates disincentives to working together, particularly when services overlap rather than complement. Rather than viewing partnerships as a means to support care transitions from hospitals to community partners, one respondent described a perception of "patient stealing" that exists among service providers that prevents coordination.
- ***Staff turnover***. Hospital staff departures represents not only a loss of institutional memory but can slow momentum on activities that have been underway. C-HWG members reported that this

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challenge also applies when staff of CBOs and other partner organizations experienced turnover, and relationships need to be reestablished as new staff are educated about the program.

- ***Silos (internal and external)***. Many hospitals are large systems and awareness levels within an organization may not be high about available violence intervention services. Hospital staff may lack knowledge about not just activities within their location but also across multiple locations of the hospital's network. In the absence of robust communications across relevant departments, medical staff may not be familiar with available victim services. Externally, the violence intervention community was reported to be very silo-ed, making it unclear the types of programs that exist at other institutions.
- ***Type/availability of services*.** Although one respondent noted that the network of social services in Chicago is fairly robust overall compared to other cities, there were key gaps in service provision. In particular, hospital staff and stakeholders described an insufficient number of providers addressing housing and mental health needs for patients. In other instances, a particular social service may be available, but hospitals are hesitant to the make those referrals because the service lacks a trauma-informed approach.
- ***Incompatible data systems***. Intervention/victim service as well as clinical data are often collected in multiple formats within as well as across hospitals which make coordination of activities challenging. More detail on data systems can be found in the findings on information systems and data collection below.

Factors that Facilitate Coordination

Hospital members of the C-HWG reported several opportunities to support collaboration across entities. These include:

- ***Common interest/Funding opportunities.*** Many of the collaborations that respondents described revolved around a common interest, whether the topic concerned community violence broadly (e.g., Chicago HEAL Initiative) or related to more specific concerns such as homelessness. Funding opportunities around common interests that require collaboration may also bring partners together.
- ***Memoranda of Understanding/Data Use Agreements (MOU/DUAs)***. Members of the C-HWG described the value of having MOUs or DUAs in place that clearly defined roles and responsibilities to facilitate working together. These agreements assist with clarifying program implementation activities, from defining protocols for accessing patients to data sharing.
- ***Geographic proximity***. As noted earlier, hospitals may share similar populations when they are located in close proximity. At least one partnership (Southland RISE) was born out of shared geography while other members hoped for greater coordination with nearby hospitals in the future, given its clear benefits to patients.
- ***Timing of HVIP establishment***. For two members of the C-HWG (UCM and Advocate), the emergence of their HVIPs at the same time helped unite them in their efforts. Both encountered similar challenges starting up their programs and looked to each other to collaborate. One

respondent at another hospital noted that the early phase of development also supports an openness to collaboration, particularly as hospitals are actively trying to raise awareness of their services and identifying CBOs, both to help bring in and refer outpatients.

- ***Student projects and training across hospitals***. Perhaps especially for teaching hospitals, respondents shared that medical resident serve as conduits for connecting hospitals. Because they receive training across the city and become familiar with multiple types of hospital settings (public, nonprofit, and community-based hospitals), medical residents gain exposure to different types of services and care models which they can bring back to their own institution.

  For Rush, student service projects can also help build relationships with CBOs that work with victims of violence. These efforts may additionally help support community engagement as well as relationships with law enforcement and other entities. It should also be noted, however, that student projects can also be more transitory, unless a future cohort of students is able to help sustain those programs.

RQ4: Information Systems and Data Collection

Information systems and data sharing are central to achieving a coordinated system of care that effectively treats victims of violence in Chicago. From the outset the C-HWG members expressed a shared desire to use data and information to improve care and prevent duplication of services or reduce inefficiencies.

Our fourth research question sought to understand what data is collected and what systems, data platforms and applications hospitals use, including whether and how each hospital HVIP or services was connected to their electronic medical record (EMR). In this section, we describe how each hospital's health information technology (HIT) and exchange affect their hospital-based violence prevention interventions.

Three key findings emerged from our examination of these topics with the C-HWG members:

1. Violence intervention programs and/or services are currently collecting data in stand-alone information systems and in EMRs. (RQ4ba and RQ4b)

2. Some limited data exchange and ad hoc reporting exists that supports coordination across hospitals and their partnering CBOs. (RQ4c)

3. While HVIP programs collect and use multiple systems and types of data, they are still determining how best to integrate and leverage information systems and EMRs to support their program and data needs. (RQ4d)

Each of these findings regarding information systems and data exchange are explored in detail, highlighting the varying experiences of the C-HWG members. The site visits also identified a number of challenges relating to HIT and data that impact program development and service delivery.

Current Information Systems and Data Practices

The five hospitals described different information systems that result in varying approaches to data collection and sharing (See Exhibit 8 below). As hospital programs and services evolved simultaneous with information systems and technology, some hospitals invested or were investing in stand-alone systems (i.e., developing a system at the time of this assessment); whereas other programs were being integrated into a case management or referral application or module in the EMR. While all programs were entering data into the EMR, most of them still had to rely on ad hoc data systems and reporting to meet their ongoing information needs.

Rush and UCM reported that they have stand-alone information systems or applications. This includes the regular use of spreadsheets to collect and track program activity or the development of in-house databases. These systems exist alongside the hospitals' EMR where clinical and some data on non-medical or social service needs may be collected. Sinai and Northwestern described their information technology and data collection efforts as under development with a focus more broadly on SDOH rather than only violence intervention. Only Rush described having a stand-alone case management or referral system when providing services to victims of violence.

Exhibit 8: Summary of HVIP Programs and Services Data Collection Systems and Practices

	Stand Alone System*	Record Some Data in Hospital EMR	Record in Case Mgmt or Referral System	AD Hoc Data Collection and Reporting**	Have data sharing agreements	Describe data and IT to support HVIP as under development***
Advocate Christ Medical Center		X		X		
Mount Sinai Health System		X				X
Northwestern Memorial Hospital		X		X		X
Rush University Medical Center	X	X	X		X	
University of Chicago Medicine+	X	X		X	X	

*This may include spreadsheets or in-house databases.**This includes reports for grants, research and other evaluations. ***Some systems under development may focus broadly on SDOH +UCM Comer may have additional agreements due to HHP-C.

As Exhibit 8 shows, all five C-HWG members reported that some of their data is collected in the hospital EMR. However, most of this data is entered by clinicians treating or screening patients when they present during a trauma. Data that is helpful in the delivery of victim services, such as mental health history or screenings, are often collected by hospital social workers. In some cases, the violence

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recovery specialists may have view-only access to the EMR. Because systems are not fully integrated, HVIPs do not have full access to these data, and they may not be able to use them with the data and information that they generate when delivering services.

