The Bullet as the Pathogen: Closing the Revolving Door of Violence

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Professor of Surgery and Anesthesia
Director Wraparound Project
Co-Director Center for Global Surgical Studies
University of California, San Francisco

A Scope of Practice

- Focus on the individual’s acute needs then
- Concentrate on the broader context
- ASK BIGGER QUESTIONS
- Apply principles of public health and chronic disease
- Observe patterns with an eye on the population in need

Surgery and Public Health?

Perceptions of Surgery

- Curative
- Focus is on the Individual
- High-tech, high-skills
- Not Cost-effective

Surgery and Public Health

Public Health
- Prevention approach
- Focuses on Populations
- Low-tech, variable skills
- More cost-effective
- Equity
NEARLY 6 MILLIONS LIVES
Injury is a Public Health Problem

Severity and Disparity of Homicide in Youth and Young Adults

#1 cause of death in young African Americans, 15-34 years old
#2 in Latinos, 15-34 years old

53 per 100,000 African Americans
20 per 100,000 in Latinos

The San Francisco Story
The Urban America Story
Who Owns It?

“Violence is a public health issue”
C. Everett Koop, US Surgeon General, 1984

76% of homicide and assault victims had criminal histories
African American men are 13 times more likely to be injured (15-34)
2 per 1000 AA men are injured from violence
4% of population and 60% of gunshot victims

Surveillance

The Public Health Model

- Identify risk and protective factors
- Develop and test prevention strategies
- Define the problem
- Assure widespread adoption

Injury Surveillance
Research
Prevention & Control
Policy
Evaluation
Advocacy
Services
Social Determinants of Health

- Complex interplay of social and economic systems
  - Social and structural systems in which people exist
  - Systems designed to address people’s health issues
  - Shaped by income, power, and resources
    - Globally, nationally, locally
- What this means for PREVENTION
- Health and Wealth: Population Health in 2050 and implications for the US

Risk Factors for Violence: SOCIAL DETERMINANTS OF HEALTH

- Poverty
- Family dysfunction
- Access to Guns
- Mental Illness
- RECIDIVISM
- Intergenerational Health and Chronic Disease
- Substance abuse
- Lack of role models
- Educational deficiencies
- Hopelessness
- Joblessness
- Environment
- Normalization

Protective Factors

- Adult mentorship
- Interpersonal skills
- Commitment to school
- Access to resources
- Community morés:
  - Social cohesion + willingness to intervene for the common good = reduction in violence
**APPROACHES TO PREVENTION**

Scared safe? Abandoning the use of fear in urban violence prevention programmes

*Purtle J, Cheney R, Wiebe DJ, Dicker RA*  
*Injury Prevention 2015;21:140-141*

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**The Trauma Center’s Role in Public Health and Prevention**

- The Teachable Moment: Precedent for it
- Risk reduction strategies
  - Public Health Model
  - Culturally Competent Case Management
  - Community and City partnerships

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**The Public Health Model**

- Develop and test prevention strategies
- Identify risk and protective factors
- Define the problem
- Assure widespread adoption
THE WRAPAROUND PROJECT: A HOSPITAL BASED VIOLENCE INTERVENTION PROGRAM

Cornerstones

The Public Health Model for Injury Prevention

Seizing the Teachable Moment

Long-term Culturally Competent Case Management

Providing Links to Risk Reduction Resources

The Wraparound Project

Seize the Teachable Moment

The Case Manager

- Working knowledge of urban violence
- Experience overcoming violence
- Crisis management
- Positive force in the community

The Wraparound Project

AIMS

- Provide intervention to reduce recidivism and incarceration
- Reestablish **standard of care** for violent injury in trauma centers serving communities affected by violence
Intervention Program Design

Key Partnerships

- Community morés:
  - Social cohesion + willingness to intervene for the common good = reduction in violence
- Community Response Networks
- Glide Memorial Church
- Carecen tattoo removal
- Family Mosaic of Bayview
- Arriba Juntos
- Community GED Programs
- Instituto Familia de la Raza
- Healthright 360
- Trauma Recovery Center

Vocational Training Program with Friends of the Urban Forest

- Teaches victims of violence skills and knowledge to be arborists
- GREAT job opportunities
- Funded by Metta, Bank of America, Hearts

AT and T Advocacy Center

- Tutorial Services
- Partnership with School District
- Life skills
- Success Center Job Readiness
- Project Rebound at SFSU
- Men’s Group
Injury Surveillance
Advocacy
Research
Services
Prevention & Control
Policy
Evaluation

COMPONENTS OF PROGRAM EVALUATION

FOMATIVE EVALUATION

INDEPENDENT PREDICTORS OF SUCCESS

IMPACT EVALUATION

OUTCOME EVALUATION

Hospital-based violence intervention: Risk reduction resources that are essential for success

Randi Smith, MD, MPH, Sarah Dobbins, MPH, Abigail Evans, BA, Kimen Balhotra, BS, and Rochelle Ami Dicker, MD, San Francisco, California

Journal of Trauma and Acute Care Surgery
2013; 74:976-982
Specific Aims

1. **PROCESS EVALUATION**: To determine the screening, approached and enrollment rates of clients
2. **IMPACT EVALUATION**: To determine capacity at meeting individual risk reduction needs
3. **OUTCOME EVALUATION**: To determine the overall injury recidivism rate and compare it to our historical institutional control
4. To determine which risk reduction resources are independent predictors of program completion and success

