Violence

is the intentional use of physical force against another person or against oneself, which results in or has a high likelihood of resulting in injury or death.

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th># Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Unintentional injury</td>
<td>15,753</td>
</tr>
<tr>
<td>2 Homicide</td>
<td>5,466</td>
</tr>
<tr>
<td>3 Suicide</td>
<td>4,212</td>
</tr>
<tr>
<td>4 Malignant neoplasms</td>
<td>1,717</td>
</tr>
<tr>
<td>5 Heart disease</td>
<td>1,119</td>
</tr>
<tr>
<td>6 Congenital Anomalies</td>
<td>504</td>
</tr>
<tr>
<td>7 Diabetes Mellitus</td>
<td>202</td>
</tr>
<tr>
<td>8 Cerebrovascular</td>
<td>196</td>
</tr>
<tr>
<td>9 Complicated Pregnancy</td>
<td>183</td>
</tr>
<tr>
<td>10 Influenza &amp; Pneumonia</td>
<td>172</td>
</tr>
</tbody>
</table>

Source: WISQARS

<table>
<thead>
<tr>
<th>Cause of Violent Injury</th>
<th># Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Other Assault: struck by *</td>
<td>456,733</td>
</tr>
<tr>
<td>2 Self-harm: poisoning</td>
<td>58,038</td>
</tr>
<tr>
<td>3 Other Assault: cut/pierce</td>
<td>45,891</td>
</tr>
<tr>
<td>4 Self-harm: cut/pierce</td>
<td>34,038</td>
</tr>
<tr>
<td>5 Other Assault: firearm/shot</td>
<td>25,312</td>
</tr>
<tr>
<td>6 Sexual Assault</td>
<td>25,231</td>
</tr>
<tr>
<td>7 Self-harm: other</td>
<td>22,773</td>
</tr>
<tr>
<td>8 Other Assault: bite</td>
<td>17,888</td>
</tr>
<tr>
<td>9 Legal intervention: struck</td>
<td>13,351</td>
</tr>
<tr>
<td>10 Other Assault: fall</td>
<td>8,005</td>
</tr>
</tbody>
</table>

Source: WISQARS

* The 6th leading cause of nonfatal injury
• 12 Centers, Institutes, and Offices

• Mission: To promote health and quality of life by preventing and controlling disease, injury, and disability
CDC’s Violence Prevention Mission

- To prevent violence-related injuries and deaths through surveillance, research and development, capacity building, communication, and leadership
CDC’s Violence Prevention Niche

• Emphasis on primary prevention of violence perpetration
• Commitment to developing a rigorous science base
• Cross-cutting perspective
• Population approach
The Public Health Approach to Prevention

Define the problem or Surveillance

Identify Causes

Develop and Evaluate Interventions

Implement & Disseminate

Problem Response
Public Health Approach to Preventing . . .

*Youth Violence*

*Suicide*
Defining the Problem

- Person
- Place
- Time
2005 Homicide Rates by Race, Sex, and Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1 year</td>
<td></td>
</tr>
<tr>
<td>1-14 years</td>
<td></td>
</tr>
<tr>
<td>15-24 years</td>
<td></td>
</tr>
<tr>
<td>25-44 years</td>
<td></td>
</tr>
<tr>
<td>45-64 years</td>
<td></td>
</tr>
<tr>
<td>65 years and over</td>
<td></td>
</tr>
</tbody>
</table>

- Black Male
- Latino Male
- White Male
- Black Female
- Latino Female
- White Female


Health, United States, 2007
Homicide and Suicide Rates by WHO Region, 2000

Age-Adjusted Homicide Rates By State, U.S., 2003

Rates per 100,000
10.5 - 17.5
8.2 - 10.4
4.6 - 8.1
1.6 - 4.5

http://www.cdc.gov/nchs/pressroom/03facts/mortalitytables.htm
Age-Adjusted Suicide Rates By State, U.S., 2003

http://www.cdc.gov/nchs/pressroom/03facts/mortalitytables.htm
Trends in Homicide and Suicide Age-Adjusted Rates

Suicide
Homicide

Year
Rate


0.0 2.0 4.0 6.0 8.0 10.0 12.0 14.0

Suicide
Homicide

Injury Prevention
Trends in Homicide Rates, 1985-2005

- All ages, crude
- 15-24 years

Year

Rate
Percentage of Suicides and Homicides by Method, among Victims Aged 15-24, 2005

Suicide
- 47%
- Firearm
- Nonfirearm

Homicide
- 82%
- Firearm

Source: WISQARS
Welcome to WISQARS™

WISQARS™ (Web-based Injury Statistics Query and Reporting System) is an interactive database system that provides customized reports of injury-related data.