All hospitals are recording data on victims of violence in the Illinois Trauma Registry, the state's system for collecting the National Trauma Data Bank's standardized data elements defined by the American College of Surgeons. These data on injury are collected from local trauma-designated and non-designated hospitals. The registry collects and tracks standard data on victims, such as where the injury occurred, arrival time or the treating physician and services. A trauma patient is included in the National Trauma Data Standard when the patient sustains a traumatic injury within 14 days of the initial hospital encounter with one of six injury diagnostic codes, such as injuries to specific body parts or burns or traumatic compartment syndrome and which results in death, a direct hospital admission or observation, or transfer to another acute care hospital. The complete inclusion and exclusion criteria are reported in the 2020 Illinois Trauma Data Dictionary.[i]

During the convening of the C-HWG, Illinois released a new registry system. When describing the new system and the responsibilities of a hospital trauma registrar, one C-HWG staff member detailed a broad range of administrative and clinical data that could come from an EMR and that support incidence and trend reporting as well as research. This C-HWG member reenters the data on trauma victims recorded in the EMR or in the chart into the Illinois Trauma Registry. Similarly, two C-HWG members provide emergency services to victims of sexual assault pursuant to the Sexual Assault Survivors Emergency Treatment Act (SASETA), 410 ILCCS 70, and the hospitals collects and reports data on sexual assault cases in the Illinois Trauma Registry and participates in Illinois Department of Public Health quarterly meetings and audits.

Types of Data and Current Gaps in Data

HVIPs collect and use two primary types of data or information in the delivery and case management of violence intervention and/or social services: clinical patient data and program administrative data. EMRs and technology facilitate collection of diverse data elements within each of the individual C-HWG hospitals, sometimes including the use of separate systems for referral or case management. At the same time, data are collected by CBOs for the delivery of services to victims of violence and their families in the community. Interviews, site visits and research on Chicago CBOs identified a number of data elements that are common across the delivery of violence intervention services but also considerable gaps in data. This study has documented the impact of data gaps on service delivery with significant impact on the evaluability of the programs and services of the C-HWG.

In general, all hospitals reported that they currently collect patient demographic information, information on violence intervention services that they or a partner provide, including some information on referrals and clinical assessments and other screening data, most often specific SDOH. Exhibit 9 describes the range of data that are being collected by hospitals on their violence intervention services. The level of detail (aggregated vs disaggregated, level of granularity, etc.) and comprehensiveness of these data

vary across hospitals, and often depends on their program model, data sharing agreements with CBOs, and the information systems used. In addition, the same data elements may be obtained through multiple data sources. Lastly, as noted above, all Level I and II Trauma Centers are required to participate in the Illinois Trauma Registry, which serves as another data source.

Exhibit 9: Data Elements and Data Sources

Type	Data Elements	Data Source(s)
Patient demographics and health insurance	Demographic information (gender, age, marital status, etc.)	HVIP administrative data Hospital EMR data CBO administrative data Referral platform
	Insurance provider, including Medicare and Medicaid	HVIP administrative data Hospital EMR data
Violent or traumatic injury and re-injury	Type of injury Attending physician notes Readmission	HVIP administrative data Hospital EMR data CBO administrative data
Trauma and Health Assessments and Screening	PTSD Checklist (PCL-5) Patient Health Questionnaire (PHC-9)	Hospital EMR data
	SDOH screening (food and nutrition, housing insecurity, employment, job training, financial assistance, etc.)	HVIP administrative data Referral platform
Patient engagement	Number of contacts with HVIP staff (e.g., trauma-focused specialist, community health worker, navigator, social worker, etc.)	HVIP administrative data
Community-based and hospital referrals	Referrals for hospital-based services, including mental or behavioral health services, long-term therapies, counseling, chaplain services, etc.	Hospital EMR HVIP administrative data
	Referrals for community-based services, including housing assistance, job training, etc.	HVIP administrative data CBO administrative data Referral platform
	Referrals to street outreach organizations	Hospital EMR CBO administrative data
Service uptake	Patient receipt of referred services	HVIP administrative data CBO administrative data
Patient outcomes	Health outcomes (reduced substance abuse, PTSD, depression, anxiety, etc.)	HVIP administrative data Hospital EMR data
	Social outcomes (improved food security, educational attainment, etc.)	HVIP administrative data CBO administrative data

The Illinois Trauma Registry also tracks additional injury-related data elements, such as where the injury occurred, mechanism of injury, if it was a domestic injury, and transport information, i.e., ambulance or walk-in. At the time of the site visits, the new Illinois registry was being integrated by the

C-HWG members and the ability to create a registry system that was interoperable with the hospital EMR had not yet been realized.

Current gaps in data. Despite considerable investments and hospital technological capacity (see below), C-HWG members generally documented a situation of very limited integration of violence intervention program data into hospital EMRs beyond clinical notes. At the time of our study, most referral platforms, such as NowPow or HealthIdentify, were still stand-alone systems that collected and tracked data alongside the EMR, and some hospitals did not yet have platforms for community-based referrals. As a result, HVIP staff may not have had easy access to needed data, and staff were unnecessarily burdened with duplicating data collection for administrative and reporting purposes.

While HVIPs and their hospital systems described using multiple platforms and applications to collect data, they also identified important gaps in information due to missing data elements. Site visits with C-HWG member hospitals confirmed again that there are two major information or data gaps:

1. Data and information on whether/when patients become reinjured and are treated and/or readmitted at other area hospitals.
2. Data and information on whether patients who are referred for community-based services engage and receive services.

This missing information and related data elements prevent HVIPs from measuring and tracking program outcomes, evaluating their service delivery model, and calculating the return on investment, all of which are of interest to their institutions and funders.

At the same time, within their individual hospital systems, hospital staff mentioned specific system changes or types of data that could help to inform their day-to-day work. Three of the five hospitals specifically prioritized the need to integrate data systems internally within their hospitals prior to considering external data exchanges. Staff at one C-HWG hospital noted that their hospital is not currently tracking referrals and emphasized the challenges of not knowing whether a patient followed up on recommended resources. Similarly, a physician highlighted that there may be valuable data stored in the hospital's EMR, but they lack the capacity and time to analyze the data.

As indicated above, the missing data elements that hospitals mentioned most frequently during the site visits are outcomes and referral-related data elements, including re-injury data, hospital readmissions data, and referral services received by the patient. Exhibit 8 shows that these gaps exist because hospitals lack information on services provided at other hospitals and by CBOs. Staff from SUHI explained that s/he is collecting separate information on 30-day readmission to align with the hospital system's performance metrics. Referral-related data could come directly from the CBOs, but few hospitals reported receiving regular reports from the CBOs with whom they partner, and reports are often in the aggregate and not at the individual patient level. Some HVIP staff members thought reports existed but did not have regular access to the data.

