National Injury and Violence Prevention Resource Center

Sobriety Checkpoints Save Money and Lives

In 2000, 16,792 people died and 513,000 people were injured in alcohol-involved (but not necessarily legally intoxicated) highway crashes (BAC ≥ .01). The economic costs of these injuries were $50.9 billion.[11] Alcohol-involved crashes accounted for 10 percent of property damage costs and approximately 46 percent of fatal injury crash costs. The death and injury tolls for highway crashes involving a legally intoxicated driver (BAC ≥ .10) were 13,277 and more than 360,000, respectively. These fatalities and injuries cost nearly $40 billion[10] annually and represent nearly 80 percent of all alcohol-related fatalities. People other than the drinking drivers pay a substantial portion of the alcohol-related crash bill.

Not all crashes involving alcohol are caused by alcohol consumption; some would have occurred even if the drivers were sober. However, one study estimates that 94 percent of crashes involving intoxicated drivers are attributable to alcohol. Further, drunk driving is not just an adult problem. It is involved in one-fifth of the motor-vehicle-related child fatalities and serious injuries.

Sobriety checkpoints can reduce this drunk-driving toll. General drunk-driving deterrence is achieved with frequent, highly visible checkpoint programs. Sobriety checkpoints apprehend approximately 87 percent of drunk drivers who otherwise go undetected. Administrative license suspension of these drivers further reduces drunk-driving crashes.

This fact sheet summarizes a study of a hypothetical sobriety checkpoint program aimed at reducing alcohol-attributable crashes in a typical community with 100,000 licensed drivers.

COSTS AND COST SAVINGS

- The total cost to a community of running a sobriety checkpoint one weekday and each Friday and Saturday night for 1 year is $1,600,000. This includes $1,260,000 in overtime wages and fringe benefits for police officers, $23,000 for checkpoint equipment, $69,000 in travel delay costs from stopping sober drivers, and $248,000 for trying and punishing violators.
- With a 15 percent reduction in alcohol-attributable crashes, annual savings (benefits) from an intensive sobriety checkpoint program could total $11,373,000. This estimate includes $4,463,000 for averted fatalities, $6,478,000 for averted nonfatal injuries, and $432,000 in averted property damage.
- When a community runs an intensive sobriety checkpoint program each checkpoint costs about $9,600 and saves $73,000. These costs include $5,000 in medical costs, $20,000 in future earnings, and $48,000 in quality of life costs.

Benefits to Insurers That Promote Sobriety Checkpoints

- Savings to the community's insurers could total $2,138,000, which exceeds total program costs.
- Auto insurers could save approximately $1,569,000 from a checkpoint program.
- Health insurers could save $517,000.
- Life insurers' benefits could exceed $52,000.

CSN (www.childrenssafetynetwork.org) is funded by the Health Resources and Services Administration's Maternal and Child Health Bureau

A project of the Education Development Center, Inc.

Lives Saved and Injuries Prevented

- Intensive sobriety checkpoint use in a community of 100,000 licensed drivers could prevent 1 death and more than 60 nonfatal injuries per year.
- Intensive sobriety checkpoint use in a community of 100,000 licensed drivers could prevent 200 property-damage-only crashes per year.

Sobriety Checkpoint Use

- Public polls show 70 to 80 percent of people favor the use of more checkpoints to combat impaired driving.
- Eleven States continue to prohibit the use of sobriety checkpoints (Alabama, Idaho, Louisiana, Michigan, Minnesota, Oregon, Rhode Island, Texas, Washington, Wisconsin, and Wyoming).