### Need Success Rate

<table>
<thead>
<tr>
<th>Need</th>
<th>Success Rate</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health</td>
<td>86%</td>
<td>5.97</td>
</tr>
<tr>
<td>Employment</td>
<td>86%</td>
<td>4.41</td>
</tr>
<tr>
<td>Housing</td>
<td>75%</td>
<td>1.12</td>
</tr>
<tr>
<td>Education</td>
<td>72%</td>
<td>0.63</td>
</tr>
<tr>
<td>Family Counseling</td>
<td>80%</td>
<td>2.26</td>
</tr>
<tr>
<td>Court Advocacy</td>
<td>76%</td>
<td>1.29</td>
</tr>
<tr>
<td>Vocational Training</td>
<td>70%</td>
<td>0.69</td>
</tr>
<tr>
<td>Driver’s License</td>
<td>89%</td>
<td>3.53</td>
</tr>
<tr>
<td>Other</td>
<td>66%</td>
<td>1.48</td>
</tr>
</tbody>
</table>

### Case manager exposure level in the first 3 months of WAP

- **No**
- **Yes**

- **0-1 hours (low)**
- **1-2 hours (moderate)**
- **3-6 hours (high)**

- **0.0%**
- **5.0%**
- **10.0%**
- **15.0%**
- **20.0%**
- **25.0%**

- **Percent**
Conclusion

• Providing mental health care and employment opportunities is predictive of success.

• The value of early “high dose” intensive case management is essential.

A decade of hospital-based violence intervention: Benefits and shortcomings

Catherine Juillard, MD, MPH, Laya Cooperman, MPH, Isabel Allen, PhD, Romain Pirracchio, MD, PhD, Terrell Henderson, Ruben Marquez, Julia Orellana, Michael Texada, and Rochelle Ami Dicker, MD, San Francisco, California

• 466 clients enrolled
• Most common needs: Mental health, housing, employment
• Recidivism rate: 50% less than historical controls
• Meeting education needs was associated with success
• Housing: A risk factor?
The Costs of Violence

Physical
- Hospital Care
- Skilled Nursing
- Rehabilitation
- Functional Impairment

Emotional
- PTSD
- Depression
- Anxiety
- Fear

Societal
- Unsafe Neighborhoods

Economic
- Hospital Costs
- Lost Wages

$282 Billion Each Year

Specific Aims
1. To determine the mean cost of trauma per individual at our institution
2. To determine the mean cost of our hospital-centered violence intervention program per individual
3. To compare the cost-utility of hospital-based violence intervention programs to no intervention in young adults victims of interpersonal violence

Markov Analysis

Saving lives and saving money: Hospital-based violence intervention is cost-effective

JOURNAL OF TRAUMA AND ACUTE CARE SURGERY VOLUME 78, NUMBER 2
Hospital-centered violence intervention programs cost money but cost less than caring for patients after re-injury.

**WHO FUNDS THIS?**
What do they want to see?
- Mayors and Supervisors
- Departments of Public Health
- Foundations
- Federal government
- Private donors
- ...POLICY CHANGE

**National Network of Hospital-Based Violence Intervention Programs**
NNHVIP

• Now over 30 programs
• Multiple working groups
• Best practices and curriculum development
• New health care taxonomy development
  – California AB 1629 through Crime Victims Compensation Program
• Annual conferencing with Cure Violence

American College of Surgeons Committee on Trauma

• Set criteria for Trauma Center verification

• Subcommittee: Hospital Based Violence Intervention:
  – Best practices guide
  – Research agenda
  – Potentially change criteria

Future Directions

• Multi-Institutional Database
  – Sponsored by California Wellness
  – Over 4000 clients
• Policy to incorporate “Trauma Informed Care”
• Development of screening criteria
• Demonstrating value beyond recidivism

Explicating Hospital-Based Violence Intervention Program Risk-Assessment via Qualitative Analysis

Erik J. Kramer BA1,2, James Dodington MD1, Ava Hunt BA1, Terrell Henderson BA1, Rochelle Dicker MD2, Catherine Julliard MD, MPH1; Yale School of Medicine1, University of California San Francisco2

Erik J. Kramer BA
Yale School of Medicine
M.D. Candidate 2019
# Category A: Elevated-Risk Indicators

<table>
<thead>
<tr>
<th>Category A: elevated-risk indicators</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1 Imminent threat of violence (real or perceived, unresolved conflict)</td>
<td>Yes/no</td>
</tr>
<tr>
<td>A.2 Heavily connected with gangs, gang/criminal lifestyle (carrying weapons, involved in aggravated robbery(s), associates with elevated-risk individuals, views injury as &quot;badge of honor&quot;)</td>
<td>Yes/no</td>
</tr>
<tr>
<td>A.3 History of 2+ GSW, SW, other assaults</td>
<td>Yes/no</td>
</tr>
<tr>
<td>A.4 Incarceration/probation/parole history</td>
<td>Yes/no</td>
</tr>
<tr>
<td>A.5 Heavy family/social network history of violence</td>
<td>Yes/no</td>
</tr>
<tr>
<td>A.6 Disengaged/unreceptive (does not want services)</td>
<td>Yes/no</td>
</tr>
</tbody>
</table>

## WHY Health Care providers?

Thank you