

FINAL REPORT

IMPACT EVALUATION AND QUALITATIVE EVIDENCE





Final Report **Impact Evaluation and Qualitative Evidence**

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Elaborated by:

Glasswing International with funding from the Japan Special Fund, through an agreement with the Inter-American Development Bank (IDB)



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“El Salvador is one of the most dangerous countries in the world. Six out of ten young people witnessed one or more acts of violence in 2016, and communities are the main context in which they were exposed. However, they are not the only ones who suffer the consequences of violence.”

1. Introduction

Glasswing International implemented the “Sanando Heridas” program, a violence prevention initiative from a public health perspective, during 2016 to 2019. The program accompanies its users in the restorative process, through the understanding of the effects of trauma and the provision of positive coping skills. Services are provided in public hospitals and health professionals are trained, raising awareness about the importance of providing comprehensive trauma care. In addition, “Sanando Heridas” has a reference system made up of 38 civil society organizations and public bodies that provide complementary services for the recovery of patients.

The program was financed by the Japan Special Fund, through an agreement with the Inter-American Development Bank (IDB), and had technical support from the World Bank in assessing the impact of the intervention. The financing period was from 2017 to 2019, provided attention to more than 800 people and trained more than 1,300 health service providers and 408 workers from partner organizations. The total investment was USD \$597,285.75.

“Sanando Heridas” arises as a strategy that helps break the cycle of violence. With a homicide rate of 51 per 100,000 inhabitants in 2018 (PNC, 2019), El Salvador was the second most violent country in Latin America that year. These high levels of violence generate economic costs of approximately 16.0% of GDP, of which, the cost related to public health amounts to 3.3% of GDP (UNDP, 2018; Peñate et al., 2016).

However, violence is a problem that can be prevented. People exposed to high levels of violence and victimization are strongly associated with subsequent acts of violence. International evidence finds that there is a link between suffering a trauma in the present and becoming a victim again in the future. Specifically, more than 40% of violently injured youth return to emergency service in the future with violence-related injuries and up to 20% are victims of homicide during the five years after they have been treated, thus perpetuating the cycle of violence.

The expected result of the intervention is to reduce the relapse of users in violent events, in order to contribute to breaking the cycle of violence and, thereby, contribute to the efficiency of public health services.

This document provides preliminary results of the impact evaluation complemented by a



qualitative assessment. The impact results indicate that the “Sanando Heridas” program can reduce relapse for violent acts by up to 30%, which can translate into reducing health care costs due to violence by up to USD \$3.3 million. In addition, preliminary results show that training and sensitization of public hospital staff has had positive effects, reflected in the increase in the reference rate of victims of violence to be treated by the program.

2. Context of violence in El Salvador

In 2015, 105 out of every 100,000 inhabitants were killed in El Salvador. This means that, only in that year, 6,656 Salvadorans died at the hands of violence. Beyond a figure, they become thousands of families destroyed, life projects truncated, and communities deeply damaged with broken social fabric extremely difficult to rebuild. In fact, that year, the country experienced a rebound in the homicide rate, placing it first on the list of the highest rates worldwide. In a distant second place, Honduras reached a rate of 57.5, according to data available from the United Nations Office on Drugs and Crime (UNODC).

This means that, in 2015, a person living in El Salvador was at least twice as likely to be killed, compared to any other part of the world. However, violence does not affect everyone equally. In the country, violence has a man's face, has a young face, and is armed. This is valid for both victims and perpetrators. In 2015 alone, according to UNODC data, 91% of the victims were men, 83% were attacked with a firearm, and 55% were between 15 and 29 years old. According to the 2018 Human Development Report of the United Nations Development Program (UNDP) data during the 2007-2017 decade in which 44,334 homicides were reported, 51.7% were committed against young people and 90% against men.

Although there was a reduction in homicide rates, the country remained the most violent in the world for 2016 and 2017, with rates of 83.1 and 61.8, respectively. However, although homicide is the most serious and recognized face of violence, it is not the only one. Violence does not always kill, but always damages. The World Health Organization (WHO) defines it as “the deliberate use of physical force or power, whether in threat or effective, against oneself, another person or a group or community, that causes or is likely to cause injury, death, psychological damage, developmental disorders or deprivation.”¹ Simply put, violence takes the form of wounds, blows, abuse or threats.

