The Social and Economic Costs of Firearm Violence

Institute of Medicine

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Firearms:

There is much violence without firearms. Various substitutes for firearms, but

• Lethal
• Portable
• Concealable
• Allow for killing at a distance (impersonal)
Costs

Many types of costs,

Various ways to categorize costs

• Individual
• Interpersonal (e.g. family)
• Community
• Society
## Types of Firearm Violence 2007 (US)

<table>
<thead>
<tr>
<th>Category</th>
<th>Deaths</th>
<th>Non-fatal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unintentional</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-inflicted</td>
<td>300*</td>
<td>5,000*</td>
</tr>
<tr>
<td>Other-inflicted</td>
<td>300*</td>
<td>3,000*</td>
</tr>
<tr>
<td><strong>Intentional</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-inflicted</td>
<td>17,350</td>
<td>3,000</td>
</tr>
<tr>
<td>Other-inflicted</td>
<td>13,000</td>
<td>44,500</td>
</tr>
<tr>
<td>• Crime/intimidation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collective Violence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>War</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*crude estimates
Key Finding:

- Need better data
- More research
I. Unintentional

“Man Accidentally Kills Best Friend in Misfired Gun Prank” Vermont: November 2011

“A man shot and killed his best friend in what police say was an apparent prank that went horrifically wrong. The 24 year old from Vermont tried to prank his sleeping friend by waking him up with the startling sound of an air rifle but the shooter mistakenly used a real rifle. Both men were visiting the residence of a mutual friend for Thanksgiving ...”
Unintentional Shootings

Costs
Individual: Morbidity
Mortality
Trauma
Interpersonal: Grief
Guilt
Trauma
Community: 
Society: 

Three families affected

- Victim
- Shooter
- Location of shooting
Size of the Problem

Fatalities

Vital statistics inaccurate: 60% sensitivity and 60% specificity

NVDRS accurate: 99% sensitivity and 98% specificity

Barber & Hemenway, Accident Analysis & Prevention, 2011

Maybe 500/year

Young Age of victim: median age 23
Male: 90%
## Size of the Problem

### Fatalities

<table>
<thead>
<tr>
<th>Age of Victim</th>
<th>% Other Inflicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>78%</td>
</tr>
<tr>
<td>15-24</td>
<td>60%</td>
</tr>
<tr>
<td>25-54</td>
<td>33%</td>
</tr>
<tr>
<td>55+</td>
<td>19%</td>
</tr>
</tbody>
</table>

Hemenway et al. Accident Analysis Prevention 2010

Overall 50% other inflicted

In other inflicted, young age of shooter: 82% underage 25
male: 92%
Unintentional Non-Fatal Gun Injuries

WISQARS inaccurate
8,000 – 10,000/year
II. Intentional Self-Inflicted (Suicide)

“Suicide at Gun Shop” New Hampshire, 2007

“A 29 year old man who was enrolled in a gun safety course at PSMG gun shop fatally shot himself there... The business’ owner and gun safety teacher was standing beside the man when he put the handgun against his temple and fired the shot...”
Breakdown of Costs

Individual:  Morbidity  Mortality

Interpersonal: Grief  Guilt

Community: ---------  (copycat)

Society: ---------
Many suicides impulsive, risks transitory
**Nearly lethal suicides**

N=153 (ages 13-34)

<table>
<thead>
<tr>
<th>Time between thinking about suicide and taking action:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;5 minutes</td>
<td>24%</td>
</tr>
<tr>
<td>&lt;20 minutes</td>
<td>48%</td>
</tr>
<tr>
<td>&lt;1 hour</td>
<td>70%</td>
</tr>
<tr>
<td>&lt;8 hours</td>
<td>86%</td>
</tr>
</tbody>
</table>

Suicide and Life-Threatening Behavior, 2001 (data from author)
What percent of survivors of near-lethal suicide attempts eventually complete suicide?

• 10%
• 25%
• 50%
• 75%
• 90%
< 10% of survivors of near-lethal suicide attempts commit suicide
Firearm Suicides: Size of the Problem

Suicide by Firearm, Deaths 2007

Number of Deaths

00-04 yrs 05-09 yrs 10-14 yrs 15-19 yrs 20-24 yrs 25-29 yrs 30-34 yrs 35-39 yrs 40-44 yrs 45-49 yrs 50-54 yrs 55-59 yrs 60-64 yrs 65-69 yrs 70-74 yrs 75-79 yrs 80-84 yrs 85+ yrs Unknown yrs
Suicide: Size of Problem

