Firearm Violence – An American Epidemic

Michael A. Gittelman, M.D.
Professor, Emergency Medicine
Cincinnati Children’s Hospital
Objectives

• The gun violence epidemic – true numbers
• History of gun prevention in the US
• Interventions that have been proven to work
• Controversies still exist
Sandy Hook Elementary School, Newtown, CT – Dec 14, 2012

• 26 people shot and killed  
  – 20 children, 6 adults
• 20 yr old assailant killed his mom, grabbed 3 guns  
  – Semi-automatic AR-15 assault rifle  
  – 2 pistols
• Shot his way through locked security system
Other Recent Gun Violence

• Aug. 27, 2012 – Baltimore County student critically injured on first day of school. Believed to be shot by another student

• July 20, 2012 – 24 y/o opens fire in a crowded movie theatre in Aurora, Colorado. 12 people killed, 58 wounded.

• April 2, 2012 – A nursing student expelled from a small Korean Christian university in California went on a shooting rampage, killing 7 people.

• Feb. 27, 2012 – At Ohio’s Chardon High School just after school began a 17 y/o targeted one student. 3 deaths.
Gun Terminology

• Firearm - weapon that launches a projectile at high velocity by burning a propellant.
  – Non-powder
• Assault weapon - semi-automatic firearms that accept detachable magazines and possess features.
• Handgun
  – Revolver
  – Pistol
  – Junk guns - compact, inexpensive handguns with perceived low quality
• Caliber - internal diameter of the barrel, or the diameter of the projectile
Scope of the Problem

• Firearms are the 2nd leading cause of fatal injury in the United States
  • Motor Vehicle Collisions rank first
• In 1994, 38,000 gunshot deaths in the US
  • 12,000 were children < 25 years old
• Non-fatal shootings 4X more than fatal
US Firearm Deaths in 1992
Ages 1-19 Years

Increasing Trend of Firearm Deaths

- Comparing motor vehicle to firearm deaths
  - From 1968 to 1991
    - MVC decreased 21% (54,862 - 43,536)
    - Firearm increased 60% (23,875-38,317)
  - MMWR, January 1994
Firearm vs. MVC Deaths

The lines are predicted numbers of deaths based on linear regression.

Closer to Home
(1991 - crude death rates/100,000)

- Ohio
- Kentucky
- Indiana
- Florida
- D.C.
- California

- MVC Deaths
- Firearm Deaths

Graph showing MVC and Firearm Death rates for the specified states in 1991.

Homicide rate per 100,000 population

- Japan
- Germany
- Spain
- Italy
- US 1991
- US 1986-87
Costs Due to Firearms

- In 1990, $1.4 billion spent on gunshot victims
  - Indirect costs estimated at $19 billion
- Average hospital charge was $14 thousand
- 81% either publicly insured or uninsured
- Psychological and emotional factors
Are guns that accessible?

- Variety of guns are used
- The “gun habit” begins at an early age
- Chicago and Seattle studies in 1991
  - 34-61% of HS juniors had easy access to guns
- 1993 Harris Poll - students grade 6 - 12
  - 59% thought they could easily acquire a gun
  - 39% knew someone who had been shot
Risk factors associated with firearm injury

• Gun ownership
• Demographics
  • Age
  • Males > Females
  • African-Americans > Whites or Hispanics
• Drugs & ETOH abuse
• H/O Mental problems or domestic violence
Gun Ownership

- Over 1/2 of all homes have a firearm
  - Accounts for more than 200 million guns
  - 60 million are handguns
- Home Protection
  - 37 times more likely to be used in a suicide
  - 5 times more likely to be used in a homicide
## US Firearm Deaths by Sex & Race per 100,000 population

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>No. of Homicides (Rate)</th>
<th>No. of Suicides (Rate)</th>
<th>No. Unintentional (Rate)</th>
<th>All (Rate)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black males</td>
<td>22 (1.8)</td>
<td>0</td>
<td>12†</td>
<td>34 (2.7)</td>
</tr>
<tr>
<td>White males</td>
<td>17</td>
<td>0</td>
<td>9</td>
<td>26 (1.4)</td>
</tr>
<tr>
<td>Black females</td>
<td>19</td>
<td>0</td>
<td>2</td>
<td>21 (1.7)</td>
</tr>
<tr>
<td>White females</td>
<td>10</td>
<td>9</td>
<td>12</td>
<td>23 (1.4)</td>
</tr>
<tr>
<td>5-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black males</td>
<td>17</td>
<td>1</td>
<td>17</td>
<td>37 (2.6)</td>
</tr>
<tr>
<td>White males</td>
<td>21 (1.3)</td>
<td>1</td>
<td>21 (1.3)</td>
<td>43 (1.6)</td>
</tr>
<tr>
<td>Black females</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>White females</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>10-14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black males</td>
<td>119 (3.4)</td>
<td>17</td>
<td>22 (1.5)</td>
<td>163 (11.6)</td>
</tr>
<tr>
<td>White males</td>
<td>122 (1.6)</td>
<td>114 (1.5)</td>
<td>90 (1.2)</td>
<td>334 (4.5)</td>
</tr>
<tr>
<td>Black females</td>
<td>47 (3.4)</td>
<td>2</td>
<td>4</td>
<td>54 (3.9)</td>
</tr>
<tr>
<td>White females</td>
<td>42 (6)</td>
<td>34 (5.1)</td>
<td>12</td>
<td>89 (1.3)</td>
</tr>
<tr>
<td>15-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black males</td>
<td>1,601 (119.7)</td>
<td>168 (12.6)</td>
<td>90 (6.7)</td>
<td>1,866 (141.0)</td>
</tr>
<tr>
<td>White males</td>
<td>917 (13.1)</td>
<td>501 (12.6)</td>
<td>168 (2.4)</td>
<td>2,025 (28.9)</td>
</tr>
<tr>
<td>Black females</td>
<td>137 (10.5)</td>
<td>17</td>
<td>7</td>
<td>162 (12.4)</td>
</tr>
<tr>
<td>White females</td>
<td>155 (2.3)</td>
<td>114 (1.7)</td>
<td>12</td>
<td>263 (4.3)</td>
</tr>
</tbody>
</table>