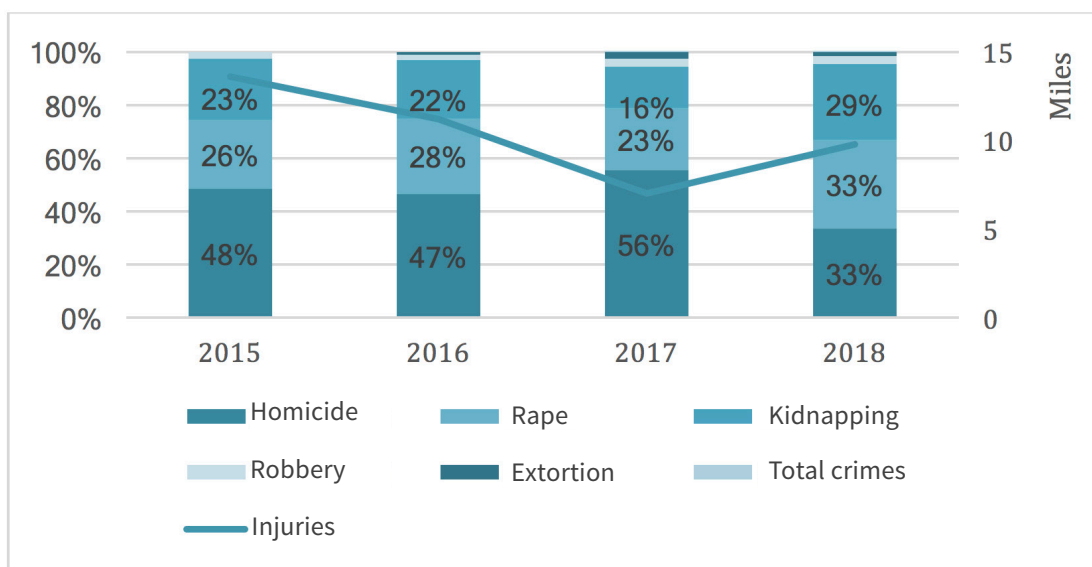
In addition, WHO categorizes violence according to who exercises it in: (i) self-inflicted, (ii) interpersonal and (iii) collective violence; and according to the nature of it in: (i) physical, (ii) sexual, (iii) psychological and (iv) deprivation and neglect. UNDP (2018)², meanwhile, identifies three categories of violence: (i) direct, which is usually observable and is expressed verbally, physically or psychologically; (ii) structural, which is part of the social, economic and political systems of societies and can be related to chronic poverty, inequalities, exploitation and social exclusion and (iii) symbolic, which refers to aspects of culture which are used to internalize, justify or legitimize other types of violence, such as machismo and racism, among others.

¹ WHO Global Consultation on Violence and Health. 1996. Violence: A Public Health Priority. Geneva.

²Based in Galtung, J. 1996. “Peace by Peaceful Means: Peace and Conflict, Development and Civilization”. Oslo, Norway: International Peace Research Institute.



Gráfico 1. Delitos con uso de arma o con lesión, 2015-2018



Source: National Civil Police

Figure 1 shows the crimes reported by the National Civil Police, in which a firearm, knife, other type of weapon, or physical force was used. Even in the year with the highest homicide rate (2015), those 6,656 homicides did not represent even half of the violent crimes. There were more than 6,700 robberies and injuries with the use of weapons, totaling more than 13,000 reported crimes. The next three years, the crimes were relatively minor and the proportions were readjusted, as the homicides decreased. That caused non-lethal violent events to take on greater importance in 2018, equivalent to almost two-thirds of the crimes. While this implies that fewer lives have been lost in recent years, it does not bring greater relief. More than 50% of the time non-lethal crimes are caused by a firearm, which has severe consequences in various aspects of each victim's life, as it can affect their physical or social mobility, their ability to generate income and their emotional stability, which implies a direct impact on their life project.

In fact, the United Nations Development Program (UNDP) in its 2018 Human Development Report estimated the economic cost of violence, in all its types, for young people. In 2017, violence exclusively against the young population cost the country between USD USD \$605 and USD \$828.4 million. This includes the cost of medical care (USD \$10.2 million), the cost of emotional and psychological damage (USD \$356.5 million), production lost by homicides and missing persons (USD \$28.4 million) and the institutional cost (between USD \$209.9 million and USD \$433.3 million).

Clearly, violence has become an obstacle to human development in the country, which is very expensive, and represents one of the main challenges. As a multidimensional



phenomenon that has multiple historical and structural roots, prevention is a complex task. The interventions are based on three types of prevention: primary prevention is aimed at the general population and seeks to avoid aggressive behaviors; secondary prevention focuses on high-risk groups to prevent criminal behaviors from consolidating; while tertiary prevention is aimed at people who have exercised violence or who have been victims of it.³

In that context, Glasswing International develops the “Sanando Heridas” program -- a program that is focused on tertiary⁴ violence prevention, to deal with victims of interpersonal physical violence, inflicted by a firearm, knife, explosive weapon or beating. The program aims to provide immediate psychological first aid to those receiving medical attention for their physical injuries in two national hospitals. The intervention seeks, in general terms, to modify the attitudes and behaviors of its users, promoting that their decisions avoid the perpetuation of violence, strengthening the capacities of attention of health care providers, and linking patients to complementary services that contribute to recovery through civil society organizations.

³Buvinić, M., A. Morrison and M.B. Orlando 2002. “Violence, crime and social development in Latin America and the Caribbean.” In: C. Sojo, editor. Social development in Latin America: Issues and challenges for public policies. San José, Costa Rica: FLACSO.

⁴Based on the definitions of Buvinic et al (2002), which includes interventions for victims as tertiary prevention

3. Description of the intervention

“Sanando Heridas” is a program whose objective is to contribute to breaking the cycle of violence through the care of people who go to public health centers to be treated as a result of having experienced a traumatic event in situations of violence.

