Easy to Use Cost-Outcome Analysis Data for 160 Different Injury Interventions Webinar

Tuesday October 5th 2010 from 1:00 to 2:30pm EST

Featured Speakers: Ted Miller, Ph.D.
Moderator: Monique Sheppard, Ph.D.

On your telephone please dial:
1-866-835-7973
The webcast will begin shortly.
Dollars & Sense of Preventing Injury, Violence and Substance Abuse

Ted Miller
miller@pire.org
Age-Adjusted Injury Death Rates

Source: Lois Fingerhut, NCHS, based on 2000-2004 data
### 10 Leading Causes of Death by Age Group, United States – 2006

<table>
<thead>
<tr>
<th>Rank</th>
<th>&lt;1</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Congenital Anomalies 5,919</td>
<td>Unintentional Injury 1,119</td>
<td>Unintentional Injury 1,044</td>
<td>Unintentional Injury 1214</td>
<td>Unintentional Injury 14,229</td>
<td>Unintentional Injury 14,584</td>
<td>Unintentional Injury 17,514</td>
<td>Malignant Neoplasms 90,334</td>
<td>Malignant Neoplasms 101,454</td>
<td>Heart Disease 510,542</td>
<td>Heart Disease 631,636</td>
</tr>
<tr>
<td>2</td>
<td>Short Gestation 4,841</td>
<td>Congenital Anomalies 515</td>
<td>Malignant Neoplasms 459</td>
<td>Malignant Neoplasms 448</td>
<td>Homicide 5,717</td>
<td>Suicide 4,985</td>
<td>Malignant Neoplasms 13,917</td>
<td>Heart Disease 38,095</td>
<td>Heart Disease 65,477</td>
<td>Malignant Neoplasms 387,515</td>
<td>Malignant Neoplasms 559,688</td>
</tr>
<tr>
<td>3</td>
<td>SIDS 2,323</td>
<td>Malignant Neoplasms 377</td>
<td>Congenital Anomalies 182</td>
<td>Homicide 241</td>
<td>Suicide 4,189</td>
<td>Homicide 4,725</td>
<td>Heart Disease 12,339</td>
<td>Chronic Low. Respiratory Disease 12,375</td>
<td>Cerebrovascular 117,010</td>
<td>Cerebrovascular 137,719</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Maternal Pregnancy Comp. 1,583</td>
<td>Homicide 366</td>
<td>Homicide 149</td>
<td>Suicide 216</td>
<td>Malignant Neoplasms 1,564</td>
<td>Malignant Neoplasms 3,556</td>
<td>Suicide 6,591</td>
<td>Unintentional Injury 13,675</td>
<td>Chronic Low. Respiratory Disease 105,845</td>
<td>Chronic Low. Respiratory Disease 124,583</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Unintentional Injury 1,147</td>
<td>Heart Disease 161</td>
<td>Heart Disease 90</td>
<td>Heart Disease 163</td>
<td>Heart Disease 1,076</td>
<td>Heart Disease 3,397</td>
<td>Heart Disease 3,070</td>
<td>HIV 4,010</td>
<td>Suicide 7,426</td>
<td>Diabetes Mellitus 11,432</td>
<td>Alzheimer’s Disease 71,690</td>
</tr>
<tr>
<td>6</td>
<td>Placenta Cord Membranes 1,149</td>
<td>Influenza &amp; Pneumonia 125</td>
<td>Chronic Low. Respiratory Disease 52</td>
<td>Congenital Anomalies 162</td>
<td>Congenital Anomalies 460</td>
<td>Congenital Anomalies 1,182</td>
<td>HIV 3,026</td>
<td>Cerebrovascular 6,341</td>
<td>Cerebrovascular 10,518</td>
<td>Diabetes Mellitus 52,351</td>
<td>Diabetes Mellitus 72,449</td>
</tr>
<tr>
<td>7</td>
<td>Respiratory Distress 825</td>
<td>Septicemia 86</td>
<td>Cerebrovascular 45</td>
<td>Chronic Low. Respiratory Disease 63</td>
<td>Cerebrovascular 210</td>
<td>Diabetes Mellitus 673</td>
<td>Liver Disease 2,551</td>
<td>Diabetes Mellitus 5,692</td>
<td>Liver Disease 7,217</td>
<td>Influenza &amp; Pneumonia 49,346</td>
<td>Alzheimer’s Disease 72,432</td>
</tr>
<tr>
<td>8</td>
<td>Bacterial Sepsis 907</td>
<td>Perinatal Period 65</td>
<td>Influenza &amp; Pneumonia 40</td>
<td>Cerebrovascular 50</td>
<td>HIV 206</td>
<td>Cerebrovascular 527</td>
<td>Cerebrovascular 2,221</td>
<td>HIV 4,377</td>
<td>Suicide 4,583</td>
<td>Nephritis 37,377</td>
<td>Influenza &amp; Pneumonia 65,325</td>
</tr>
<tr>
<td>9</td>
<td>Neonatal Hemorrhage 618</td>
<td>Benign Neoplasms 60</td>
<td>Septicemia 40</td>
<td>Septicemia 44</td>
<td>Influenza &amp; Pneumonia 184</td>
<td>Congenital Anomalies 437</td>
<td>Diabetes Mellitus 2,094</td>
<td>Chronic Low. Respiratory Disease 3,924</td>
<td>Nephritis 4,358</td>
<td>Unintentional Injury 38,669</td>
<td>Nephritis 45,344</td>
</tr>
<tr>
<td>10</td>
<td>Circulatory System Disease 543</td>
<td>Cerebrovascular 54</td>
<td>Benign Neoplasms 38</td>
<td>Benign Neoplasms 38</td>
<td>Complicated Pregnancy 179</td>
<td>Influenza &amp; Pneumonia 35</td>
<td>Sepsicemia 870</td>
<td>Viral Hepatitis 2,911</td>
<td>Sepsicemia 4,032</td>
<td>Sepsicemia 26,201</td>
<td>Sepsicemia 34,234</td>
</tr>
</tbody>
</table>