> "One thing that [our hospital] doesn't have the capacity to do is follow-up with people after they are done with the program or the re-injury numbers for those who were actively involved in the program. There are people we know are re-injured because they show up at our ER, but if that person goes to [another hospital], we won't know about that."

C-HWG members also identified other data elements and information that could support HVIP delivery. One physician would like information on patient satisfaction and another recommended that HVIPs collect data on caregiver and/or family stress. Similarly, more regular assessment data could support outcomes measurement. A UCM physician suggested that HVIPs also collect data on missed appointments.

Data on SDOH also were discussed frequently during the site visits. Several C-HWG members were testing or incorporating SDOH screeners that would be embedded in the hospital EMR whereas other HVIPs did additional SDOH screening as part of the outreach and engagement process. Because HVIPs often refer victims for related services, such as housing assistance or job training, SDOH-related data are also collected as part of the referral process and may also be used for tracking outcomes.

Data Exchange with CBOs or Street Outreach Groups

HVIPs need to exchange data regularly with CBOs or Street Outreach groups to achieve a system of closed loop referrals, which is a goal of both formal and informal programs. A closed loop referral system is one that allows the HVIPs to confirm that a referral to a street outreach provider, CBO or mental health provider is completed and what specific services are delivered to the patient over time. According to our site visits, none of the HVIPs has developed either ongoing or regular data exchange with the CBOs that receive patient referrals or a closed loop referral system. Currently, while most of this information is likely to be part of an electronic health record (EHR), it is mostly in the form of notes and cannot be accessed easily. Moreover, the type of data exchange described above is distinct from data sharing designed to measure program outcomes or return on investment.

Most C-HWG members describe ad hoc, if any, information exchange with CBOs. An Advocate physician described how data exchange may occur during the treatment of an individual patient and indicated that when necessary for clinical care, the hospital will obtain a release from the patient to

coordinate care. The physician believed that because of the privacy rules in the Health Insurance Portability and Accountability Act (HIPAA) there were some memoranda of understanding (MOUs) in place. This occurs most often when Advocate's TRC believes that the client would benefit more from community-based therapy and social services than a hospital-based program. Acclivus reported that they had been able to adapt the usual or standard MOU to enable them to exchange information as needed when delivering services to hospital patients. When a patient has signed a release, the hospital can share results of the intake, treatment updates, resources provided as well as data on improvement when therapeutic services are concluded.

Regarding the more informal nature of data exchanges with CBOs, one HVIP noted that violence recovery specialists like having the opportunity to follow-up directly with patients and partner CBOs to gather information on referrals and services. They believe that these personal connections and interchanges strengthen their program and contribute to better patient engagement and outcomes.

CBOs and Street Outreach groups also commented on the status and challenge of regular information exchange with the hospitals. They noted that beyond the issues of HIPAA, there are the issues of the distinct and different operating cultures of CBOs and hospital systems as well as the hospital bureaucracy. Therefore, champions are needed on both sides, the hospital and the CBOs, and it is likely to take time to implement. Nonetheless, these organizations have experienced data exchange as part of the treatment process and remain optimistic that data sharing will occur eventually. Similarly, the hospitals treating the population of Chicagoans experiencing homelessness meet regularly, but have not been able to use EMRs to track patients or coordinate care due to lack of interoperability.

Information Systems and Data Challenges

HVIPs face significant challenges to implementation and evaluation due to the information systems' limitations and data gaps. Hospitals engaged in violence intervention want to know when they are treating victims who are reinjured and whether their patients are staying out of the hospital. First, these organizations have a broader goal of creating health care systems that have established a culture of trauma-informed care and deliver such care systematically. As described by an HVIP coordinator, integration can help further trauma-informed care by enabling the HVIP team to communicate with the medical team. At the time of this study, C-HWG hospitals acknowledged these internal challenges, yet not all hospitals have integrated these programs and services into their EMR.

Second, hospitals need information on the status of their patient to improve patient care, evaluate outcomes and measure progress. When victims are re-injured and treated at different C-HWG hospitals, the respective HVIPs currently do not exchange that information and there is no system that gathers that data in real time. They only learn this if they are told by a victim, family, friends and possibly a street outreach organization or worker who may also know the victim. As noted above, HVIP staff understand that recidivism is likely, but also think that the likelihood can be reduced.

A related challenge is the need for information systems or data that create a closed loop referral system with community-based providers as well as other hospitals. HVIPs do have some information on services provided by the hospital, most often mental health, and that data is maintained in the EMR. Some hospitals/health systems have limited information on community-based referrals because CBOs tend to use specific software or spreadsheets to track these referrals. However, interviews with violence intervention staff indicated that standardized information on referrals is uncommon. In fact, staff often maintain their own lists of CBOs and contacts which results in separate and parallel or duplicative data collection. One hospital described how outreach staff collect information on referrals during phone check-ins with patients. As a result of these gaps in data across hospitals and within each hospital's HVIP, C-HWG members have very limited outcomes data.

Finally, an underlying challenge that is connected to the lack of re-injury and referral data is the issue of data standardization across HVIPs. As this report documents, this results from the varying information systems and data platforms as well as approaches used to manage and track victims of violence from treatment to engagement. C-HWG members recognize the value in promoting standardization but have also created multiple systems that help them deliver services, track their patients and report to funders. Moreover, when standardized data is collected in EMRs, it may not be fully accessible internally and data is not yet shared externally across hospitals. During site visits, physicians engaged in care delivery and research acknowledged that to date existing data has not been fully leveraged for either coordination or research. Moreover, awareness of the need for a standardized set of information related to victim engagement with street outreach organizations was also supported by the Mayor's Office of Violence Prevention and other citywide convenings.

VI. Evaluability Assessment and Recommendations (RQ5)

Below we discuss the challenges, recommendations, and supports necessary for a future evaluation of hospital programs and/or services in Chicago. First, we summarize the main challenges to conducting an evaluation based on our findings from the feasibility assessment. Next, we present our recommended evaluation, including design, research questions, and data sources. Finally, we discuss the supports necessary in order for both hospitals and their other local partners to participate in this type of evaluation of their programs and services in the future.

As detailed in this report, each of the six hospitals in the C-HWG are somewhat unique in their programs and practices, and these differences are important considerations in thinking about the hospitals' readiness for participation in an evaluation. Exhibit 10 below summarizes each hospital's evaluation readiness specific to many of the key elements that we examined. In this chapter, we provide further discussion on the challenges, recommended evaluation design given differences across

hospital programs and/or services, and the necessary supports for conducting a future cross-hospital evaluation.