El Salvador is the second most violent country in the world (homicide rate: 69.2 per 100,000 inhabitants). Violence is a very expensive public health problem (10.8% of GDP) and, however, preventable. People exposed to high levels of violence and victimization are strongly associated with subsequent acts of violence. [The investigation reveals a link between suffering trauma from violence and relapse in the future. There are figures that indicate that more than 40% of violently injured young people return to the emergency service in the future with violence-related injuries and up to 20% are victims of homicide during the five years after they have been admitted, thus perpetuating the cycle of violence.](#)

This cycle of violence leads to an incessant stream of injuries and relapse of injuries, which saturates an emergency service that is lacking resources to intervene. The emergency service staff focuses on immediate medical attention and pays little or no attention to the psychological effects of the patient who has experienced a traumatic event.

The program poses that psychological vulnerability is reduced if patients, who have experienced a traumatic event due to interpersonal violence, receive attention with comprehensive approaches and where trauma training is provided. This helps reduce relapse and/or retaliation against others or themselves, breaking the cycle of violence.

The project contemplated the execution of the following components:

Component 1: Comprehensive trauma care for people who have experienced interpersonal violence

The objective of this component is to provide users of the public health system, who have experienced an act of violence, an intervention that supports them with the restorative process, helping them understand the effects of trauma and gain positive coping skills. According to studies on the subject, this helps reduce the recurrence of violent events and promote recovery processes that allow people who have experienced a traumatic event to improve their emotional health and be able to return to their daily activities. The component has been implemented at “Dr. Juan José Fernández” National Hospital in Zacamil and “Enfermera Angélica Vidal de Najarro” National Hospital, where services have been provided through a trauma interventionist, who performs direct interventions to people who have experienced trauma due to violence (education about trauma effects and coping mechanisms), which can be face-to-face and/or via a follow-up call. The interventions involve diagnoses of patients



to determine the most useful coping techniques, delivery of material kits to practice coping techniques, development of a safety plan and follow-up telephone call until emotional stability and skill acquisitions are verified. In cases where necessary, the interventionists refer patients to community liaisons so that they can opt for services from organizations with a community presence (NGOs, local associations, mayors' offices, etc.).

To date, 800 patients were treated by this component of the program.

Component 2: Comprehensive trauma care training for institutional staff

This component consists of training hospital staff. The objective is to sensitize the personnel that cares for people who have suffered a traumatic event as a result of the violence. The intention is to promote comprehensive care both in national hospitals, where the intervention is carried out, as well as in organizations and institutions that are part of the community referral network.

Training involves publicizing the physical and behavioral consequences of violent injuries and alternative forms of treatment. The trainings are carried out by specialists in the field, who provide training to health care service providers, both for first-level care units, such as hospitals, first responders, among others, to integrate the physiology of trauma and improve care for patients.

This activity is expected to give sustainability to the program by ensuring that institutional personnel have the necessary tools for the management of trauma patients. To date, more than 1,300 health service providers have been trained.




















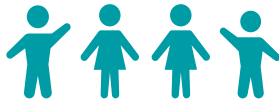
Component 3: Community reference system

The objective of this component is to create a network of institutions where patients can receive complementary services for recovery. Once the patient leaves the hospital, the interventionist refers the users to a member of the community liaison team. He or she is responsible for informing users of the offering of public or private organizations that can help in the process of recovery and coping with the traumatic event, after the intervention of the "Sanando Heridas" program, according to the identified needs of the patients. The references include organizations that provide support in psychological care, legal advice to proceed with the complaint, technical training to improve employment opportunities, financial aid, forced displacement, and more. The network is made up of 38 civil society organizations and government units.

Users are referred to these institutions to receive the services, which are not provided by "Sanando Heridas", but by network partners. The community link's job is precisely to make users aware of the service and initiate contact so that they can be helped. Even so, there is work carried out by the interventionists to monitor the effective use of community referrals and to keep a local support system active, linking organizations and hospitals to each other in order to improve care by applying basic knowledge of informed trauma.



The program results chain is summarized in the following table:

Supplies	Activities	Products	Results	
 Trauma Interventionist  Material kits for coping with trauma	 Diagnoses of patients to determine the most useful coping techniques.  Direct education to patients about the effects of trauma and coping mechanisms.  Development of a security plan.  Delivery of material kits to practice coping techniques. ⁵  Follow-up call until emotional stability and skill acquisitions are verified.	 People who have experienced interpersonal violence events attended and accompanied by interventionists.	 People who have experienced interpersonal violence events provided with tools on trauma effects and coping mechanisms.	
 Trauma specialists informed for the training of hospital interventionists	 Training for hospital staff for comprehensive trauma care.	 Hospital staff trained to facilitate comprehensive trauma care processes.	 Hospital staff provides patients with trauma coping mechanisms.	
 Community liaisons	 Management of alliances with NGOs, local associations, mayors' offices, etc.  Patient referrals to NGOs, local associations, mayors' offices, and others to receive benefits.	 People who have experienced interpersonal violence events have complementary services to execute positive coping strategies.	 People who have experienced interpersonal violence events have a support network for dealing with trauma.	
Impact  Reduction of psychopathological vulnerability by application of coping mechanisms.				 Reduction of levels of (re) incidence in violent acts of people who have experienced interpersonal violence events.