**Source:** National Vital Statistics System, National Center for Health Statistics, CDC.

**Produced by:** Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.
Injury Death Rate by Age Group

- 0-4: 18
- 5-14: 9
- 15-24: 63
- 25-44: 59
- 45-64: 53
- 65-74: 60
- 75+: 179
- Costs of injury & substance abuse
- Savings from prevention
Why Cost Social Problems?
Single Compact Metric

- Communication
- Problem size & risk assessment
- Advocacy
- Performance comparison
- Priority setting & resource allocation
- Program evaluation
You are the Governor of OH

- 11.4 M residents in OH
- 110K deaths/year

- Can I convince you to continue my $2M childhood injury prevention program?
We did a thorough evaluation. The results are highly significant statistically. Our program reduced deaths and hospital admissions due to injury by
1% !!!
• Our program prevented 76 child deaths and 1820 hospital admissions last year.
Our $2 M program saved OH taxpayers $106 M in medical payments and work losses last year. That’s $8.50 per OH resident.
PROBLEM SIZE
Annual Spending per U.S. Child, 0-19

Injury Medical Cost: $300
Clothing: $590
Total Injury Cost: $1,320
Food: $1,590
RISK ASSESSMENT: Unintentional Injury
Cost $134 B in 2000, Ages 0-14

- Fall: 42%
- Struck By/Vs: 15%
- Submerg: 3%
- Pedest/Cycl: 9%
- MV: 10%
- Burn: 3%
- Other: 14%
- Overexert: 4%
Vehicular Injury Costs/1000 Kids by Age
Driver Age, Crashes w/Injured Teen Passengers

GE 25
23%

LT 20
61%

20-24
16%
Annual Poisoning Costs/Child

- 0-4: $750
- 5-9: $120
- 10-14: $170
- 15-19: $410
Cost of Injuries, Ages 0-4
$51 B, 2000

- Unintended: 90.5%
- Rape: 4.5%
- Assault: 5%
Cost of Injuries, Ages 5-9
$52 B, 2000

- Unintended: 71.5%
- Rape: 26%
- Assault: 2.5%
Cost of Injuries, Ages 10-14
$79 B, 2000

- Unintended: 65.6%
- Rape: 30%
- Assault: 2.7%
- Suicide: 1.7%
Cost of Injuries, Ages 15-19
$121 B, 2000

