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

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Background
The severity and disparity of violent injury is staggering:
- 53 per 100,000 Americans die of homicide yearly
- 20 per 100,000 Latinos die of homicide yearly
- That number is 5 per 100,000 for Caucasians

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

The injury readmission rate for interpersonal violence is 35-50% 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 readmission rate by providing access to services that go beyond the medical treatment of injury by addressing the risk factors involved in the epidemic of violence.

Preliminary data shows that the Wraparound Project reduces the risk of both violent injury readmission 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 communities, governments, 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 2003 and 2007.
- Eligibility: patients with injuries due to interpersonal violence, aged 14-30 years of 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 fee.
- Charges included in the study were limited to imaging, surgical procedures, anesthesia, non-charges and professional fees.
- Using charges billed during the time period of the study, the costs were representative of the services provided.

Results

Charges borne by SFGH per Patient with Injuries due to Interpersonal Violence 2003-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Inpatient Costs</th>
<th>Outpatient Costs</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>$187,064</td>
<td>$47,314</td>
<td>$234,378</td>
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<tr>
<td>2004</td>
<td>$210,284</td>
<td>$54,411</td>
<td>$264,695</td>
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<tr>
<td>2005</td>
<td>$217,367</td>
<td>$60,523</td>
<td>$277,890</td>
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<tr>
<td>2006</td>
<td>$226,456</td>
<td>$62,596</td>
<td>$289,052</td>
</tr>
<tr>
<td>2007</td>
<td>$237,539</td>
<td>$64,690</td>
<td>$302,229</td>
</tr>
</tbody>
</table>

Average charges per patient (n=39) = $218,085.69 (95% confidence interval 203,641 to 233,529)
Median = $203,076
Range = $110,049 to $213,052
Standard deviation = $12,003

Implications for Policy and Areas for Further Research
Further efforts should be directed at reducing the costs of interpersonal violence. Future studies should:
- Include costs of medications, equipment, rehabilitation, outpatient medical services, and indirect costs such as lost productivity.

Additionally, more studies should be conducted to 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 police, private and non-profit organizations forWraparound Project clients.

There is an increasing interest in finding ways to cut health care costs, especially in the midst of current challenging economic times. This type of violence prevention in 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.

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