⁵Only patients who are initially treated at the hospital receive this.

4. Users of "Sanando Heridas" program

Between 2017 and August 2019, "Sanando Heridas" treated a total of 808 patients at "Enf. Angélica Vidal de Najarro" National Hospital in San Bartolo and "Dr. Juan José Fernández" National Hospital in Zacamil, of whom are divided almost equally between each hospital. Of these, 63% are men and 37% are women, although a greater proportion of men (67%) are served in Zacamil than in San Bartolo (58%).

People who receive care are 32 years old on average, meaning the program serves a relatively young population. On one hand, half of the users are between 21 (quartile 1) and 40 years old (quartile 3), while about 12% are minors. This means that boys and girls who are just 5 or 6 years old have been victims of some type of social violence, including firearm injuries, or have witnessed a violent act by which they receive psychological support within the program.

Geographically, both hospitals cover a relatively wide radius. At "Enf. Angélica Vidal de Najarro" National Hospital in San Bartolo, 82% of the users who received care come from Ilopango, San Martín, Tonacatepeque and Soyapango. While 73% of the patients who arrive at "Dr. Juan José Fernández" National Hospital in Zacamil come from Mejicanos, San Salvador, Ciudad Delgado, Apopa and Cuscatancingo.

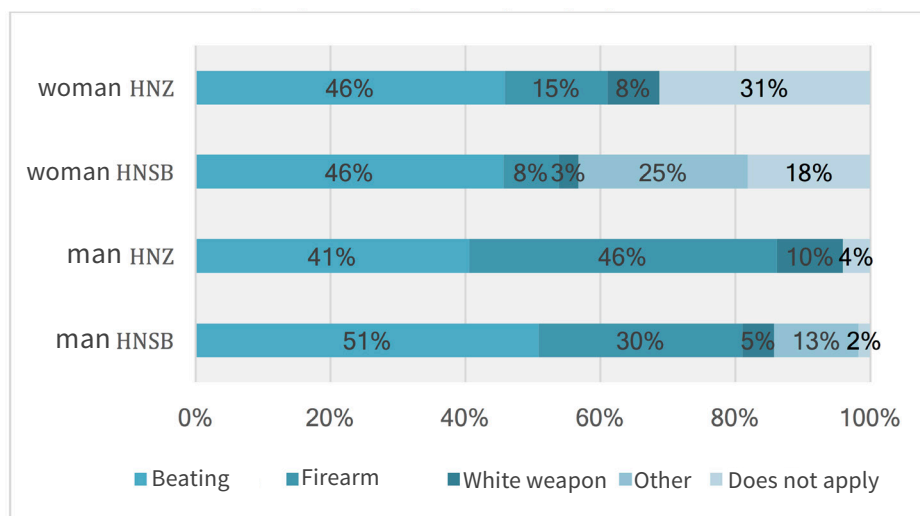
The program focuses on the care of people who have been exposed to violent events, specifically related to four types of injuries: (i) beating, (ii) gunshot wounds, (iii) stab wounds and (iv) others that may include explosive weapons, threats, etc. In addition, there are a number of cases that do not involve physical injuries and treat people who witnessed a violent act and were treated for the psychological effect caused.

According to information collected from the program's care records, and in general terms, most people arrive because they have been beaten, both men and women (figure 2). However, some differences between men and women can be seen in the injuries they suffer. Men are mainly beaten or injured with a firearm (between 81-87%). In fact, in the case of those treated in Zacamil, a greater proportion of men have been shot. A relatively low proportion are injured with a knife or other type of weapon or even treated by the psychological trauma of witnessing violent acts.

On the other hand, almost half of the women have been beaten, while the rest is divided into others (up to 25%) or psychological trauma care (up to 31%). Few women are injured by guns or white weapons. These differences in trauma care could be due to various factors. It may mean that men are more direct victims, while, in relative terms, fewer women are victims of this type of violence but receive more serious damage. Women are more emotionally affected by witnessing acts of violence as indirect victims, and they are more willing to receive psychological support to deal with it.



Figure 2. Users of the program according to hospital and type of injury, 2017 - Aug 2019



Beating, Fire arm, White weapon, Other, N/A

Source: Based on the “Sanando Heridas” program database, Glasswing International

However, the experiences lived in each case are more diverse than what this classification reflects. There are those who have been involved in altercations of uncivility, facing offenders without being linked to any criminal or risk activity. To exemplify, the fictional case of Mario⁶, user of the “Sanando Heridas” program, who is about 30 years old will be told. One night, after working and visiting his mother, he headed home with his niece. At the entrance of his residence, he met a drunk man. When requesting permission to pass, the aggression began with a verbal provocation and mutual shoves, triggering an overflow of violence that ended with multiple shots, leaving Mario with serious leg injuries. Meanwhile, his niece witnessed the whole scene.

Upon arriving at the hospital, Mario received care from “Sanando Heridas” program interventionists. Thanks to the help and support received, upon meeting his aggressor again and making eye contact with him while waiting for the bus, there was no negative reaction from Mario. When he was treated at the hospital, the interventionist told him that he should not hold any grudges against those who hurt him, and this message stuck with him. At the time of the incident, that same reactive Mario resorted to violent attitudes which led him to the events that led him to become a part of the “Sanando Heridas” program. Today, for him, violence becomes a less likely option.