It is important to add that through our examination of the hospitals and their programs and/or services, it became apparent that Rush does not operate either a hospital-based or hospital-linked program. Since our logic model and many of our findings are applicable to hospitals with fully operational programs, Rush may not be the most appropriate fit for a future evaluation of HVIPs. Rush participates in an extensive network of partners to deliver assistance to victims of violence; however, their lack of a centralized program makes it difficult to recommend them for participation in a future evaluation focused solely on HVIPs.

Exhibit 10: Chicago Hospital Working Group Evaluation Readiness[23]

Hospital Members	Leadership Supportive of Tracking Patient Outcomes	Cross-Hospital Collaboration	Re-injury and Recidivism Data (within hospital)	Patient-specific Follow-up Data	Data Exchange with CBOs and Across Hospitals
Advocate Christ Medical Center	Yes	HEAL Initiative* Alliance for Health Equity Southland RISE	Yes	Limited	Limited
Mount Sinai Hospital	Yes	HEAL Initiative Alliance for Health Equity	Yes	No	Limited
Northwestern Memorial Hospital	Yes	HEAL Initiative Alliance for Health Equity TURN	Yes	No	Limited
Rush University Medical Center	Yes	HEAL Initiative Alliance for Health Equity	Yes	Program-specific	Program-specific
John H Stroger Jr Hospital of Cook County	--	HHP-C	Yes	Limited	Limited
University of Chicago Medicine	Yes	HEAL Initiative HHP-C Southland RISE TURN	Yes	Limited	Limited

* Advocate Aurora Health, part of the Advocate Health Care system, participates in the HEAL Initiative

[23] Readiness factors were identified during the course of the project based on Davies R. (2013) *Planning Evaluability Assessments: A Synthesis of the Literature with Recommendations*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/248656/wp40-planning-eval-assessments.pdf

Challenges to a Future Evaluation

When considering designing a future cross-site evaluation of the hospital programs and/or services in the C-HWG, several challenges were identified through our research and would need to be considered and addressed for a future evaluation of programs in Chicago. These challenges include hospital capacity, data collection and access, and potential cooperation from CBOs and other outside stakeholders.

Hospital Capacity

While NORC virtually convened hospital representatives regularly for the C-HWG over two years, there were limitations on the level of engagement among the hospitals. Many hospital staff explained that much of the progress made in collaborating among Chicago hospitals has traditionally been facilitated by personal relationships, so several of our activities during the first year of the project were designed to help build trust and cohesion among the group. We had some success among members, including facilitating some of the relationships between specific hospitals, but at the same time a few hospital representatives cycled in and out of the group or left their hospital positions and were replaced by new staff. At the same time, it is possible that the lack of funding for hospitals to engage with the group may have also resulted in waning interest over time. While several representatives consistently voiced a collective will for change, this attitude did not always translate into important actions, such as MOUs and data sharing.

Data Collection and Access

As described in our findings, hospitals are currently not sharing patient-level data with one another and not necessarily receiving patient data from all of their community partners post-referral. In the site visit interviews, the missing data elements most often mentioned were outcomes and referral related variables outside of their own hospital system, such as re-injury data, hospital readmissions data, and follow-up on referral services provided to patients. As described in our methodology, we also interviewed several partner CBOs, including street outreach partners such as Acclivus, in addition to our interviews with hospitals. Based on the interviews with hospital and CBO staff, it is not entirely clear which data are collected by street outreach partners. For example, although Acclivus reported that they share the data that they collect on referrals with the hospitals, the hospitals maintain that they only receive aggregated reports from Acclivus, which is not necessarily helpful for their individual patient tracking.

Since hospitals are currently using their own approaches for tracking and data collection, it is unclear in what form, at what level, and the frequency with which hospitals and CBOs are collecting data on patients' receipt of these services. Our inability to answer these questions demonstrates the lack of consistency in data collection among hospitals on these types of metrics. As our logic model illustrates, if patients are not connecting with hospital partners to receive the services that the hospital has recommended to the patient, then outcomes among patients cannot be realized. Therefore, we

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recommend that a future evaluation include this initial step of first collecting data on the receipt of services prior to attempting to measure patient-level outcomes.

One measure that is consistently collected, possibly accessible, and is of primary importance to hospitals is data on re-injury. These metrics are likely available due to the requirement that hospitals report data on victims to the Illinois Trauma Registry. In our evaluation, we learned that all hospitals are recording data on victims of violence in the Illinois Trauma Registry. Because the registry collects and tracks standard data on each injury incident, it would be possible to track re-injury among patients. At the same time, many hospital staff explained that they lack the capacity to download, manage, and analyze these available data. While an evaluation team could identify ways to gain access to this existing data, a future evaluation that includes the cooperation of both hospitals and CBOs should be able to provide the same types of information on re-injury prioritized by the hospitals.

CBOs and Other Stakeholders

If a future evaluation focused on measuring the receipt of services among referred patients, it would require the cooperation of community partners to provide data on whether referred patients connected with CBOs and also continued or completed the full uptake of services. An evaluation that depends on data from additional outside referral agencies, however, includes its own set of specific challenges. Many differences likely exist between hospitals and CBOs and among the different CBOs, especially with regards to the metrics collected on new clients at intake and the types of individual-level follow-up data collected during and after intervention. Therefore, any evaluation that focuses on the uptake of service referrals would require the merging of multiple “data worlds.” Cooperation not only among hospitals, but also the CBOs most often receiving referrals, would need to be gained in order to obtain the necessary data to measure service receipt. We discuss potential solutions to facilitate these challenges in our recommendations for supporting a future evaluation.

Recommended Evaluation Design

To address our final research question related to the evaluability assessment, the NORC team provides our recommendations below for a Phase II evaluation based on the findings from the Phase I evaluation. In providing these recommendations, we have considered both in what areas hospitals need to know more about their programs and/or services for victims and what appears to be most feasible given the challenges detailed above. In addition to the design presented below, we also provide recommendations regarding supports for hospitals and other participants that would help address the challenges we identified. We recommend that the proposed study address two major objectives, which are to develop knowledge concerning:

1. The ways in which services to crime victims were influenced by societal changes related to COVID-19; and
2. The effectiveness of programs that deliver services to victims of crime.

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To meet these objectives, we recommend two types of evaluations: 1) a process evaluation focused on how programs connect patients to follow-up services (in-house and referral) and how COVID-19 influenced the delivery of services to victims to inform adaptations during future public health emergencies; and 2) an outcome evaluation focused on patient engagement and re-injury. Exhibit 11 below presents the research questions that address the multiple facets of violence intervention programs and/or services for achieving the study objectives. The research questions address four major areas of research: 1) patient re-injury and re-victimization; 2) patient service engagement; 3) the process of connecting clients to follow-up services; and 4) the effects of COVID-19 on service delivery practices.