Performance suggestions (see also Performance Tips)

- The suggested optimal screen resolution for WISQARS™ graphs and charts are 1024 by 768 pixels.
- WISQARS™ uses window pop-ups; for optimal performance, please disable any Web browser pop-up blockers.

Get Email Updates

Receive email updates when this page is updated.

WISQARS Fatal

Presents U.S. injury mortality data.

- Fatal Injury Reports
  Tables of injury deaths and death rates by particular causes of injury mortality

WISQARS Nonfatal

Provides national estimates of nonfatal injuries treated in U.S. hospital emergency departments.

- Nonfatal Injury Reports
  Tables of national estimates of injuries and injury rates by particular injury causes

- Leading Causes of Death Reports
  Charts of deaths by common causes of death

- Leading Causes of Nonfatal Injury Reports

High Profile School Shootings

April 20, 1999:
Columbine High School
Littleton, CO
School-Associated Violent Deaths Study – Case Definition

- Any homicide, suicide, or firearm-related death in which the fatal injury occurred while the victim was:
  - On school property
  - On the way to or from school
  - At or on the way to or from a school-sponsored event

- Only elementary and secondary schools
FIGURE. Total, single-, and multiple-student school-associated homicide rates* among students aged 5–18 years, by school years — United States, July 1992–June 2006

* Per 100,000 students.

Average Rate = .03

Centers for Disease Control and Prevention. School-associated student homicides—United States, 1992-2006. MMWR 2008;57(02):33-6. Available from URL: [www.cdc.gov/mmwr/preview/mmwrhtml/mm5702a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5702a1.htm).

Homicides Among School-Aged Children, 1999-2004

Centers for Disease Control and Prevention. School-associated student homicides-United States, 1992-2006. MMWR 2008;57(02):33-6. Available from URL: [www.cdc.gov/mmwr/preview/mmwrhtml/mm5702a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5702a1.htm).

* In the past 30 days

Source: Youth Risk Behavior Survey, CDC

* In the past 30 days

Source: Youth Risk Behavior Survey, CDC
Approximate Ratio of Homicides to Nonfatal Injuries from Physical Assaults Treated in Emergency Departments, Ages 15-19

Approximately $1:127$

Data are from 2000, National Emergency Department Injury Surveillance AIP and 1999, NCHS Vital Statistics
http://www.cdc.gov/healthyouth/yrbs/

- Access the questionnaires
- Download the data
National, State, and Local School-Based Surveys

- 9th – 12th grade students
- Probability samples of schools & students
- Anonymous
- Self-administered questionnaire
- Completed in one class period (45 minutes)
- Conducted biennially usually during the spring
Percentage of High School Students Reporting Violence in the Past 12 months, U.S., 2007

- Physical Fight: Males 44.4, Females 26.5
- Injured in a fight: Males 5.5, Females 2.9
- Physically hurt by date: Males 11, Females 8.8
- Forced to have sex: Males 4.5, Females 11.3
Percentage of High School Students Reporting Suicidal Ideation/Behavior in the Past 12 months, U.S., 2007

- Consider: Males 10.3%, Females 18.7%
- Plan: Males 9.2%, Females 13.4%
- Attempt: Males 4.6%, Females 9.3%
- Injured: Males 1.5%, Females 2.4%

(CDC Injury Prevention)
Identifying Risk and Protective Factors

1. Define the problem or surveillance
2. Identify causes
3. Develop and evaluate interventions
4. Implement & disseminate

Problem --> Response
Levels of Influence

Social-ecological Model

Societal
Community
Relationship
Individual
## Risk Factors: Youth Violence

<table>
<thead>
<tr>
<th>Individual</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victimization history</td>
<td>Harsh, inconsistent discipline</td>
</tr>
<tr>
<td>Poor behavioral control</td>
<td>Low parent involvement</td>
</tr>
<tr>
<td>Information processing deficits</td>
<td>Delinquent peer associations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>Societal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor economic opportunities</td>
<td>Pro-violence media messaging</td>
</tr>
<tr>
<td>Low community participation</td>
<td>?</td>
</tr>
<tr>
<td>Social disorganization</td>
<td>?</td>
</tr>
</tbody>
</table>
## Protective Factors: Youth Violence