The “Sanando Heridas” program has also treated women. Some have been victims of domestic violence, possibly repeatedly. Others have been treated because they were victims of violence on the street, on the bus, or in other public spaces.

Inevitably, among those who received care are people who could not escape the impending

⁶ Mario is a fictitious name and his history is the result of the combination of various elements of the dialogue from the participants of the qualitative evaluation, which condenses the experiences of the beneficiaries of the program.



gang activity. From serious threats, with ultimatums that not only threaten their lives, but also the lives of their loved ones, to direct attacks. There are also cases where people have witnessed the murder of a relative.

It was a very difficult situation [the loss of her husband], since we were together with our eight-year-old girl and, hearing the gunshots and having my daughter by my side, my reaction was to protect her. My husband said, "the girl, protect yourself." Then I threw myself on her and we fell to the floor. At the moment, I looked back to where my husband was and he was no longer there. I thought: "He was able to protect himself too," but, then, I saw him lying on the ground, in a pool of blood. My reaction was to grab my daughter, cover her face, and protect her [...] It was very difficult to have to lift my husband, hold him, and watch him die.

Ana (fictitious name), 35 years old

While not all people react the same to the violence experienced, there is a common denominator: it has a strong impact on their lives. It is natural to think that, after experiencing or witnessing what, without a doubt, represents an unexpected traumatic event, there are important consequences and alterations. The inventory of immediate emotions and the first days of recovery include: (i) fear, anxiety, anguish or similar, (ii) anger, or similar and (iii) sadness.

These emotions can trigger different effects on people. Fear translates into loss of generalized trust, an approach to life with fear. Sometimes it also becomes difficult to fall asleep, they have nightmares, cry or even feel paranoia.

After the accident, I spent several days in my house, locked up. Everyone told me "you have to leave, you have to leave. You can't stay there." I was scared. I watched a bus pass and I was afraid, I heard a very loud noise and I was afraid. To date, I start to cry even though it's been two months since the incident... [I imagine] somebody is going to start shooting... and kill a lot of people. I am in my house and it is the first thing that I imagine, that someone is going to come in, and will kill me or God knows what... Every week that I was there in the hospital, I was afraid and kept thinking that someone could come in and just shoot and end up killing me.

Carla (fictitious name), 27 years old

Anger and rage sometimes escalate in feelings of hatred or there is a desire for revenge against aggressors, only exacerbated by impotence and frustration. In addition, these emotions are not necessarily exclusive. These are complex, traumatic situations that can overwhelm and generate a combination of different emotions and reactions.

I wanted to take revenge, but I was afraid. Many things crossed my mind to get back at the people who did this to me. I wanted to get even and do everything they did to me. Now, I can speak more calmly.

María (fictitious name), 35 years old



For some, emotional consequences are aggravated by physical consequences.

When something happens to oneself, the mind does not work well. You just start and think, "why me? Why did it have to happen to me?" You feel guilty. You look in the mirror and you feel different. Knowing that I am no longer the same, that I no longer have strength, that there are movements that I cannot make. There are even times when I feel useless.

Rodrigo (fictitious name), 24 years old

There are people who, after becoming victims of violence, are invaded by impotence and uncertainty of not knowing what the result of the whole altercation would be. Sensations can lead to a state of isolation; wanting to flee or run away, paralysis.

The situation that people live in El Salvador makes the intervention of the “Sanando Heridas” program relevant from a perspective of prevention and attention to people who are survivors of interpersonal violence, therefore it is especially important to know the impact of the program activities.

5. Sample

For the impact evaluation, there was a sample of 1,595 people from the hospitals served by the program: "Enf. Angélica Vidal de Najarro" National Hospital in San Bartolo and the "Dr. Juan José Fernández" National Hospital in Zacamil.

Of the total sample, 569 were treated by the program and the rest were unattended patients. The total sample was used to estimate the impact of the program on the results of interest and to estimate the cost-benefit analysis of the intervention. To predict the propensity model to be a victim or to relapse as a victim of interpersonal violence, the 2017-2018 sample composed of a total of 1,396 people was used and said prediction was applied to the 2019 sample.

The qualitative evaluation was supported by 32 in-depth semi-structured interviews that were carried out with people who participated in the program between 2017 and 2019, victims of different types of injuries. Interviews were conducted in hospitals over a period of two and a half weeks, where participants were cited, in some cases still active.



6. Impact evaluation

Objectives

This impact evaluation aimed to answer the following research questions:

1. Is the “Sanando Heridas” program effective in reducing levels of recidivism in violent acts of people who have experienced interpersonal violence events?
2. Are there differences in the impact of the program according to the availability of community reference services in the participant's municipality of residence?
3. What is the cost impact of the intervention?

Methods

The impact evaluation of the “Sanando Heridas” program used non-experimental methods to analyze the effect of the program on recidivism in violent acts. To provide evidence of the impact of the intervention, the variation generated from these components was used applying the econometric strategy of instrumental variables. The explanation of the study design is detailed in the estimation section.