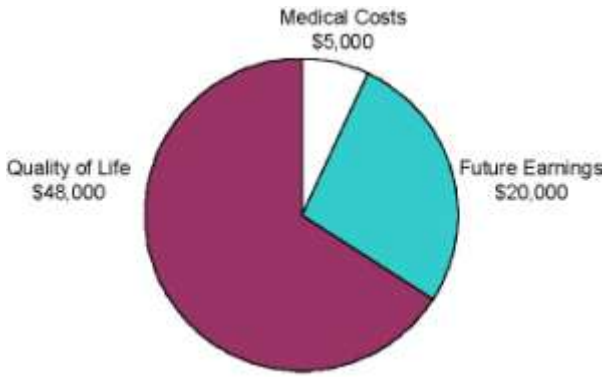

Figure 11. A Sobriety Checkpoint Costs $9,600 and Saves Society $73,000

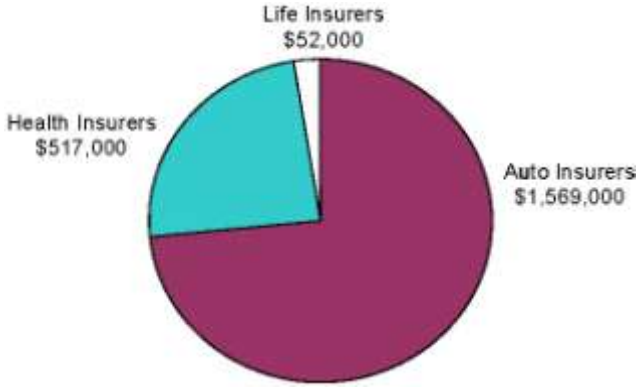

Figure 12. A Sobriety Checkpoint Could Save Community Insurers Almost $2,138,000

(

Note: Costs are in 2004 dollars and were computed using the methodology outlined by Miller, Romano, and Spicer [2000]. Numbers may not correspond to totals due to rounding.)

REFERENCES

- Miller, T. R., Galbraith, M., & Lawrence, B. (1998). Costs and benefits of a community sobriety checkpoint program. *Journal of Studies on Alcohol, 59*(4), 465–468.
- Miller, T., & Hendrie, D. (2005). How should governments spend the drug prevention dollar: A buyer's guide. In T. Stockwell, P. Gruenewald, J. Toumbourou, & W. Loxley (Eds.), *Preventing Harmful Substance Use: The Evidence Base for Policy and Practice* (pp. 415–431). West Sussex: John Wiley & Sons.
- Miller, T. R., Romano, E. D., & Spicer, R. S. (2000). The cost of childhood unintentional injuries and the value of prevention. *The Future of Children, 10*(1), 137–163.

CSN (www.childrenssafetynetwork.org) is funded by the Health Resources and Services Administration's Maternal and Child Health Bureau

A project of the Education Development Center, Inc.

- National Highway Traffic Safety Administration. (2005). *Sobriety checkpoint state case law summary.* National Highway Traffic Safety Administration. Retrieved April 1, 2005, from the World Wide Web: http://www.nhtsa.dot.gov/people/injury/alcohol/sobrietycheck/caselaw.html

Rev. 6/05

Definitions

A. DATA TYPES

- **Fatal:** Mortality data by multiple causes of death include all deaths occurring within the United States. Deaths of U.S. citizens and deaths of members of the Armed Forces occurring outside the United States are not included. Data are obtained from certificates filed for deaths occurring in each State.

- **Admitted:** Hospital patient discharges from short-stay noninstitutional hospitals and general and children's general hospitals regardless of length of stay located within the 50 States and the District of Columbia. Military and U.S. Department of Veteran Affairs hospitals are not included.

- **Nonadmitted:** Information on the health of the civilian, noninstitutionalized population of the United States compiled through the National Health Interview Survey that was designed to obtain accurate and current statistical information on the amount, distribution, and effects of illness and disability and the services rendered for or because of such conditions. Persons who did NOT report going to the hospital for their condition were included; counts related to poisonings were obtained from Toxic Exposure Surveillance System data maintained by the American Association of Poison Control Centers.

B. INCIDENCE-BASED VERSUS PREVALENCE-BASED COSTS

- **Incidence-based costs** are the present value of the lifetime costs that may result from injuries that occur during a single year. For example, the incidence-based cost of head injuries in 2001 estimates total lifetime costs associated with all head injuries that occurred in 2001. Incidence-based costs measure the savings that prevention can yield.

- **Prevalence-based costs** measure all injury-related expenses during 1 year, regardless of when the injury occurred. For example, the prevalence-based cost of head injuries in 2001 measures the total health care spending on head injuries during 2001, including spending on victims injured many years earlier. Prevalence-based cost data are needed to project health care spending and evaluate cost controls.

C. RESOURCE VERSUS PRODUCTIVITY COSTS

Resource costs are broken down into **medical costs** and **other resource costs**. **Productivity costs** include immediate and future work losses due to a childhood injury.

- **Medical costs** include emergency medical services, physician, hospital, rehabilitation, prescription drugs, and related treatment costs, as well as ancillary costs (i.e., crutches, physical therapy, etc.),

funeral/coroner expenses for fatalities, and the administrative costs of processing medical payments to providers. For violence, this category also includes mental health treatment costs.