<table>
<thead>
<tr>
<th>Individual</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>School achievement</td>
<td>Shared activities with parents</td>
</tr>
<tr>
<td>Religiosity</td>
<td>Discuss problems with parents</td>
</tr>
<tr>
<td>Positive social orientation</td>
<td>Consistent presence of parent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>Societal</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>
Youth Violence:
A Report of the Surgeon General

www.surgeongeneral.gov/library/youthviolence
## Risk Factors: Suicide

<table>
<thead>
<tr>
<th>Individual</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation</td>
<td>Family history of suicide</td>
</tr>
<tr>
<td>Depression/mental disorder</td>
<td>Family violence</td>
</tr>
<tr>
<td>Impulsive tendencies</td>
<td>Loss of family/friend</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>Societal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local epidemics of suicide</td>
<td>Stigma for help-seeking</td>
</tr>
<tr>
<td>Barriers to treatment</td>
<td>?</td>
</tr>
<tr>
<td>Access to lethal means</td>
<td>?</td>
</tr>
</tbody>
</table>
# Protective Factors: Suicide

## Individual
- Problem solving skills
- Conflict resolution skills
- Nonviolent dispute resolution

## Relationship
- Family support
- Peer support
- Health professional support

## Community
- Effective treatment accessibility
- ?
- ?

## Societal
- Cultural beliefs
- ?
- ?
The Surgeon General’s Call to Action

http://www.surgeongeneral.gov/library/calltoaction

The Surgeon General's Call To Action
To Prevent Suicide
1999

Department of Health and Human Services
U.S. Public Health Service
Develop and Evaluate Interventions

Define the problem or Surveillance

Identify Causes

Develop and Evaluate Interventions

Implement & Disseminate

Problem Response
Intervention Timing

• Primary: Before violence occurs
• Secondary: Immediate response to violence
• Tertiary: Long term care
Target Population

- Universal: All youth
- Selected: Youth at-risk for violence
- Indicated: Youth engaging in violent behavior
Levels of Influence

Social-ecological Model

Societal
Community
Relationship
Individual
A school-based program for middle schools students includes classroom instruction once per week for 30 minutes for 12 weeks of the school year. The instruction focuses on positive behavior, such as being responsible and getting along with others, and setting self-improvement goals. Students learn how to identify emotions in others, and how to manage their own frustration. Role-playing activities allow students to practice communication and conflict-resolution skills.

<table>
<thead>
<tr>
<th>Youth Violence Prevention Strategy</th>
<th>Timing</th>
<th>Target Population</th>
<th>Level of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A school-based program for middle schools students includes classroom instruction once per week for 30 minutes for 12 weeks of the school year. The instruction focuses on positive behavior, such as being responsible and getting along with others, and setting self-improvement goals. Students learn how to identify emotions in others, and how to manage their own frustration. Role-playing activities allow students to practice communication and conflict-resolution skills.</td>
<td>Primary</td>
<td>Universal</td>
<td>Individual</td>
</tr>
</tbody>
</table>
A mentoring program matches youth with a minor history of aggressive behavior with trained, older peer and adult role models. Each youth spends two to three hours a week with their assigned mentor doing things that both the mentor and youth enjoy over a two-year period. Particular attention is given to developing closeness and trust and offering sound guidance and advice.
A city is planning a new development that includes residential housing, work places, stores, and restaurants. The city hires an urban planner to ensure that the area is safe and secure by ensuring it has the following features:

– Adequate lighting on streets and around entrances and exits to buildings
– Landscaping and streets that are easily maintained
– Parks with benches and community gardens
– Space on structures for youth to paint murals