Exhibit 11: Research Questions

1. What is the re-injury rate of patients (i.e., re-hospitalization) who receive services from either a hospital-based violence intervention program (HVIPs) or from hospital-based victim services?
   - 1a. Are patients who accept and receive hospital services less likely to be re-injured than patients who refused services?
   - 1b. Does the rate of re-injury vary for patients by type of injury and/or by engagement in HVIP or hospital-based victim services?
   - 1c. Does the rate of re-injury vary for patients who receive any community-based services?
2. At what rates do patients access follow-up services after receiving services from either an HVIP or from hospital-based victim services?
   - 2a. Does the rate of follow-up service engagement vary by HVIP service intensity (e.g., frequency of interactions, etc.)?
   - 2b. Does the rate of service engagement vary by client type (e.g., age, trauma level, type of injury, victim/perpetrator status, repeat victimization, etc.)?
   - 2c. Does the rate of service engagement vary by service type (e.g., in-house or community-based, trauma therapy, financial assistance, employment, housing, routine medical care, etc.)
   - 2d. Are patients who initiate contact more likely to use services compared to patients whose outreach is initiated by staff?
3. How do HVIPs and victim services connect clients to follow-up services?
   - 3a. What types of assessments, if any, are used to identify service needs for victims?
   - 3b. What are the challenges to connecting patients to services?
   - 3c. How do data collection systems facilitate or hinder hospitals' ability to connect patients to services and follow up on their care?
   - 3d. What are the successful strategies (i.e., promising practices) specific to Chicago hospitals and communities for connecting patients to services?
   - 3e. How does the coordination of hospitals within the city of Chicago facilitate and/or hinder patient service engagement?

4. How did COVID-19 influence the delivery of services to victims in Chicago hospitals?
   - 4a. How did the disruption of in-person services due to COVID-19 affect victim services at Chicago hospitals?
   - 4b. What adaptations resulting from the pandemic's safety measures facilitated or hindered patient engagement in Chicago hospitals?
   - 4c. What was the role of technology in supporting service delivery for victims in hospitals?
   - 4d. How did COVID-19 influence the hospitals' relationships with the community and community-based organizations?
   - 4e. What lessons learned may inform future delivery of services in Chicago hospital settings (i.e., To what extent will strategies developed during COVID-19 be retained moving forward)?

We propose that a community-based participatory research (CBPR) approach be used,[24] emphasizing community engagement and strengths throughout the research process. In close collaboration with hospitals, we recommend that the evaluation include the formation of a community advisory group (CAG) to provide input across evaluation activities, including study recruitment and retention, construction of culturally-appropriate and valid data collection instruments, data analysis, and dissemination of findings, among others. The CAG would include representatives from local CBOs serving referred victims and additional key community stakeholders who support local efforts to serve victims of crime. Phase II should also continue to support the critical peer-to-peer learning opportunities provided to the hospitals through meetings of the C-HWG. These meetings have been critical to maintaining the delicate and vital interpersonal relationships between hospital representatives that would be the foundation for a successful evaluation.

Process Evaluation

First, we propose 1) the implementation of a process evaluation of HVIPs and victim services to better understand how they connect clients to follow-up services, and 2) an examination of how recent societal changes related to COVID-19 have affected service delivery to victims of violence in Chicago. A necessary part of this discussion should be an examination of how concurrent events (e.g., heightened social unrest protesting police brutality and systemic racism) have exasperated the needs and number of victims of community violence treated at emergency departments and trauma centers.[25]

[24] Holkup, PA, Tripp-Reimer, T, Salois, EM, Weinert, C. 2004. Community-Based Participatory Research: An Approach to Intervention Research with a Native American Community. *Advances in Nursing Science*. 27(3):162-175; Minkler, M. 2005. Community-Based Research Partnerships: Challenges and Opportunities. *Journal of Urban Health*. 82(2):3-12; Minkler, M. 2000. Using Participatory Action Research to Build Healthy Communities. *Public Health Rep*. 115(2-3):191-197; Ward, M, Shulz, AJ, Israel BA, Rice, K., Martenies, S, Markarian, E. 2018. A Conceptual Framework for Evaluating Health Equity Promotion within Community-Based Participatory Research Partnerships. *Evaluation and Program Planning.* 70:25-34.

[25] https://www.nbcchicago.com/news/national-international/study-killings-surge-in-2020-pandemic-protests-play-roles/2426284/

For many hospitals in the C-HWG, the provision of trauma informed care is grounded in social justice and the fundamental belief that the causes of violence are deeply rooted in structural inequities that disproportionately affect communities of color. To fully understand how hospitals' victim services have adapted over the course of the pandemic, the convergence of trauma informed care, COVID-19, and systemic racism must arguably be understood together.

Building on the preliminary findings garnered from Phase I, Phase II offers an opportunity to study both the systematic protocols used by hospitals under both typical and extreme circumstances, including those recently adopted and revised for use during this national (and global) health emergency. These insights will inform topic areas for the data collection instruments and respondent groups. Specifically, the process evaluation would address the second and third set of research questions presented in Exhibit 11 and would focus on analyzing implementation/processes to understand how clients connect to services and also the effects of COVID-19 on service delivery. This includes adaptations implemented by hospitals, as well as CBOs to which patients are referred, the role of technology, relationships with the community, and identifying lessons to inform future practice.

To address these implementation research questions, the evaluator would need to work in close collaboration with hospitals and the CAG throughout the process evaluations' design, implementation, analysis and reporting. The study should primarily draw on in-depth site visits to each participating hospital (conducting interviews with direct service staff and focus groups with patients), and to a lesser extent hospitals' administrative data.

Outcome Evaluation

The focus for the outcome evaluation is the re-injury and service delivery rates associated with victims of violence and trauma and how these programs align their client needs to services and facilitate access (first and second set of research questions). This approach has been used to evaluate social service interventions that rely on intensive case management or coaching to encourage participant engagement.[26] Given a 24 month study period, we believe that this approach will produce results regarding important shorter-term outcomes for this difficult-to-serve population that faces multiple barriers to service utilization. In addition to measuring re-injury and service engagement, we may also be able to examine additional interim outcomes, such as continuation in community-based mental health counseling or enrollment in GED or job training programs, depending on data availability.

Exhibit 12 below describes the outcomes measures and data sources we recommend for the evaluation. As part of the initial phase of the evaluation, the evaluator should work closely with hospitals and the CAG to define and determine the feasibility of using each of these outcome measures.

[26] Theodos, Brett, et al. "Solutions for youth: An evaluation of the Latin American Youth Center's Promotor Pathway Program." *Washington, DC: The Urban Institute* (2016); Bernabei, Roberto, et al. "Randomised trial of impact of model of integrated care and case management for older people living in the community." Bmj 316.7141 (1998): 1348.