<table>
<thead>
<tr>
<th></th>
<th>*</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>16,000</td>
<td>6.3</td>
</tr>
<tr>
<td>Black</td>
<td>1,000</td>
<td>2.5</td>
</tr>
<tr>
<td>Male</td>
<td>15,200</td>
<td>10.4</td>
</tr>
<tr>
<td>Female</td>
<td>2,200</td>
<td>1.4</td>
</tr>
</tbody>
</table>
III. Intentional- other inflicted (Assaults/Homicide)

“An Arrest in City’s latest Homicide” Omaha, NE 2011

“_____ , 18, was arrested at booked at 1:30A.M. Police said Joe Piper was shot several times at Seymour Smith Park Tuesday afternoon. According to witnesses, multiple shots were fired. Witnesses said they say a man pull a gun out as two men were arguing... ‘it is very taxing when you have so many events happen in such a short amount of time’ said Police Chief Hayes.
Costs

Individual: Morbidity
Mortality: SCI, TBI

Interpersonal: Grief
Guilt
Trauma
2 families
Witnesses

Community: Large
Society: Large
Size of Problem

Firearm Homicide (US): 13,000
Victims: 54% African American (7x white rate)
86% Male
Peak age 20-24
Median age 27
2/3 victims aged 15-34
Size of the Problem

• Nonfatal Firearm Assaults
• Firearm Robbery / Intimidation

• Morbidity: 44,500
• Robbery/intimidation: 1 million*

*crude estimate
Individual Costs:

Gun Crime (even if no physical injury)

• Loss of property
• Shame/guilt
• Intimidation (IPV)
• Fear, lack of freedom
Most crimes/violence do not include firearms

- Simple Assault
- Purse snatching
- Child abuse
- Bullying
- Elder Abuse
Effects from fear / witnessing / victimization / perpetration on individuals involved AND the community

- Psychiatric
- Emotional
- Behavioral
- Health
Effect from fear / witnessing / victimization / perpetration on individuals involved AND the community

• **Psychiatric:** PTSD, brain damage, personality change, depression, anxiety, intrusive thoughts, sleep problems

• **Emotional:** anger withdrawal, low aspirations, quality of relationships, survival guilt, despair, grief, loneliness, nervousness,
Effect from fear / witnessing / victimization / perpetration on individuals involved AND the community

- **Behavioral:** Academic performance, risky sexual behavior, substance abuse, delinquency, violence

- **Health:** Asthma, low birthrate of children, heart disease
Effects of...

• Economic Development
  – e.g. entrepreneurship, productivity
• Education systems
  – e.g. special ed, counseling, school disruption
• Work force
  – e.g. absenteeism, hiring / firing
• Social services
  – e.g. child protective services, adult protective services
All these costs “keep on giving”

e.g. quality of relationships, risky sexual behavior, low birth-weight children
Community Costs:

Trauma / Stress

– Even for perpetrators
– Even for MDs
Community Costs:

Medical care

• Half born by taxpayer

• Short and long term
  – e.g. SCI, TBI
Community Costs:

Criminal Justice System

Prevention / Deterrence: gun laws, police

Enforcement: Police, DAs, judges, prisons, parole officers
Community Costs:

Gun Laws

• e.g. inconvenience to gun owner
Community Costs:

Avoidance and Protection Costs
Avoidance Costs:

Guard against being shot

• Work (when and where willing to work)
  – e.g. Restrictions on evening work
Avoidance Costs:

Recreation / Shopping / Leisure

• Where allow children to play (obesity)
Avoidance Costs:

Neighborhood Deterioration
Loss of social capital and role models

- Residential location decisions ("White Flight")
- Commercial locational decisions
- Tourism
Protection Costs:

“Target hardening”

• Metal detectors in schools
• Metal detectors in airports
• Police bullet proof vests
• Secret service
Protection Costs:

“Target Hardening” (cont’d.)

- Obtain guns
- Join gangs
Major problem is ‘positive feedback’ loop (e.g. youth violence)

• Other-inflicted intentional gun violence → more such violence....
  – Guns for protection
  – Retaliation
  – Normalization of violence
  – Trauma
  – Neighborhood deterioration
Societal costs:

Political Stability

Mayor of “Most dangerous city in world” April, 2011

Mayor of Juarez (2007-2010): “They killed two chiefs of police, judges, cops. They even killed the administrative assistant whose only job was to chose which cop worked which day.”
Political Stability (cont’d.)

• Drug cartels (Mexico)
• ‘Gun pollution’ in Philippines excuse for Marcos dictatorship (1972)
• Assassinations (e.g. John, Bobby, Martin) (U.S.)
• Civil war
Societal costs:

Cross-border issues

• War
• Refugees
• International gangs
• Movement of guns
Conclusion

The costs of firearm violence, particularly, interpersonal street violence, are grossly underestimated by focusing only on morbidity and mortality.