<table>
<thead>
<tr>
<th>Youth Violence Prevention Strategy</th>
<th>Timing</th>
<th>Target Population</th>
<th>Level of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
<td>Universal</td>
<td>Community</td>
</tr>
</tbody>
</table>
A state develops standards for the implementation of a family and community-based treatment for young chronic and violent offenders. Through intensive contact with parents, therapists facilitate positive family relations, empower parents and enhance their parenting effectiveness, and provide outlets for youth to engage in prosocial activities. The standards allow the state to receive partial financial support for the implementation of the program by licensed service providers.
A school-wide peer-to-peer program strengthens social connections between peers by training students to talk with each other about common issues that may be bothering them. Peers provide social support to one another when they are experiencing academic difficulties, family conflicts, changing friendships, peer pressure, or personal crises.
<table>
<thead>
<tr>
<th>Suicide Prevention Strategy</th>
<th>Timing</th>
<th>Target Population</th>
<th>Level of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapists in state mental health centers conduct an evidence-based 12-16 week treatment program with individuals that have a recent history of suicide attempts. The therapeutic approach promotes inter-personal problem solving skills, emotion regulation, and emotional trauma management.</td>
<td>Secondary</td>
<td>Indicated</td>
<td>Individual</td>
</tr>
</tbody>
</table>
Standards for Determining Effectiveness

• Model
  – Rigorous experimental design
  – Significant deterrent effects on violence
  – Sustainable effects
  – Replicated

• Does not work
  – Rigorous design, null or negative effects, replicated
Examples of Effective Primary Prevention Strategies for Youth Violence

- Skills training
- Behavior monitoring and reinforcement
- Parent training
- Home visitation
Examples of Ineffective Strategies for Youth Violence

- Peer counseling
- Nonpromotion to succeeding grades
- Gun buyback programs
- Firearm training
- Boot camps
- Shock programs
Examples of Youth Violence Prevention Programs that do NOT work

- Drug Abuse Resistance Education (DARE)
- Scared Straight
Descriptions of Effective Youth Violence Prevention Programs

• Surgeon General’s report on Youth Violence
  • www.surgeongeneral.gov/library/youthviolence

• Blueprints for violence prevention: describes 11 model and 21 promising programs
  • www.colorado.edu/cspv/blueprints/index.html

• Hamilton Fish Institute: summarize the results for 82 prevention programs
  • http://gwired.gwu.edu/hamfish/Programs/

• Nuts and bolt of implementing school safety programs: describes the resources needed for implementation
  • www.vera.org/PDF/nutsbolts.pdf
Examples of Primary Prevention Strategies for Suicide

• State-wide public education campaign on suicide prevention
• Gatekeeper training programs
• Public educational campaign to restrict access to lethal means of suicide
• Education on media guidelines
Examples of Indicated Prevention Strategies for Suicide

- Screening/referral programs
- Family support training
- Psychotherapy
- Pharmacological treatment

*Reduce the probability of initial or additional suicide attempts*
### Costs and Benefits of Sample Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost per participant</th>
<th>Benefits to taxpayer &amp; participant per $ cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Family Partnership</td>
<td>$9,118</td>
<td>$2.88</td>
</tr>
<tr>
<td>Seattle Social Development project</td>
<td>$4,590</td>
<td>$3.14</td>
</tr>
<tr>
<td>Strengthening Families Program</td>
<td>$851</td>
<td>$7.82</td>
</tr>
<tr>
<td>Multi-systemic Therapy</td>
<td>$5,681</td>
<td>$2.64</td>
</tr>
</tbody>
</table>

Source: Washington State Institute for Public Policy
## Costs and Benefits of Sample Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost per participant</th>
<th>Benefits to taxpayer &amp; participant per $ cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scared Straight</td>
<td>$ 54</td>
<td>-$203.51</td>
</tr>
</tbody>
</table>

Source: Washington State Institute for Public Policy
Implement and Disseminate

Define the problem or surveillance

Identify Causes

Develop and Evaluate Interventions

Implement & Disseminate

Problem Response

CDC Injury Prevention
Implementation and Dissemination

- **Implementation**: putting the innovations to use, including the decision to use an innovation, commitment of needed resources, and actual use.