*Includes "Intent unknown.*

†Rate not shown when based on fewer than 20 deaths.
Associated Problems

- Toy Guns
  - Training source
  - Realistic appearance
- Non-powder firearms
- Media depiction of guns in society
  - Price, 2.5 scenes/hr
  - Distort reality
History of Gun Control

• Second Amendment to the Constitution
• 17th century - Massachusetts
• National Firearms Act of 1934
• 1938 - Licensing of dealers
• 1958 - serial numbers
• Federal Gun Control Act of 1968
• Recent interventions
Controversies in Gun Control

• Powerful financial interests
• Legitimate recreational uses
• Protection
  • Within the home
  • Crimes are committed with guns
• Scant literature on efficacy of interventions
Approach to Firearm Prevention

• Define the problem
• Identify causes or risk factors
• Develop or test interventions
• Implement intervention and measure prevention effectiveness
How to Define the Problem

- National Center for Health Statistics
- Fatal Accident Reporting System
- Vital Statistics, Death Certificates
- National Trauma Registry
- ED Data
- Local Data: Police, Fire, School, etc.
Key Information in Firearm Tracking Systems

- Injury event
- Victim-Offender relationship
- ETOH, Drugs, Mental health of offender
- Place of injury
- Geographic location
- Demographic/Socioeconomic
- Firearm type
- Medical services involvement
Interventions - Education

- School programs
  - Require gun safety in school
  - Change perception of guns and gangs
  - Conflict resolution
- Community programs
- Use of guns for self-defense
- Safe storage of guns, No ETOH around guns
Education Interventions Studied

• Hardy, et. al., 1996
  • 24 pairs of preschoolers in 2 daycare centers
  • 30 minute educational intervention
  • Not an effective safety intervention

• Davidson, et. al., 1994
  • Youths 5-16 years in 2 NYC communities
  • Reduction in incidence after intervention
Interventions - Product Modification

- Prevent accidental d/c
  - Personalized
  - Loaded sensors
- Alter barrel lengths
- Change ammunition
  - Metal jackets
- Reduce lethality
  - No semi-automatics
Interventions - Legislation Restrictions on users

- Licensing requirements
- Waiting periods
  - The Brady Law vs. Federal Gun Control Act
- Restrict sales to high-risk individuals
- Disrupt illegal markets
- Increase taxes on purchasing of guns
Intervention - Legislation
Increase punishments

• Laws holding gun owners liable
• Restrict public or concealed gun carrying
• Stiff penalties for felony gun use
• Metal detectors in schools
• Restrict licensing of gun dealers
Mandatory Sentencing Interventions Studied

- O’Carroll, et. al., 1991 - Michigan
- Fife, 1989 - New Jersey
- Loftin, et. al., 1983 – Michigan

- No study showed any discernable effect
Pediatrician’s Role

• Know prevalence of handguns in their community
• Recognize youths at high risk
• Discuss anticipatory guidance with families
  • Safe storage of guns
  • Discuss toy gun and non-powder firearms
• Help with local efforts to curb gun violence
Key Points of Discussion

• Risks of ownership outweigh the benefits
• #1 cause of traumatic death in teens
• Best protection is no gun in the home
• If handgun is necessary, store it properly
• Effectiveness of programs must be tested prior to their adoption
Resources

- American Academy of Pediatrics
- EAST Violence Prevention Task Force
- HELP Network of Professionals
- Physicians for Social Responsibility
- STOP Program
Texas man arraigned on murder charges in shooting of 'American Sniper'

REUTERS

Reuters) - The man accused of gunning down former U.S. Navy SEAL Chris Kyle, a prominent military sniper, and a second man at a Texas shooting range
Contact Information

Michael Gittelman, MD
Email: Mike.Gittelman@cchmc.org