- Unintended: 57%
- Rape: 26%
- Assault: 10.5%
- Suicide: 6.5%
Advocacy

Underage Drinking Cost $65 B in 2007

- Violence: $43.8B
- MV Crashes: $11.1B
- Risky Sex: $4.9B
- Property Crime: $3.2B
- Other Injury: $1.1B
- Poisoning: $0.4B
- Treatment: $2.4B
- FAS: $1.2B
- Suicide: $0.9B
How can we make $65 B comprehensible?
Use A Yardstick

$65B

Underage drinking

$70B

US Depts Justice & Education
Divide by a Sensible Exposure Measure

- $5100 Per Underage Drinker
- $2280 Per Youth Ages 14-20
- $3.30 Per Illegal Drink
Per Illegal Underage Drink

Tangible Cost: $1.10
A Drink: $1.20
Profit: $0.60
Taxes: $0.10
Performance Comparison: $/Youth

OH: $2,865
PA: $1,759
WV: $2,040
KY: $1,918
IN: $2,194
MI: $2,274
Costs of Underage Drinking per Youth Ages 14-20
Gunshot Cost Per Resident

US: $490

Canada: $180
Gunshot Costs Per Gun

$630

US

$840

Canada
BROAD PRIORITY SETTING
Medical Spending, Ages 0-19, 2000

- Injury, 12.9%
- Respiratory, 19.5%
- Mental Condition, 12.1%
- Other, 34.3%
- Perinatal/Congenital, 10.3%
- Other Infectious, 10.9%
# Resource Allocation

**Leading Consumer products by % of nonfatal injury cost, US, 1995-1996**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Age &lt; 1</th>
<th>%</th>
<th>Age 1 - 4</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stairs or steps</td>
<td>15</td>
<td>Stairs or steps</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>Beds (not cribs)</td>
<td>11</td>
<td>Beds</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Floors</td>
<td>9</td>
<td>Floors</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Baby walkers</td>
<td>6</td>
<td>Tables</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Tables</td>
<td>5</td>
<td>Doors</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Baby strollers</td>
<td>4</td>
<td>High chairs &amp; chairs</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Sofas</td>
<td>4</td>
<td>Poisoning</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Car seats</td>
<td>3</td>
<td>Bicycles</td>
<td>3</td>
</tr>
</tbody>
</table>
### Leading Consumer Products by % of Nonfatal Injury Cost, US, 1995-1996

<table>
<thead>
<tr>
<th>Rank</th>
<th>Ages 5 - 9</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bicycles</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Monkey bars</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Swings</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Beds</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Doors</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Stairs or steps</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>In-line/rollerskating</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Floors</td>
<td>4</td>
</tr>
</tbody>
</table>
# Leading Consumer Products by % of Nonfatal Injury Cost, US, 1995-1996

<table>
<thead>
<tr>
<th>Rank</th>
<th>Age 10 – 14</th>
<th>%</th>
<th>Age 15 - 19</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bicycles</td>
<td>13</td>
<td>Basketball</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Basketball</td>
<td>11</td>
<td>Football</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Football</td>
<td>9</td>
<td>Bicycles (incl. mountain)</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Baseball &amp; softball</td>
<td>6</td>
<td>Baseball &amp; softball</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>In-line/ rollerskating</td>
<td>5</td>
<td>Stairs or steps</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Soccer</td>
<td>3</td>
<td>Soccer</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Stairs or steps</td>
<td>3</td>
<td>Floors</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Trampolines</td>
<td>2</td>
<td>In-line/ rollerskating</td>
<td>2</td>
</tr>
</tbody>
</table>
Program Evaluation

A Poison Control Center Call

Costs

$43

Medical Care Avoided

$320
Regional Trauma Care Raises Initial Care Costs by $1,850/Admission, Saving $5,100

- Medical: $2,250
- Earnings: $510
- Quality of Life: $2,330
The Average Child Seat Saves $330 in Insurance and Tax Payments

- Auto: $160
- Health: $100
- Taxes: $70
Costs are estimated from a perspective:
- Society
- Government
- Insurers
- Employers
Incidence-based costs

- Lifetime consequences of injuries in one year
- Measure savings from prevention
- Must be discounted to present value
Discount Rate

- $1 million in 20 years
  - 2.5% $625,000
  - 7% $275,000
Burden Categories

**ECONOMIC COSTS**
- Medical & mental health
- Other resources/Tangible
  - Emergency services
  - Victim services
  - Legal/court/jail
  - Insur Admin
- Work loss (productivity)
  - Wage work
  - Household work
- Property damage