Potential data sources for evaluating service delivery to victims of violence include: 1) HVIP administrative and program data; 2) Hospital electronic health records (EHR) data; 3) CBO administrative and program data; and 4) Focus groups and/or interviews with participants. Each of these data sources contains several data elements used alone or in combination with other sources to measure the short-term outcomes related to patient re-injury, connection with HVIPs and hospital-based victim services and referrals and connection to direct services. The qualitative findings from participant focus groups and/or interviews should complement the results of the outcomes analysis of the administrative and program data and can be used to assess the support provided by HVIPs and hospitals in connecting them to direct services from the participant's perspective, especially the barriers and challenges they encountered once referred by an HVIP.

Exhibit 12: Proposed Outcome Measures and Data Sources

Type	Measures	Data Source(s)
HVIPs/Hospital-based Services Health Outcomes	Rate of re-injury among HVIPs/hospital-based services patients	Hospital EMR data
	Proportion of patients who accept or refuse HVIPs/hospital-based services	HVIP administrative data
HVIPs/Hospital-based Services Needs Assessment and Service Outcomes	Identification of patient needs Number of patients screened and assessments by type (mental health, depression, SDOH)	HVIP administrative data
	Level of engagement of participants with HVIP (Number of contacts with the trauma-focused specialist, community health worker, navigator or social worker) Counts, rate per week, month, quarter. Proportion that initiates contact with violence recovery specialists	HVIP administrative data Focus groups/interviews with participants
	Barriers and challenges to receiving support from the HVIPs/hospital-based victim services	Focus groups/interviews with participants
Community-based and Hospital referral outcomes (e.g., long-term therapies, employment, job training, education, housing, food and nutrition, financial assistance, etc.)	Proportion of patients who receive services from HVIPs or hospital-based victim services and connect to any community-based service	HVIP administrative data
	Number of referrals to needed services, total and by type of service	HVIP administrative data Hospital EHR
	Number of direct services accessed, total and by type of service	Hospital EHR (mental health services) CBO data
	Average number of community-based services accessed per participant	HVIP administrative data CBO administrative data
	Patient experience accessing community-based and hospital direct services, including barriers, challenges	Focus groups/interviews with participants

Supports and Facilitators

In order to facilitate the successful completion of the evaluation design described above, several supports would need to be implemented in order to ensure the cooperation of the hospitals and local CBOs. We identified several elements that will help facilitate the evaluation's implementation, and, in addition, we offer recommendations below for additional facilitators that should help enable the successful completion of the recommended evaluation design.

First, we know from the site visit interviews that hospitals have the ability to measure re-injury and recidivism among their patients due to their participation in the Illinois Trauma Registry. What hospitals lack is the capacity to organize, integrate, and analyze these data. Therefore, hospitals have a strong incentive to participate in an evaluation that would provide them with information on recidivism by important subgroups (e.g., individual demographics, type of injury) to inform their program practices and help with targeting resources and better serving patients. In addition, the hospital leadership and staff appear motivated to utilize evaluation in order to understand what happens to patients after they leave the hospital emergency room (e.g., "closing the referral loop"). In fact, the individuals interviewed at the hospitals view the need to better understand re-injury and recidivism rates and their correlates as an important facilitator for building capacity within their hospitals and referral organizations. An evaluation focused on this set of outcomes would be consistent with the hospitals' goal of further developing a larger ecosystem in Chicago for serving patients.

Also, in the site visit interviews, the hospitals fully acknowledge the need to incorporate SDOH into their patient-specific hospital records. In fact, several hospitals have been developing interim solutions and collecting their own information on these types of outcomes in their own data systems. Unfortunately, most hospitals do not have much information beyond the initial intake process or following participation in their own hospital programs (such as at Advocate and Rush), and require more information on patients once they refer them for outside services. Understanding whether and how fully patients connect with recommended social services would be a first step in understanding how non-medical services contribute to victims' overall recovery and likelihood of re-injury.

Many of the facilitators for collaboration identified in our site visit interviews are highly applicable to the efforts to establish commitment and coordination for a future evaluation. We learned that hospital staff want greater coordination with other nearby hospitals and acknowledge the benefits for their staff and patients. We learned that MOUs or DUAs with clearly defined roles and responsibilities help facilitate better working relationships across hospitals. These types of agreements would need to be established between the hospitals and third party evaluator and should include agreements to thoroughly review data protocols. Most likely the hospitals (and possibly their referral agencies and organizations) also would need to agree to the development and use of a common intake form, follow-up metrics for eligible patients, and possibly a common platform for data entry.

In addition to these factors that should help facilitate the participation of hospitals in an evaluation, MOUs or DUAs also would need to be established with referral organizations in the community. In our site visit interviews, we learned that UCM provides small grants to a number of their CBO partners serving as referral organizations. In addition, Advocate's TRC has agreements with local CBOs for post-program long-term mental health services with agreements for exchanging data. An approach such as this could be utilized by the evaluation to help facilitate agreements between hospitals and CBOs for ensuring access to data on service engagement. Small grants for local partners to use for general operating support could include data sharing agreements and offset the cost of collecting and providing these data.

While the hospital leadership and staff have expressed their commitment and interest in participating in a future evaluation of their HVIP programs and/or services, financial support in the form of small stipends that include pass through funds for CBOs would secure the commitment and continued engagement of hospitals in a future evaluation.[27] As explained above, one of the major challenges for the project was maintaining the consistent engagement of hospital representatives due to competing hospital commitments and staff turnover. A financial incentive would likely elevate the commitment of the hospital to the evaluation and translate into the important actions required for a successful evaluation study, including the signing of MOUs and/or participation in data sharing through signed DUAs. As explained in our findings, many hospitals lack the capacity to complete their own analysis even with existing data, so stipends would offset the staff time needed for additional data entry, extraction, and file delivery.

Conclusions

During Phase I discussions with hospitals, multiple institutions identified two topics of interest: 1) whether and how do victims connect to and use community-based services for basic and mental health needs; and 2) what are the re-injury rates for the victims that they serve. However, the pandemic interrupted a core principle and key strategy employed to engage victims of violence – in-person outreach following the traumatic incident for the victim, family or friends. By combining an exploration of program COVID-19 adaptations with an outcome evaluation focused on re-injury and service engagement, the Phase II study should provide a more useful hybrid model of service delivery for the future that includes both in-person and virtual options for participants.