Estimation strategy

The impact assessment of “Sanando Heridas” has estimated the causal effect of the program on the probability or rate of recidivism in violent acts of patients who have experienced interpersonal violence events. According to the theory of change of the program, being intervened through the “Sanando Heridas” program has an effect on different results y_{ijt} recidivism in hospital care for interpersonal violence - as shown in the following specification:

$$y_{ijt} = \alpha_1 + \alpha_2 T_{ijt} + \alpha_3 M_{ij} + \mu_{ijt}$$

Where T_{ijt} is an indicator that takes the value of one (1) if the patient i was treated at the hospital j on day t with the “Sanando Heridas” program, M_{ij} is a vector of controls at patient level and μ_{ijt} corresponds to the error term. In this specification, the result of interest is the coefficient α_2 , which would indicate the average difference in y_{ijt} between the patients treated and those not intervened by the program.

In estimating the equation above using ordinary least squares, we would be assuming that it is not possible for a person's recidivism to determine their probability of being treated, which is a very strong assumption and may not be valid. For example, attention is likely to be more expeditious or secured for those who are already repeat offenders. In this way, we would be obtaining biased estimates of the effect of the program.



For this reason, it is necessary to implement an alternative estimation strategy, such as instrumental variables. This strategy aims to identify consistent estimates of parameters, eliminating the threat of endogenous regressors that hide the direction of causality (Cameron and Trivedi, 2005). This approach is based on two main assumptions: (1) the exclusion restriction in which the only way in which the instrument affects the outcome variable must be through the variable to be instrumentalized and (2) the assumption of relevance or strength of the instrument that indicates there must be a high correlation between the instrument and the variable to be instrumented.

Considering the above, the first step was to identify an instrument that meets the two previous requirements. What is an appropriate instrument given this context? Through the component of trainings to medical personnel, more than 1,300 people from health care services have been trained -- of which more than 700 belong to the hospital services and were trained during the 2016-2017 period. This training aims to sensitize hospital staff to refer patients treated for interpersonal violence with the person responsible for implementing the activities of the “Sanando Heridas” program.

Therefore, the probability of program intervention to the patient i who was admitted to the hospital j due to interpersonal violence is positively related to the percentage of trained health professionals who are on duty during the day t in which the patient has been admitted S_{ijt} . Since shifts in trauma services in Salvadoran hospitals are randomly assigned among employees, we exploit the temporary exogenous variation of S_{ijt} . That is, our instrument will have variation in each day. Therefore, this percentage of trained personnel meets the assumption of relevance — that is, is a good candidate — to instrumentalize T_{ijt} .

In this way, the first stage would be the following:

$$T_{ijt} = \beta_1 + \beta_2 S_{ijt} + \alpha_3 M_{ij} + \epsilon_{ijt}$$

Where S_{ij} corresponds to the percentage of trained health professionals who were on duty when the patient i was admitted to the hospital j for interpersonal violence. Our argument is that the higher the percentage of health professionals who are trained and on duty at the time of patient admission, the probability of being intervened by “Sanando Heridas” program T_{ij} should be greater. Alternatively, we build an additional instrument that considers the average level of compliance — percentage of training modules — of the hospital staff that is on duty at the time of each patient's arrival i .

The second stage of the estimate would be the previously presented equation. In both stages, standard errors will be adjusted by cluster at the hospital level. To ensure that the instrument is not correlated with other unobservable features (that is, $S_{ijt} \perp \epsilon_{ijt}$) we will include control variables at the individual level and fixed hospital and year effects.



Data

Considering the design of the impact evaluation the program and the proposed methodology to predict the propensity to be victims, the data collection included the following administrative information:

1. Collection of records of all patients treated in the hospitals operated during the period 2016-2019, whether or not they participated in “Sanando Heridas”.
2. Daily history of hospital staff assistance for the 2016-2019 period, including the shift and unit they serve and an indicator of having been trained by the medical staff training component of the program.

This project was submitted for evaluation by an ethics committee of the Technological University of El Salvador, who endorsed without objection.

7. Results

7.1 Effect of the “Sanando Heridas” program on recidivism versus service availability

First stage: Percentage of trained hospital staff who are on duty on the day the patient was treated

Tables 1 and 2 present the results of the first stage of the estimate:

Table 1. First stage of the estimation by instrumental variables

Treated	Coef.	Robust s.e.	t	p-value
Instrument 1	0.359	0.134	2.68	0.007

The estimate includes age and gender of the patient and fixed year and hospital effects. Instrument 1 corresponds to the percentage of trained hospital staff that is on duty on the day the patient was treated. The results suggest that the greater the percentage of trained personnel, the greater the probability that the patient will be treated by the program. This effect is statistically different from zero. On the other hand, using the Kleibergen-Paap Wald weak identification tests, the null hypothesis is rejected and therefore we have a strong instrument.