**QUALITY OF LIFE**
Costs of Injury, ages 0-19, 2009: $405 B

- Pain & Suffering: 64%
- Other Resource: 1%
- Medical: 9%
- Work Loss: 26%
COST EFFECTIVENESS

Is your money working hard enough for you?
Treatment
Harm Reduction
Prevention
Treatment
Intervention
## 160 Interventions

<table>
<thead>
<tr>
<th></th>
<th>Youth</th>
<th>Adult</th>
<th>Youth &amp; Adult</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motor Vehicle</strong></td>
<td>10</td>
<td>0</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td><strong>Impaired Driver</strong></td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td><strong>Open Flame/Burn</strong></td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td><strong>Violence</strong></td>
<td>15</td>
<td>17</td>
<td>2</td>
<td>34</td>
</tr>
<tr>
<td><strong>Other Injury</strong></td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td><strong>Substance Abuse</strong></td>
<td>22</td>
<td>4</td>
<td>10</td>
<td>36</td>
</tr>
<tr>
<td><strong>Tobacco</strong></td>
<td>4</td>
<td>17</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>59</td>
<td>50</td>
<td>51</td>
<td>160</td>
</tr>
</tbody>
</table>
Data Sources

- US & some international published and unpublished studies from 1987-2010
  - Medline & Internet search
  - Bibliographic review
  - Contact with Federal agencies

- Excluded analyses of occupational, air, rail, & water transport safety programs
Methods

- Costs take society’s viewpoint (everyone’s costs count)
- Costs given in 2009 dollars
- Savings from demonstration programs reduced by 25% when scaled up
Methods

- Serious study flaws were corrected when possible
- Studies were subjectively graded based on the rigor of program cost and effectiveness estimates
- Studies which showed reductions in fatalities, but ignored nonfatal injuries were excluded
Definitions: Costs and Savings

- **Cost per Unit**: cost of the intervention for a single individual
- **Total Benefits per Unit**: the amount the intervention saved by preventing injuries & other problems
- **Aggregate Benefit/Unit** = **Total Benefits** - **Cost**
- **Benefit Cost Ratio (BCR)**: savings from preventing injuries divided by cost of the intervention
- **Cost-effective**: the BCR > 1.0
  Return on investment in the intervention exceeds amount invested
Definitions: Costs and Savings

- **Cost per Quality Adjusted Life Year (Cost of intervention – medical & other resource savings)/ QALY:** A QALY is a health outcome measure that assigns a value of 1 to a year of perfect health & 0 to death. The QALY measure captures the work loss & quality of life savings.

- **Cost-saving:** cost/QALY < 0 which means that the cost of the intervention is less than the savings generated in medical and other resource costs.
Choosing Interventions

- We recommend interventions with a BCR <2 or cost/QALY > $100,000 should rarely be implemented.
- Some interventions with low BCRs may address unique component of injury problem.
- Laws generally would have lower costs & higher BCRs from a government perspective.
### Notable Newly Added Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>BCR</th>
</tr>
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<tbody>
<tr>
<td>20-Bed Domestic Violence Shelter</td>
<td>11</td>
</tr>
<tr>
<td>Speed Camera</td>
<td>19</td>
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<tr>
<td>Red Light Camera</td>
<td>4</td>
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<tr>
<td>Sprinklers in New Ranch House</td>
<td>6</td>
</tr>
<tr>
<td>Sprinklers in New Colonial or Town House</td>
<td>3</td>
</tr>
<tr>
<td>Mattress Flammability Standard</td>
<td>3</td>
</tr>
<tr>
<td>Baby Walker Redesign - Less Falls Down Stairs</td>
<td>46</td>
</tr>
<tr>
<td>Impact-Absorbing Playground Surfacing</td>
<td>2</td>
</tr>
<tr>
<td>NON-OFFENDER VIOLENCE PREVENTION</td>
<td>Cost/child</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Nurse-family partnership home visitation to 1st born</td>
<td>$10,700</td>
</tr>
<tr>
<td>Parent-teacher training</td>
<td>$4,600</td>
</tr>
<tr>
<td>Big brothers-big sisters mentoring</td>
<td>$4,800</td>
</tr>
<tr>
<td>Head start + 12 home visits</td>
<td>$20,000</td>
</tr>
</tbody>
</table>
Violence often is part of a problem complex