Although trauma-informed care approaches and hospital violence intervention programs have been adopted more widely across the country, research and evidence on HVIPs and their effectiveness in violence intervention and prevention remain limited. Researchers and practitioners need more evidence on the elements necessary for implementing an effective hospital-based violence intervention and prevention program. They also can benefit from methods that use available administrative and program

[27] In our proposed evaluation to NIJ for a Phase II evaluation, NORC offered stipends of up to $20,000 to the hospitals and was able to obtain letters of commitment from three of the six hospitals in the C-HWG.

data and health information to measure access, impact and outcomes. The findings of this evaluation will contribute to the ability of diverse audiences in Chicago and nationally to understand program elements, strategies and impact: **researchers** who are trying to understand how to measure impact and what it takes for programs to effectively serve victims and, thus, reduce violence in neighborhoods traditionally suffering from high rates of crime and poverty; **policymakers** who make decisions about the standards and practices of hospital-based programs and also bring together diverse stakeholders to address the root causes of violence; and **practitioners and administrators** who manage hospitals, HVIPs, and community-based resources for victims.

This proposed research would examine the impact of evolving approaches of Chicago's HVIPs and hospital services on the victims engaged in a combination of therapeutic and social services that address the root causes of violence and SDOH. Therefore, its results would provide important evidence for Chicago's community leaders, stakeholders, and policy makers, who are engaged in multiple collaborative efforts to prevent violence. Additionally, on a national level, this evaluation would provide useful insight into the trauma informed care approach for providing case management and increased access to mental health and social services.

Appendix A: Glossary of Terms

Hospital-based violence intervention programs. Under the hospital-based model, hospitals are responsible for intensive case management and deliver services directly to violently injured individuals (and their families). To address gaps in capacity, hospitals may also collaborate with outside organizations to link patients to other services that promote recovery.

Hospital-linked violence intervention programs. Hospitals that implement a hospital-linked approach contract with a community-based partner to deliver trauma-informed care and therapeutic case management services to patients. These programs rely on street outreach organizations to connect patients to resources that reduce the likelihood of re-injury.

Hospital-based victim services. A collection of services and programs that serve victims of crime and/or abuse. Victims are identified when entering a hospital emergency department or trauma center.

Social Determinants of Health (SDOH). Social determinants of health are conditions in which people live, learn, work, age, and play that affect a wide range of health and quality-of life-risks and outcomes. SDOH are underlying, contributing factors to health inequities. Common examples include safe housing, transportation, and neighborhoods; racism, discrimination, and violence; education, job opportunities, and income; access to nutritious foods and physical activity opportunities; polluted air and water; and language and literacy skills

Street Outreach. An approach to violence intervention that typically utilizes members of the community to intervene and de-escalate conflict and prevent retaliation, including gang-related violence. Many of these programs also connect victims and potential perpetrators with additional social services, such as housing and job training. Examples of street outreach programs in Chicago include Acclivus, Cure Violence, Chicago CRED, Communities Partnering 4 Peace (CP4P), and the Institute for Nonviolence Chicago (INVC).

Trauma-informed care. A trauma-informed approach to care embraces the understanding that health care providers need a complete picture of a patient's past and present life history in order to provide effective medical services with an emphasis on healing. The application of this approach includes: acknowledgement of the widespread impact of trauma; identification of signs and symptoms of trauma in patients, families, and staff; avoidance of practices that can lead to re-traumatization; and integration of trauma informed practices into policies and procedures. Trauma-informed practices are believed to improve patient engagement and participation in treatment and to lead to better health outcomes. A trauma-informed approach also addresses organizational culture by focusing on training staff in how to recognize and address their own potential secondary trauma. This approach may also reduce re-injury, promote healing, and lower costs. (Trauma-Informed Care Implementation Resource Center)

Violence recovery specialists. Violence recovery specialists are hospital-based or community-based staff who have been specially trained to serve patients in the emergency department or hospital trauma center who are victims of violence and may be suffering from post-traumatic stress disorder (PTSD), depression, anxiety, and other symptoms of trauma or stress.

Appendix B: Current HVIP Models

HVIPs use multiple models, theories, and philosophies congruently to guide their work. HVIPs are often guided by a public health approach to violence intervention that incorporates a focus on providing trauma-informed care (Mikhail and Nemeth, 2016; Purtle et al., 2016; Evans et al., 2018). Below we have reviewed specific models and interventions used by HVIPs to guide their practice.

Public Health Approach

A public health approach to violence has been widely accepted among medical organizations as a way to prevent community violence, with an emphasis on youth violence. This approach encourages physicians to work with patients reduce risk factors and increase protective factors to reduce interpersonal violence (Evans et al., 2018; Purtle et al., 2016).

- **Social Ecological Model**
  Bronfenbrenner's Social Ecological Model (SEM) views individual behavior as a product of both personal characteristics and the society and environment impacting the individual. The Centers for Disease Control (CDC) uses SEM to guide their violence prevention framework (Mikhail and Nemeth 2016).
    - **SafER teens**
      The SafER teens intervention is based on the Social Ecological Model (Mikhail and Nemeth 2016). This intervention uses motivational interviewing and role-playing to decrease violence and substance use behaviors. This intervention is based "within a cognitive behavioral framework and focuses on feedback and skill-building to reduce risk behaviors such as fighting and weapon carrying (Purtle et al., 2016)." SafER teens relies on referrals to additional psychosocial services.

- **Teachable moment/Assertive outreach**
  Many HVIPs center their services on a "teachable" moment or "golden hour". This is based on the Health Beliefs Model, which theorizes that when a patient arrives at the hospital, there is a unique opportunity for people to understand the consequences of their risky health behavior (Evens et al., 2018; Rosenblatt et al., 2019). Most programs have social workers or peer specialist speak to the patient at the hospital or within 24 hours of discharge to start developing a trusting relationship and screen patients for risk of reinjury and retaliation. Other programs have staff meet patients in community settings. HVIPs often pair the "teachable" moment with a trauma-informed approach that relies on addressing patient and family needs and goals through psychosocial assessment, link patients to external resources, and uses case management to confront symptoms of post-traumatic stress, reduce the likelihood of retaliation and improve patients' future orientation (Purtle et al., 2016).

- **Cure Violence**
  The Cure Violence approach is consistent with the Public Health approach. These programs identify high-risk individuals and intervene to change behaviors and attitudes. This approach

presumes behavior responds to structure and norms. When high-risk individuals learn new skills for conflict resolution, these techniques may spread to the wider community by "denormalizing" violence (Evans et al., 2018).

Trauma-informed Care

A trauma-informed approach to violence recognizes that violent injuries are traumatic events, often associated with previous exposure to trauma. Healing violent injuries must confront the social, emotional, behavioral, and biological health of a patient. (Purtle et al., 2013; Purtle et al., 2016). This approach requires staff to have continuous training and skill-building to respond to patients' trauma as well as their own history of trauma. This helps decrease the likelihood of retraumatization, victimization, and burn-out (Wester et al., 2016). A trauma-informed approach requires physicians to screen for trauma and have a list of referrals for additional trauma-informed mental health resources in the area (Purtle et al., 2013; Wester et al., 2016). According to the Substance Abuse and Mental Health Services Administration (SAMHSA) a trauma-informed approach on 6 key principles; (1) fostering a safe and supportive environment; (2) forming trusting relationships between the staff and patients and a transparent organization; (3) providing peer-support; (4) collaboration and shared power between staff and patients; (5) patient driven goals that focus on their strengths; and (6) recognition of cultural and gender stereotypes and historical trauma (Wester et al., 2016).