- **Dissemination**: intentional spreading of information or technology from the originators to the intended users.
Effective Implementation

• To achieve health impact we need both effective innovations and effective implementation

• Growing body of evidence about “what works,” but little science on adoption, effective use, and sustainability

• Requires:
  – Strong match between program goals and needs of the group
  – Receptive environment (parents, larger system)
  – Committed leadership
Interactive Systems Framework

Funding

Putting It Into Practice—Prevention Delivery System
- General Capacity Use
- Innovation-Specific Capacity Use

Supporting the Work—Prevention Support System
- General Capacity Building
- Innovation-Specific Capacity Building

Distilling the Information—Prevention Research System
- Synthesis
- Translation

Policy

Climate

Existing Research and Theory

(Wandersman et. al., 2005)
Best Practices of Youth Violence Prevention

*Principles for program planning*

www.cdc.gov/ncipc/dvp/bestpractices.htm

- Describes best practices for implementing youth violence prevention strategies
  - Match community needs
  - Train staff
  - Include intervention monitoring
  - Involve the community
Other Resources for Youth Violence Prevention

• Division of Violence Prevention
  • www.cdc.gov/ncipc

• Division of Adolescent and School Health
  • www.cdc.gov/nccdphp/dash

• National youth violence prevention resource center
  • www.safeyouth.org
The Surgeon General’s Call to Action to Prevent Suicide

- Identifies suicide as a public health problem
- Describes the Public Health Approach to suicide prevention
- Introduces the National Strategy for the Prevention of Suicide (NSPS)
  
  http://www.surgeongeneral.gov/library/calltoaction
What Is the National Suicide Prevention Strategy (NSPS)?

- Blueprint for reducing the burden of self-directed violence, injury, and death
- Combines elements of science and policy
  - Evidence-based
  - Prioritized
  - Initiate and direct activities
  - Contribute to the goal of suicide prevention
What is the National Suicide Prevention Strategy (NSPS)?

- An innovative public/private partnership
  - U.S. Department of Health and Human Services
    - CDC, HRSA, SAMHSA, NIMH, Surgeon General
  - Suicide Prevention Advocacy Network (SPAN)
  - Private Foundations and Corporations
Other Resources for Suicide Prevention

• American Association of Suicidology (AAS)
  – www.suicidology.org
  – (202) 237-2280

• American Foundation for Suicide Prevention (AFSP)
  – www.afsp.org
  – (888) 333-2377

• National Institute of Mental Health (NIMH)
  – www.nimh.nih.gov
  – (301) 443-4513
Examples of Current CDC Activities in Youth Violence Prevention

• Academic Centers of Excellence
• GREAT schools and families
• Study of Linkages
Academic Centers of Excellence in Youth Violence Prevention

- **Mission:**
  - Develop academic and community partnerships
  - Move science into practice

- **Goals:**
  - Develop community action plans to mobilize a community
  - Develop community-wide surveillance system
  - Design and implement research projects
  - Provide training, technical assistance, mentoring
  - Disseminate findings locally and nationally
Academic Centers of Excellence 2005-2010
Urban Partnership ACEs 2006-2011
& Coordinating Center

University of CA-Berkeley
University of CA-Riverside
University of Illinois at Chicago
Meharry Medical College
Harvard University
Columbia University
Children’s Hospital of Philadelphia
John Hopkins University
Virginia Commonwealth University
University of Hawaii
GREAT Schools and Families Program

Guiding Responsibility and Expectations in Adolescence Today and Tomorrow
GREAT Schools and Families (cont’d)

• Universal program for students and teachers
  – Increase students’ motivation and ability to use prosocial problem-solving skills

• Selected/Indicated Family Programs
  – Enhance parenting skills, communication, monitoring and home-school linkages

• Multi-site randomized controlled trial

Linkages Project

• Study developed to understand:
  – Why youth engage in multiple types of violence (i.e., dating violence, peer violence, and suicidal behavior)
  – How risk and protective factors for different types of violence are unique or shared
  – Linkages across types of violence vary by gender and developmental stage
  – Other socioenvironmental factors that buffer or exacerbate risk for violence
Opportunities in Violence Prevention Research

• Grants
  ✓ Dissertation awards
  ✓ New investigator awards
  ✓ Small business innovation research
  ✓ R01

• Cooperative agreements

• Contracts

http://www.cdc.gov/ncipc/erpo/funding.htm
Opportunities in Violence Prevention Research at CDC

- Epidemic Intelligence Service (EIS)
- CDC Service Fellows
- Association of Teachers of Preventive Medicine

http://www.atpm.org/prof_dev/fellowships.html
For More Information

• Visit NCIPC’s website
  – www.cdc.gov/injury
  – 1-800-CDC-INFO

• Sign up for injury center news and announcements through the listserv
  – http://www.cdc.gov/ncipc/email_list.htm