- **Other resource costs** include police and fire department costs, plus the travel delay for noninjured travelers resulting from transportation crashes and the injuries caused by the crashes. For violence, this category also includes social services and victim assistance costs. It excludes mental health services costs. Fact sheets that do not explicitly show other resource costs include paramedic, ambulance, and helicopter transport costs in medical costs.
- **Future earnings** include victims' lost wages and the value of lost household work, fringe benefits, and the administrative costs of processing compensation for lost earnings through litigation, insurance, or public welfare programs such as food stamps and Supplemental Security Income. Work losses by family and friends who care for injured children also are included. For violence, this category also includes earnings lost by family and friends caring for the injured and the value of school missed when children are temporarily disabled.
- **Quality of Life** places a dollar value on the pain, suffering, and lost quality of life those children and their families experience due to an injury.

Calculation Methods

To value **quality of life lost to fatal injuries**, we start by estimating the value people place on survival. We measure the value of survival from the amounts people spend (in dollars or time) for safety. Fifty technically sound "willingness to pay" studies have estimated this value (Miller, 1990). They examine such things as markets for auto safety features and smoke detectors, extra wages paid to get workers to take risky jobs, and speed choice when driving.

The value of survival is essentially the combined value of future earnings and quality of life. By subtracting the lost future earnings, we get the quality of life costs per death.[131]

To value **quality of life lost to nonfatal injury,** we use two methods. In the first, physicians rate the typical effects of different injuries on six dimensions of functioning: mobility, cognitive, bending and grasping, pain, sensory, and cosmetic. We also collect data about a seventh dimension: the ability to work. Using surveys about the value people place on different dimensions of functioning, we combine the data to obtain a percentage of the value of survival lost to each injury.

Again, we subtract lost future earnings to get the quality of life costs per injury.

The second method uses jury verdicts to value victims' pain and suffering. This method is used in valuing the quality of life lost to violent crime and to drunk-driving crashes without physical injury. It provides our only estimate of the losses due to rape and to fear.

[10] Nonfatal injury incidence estimates for nonadmitted cases were based upon data from the National Ambulatory Medical Care Survey (NAMCS, 1995-1996), the National Hospital Ambulatory Medical Care Survey (NHAMCS, 1992-1996), and the National Health Interview Survey (NHIS, 1987-1996). All three of these datasets were produced by NCHS.

[11] This cost and the costs of alcohol-related fatalities and injuries are in 2000 dollars.

[13] Estimating quality-adjusted life years (QALYs) is one way to value the good health lost to an individual who suffers a health problem, is disabled, or dies prematurely. A QALY is a measure based on individual preferences for states of health that assigns a value of "1" to a year of perfect health and "0" to death. QALY losses are affected by the duration and severity of a health problem. To estimate QALY losses, years of potential life lost to a fatal

injury are added to the number of years spent with an injury-related disability multiplied by a "weighting factor" that represents the severity of the disability. Such weighting factors can be estimated by using rating scales or by using tradeoff methods that elicit individual preferences between death and various health states.

Estimates from the two methods of valuing quality of life lost to nonfatal injury differ by less than 10 percent.

Since 1989, the U.S. Office of Management and Budget has required all Federal regulatory benefit-cost analyses to include quality of life costs if they place a dollar value on saving lives.

References

• Miller, T. R. (1990). The plausible range for the value of life: Red herrings among the mackerels. *Journal of Forensic Economics, 3*(3), 17–39.

• Miller, T. R., Romano, E. D., & Spicer, R. S. (2000). The cost of childhood unintentional injuries and the value of prevention. *The Future of Children, 10*(1), 137–163.

• U.S. Office of Management and Budget (1989), *Regulatory Program of the United States,* U.S. Government Printing Office, Washington, DC.

Rev. 10/05

Questions about methods and data in this Fact Sheet Series should be referred to:
Children's Safety Network Economics and Data Analysis Resource Center
Pacific Institute for Research and Evaluation
11720 Beltsville Drive, Suite 900
Calverton, MD 20705

Phone: 301-755-2728 E-mail: sheppard@pire.org

CSN (www.childrenssafetynetwork.org) is funded by the Health Resources and Services Administration's Maternal and Child Health Bureau

A project of the Education Development Center, Inc.