Cost of Violence

ETOH & Drugs: 14%
Drugs Only: 5%
ETOH Only: 28%
None: 53%
Cost of Youth Crime

- None: 32%
- ETOH Only: 17%
- ETOH+Drug: 43%
- DrugOnly: 8%
<table>
<thead>
<tr>
<th>JUVENILE VIOLENCE MEASURES</th>
<th>Other</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment foster care</td>
<td>Y</td>
<td>65</td>
</tr>
<tr>
<td>Multisystemic therapy</td>
<td>Y</td>
<td>39</td>
</tr>
<tr>
<td>Functional family therapy</td>
<td>Y</td>
<td>32</td>
</tr>
<tr>
<td>Aggression replacement training</td>
<td>N</td>
<td>90</td>
</tr>
<tr>
<td>Adolescent diversion</td>
<td>N</td>
<td>39</td>
</tr>
<tr>
<td>Intensive probation supervision</td>
<td>N</td>
<td>4.4</td>
</tr>
<tr>
<td>Boot Camp</td>
<td>N</td>
<td>0.1</td>
</tr>
<tr>
<td>Scared Straight</td>
<td>N</td>
<td>0</td>
</tr>
<tr>
<td>ADULT VIOLENCE MEASURES</td>
<td>Other Impact</td>
<td>BCR</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>--------------</td>
<td>-----</td>
</tr>
<tr>
<td>Moral reconation therapy</td>
<td>Y</td>
<td>31</td>
</tr>
<tr>
<td>Job @ release</td>
<td>N</td>
<td>11</td>
</tr>
<tr>
<td>Drug Court</td>
<td>Y</td>
<td>4</td>
</tr>
<tr>
<td>In-prison SA treatment</td>
<td>Y</td>
<td>3</td>
</tr>
<tr>
<td>Optimized sentencing</td>
<td>N</td>
<td>2</td>
</tr>
<tr>
<td>In-prison voc educ</td>
<td>?</td>
<td>9</td>
</tr>
<tr>
<td>Money aid at release</td>
<td>N</td>
<td>3</td>
</tr>
<tr>
<td>Nonincarc intensive supervision</td>
<td>N</td>
<td>1.4</td>
</tr>
<tr>
<td>Community SA treatment</td>
<td>N</td>
<td>0</td>
</tr>
</tbody>
</table>
A $12 Bike Helmet for Kids 3-14 Saves Insurers $41

$12
Auto

$29
Health
A $52 child seat saves $2,181 (BCR 42)
Misuse Reduction Saves $569/seat & Costs $7 (BCR 81)

- Medical cost: $57
- Other resources: $59
- Work loss: $159
- Quality of life: $294
A booster seat with back costs $35 and saves $2,474 (BCR = 71)
Equipping A Home with Smoke Alarms + Maintenance Costs $44 & Saves $770 (BCR 18)

- Medical: $9
- Prop Damage: < $1
- Other Tangible: $109
- Quality of Life: $656
American Academy of Pediatrics TIPP Sheet
Counseling for Ages 0-4 Costs $11/Visit & Saves $97/Visit (BCR 9)

- Medical: $8
- Other Tangible: $19
- Quality of Life: $71
DON'T DRINK AND DRIVE
Program Selection

- No one intervention will reduce most problems more than 10%-15%
- Need a package of complementary interventions
DWI Deaths

- Hardcore: 10%
- Underage 21: 18%
- M/C: 7%
- Other: 65%
<table>
<thead>
<tr>
<th></th>
<th>% Redux</th>
<th></th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL DRIVERS</td>
<td></td>
<td>DWI Deaths</td>
<td></td>
</tr>
<tr>
<td>Enforce SIP Laws</td>
<td>11%</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Admin License Revoc</td>
<td>6.5%</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>.08 Max Driver BAC</td>
<td>7%</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Intensive Breath Tests</td>
<td>15%</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Server Training</td>
<td>17%</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>YOUTH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-Tolerance LT 21</td>
<td>4% (20%)</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Grad License/Curfew</td>
<td>2% (5%)</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>21 MLDA</td>
<td>4% (19%)</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>RECIDIVISTS</td>
<td>% Redux DWI Deaths</td>
<td>BCR/ROI</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>--------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Ignition Interlock</td>
<td>7%</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Impoundment</td>
<td>4%</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Intensively Supervised Treatment</td>
<td>4%</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>House Arrest</td>
<td>3%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>BROADER IMPACT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Seat Law</td>
<td>LT 1%</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>M/C Helmet Law</td>
<td>2.5%</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Primary Belt Law</td>
<td>10%</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>BROADER MEASURES</td>
<td>% Redux DWI</td>
<td>BCR/ROI Deaths</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Regional Trauma System</td>
<td>14%</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>Brief ETOH Intervention</td>
<td>6%</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>20% Tax on ETOH</td>
<td>4%</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>30% Tax on ETOH</td>
<td>6%</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
SA Prevention Typology