Tabla 2. First stage of the estimation by instrumental variables

Treated	Coef.	Robust s.e.	t	p-value
Instrument 2	0.581	0.185	3.14	0.002

Similar to the results in Table 1, the estimate in Table 2 includes controls for the patient's age and gender and fixed year and hospital effects. Instrument 2 corresponds to the percentage of compliance of the hospital staff training that is in service on the day the patient was treated. The results obtained suggest that, the greater the percentage of trained personnel, the greater the probability that the patient will be treated by the program. The coefficient indicates that, in terms of processes, training and sensitization of personnel increases the reference rate of victims of violence to be treated by specialists by up to 58%.



This effect is statistically different from zero and both the sub-identification and the weak instrument hypothesis are rejected using the respective tests.

Second stage: Probability of recidivism

The results of the second stage of the estimation are presented in the following tables. Tables 3 and 4 present the results on the probability of recidivism. The results obtained suggest that being treated by the “Sanando Heridas” program reduces the likelihood of recidivism in care for violent acts by approximately 24% to 30% - depending on the instrument used for the estimate - which as a result is statistically significant at 10%.

It is important to clarify that these estimates may be lower limits of the potential impact of the program, since they only capture the effect on victims whose recurrence is treated in the same hospitals of the health system.

Table 3. Impact of "Sanando Heridas" on recidivism in care

Recidivism	Coef.	Robust s.e.	z	p-value
Treated by SH - Using instrument 1	-0.30	0.176	-1.70	0.089

Table 4. Impact of "Sanando Heridas" on recidivism in care

Recidivism	Coef.	Robust s.e.	z	p-value
Treated by SH - Using instrument 1	-0.236	0.138	-1.70	0.088



7.2 Cost-effectiveness analysis

In aggregate terms if the program were scaled at a national level, [this impact translates to a potential reduction in health system expenses of USD \\$ 3.3 million annually](#). This calculation is based on data from the Central Reserve Bank of El Salvador on the direct costs of care for victims of violence and psychological and emotional costs and the number of victims treated in the public health system for interpersonal violence.



8. Qualitative evidence

Qualitative research was designed to collect inputs on the perceptions and opinions of program users, with the purpose of identifying the effects of the traumatic event experienced in each case and how the intervention of the program could have influenced their emotional stability and attitude towards violence.

The investigation captured the dialogue of the people treated, regarding violence, their emotional state and the program, and the changes manifested and suggested in their posture and attitudes related to violence, identifying which of these were attributed to the program.

The cross-sectional analysis of the interviews was carried out by means of the Documentary Analysis Method, which allows the analysis of elements of the participants' dialogue, as well as non-verbal language, such as silences, reactions, and tone of voice. With the verbatim transcript of the interviews, a first reading is done, while listening to the recording of it, to identify potential hypotheses that answer the research questions.

In a second stage, interviews are coded around the identified hypotheses, which allow them to be validated, refuted or nuanced. Finally, a triangulation and interpretation of the results obtained is performed. In concise terms, this method of analysis allows ideas and mental predispositions to emerge in individuals, through their discourse, which direct their decisions even unconsciously, which in some cases they themselves do not necessarily identify in the concrete. The main findings obtained from the analysis are developed below.

8.1 Strategies to break the cycle of violence

The dialogue the interventionists of the “Sanando Heridas” program use is a key strategy to breaking the cycle of violence. Along with informed trauma care skills, including the ability to identify the possible consequences that patients will have to face in their recovery, both instruments reinforce the idea of not perpetuating violence. Many users directly attribute that their way of acting has changed, not only in respect to revenge but in life in general. It was identified that, thanks to the program, some users have developed a reflective capacity, which was not present before. They reflect on the possible consequences of their actions.

Specifically, the messages transmitted by “Sanando Heridas” interventionists can become very powerful and change the living conditions of their users. They can save patients from violence.

⁶ Barboza Martínez, A. 2006. On the method of documentary interpretation and the use of images in Sociology: Karl Mannheim, Aby Warburg and Pierre Bourdieu. *Sociedade e Estado*, 21 (2), 391-414.



The multiple testimonies are proof that the attitudes of the users change, some inclined to resort to violent behavior with which to confront reality are now less inclined to do so. Thus, the messages transmitted regarding violence represent one of the facilitators that contribute positively to breaking the cycle of violence.

In El Salvador we are very violent and they teach us to be violent. We want to fight that and they [the program's team] are here for us to stop being violent. Every time we come they give us therapy, they ask us how we have been. Sometimes we feel that our heart is "hurt" and here they have helped me to get better.

Andrea (nombre ficticio), 35 años

8.2 Key factors to heal wounds

There are several factors that can contribute to the intervention being successful in a user or not. However, the main one, which is the essence of the program itself, is the role played by **interventionists**. When talking about the program, users mainly highlight the specific features and attention they receive from them. This is particularly true for those who showed or attributed any change or contribution of the program in their management of the situation, emotions or attitudes. The interventionists' work, active listening and genuine interest in the welfare of others, allows the message to be transmitted successfully. Thanks to this, when talking about how to handle the trauma and how not to reproduce the patterns of violence, users are willing to absorb their message.

In "Sanando Heridas"; I felt relieved to be able to talk to someone I knew was not going to speak. Telling her what happened (the interventionist) was like taking a big weight off my shoulders. I felt liberated.

Susana (fictitious name), 36 years old

Therefore, the personalized attention offered by each of the interventionists and the bond developed with users is a valuable asset for the proper implementation of the program. Sometimes, users even claim to have replicated the teachings of the program with those close to them who have experienced violent events.