- **Sanctuary Model**
  The Sanctuary Model in a trauma-specific and evidence-based intervention designed to change an organizational culture (Wester et al., 2016). Healing Hurt People is an example of an HVIP that uses the Sanctuary model. HHP uses the Safety, Emotions, Loss, and Future (S.E.L.F) psychoeducation curriculum from the Sanctuary Model in their support groups (Stolbach & Reese 2020).

- **San Francisco Trauma Recovery Center Model**
  The San Francisco Trauma Model treats trauma through improvement of mental health and life circumstances concurrently. TRC recruits victims of all violent crime through assertive outreach that are experiencing post-traumatic stress. The recruitments come from medical care centers, domestic violence shelters, victim services and other centers. Together, clinicians and case managers work to stabilize the patient and provide psychotherapy, advocacy, and substance abuse treatment. As this model is based on trauma-informed care, they rely on all staff within the organization to understand the mission of the organization and receive ongoing support to ensure compassionate interactions with clients. Staff are encouraged to promote self-care and are supervised regularly to develop the knowledge and skills to work in a trauma-informed center (Wiggall & Boccellari, 2017).
    - **Seeking Safety**
      Seeking Safety is an intervention used by the San Francisco Trauma Recovery Center that specializes in group healing. The most common group targets individuals who have symptoms of PTSD and also engage in substance use. There are additional interventions that focus on domestic violence, emotional regulation as well as others

(Wiggall and Boccellari, 2017).

- **Collaborative Care**
  Collaborative Care is a model based on a primary care approach that has been adapted to serve victims of violent injury. This model combines case management with motivational interviewing, cognitive behavioral therapy and pharmacotherapy. This model is an evidence-based strategy that is proven successful in decreasing the symptoms of post-traumatic stress (Purtle et al., 2016).
- **Peer advocacy**
  Peer advocacy is often used as an intervention in HVIPs. This intervention varies but often connects trained volunteers or staff that have similar experiences as the program participants to provide support and advocacy.

Positive Psychology Framework

The Positive Psychology Framework focuses on not just recovery from negative symptoms, but strengthening a person through their positive attributes (Wester et al., 2016).

- **Wellness Approach.** A wellness approach to violence prevention includes working with a patient to improve their physical, mental, social, emotional and spiritual health. Wellness as a concept aligns with the Positive Psychology Framework, as it also seeks to improve patients through their strengths. Through this approach, patients are encouraged to advocate for themselves and be a contributor to their healing plan (Wester et al., 2016).

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Appendix C: C-HWG Charter

I. Why a Working Group?

As hospital-based violence interventions (HVIPs) expand nationally, Chicago can be a model of collective action and a hub for learning in this growing field. Local efforts to provide hospital-based violence prevention and victim services intervention programs often are developed within the context of an individual hospital's goals and in response to the surrounding community's needs. The Chicago Hospital Working Group (C-HWG), which includes the city's five Level One and one Level Two Trauma Centers, presents a unique opportunity for multiple hospitals within a city to learn from each other's experiences, share resources and coordinate, where possible, to provide trauma-informed care to victims of violence. As a result, the group may better understand gaps within the larger system of care provision. With assistance from researchers at NORC at the University of Chicago (NORC), the membership of C-HWG will share service delivery approaches and common challenges with peers, work towards improving care coordination across hospitals and community-based organizations, identify/develop common metrics and share data, and collaborate on evaluation activities. The C-HWG will promote a deeper understanding of how to effectively prevent and address violence in our communities during the 2020 and 2021 calendar years.

II. Purpose/Mission

The purpose of the C-HWG is to support hospitals' efforts to better coordinate, identify, and monitor patients across hospital-based violence prevention and victim services intervention programs in Chicago. Through this information sharing and coordination, the expectation is the group will help its member hospitals improve and/or expand existing violence prevention and victim services intervention efforts. An additional focus of this collaboration will be to design a cross-setting evaluation of hospital-based violence intervention programs.

The C-HWG will foster a collegial environment where its members benefit from each other's extensive expertise.

III. Roles and Responsibilities

The C-HWG is comprised of a core group of hospitals from the city of Chicago and supported by researchers from NORC. The composition of the core group is intended to remain stable; however, over the course of the group, member hospitals may recommend other participants that may enhance the group dynamic. If core group members are unable to participate in a meeting or fulfill a task, they are expected to assign someone to attend and fulfill their duties on their behalf.

For C-HWG meetings, C-HWG Members agree to:

- Given the disruptions related to COVID-19, the group will meet remotely through webinars (Zoom)/conference calls every 6-8 weeks during the grant period (calendar years 2020-2021), unless the workgroup decides to meet on a different schedule. Meetings will last approximately 60-90 minutes.
- Review meeting materials prior to each meeting, engage in discussions, provide comments and input, make requests and offers, and maintain respect for colleagues;
- Invite other relevant colleagues to join discussions and provide input as the group deems appropriate.
- Share information on violence prevention and victimization programs and services in an open, respectful, and timely manner.

For C-HWG meetings, NORC Staff agree to:

- In collaboration with C-HWG, identify topics and prepare materials for discussion.
- Be responsible for ensuring agendas and materials are sent prior to meetings.
- Facilitate group discussions.
- Ensure that members' feedback is respected, captured, and reflected in group discussions and actions.
- Deliver notes and action items following each meeting.
- Provide clear direction regarding next steps following each meeting

IV. Goals

Key goals for Year 1 (January-December 2020):

- Learn from our peers about different service delivery approaches
- Identify/develop common metrics and share data
- Improve collaboration to support care coordination across hospitals and community based organizations (CBOs)
- Collaborate on evaluation activities

V. Tasks

High priority tasks for Year 1 (January-December 2020):

- Convene C-HWG and share resources (e.g., MOUs, DUAs, funding sources, assessment tools, etc.)
- Conduct literature review and develop logic model of HVIP programs
- Identify comprehensive list of CBOs for referral or collaboration
- Identify common metrics and potential data sources
- Begin conceptualizing evaluation design

Preliminary tasks for Year 2 (January-December 2021):

- Continue to convene C-HWG and share resources
- Identify areas where more program development and/or support is needed
- Develop products and tools for hospitals
- Complete an evaluability assessment of hospital-based programs
- Assess evaluation readiness and develop individual and/or cross-site evaluation design(s)

[i] 2020 Illinois Trauma Data Dictionary. Accessed at https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/iltraumadictionary2020-final.pdf