

An Ounce of Prevention: Comparing the Cost of Treating Victims of Interpersonal Violence to the Cost of a Violence Prevention Program at an Urban Trauma Center



San Francisco Injury Center

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Background

The severity and disparity of violent injury is staggering:

- 53 per 100,000 African Americans and
- 20 per 100,000 Latinos die of homicide yearly
- That number is 3 per 100,000 for Caucasians

•Although only 6% of San Francisco is African American, nearly 60% of high risk violently injured individuals are African American.

•The injury recidivism rate for interpersonal violence is 35-55% nationwide.

About the Wraparound Project at the San Francisco General Hospital (SFGH) Trauma Center:

The Wraparound Project is a violence prevention program that aims to reduce the recidivism rate by providing access to services that go beyond the medical treatment of injury by addressing the risks involved in the epidemic of violence.

•Preliminary data shows that the Wraparound Project reduces the risk of both violent injury recidivism and future involvement in the criminal justice system.

•There have been no previous studies of the cost of treating trauma patients with injuries from interpersonal violence at SFGH.

Hypothesis

- The cost to treat patients with injuries due to interpersonal violence each year is significantly higher than the cost to run the Wraparound Project at the SFGH Trauma Center.

Objectives

- Estimate the average cost to treat a victim of intentional violent injury at SFGH.
- Compare these costs to those of the Wraparound Project to determine if Wraparound can potentially provide a cost savings to SFGH.
- Data from this type of analysis is of value to community, governmental and financial stakeholders, and may be useful to help guide future policy related to violence prevention.

Methods

•Retrospective study of 39 patients whose injuries necessitated trauma activation at SFGH between 2006 and 2007.

•Eligibility: patients with injuries due to interpersonal violence, aged 14-30 years old who later became Wraparound Project clients.

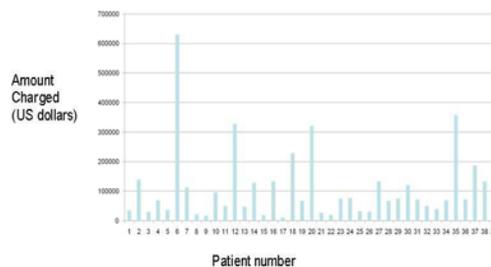
•Hospital service utilization data were obtained from SFGH administrative databases, specifically the hospital's inpatient utilization databases and the physicians' professional fee database. Charges for most post-operative visits are included in the professional fees.

•Charges included in the study were limited to imaging, surgical procedures, anesthesia, room charges and professional fees.

•Using charges (billed amounts) instead of costs. Charges represent the full amount billed while costs represent the value of the resources used to produce the services.

Results

Charges borne by SFGH per Patient with Injuries due to Interpersonal Violence 2006-2007



Average charges per patient (n=39) = \$108,361 (95% confidence interval 70,384 to 146,338)
Median = \$75,076

Range= \$10,024 to \$629,525

Standard deviation = 121,003

Gunshot Wounds and Stabbings Resulting in SFGH Trauma Activations 2003-2007

	Gunshot wounds		Stab wounds	
	Patients	Deaths	Patients	Deaths
2003	110	26	174	4
2004	171	37	196	5
2005	175	43	169	1
2006	228	45	195	6
2007	234	50	208	5

Source: SFGH Trauma Registry

- Shootings and stabbings make up the vast majority of causes of interpersonal violence that result in trauma activations.
- Extrapolating the average cost to treat each patient to the 442 shooting and stabbing trauma activations from 2007 would give a total charged amount of \$47,895,831.
- Extrapolating the median would give a total charged amount of \$33,183,636 for the 442 patients in 2007.

SFGH Wraparound Project Annual Budget 2007

Personnel Expenses	\$97,614
Non-personnel Expenses	\$11,619
TOTAL EXPENSES	\$109,233

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Conclusions

•We estimated the cost per patient with injuries due to interpersonal violence and the cost of the SFGH Wraparound Project.

•In addition to improving morbidity and mortality outcomes, we speculate that this preliminary data shows that the Wraparound Project would provide a large cost savings to SFGH and to the City of San Francisco.

•Wraparound Project's annual cost of \$109,233 is only slightly larger than the average per injury cost of \$108,361. These data show that Wraparound will be cost neutral once it prevents one subsequent injury and will have a cost benefit once it prevents two injuries.

Challenges:

•No central warehouse for information technology services at SFGH. Outdated digital medical record technology limits capability of studies using medical and financial data.

Limitations

•We did not use a control group in this study. Without a control group, we cannot evaluate the cost-effectiveness of the Wraparound Project.

•By using charges, we are not taking into account the actual costs of the services provided or the collected amounts from insurance companies or individuals.

•We did not include many charges, including medications, supplies, physical therapy and mental health visits. This simplification may have resulted in an underestimation of charges.

•We do not know if there is something inherently different about violently injured individuals who later become Wraparound clients versus those who are never become Wraparound clients.

Implications for Policy and Areas for Further Research

Further efforts should take a more in depth look at the true costs of intentional violent injury. Future studies should:

- include costs of medications, equipment, rehabilitation, outpatient medical services, and indirect costs such as lost productivity.

Additionally, future studies should also more thoroughly detail the costs of the Wraparound Project by adding the costs of contracted services utilized by clients, such as:

- outpatient physical and mental health care, educational and vocational programs, court advocacy and other services provided by public, private and non-profit organizations for Wraparound Project clients.

There is ever-increasing interest in finding ways to cut health care costs, especially in the midst of current challenging economic times. This type of violence prevention is a promising example of how health care agencies and local governments may be able to both cut costs and at the same time improve the health and wellbeing of high-risk individuals.