Universal/Environmental

Selective/Educational

Indicated/Behavioral
<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>Cost/Kid</th>
<th>MJ redux</th>
<th>Alc redux</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Stars T</td>
<td>$170</td>
<td>6%</td>
<td>7%</td>
<td>36</td>
</tr>
<tr>
<td>Keepin’ It Real T</td>
<td>$160</td>
<td>5%</td>
<td>11%</td>
<td>28</td>
</tr>
<tr>
<td>Life Skills Training T</td>
<td>$270</td>
<td>3%</td>
<td>1%</td>
<td>22</td>
</tr>
<tr>
<td>Project Northland T</td>
<td>$490</td>
<td>7%</td>
<td>7%</td>
<td>19</td>
</tr>
<tr>
<td>Project Star Midwest</td>
<td>$490</td>
<td>7%</td>
<td>3%</td>
<td>11</td>
</tr>
<tr>
<td>Prev Pgm T</td>
<td>$140</td>
<td>4%</td>
<td>0%</td>
<td>4</td>
</tr>
<tr>
<td>Project Alert</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# BCRs for Youth Development Programs

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>Cost/Kid</th>
<th>MJ redux</th>
<th>Alc redux</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Matters T</td>
<td>$190</td>
<td>?</td>
<td>7%</td>
<td>32</td>
</tr>
<tr>
<td>Family Strengthening T</td>
<td>$1100</td>
<td>15%</td>
<td>18%</td>
<td>11</td>
</tr>
<tr>
<td>Adolescent Transitions T</td>
<td>$1500</td>
<td>?</td>
<td>14%</td>
<td>8</td>
</tr>
<tr>
<td>Social Competency Promo</td>
<td>$430</td>
<td>?</td>
<td>11%</td>
<td>6</td>
</tr>
<tr>
<td>SOAR V Dropout</td>
<td>$3700</td>
<td>2%</td>
<td>6%</td>
<td>6</td>
</tr>
<tr>
<td>Child Development Pjt</td>
<td>$280</td>
<td>4%</td>
<td>4.5%</td>
<td>5</td>
</tr>
<tr>
<td>Guiding Good Choices (Prep f/Drug-FreeYrs) V</td>
<td>$870</td>
<td>9%</td>
<td>8%</td>
<td>3</td>
</tr>
</tbody>
</table>
Lower Return on Investment

- Project TND (Toward No Drugs) 0%, D
- STARS for families 8% binge
- CASAstart costs more than it saves
- Across Ages – razor-thin savings
Enforcement Policies & Laws

Public Private

Public Support - Norms

Environmental Prevention
<table>
<thead>
<tr>
<th>BCRs for Environmental Interventions (costs &amp; benefits computed comparably)</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% Alcohol Tax</td>
<td>9</td>
</tr>
<tr>
<td>30% Alcohol Tax</td>
<td>6</td>
</tr>
<tr>
<td>Reduce Outlet Density by 10%</td>
<td>9</td>
</tr>
<tr>
<td>Restrict Alcohol Sales Hours/Days</td>
<td>9</td>
</tr>
<tr>
<td>TV Alcohol Advertising Ban</td>
<td>9</td>
</tr>
<tr>
<td>21-Minimum Drinking Age</td>
<td>4</td>
</tr>
<tr>
<td>Enforce Serving Intoxicated Patrons Law</td>
<td>71</td>
</tr>
<tr>
<td>Mandatory Server Training</td>
<td>3</td>
</tr>
</tbody>
</table>
# BCRs for Workplace Programs, Often Oriented to Young Workers