Similarly, there are other enhancers of this key factor. For example, the immediacy of the aid is **very important**, because it allows users to identify the interventionist as a support reference, a focus of stability that will help them cope with the moment they are going through, beyond the medical assistance they receive.

In addition, the longer the contact with the program or the community references related to **psychological care seems to indicate better results**. In other words, the intervention has seemed to have a better effect on influencing those users who were for a longer time exposed to psychological care in some way. For example, those who were part of groups of people who



receive support.

From the users' perspective, references related to the economic field seem to be the most appreciated, both those that offer a direct economic benefit and those that help them to acquire skills that improve their employment opportunities. This is particularly true for those who are compromised in their ability to work during recovery.

References to receive legal advice are usually not common since, on several occasions, there is not even a complaint due to lack of trust or the risk it may pose for victims. For those who have received additional psychological attention, they say it is very helpful to change their thinking and process emotions.





The technique of sub-modalities of neurolinguistic programming as a trauma coping strategy

Interventionists use a technique based on neurolinguistic programming that is based on the visualization and memory of the violent event experienced by the participants of the program. This technique usually requires time to be applied, but above all, that the environmental conditions are adequate. Therefore, it is not necessarily used with all users. To do this, you can resort to the imagination of the user and request that you mentally visualize yourself in the conditions that you deem necessary to feel comfortable revisiting the event that happened, allowing you to isolate yourself or abstract yourself from any interruption or distraction to achieve the exercise.

It is requested that you visualize the memory in your mind, with the freedom to describe it or not and at the level of detail you deem appropriate. The description of the facts is not directly requested, but of the emotions or symptoms and any physical manifestation thereof are. Depending on the case, the memory can be identified as an image, as a succession of scenes, sounds, etc. The main objective is to alter or modify the characteristics or conditions of the memory, to modify the meaning and associated symptoms. In this way, if the memory is represented by a succession of scenes, which are reproduced in the mind, the user tries to pause them, modify the color, brightness, intensity in which he visualizes the scene and convert it into an image that reduces its size until you can hold it in your hands.

Once in his hands, the user is given the choice to decide what to do with the image. According to the interventionists, some decide to destroy it, get rid of it, save it or even bury it and plant a plant, so that a flower grows.

This technique seeks to show them that people can recover a certain sense of control over what happens in their lives and transform the negative memory, which is associated with emotions such as fear, anxiety, anguish, into something else, that they themselves can decide. But, in turn, the application of the technique requires users to face the memory and identify emotions. This can be positive for your long-term emotional management, since it represents a space for the expression of emotions that is necessary for the correct assimilation of the events experienced. Thus, it can allow them to make sense of the facts and avoid the accumulation or repression of negative emotions.

Source: Own elaboration based on interviews with program interventionists



Community references have the potential to reinforce the results of the program and represent a window of opportunity for intervention -- each one from a different angle, but particularly those related to prolonged psychological assistance. In some ways, users need to recognize that interpreting tools (consciously or unconsciously) as avoidance strategies is not necessarily the best way to deal with related emotions in the long term. They must learn to identify, control and express their emotions in ways that are healthy, in order to ensure their well-being. In addition, it is important to carry out conscious actions that take them away from violence, to the extent that it is under their control. The program pays for and offers some tools to achieve that goal, although success will depend on how users interpret its usefulness and use.



9. Evaluation conclusions

Based on the impact evaluation, the program has the following effects:

- People who have been victims of violent acts and who have been intervened by “Sanando Heridas” specialists reduce their likelihood of recidivism for a violent act by up to 30%, compared to other patients who have not been treated by the program. This may suggest that patients increase their ability to protect themselves, thus reducing their propensity to be victims of violent acts.
- National statistics indicate that 3,499 victims have been treated for injuries with hospital care in the public health system. If the costs of medical care for emotional and psychological damage are added, the cost per victim amounts to USD \$3,180. Without any type of care, this generates a total cost in health for the State of USD \$1.13 million. According to our preliminary results, the intervention could reduce the number of patients treated by 1,050, which implies a reduction in the total cost by 27.2% (USD \$3.3 million). Therefore, a preliminary analysis of the cost-benefit of the intervention indicates that the net benefit of this program is USD \$2.45 million.
- In terms of processes, the preliminary results of the evaluation indicate that training and sensitization of personnel in the importance of trauma management increases the reference rate of victims of violence to be treated by specialists, up to 58%.

Based on the qualitative evaluation, the people attended by the program achieved the following results:

- The program is effective in reassuring and returning users to a functional state, after the traumatic event related to violence.
- Messages transmitted to users about the use of violence represent one of the facilitators that contribute to breaking the cycle of violence.
- The ability of each interventionist to create a bond of trust, based on the demonstration of genuine interest in the user's emotional well-being, is a valuable asset so that the program can influence attitudes towards violence.
- The immediacy and permanence in the interaction with psychological care seem to enhance the results of the program.
- Community references represent an opportunity to enhance the results of the program, to the extent that they can prolong the permanence in the intervention and better permeate their way of thinking.