<table>
<thead>
<tr>
<th>Program</th>
<th>BCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Life</td>
<td>22</td>
</tr>
<tr>
<td>Team Resilience, Restaurant Sector</td>
<td>15</td>
</tr>
<tr>
<td>Team Awareness, Retail Sector</td>
<td>8</td>
</tr>
<tr>
<td>Workplace Peer Support &amp; AOD Testing</td>
<td>24</td>
</tr>
</tbody>
</table>
Evaluations often do not assess some impacts, notably for midnight driving curfew, 0-tolerance, .08, family programs
Program Selection Criteria

- Return on investment
- Aggregate benefits
- Affordability
- Local priorities & problems
- Appropriateness for the target population
- Political feasibility
- Government savings
- Immediacy of the impacts (weeks versus years)
- Intervention overlap
- Unevaluated spillover effects
21 Minimum Drinking Age
21 Minimum Drinking Age

- Reduces % of youth who drink & binge
- Raises age of initiation which lowers the risk of alcoholism in adulthood
- Reduces youth DWI deaths by 19%
- Reduces alcohol-involved youth suicides by 27%
Confuses college presidents
Retail Alcohol Monopolies (State Stores) Reduce Underage Drinking

32.3% Wine & Spirits

9.9% Spirits Only
If Sell Off Retail Spirits Monopolies in VA or WA

- Spirits consumption rises 21%
- Total consumption rises 6-7%
- State loses $200-300M/year in revenue net of taxes on added sales
- The real price is a crime wave
- State pays $50 million/year for added harm; 225 residents die/year
- Industry’s slides are bogus; label 6 states w/o retail monopolies as control states
43 human exposure calls from rural areas prevent one hospital admission (Medical ROI 5.9)
BCR for State to break even on its investment

- Prop: 2
- Crim: 110
- Crash: 20
- Alc: 81
- Tobacco: 7
- Drugs: 7
- Violenc: 7
Laws that interfere with personal freedom would have much higher BCRs if looked at governmental perspective only

The job of the State is to protect and enhance the welfare of its citizens

Like medical care, preventive health & safety efforts are designed to save lives & increase quality of life

The savings to citizens & employers count
Costs to Government

- Medicaid, CHIP, Medicare, etc. – 6% state
- Income taxes – perhaps 4% of wages
- Welfare; lost sales taxes
- Victim assistance
- Police, fire, EMS, road cleanup & repair
- Adjudication & sanctioning; CPS
- Education system (special ed, truancy)
If target intervention to Medicaid recipients

- 25%-50% of medical care savings go to the state
Who pays the annual $500B crash bill?

- Families: 83%
- Employers: 11%
- Government: 6%
Costs to Government as Employer

- Workers’ Comp, health insurance, sick leave
- Disability & life insurance
- Liability if an on-the-job employee harms others
- Investigation of on-the-job incidents
- Distraction
- Work disruption, juggling schedules, hiring
- Employees who abuse drugs & alcohol are less productive
Crashes Cost Employers $62 Billion/Year

MV at Work 53%
MV Nonwork 47%
Crash Injuries/1000 Working Adults/Year (Including Dependents)

Main Reason = Exposure: Most Miles Are Driven Outside Work

While Working 3
Not at Work 38
Where does that $62 billion come from?

Profits
Price Increases
Online Resources

- Underage drinking by State (+DC, PR) – www.udetc.org/factsheets
- Hospitalized injury by cause & age group in 38 states; impaired driving in 50 + DC – www.hsc.wvu.edu/icrc/AHRQFFORM.asp
- Report on SA prevention ROI -- Google NCADI dollars cents or download.ncadi.samhsa.gov/prevline/pdfs/SMA07-4298.pdf
- Crime costs by state, total or alcohol & drug involved : e-mail taylor@pire.org (also use that address for problems or free technical assistance. Dexter Taylor, PhD, 301-755-2796)
References: Injury Costs & Prevention Savings


SUMMARY

- Injury is the leading child health risk
- Prevention yields large savings for taxpayers
- Unrealistic to expect State gov’t savings
- Targeting to Medicaid population can help
- Laws & enforcement often save the State $
- People do not understand big numbers
- Select costs to suit the audience
- You cannot spend some savings
- Put a face with the $